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GENERAL INDEX

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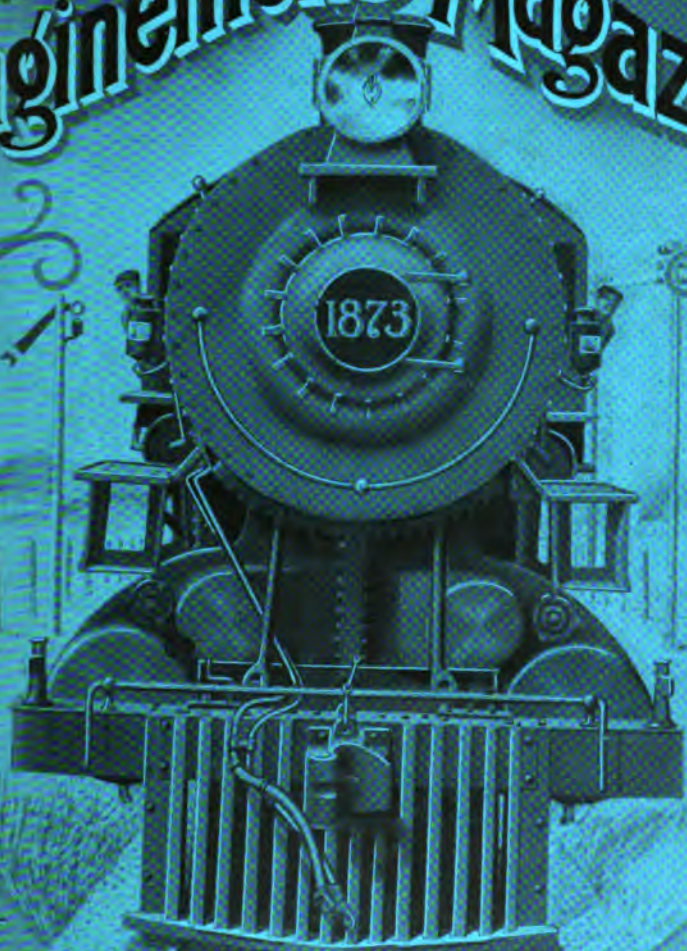
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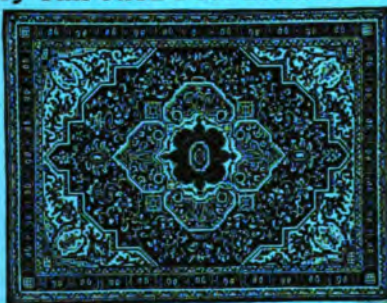
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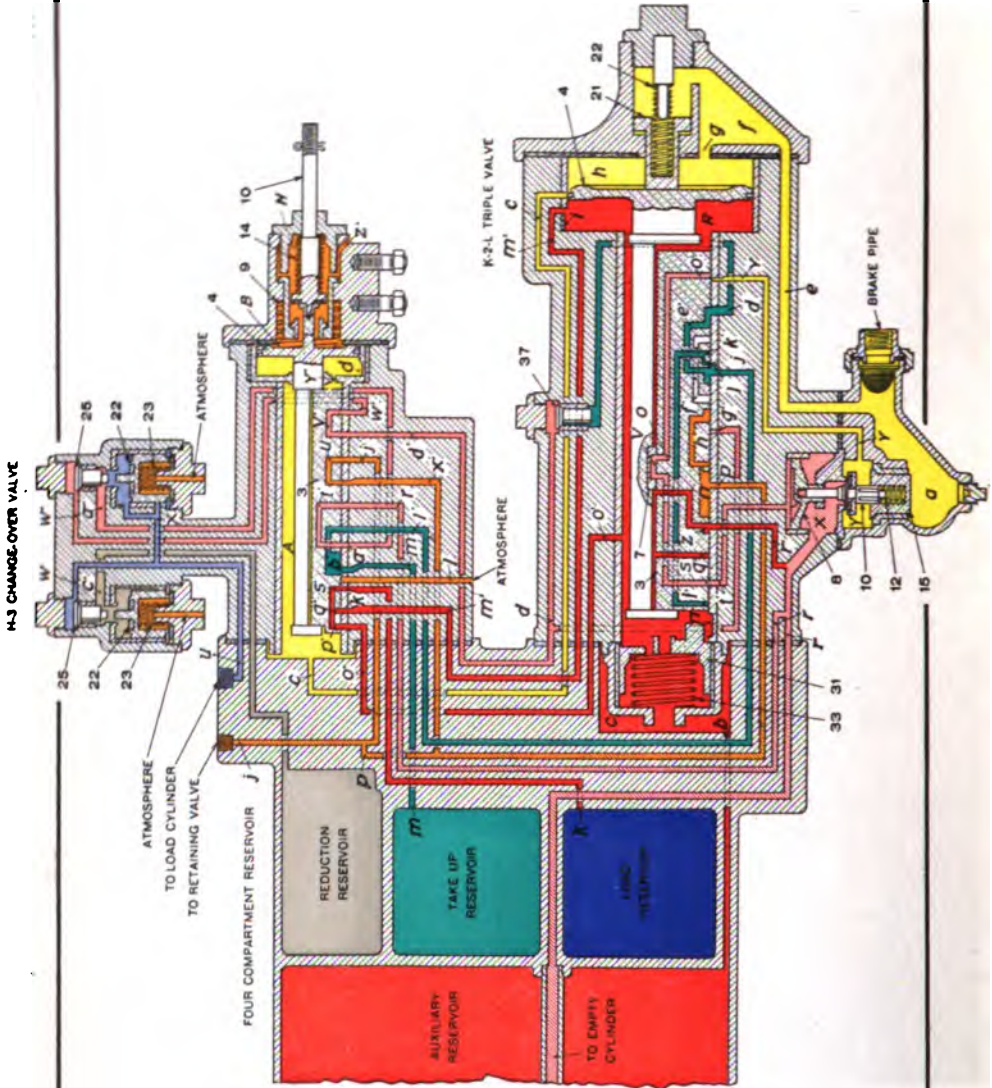
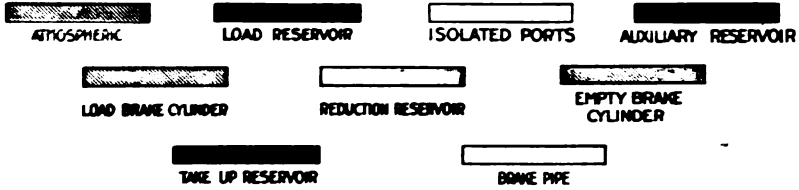
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PRESSURES



Locomotive Firemen and Enginemen's Magazine Educational Charts

WESTINGHOUSE AIR BRAKE SERIES

PLATE 103—EMPTY AND LOAD BRAKE

View Showing Triple Valve in Full Service Position, after 12 pounds has been obtained in Reduction Reservoir;

Change-Over Valve in Load Position, Diagrammatic



BROTHERHOOD OF

Locomotive Firemen and Enginemen's Magazine.

TECHNICAL DEPARTMENT



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VOL. 60 NO. 1

COLUMBUS, OHIO,

JANUARY, 1916

PLATE 103--EMPTY AND LOAD BRAKE

**View Showing Triple Valve in Full Service Position, After 12 Pounds
has been Obtained in Reduction Reservoir; Change-over
Valve in Load Position, Diagrammatic**

Plate 103 of the Westinghouse Air Brake Series of the Locomotive Firemen and Enginemen's Magazine Educational Charts represents the *KL* Triple Valve and H-3 Change-over Valve with a portion of the Four-Compartment Reservoir, of the freight-car *Empty and Load Brake*, in sectional view with all parts arranged diagrammatically so as to show them at once in a single plane. The Triple Valve is in **FULL SERVICE POSITION**, and the Change-over Valve is in **LOAD POSITION**—each position the same as was shown in the preceding chart.

This is really the second step or phase of a service, "load" application, the chart showing the results when the pressure in the "empty" brake cylinder has reached 24 pounds, and after 12 pounds has been obtained in the reduction reservoir.

The pressure in the "empty" brake cylinder having reached 24 pounds, spring 23 (at the right) has been overpowered by this pressure above valve 22, allowing valve 22 to seal against its lower seat, and check-valve 25 to seat; this cuts off the flow of take-up-reservoir air from passage *w'* to passage *a'* and opens port *x* to port *a'*, permitting load reservoir, auxilliary reservoir,

and "empty" brake-cylinder air in passage a' to flow to the "load" brake-cylinder. The air flowing to the "load" cylinder is also free to flow through passage w , past valve 25 to the face of valve 22 (at the left), and thence through passage c' to the reduction reservoir. In this manner, as previously stated, the reduction reservoir increases cylinder volume and thereby reduces cylinder pressure, when the "load" cylinder cuts in, thus preventing a too sudden rise in brake-cylinder pressure and still maintain the proper ratio between brake-pipe reduction and braking power. This passage remains open until the pressure in the reduction reservoir and passage c' has reached 12 pounds, when the pressure of spring 23 (at the left) will be overcome, permitting valve 22 to seal against its lower seat; this permits check-valve 25 to seat, thus separating the "load" cylinder and reduction reservoir, as shown in the chart, Plate 103.

Standard Time.

It is gratifying to know that the silly attempt on the part of certain individuals to disrupt the splendid system of Standard Time which was adopted by the railroads of the United States in November, 1883, and which has been in universal use ever since, has met with such disfavor and resulted in such confusion in cities that were led to make the change regardless of whether or not the railroads followed suit, that the attempt is likely to be abandoned. The present status of standard time in this country is described in a report of the Committee on Standard Time which was submitted at a meeting of the American Railway Association in Chicago, Ill., November 17th last, and which we quote from the Railway Review, as follows:

"This committee was originally appointed with especial reference to the conditions which existed in the State of Ohio, where certain railroads had changed their standard of time from central time to eastern time, at the instigation of a portion of the people of the city of Cleveland, which had made a similar change. A movement was also started in Cleveland to secure the adoption by the Ohio legislature of a law to make eastern time the standard for the whole State. This proposition met with decided opposition from the people in various other parts of the State, at the hearing given on the subject by the committee to which it was referred, and after the hearing no further attention was paid to it. Since then no more railway lines have changed their standard. On the contrary, a number of important local lines which had adopted eastern time have returned to the use of central time. This is also true as to a number of cities in the vicinity of Cleveland, and none has moved in the opposite direction. An attempt was made to induce the city of

Toledo to adopt eastern time, but it was unsuccessful. No railroad lines favored the proposed change. At Detroit the common council voted last May to adopt eastern time in place of central time, and some adjacent cities followed its example. Some of these places have returned to the use of central time, as well as a number of the suburban trolley lines. No steam railroad at Detroit adopted the use of eastern time, and it is freely predicted that 'Detroit will soon be back to central standard time,' for which a vigorous movement has been inaugurated. There has been an agitation started at Jacksonville, Fla., an effort being made to induce certain of the principal north and south lines to extend the use of eastern time to that city. This was acted upon at the conference of presidents of the railroads of the southeast, held at Richmond, Va., on October 19, 1915, and the following resolution adopted: "The request of the Jacksonville Chamber of Commerce that the railroads change their time at Jacksonville from central to eastern standard time being under consideration it was resolved that the advantages of standard time as established for many years having proved to be of substantial benefit to the orderly conduct of commerce in the United States, this conference now reaffirms the principles of standard time, and urges upon the railroads in the southeast not to authorize any departure from such principles." Considerable undesirable confusion exists at points in Ohio where eastern time is partially or wholly in use for local purposes, but not by the railway lines. It will be noted that before the movement for the change to eastern time in these localities, this confusion did not exist. This condition emphasizes the importance of the firm adherence on the part of the railways to the principles of standard time."

The committee is to be commended for the sensible and logical position it has taken on this most important question.

RULES AND INSTRUCTIONS FOR THE INSPECTION AND TESTING OF STEAM LOCOMOTIVES AND TENDERS

In force on and after January 1, 1916

In Accordance with Act of March 4, 1915, Amending Act of February 17, 1911

In our December, 1911, issue we published the "Rules and Instructions for the Inspection and Testing of Locomotive Boilers and Their Appurtenances," as embodied in the Boiler Inspection Law, approved February 17, 1911, and effective July 1st of the same year. The efficacy of this law having been fully demonstrated through the increased safety afforded railroad employes and the traveling public, the advisability of extending its provisions so as to apply to the entire locomotive being clearly apparent, it was amended accordingly on March 4th last. The order of the Commission and the rules established in accordance with the law as amended, and which will be of special interest to our members, are as follows:

At a general session of the Interstate Commerce Commission held at its office in Washington, D. C., on the 11th day of October, A. D. 1915.

In the matter of Rules and Instructions for the Inspection and Testing of Steam Locomotives and Tenders in Accordance with Act of February 17, 1911, and amended March 4, 1915.

WHEREAS, The act of March 4, 1915 (Public—No. 318, Sixty-third Congress), amending the act of February 17, 1911, making said act apply to and include the entire locomotive and tender and all their parts, requires, among other things, that each carrier subject to this act shall file its rules and instructions for the inspection of locomotives and tenders with the chief inspector within three months after the approval of the act, and after hearing and approval by the Interstate Commerce Commission such rules and instructions, with such modifications as the Commission requires, shall become obligatory upon such carrier: *Provided, however,* That if any carrier subject to this act shall fail to file its rules and instructions the chief inspector shall prepare rules and instructions not inconsistent therewith for the inspection of locomotives and tenders, to be observed by such carrier, which rules and instructions being approved by the Interstate Commerce Commission and a copy thereof being served on the president, general manager, or general superintendent of such carrier shall be obligatory, and a violation thereof punished as provided in said act; and

WHEREAS, At the expiration of the period of three months after the approval of said act, the carriers having filed a code of rules prepared by their committee as a basis for discussion only, and having expressed a desire through their committee that the chief inspector prepare a suitable code of rules for the inspection of locomotives and tenders; and

WHEREAS, The chief inspector thereupon, in accordance with the law and with the expressed desire of the carriers, proceeded to prepare for submission to the Interstate Commerce Commission for approval rules and instructions for the inspection of locomotives and tenders and all their parts; and

WHEREAS, Upon due notice there came on a hearing before the Interstate Commerce Commission on September 28 to October 2, 1915, inclusive, in the matter of approval and establishment of the rules and instructions prepared by the said chief inspector; and

WHEREAS, At the hearing aforesaid the rules and instructions prepared by the chief inspector were submitted to the Commission for approval, and all parties appearing at said hearing were fully heard in respect to the matters involved; and

WHEREAS, All of the rules prepared by the chief inspector having been agreed to by representatives of the railroad employes, and all except rules

numbered 18, 29, and 31 having been agreed to by representatives of the carriers; and

WHEREAS, It appearing that the interests of all may be best served by the immediate promulgation of the rules which have been agreed to, thus avoiding the delay incident to the consideration of evidence and briefs with respect to the said rules numbered 18, 29, and 31, which will be acted on later, the said rules and instructions having been fully considered by the Commission:

It is ordered, That the said rules and instructions for the inspection of locomotives and tenders and all their parts, as follows, be, and the same are hereby, approved, and from and after the 1st day of January, 1916, shall be observed by each and every common carrier subject to the provisions of the act of Congress aforesaid as the minimum requirements: *Provided,* That nothing herein contained shall be construed as prohibiting any carrier from enforcing additional rules and instructions not inconsistent with the foregoing, tending to a greater degree of precaution against accidents.

It is further ordered, That changes required by paragraph 2 of rule 16, the first sentence of rule 17, paragraph 2 of rule 22, paragraph 2 of rule 43, the first sentence of rule 47, paragraph 1 of rule 50, rule 51, and paragraph 3 of rule 52 shall be made the first time locomotives are shopped for general or heavy repairs, but must be completed before January 1, 1917.

By the Commission.

[SEAL.]

GEORGE B. MCGINTY,
Secretary.

Rules and Instructions

1. The railroad company will be held responsible for the general design, construction, and maintenance of locomotives and tenders under its control.

2. The mechanical officer in charge, at each point where repairs are made, will be held responsible for the inspection and repair of all parts of locomotives and tenders under his jurisdiction. He must know that inspections are made as required and that the defects are properly repaired before the locomotive is returned to service.

3. The term "inspector" as used in these rules and instructions means, unless otherwise specified, the railroad company's inspector.

4. Each locomotive and tender shall be inspected after each trip, or day's work, and the defects found reported on an approved form to the proper representative of the company. This form shall show the name of the railroad, the initials and number of the locomotive, the place, date, and time of the inspection, the defects found, and the signature of the employe making the inspection. The report shall be approved by the foreman, with proper written explanation made thereon for defects reported which were not repaired before the locomotive is returned to service. The report shall then be filed in the office of the railroad company at the place where the inspection is made.

Ash Pans.

5. Ash pans shall be securely supported and maintained in safe and suitable condition for service.

Locomotives built after January 1, 1916, shall have ash pans supported from mud rings or frames. Locomotives built prior to January 1, 1916, which do not have the ash pans supported from mud rings or frames shall be changed when the locomotive receives new firebox.

The operating mechanism of all ash pans shall be so arranged that it may be safely operated, and maintained in safe and suitable condition for service.

No part of ash pan shall be less than 2½ inches above the rail.

Brake and Signal Equipment.

6. It must be known before each trip that the brakes on locomotive and tender are in safe and suitable condition for service; that the air compressor or compressors are in condition to provide an ample supply of air for the service in which the locomotive is put; that the devices for regulating all pressures are properly performing their functions; that the brake valves work properly in all positions; and that the water has been drained from the air brake system.

7. **Compressors.**—The compressor or compressors shall be tested for capacity by orifice test as often as conditions may require, but not less frequently than once each three months.

The diameter of orifice, speed of compressor, and the air pressure to be maintained for compressors in common use are given in the following table:

MAKE.	Size compressor.	Single strokes per minute.	Diameter of orifice.	Air pressure maintained,
			Inches	Pounds
Westinghouse	9½.....	120	$\frac{1}{2}$	60
Do.....	11.....	100	$\frac{1}{8}$	60
Do.....	8½ c. c.....	100	$\frac{1}{8}$	60
New York	2a.....	120	$\frac{1}{8}$	60
Do.....	6a.....	100	$\frac{1}{8}$	60
Do.....	5b.....	100	$\frac{1}{8}$	60

For diagram of orifice see figure No. 14.

This table shall be used for altitudes to and including 1,000 feet. For altitudes over 1,000 feet the speed of compressor may be increased 5 single strokes per minute for each 1,000 feet increase in altitude.

8. **Testing main reservoirs.**—Every main reservoir before being put into service, and at least once each 12 months thereafter, shall be subjected to hydrostatic pressure not less than 25 per cent above the maximum allowed air pressure.

The entire surface of the reservoir shall be hammer tested each time the locomotive is shopped for general repairs, but not less frequently than once each 18 months.

9. **Air gauges.**—Air gauges shall be so located that they may be conveniently read by the engineer from his usual position in the cab. Air gauges shall be tested at least once each three months, and also when any irregularity is reported.

Air gauges shall be compared with an accurate test gauge or dead weight tester, and gauges found incorrect shall be repaired before they are returned to service.

10. **Time of cleaning.**—Distributing or control valves, reducing valves, triple valves, straight-air double check valves, dirt collectors, and brake cylinders shall be cleaned, and brake cylinders lubricated as often as conditions require to maintain them in a safe and suitable condition for service, but not less frequently than once each six months.

11. **Stencilling dates of tests and cleaning.**—The date of testing or cleaning, and the initials of the shop or station at which the work is done, shall be legibly stenciled in a conspicuous place on the parts, or placed on a card displayed under glass in the cab of the locomotive, or stamped on metal tags.

When metal tags are used, the height of letters and figures shall be not less than three-eighths inch, and the tags located as follows:

One securely attached to brake pipe near automatic brake valve, which will show the date on which the distributing valve, control valve or triple valves, reducing valves, straight-air double-check valves, dirt collectors, and brake cylinders were cleaned and cylinders lubricated.

One securely attached to air compressor steam pipe, which will show the date on which the compressor was tested by orifice test.

One securely attached to the return pipe near main reservoir, which will show the date on which the hydrostatic test was applied to main reservoirs.

12. **Piston travel.**—The minimum piston travel shall be sufficient to provide proper brake shoe clearance when the brakes are released.

The maximum piston travel when locomotive is standing shall be as follows:

	Inches.
Cam type of driving-wheel brake.....	3½
Other forms of driving-wheel brake.....	6
Engine-truck brake	8
Tender-brake	9

13. **Foundation brake gear.**—Foundation brake gear shall be maintained in a safe and suitable condition for service. Levers, rods, brake beams, hangers, and pins shall be of ample strength, and shall not be fouled in any way which will affect the proper operation of the brake. All pins shall be properly secured in place with cotters, split keys, or nuts. Brake shoes must be properly applied and kept approximately in line with the tread of the wheel.

No part of the foundation brake gear of the locomotive or tender shall be less than 2½ inches above the rails.

14. **Leakage.**—Main reservoir leakage; leakage from main reservoir and related piping shall not exceed an average of 3 pounds per minute in a test of three minutes' duration, made after the pressure has been reduced 40 per cent below maximum pressure.

Brake-pipe leakage shall not exceed 5 pounds per minute.

Brake cylinder leakage.—With a full service application from maximum brake pipe pressure, and with communication to the brake cylinders closed, the brakes on the locomotive and tender shall remain applied not less than five minutes.

15. **Train signal system.**—The train signal system, when used, shall be tested and known to be in safe and suitable condition for service before each trip.

Cabs, Warning Signals, and Sanders.

16. **Cabs.**—Cabs shall be securely attached or braced and maintained in a safe and suitable condition for service. Cab windows shall be so located and maintained that the enginemen may have a clear view of track and signals from their usual and proper positions in the cab.

Road locomotives used in regions where snowstorms are generally encountered shall be provided with what is known as a "clear vision" window, which is a window hinged at the top and placed in the glass in each front cab door or window. These windows shall be not less than 5 inches high, located as nearly as possible in line of the enginemen's vision, and so constructed that they may be easily opened or closed.

Steam pipes shall not be fastened to the cab. On new construction or when renewals are made of iron or steel pipe subject to boiler pressure in

cabs, it shall be what is commercially known as double-strength pipe, with extra heavy valves and fittings.

17. **Cab aprons.**—Cab aprons shall be of proper length and width to insure safety. Aprons must be securely hinged, maintained in a safe and suitable condition for service, and roughened, or other provision made, to afford secure footing.

18.

19. **Cylinder cocks.**—Necessary cylinder cocks, operative from cab of locomotive, shall be provided and maintained in a safe and suitable condition for service.

20. **Sanders.**—Locomotives shall be equipped with proper sanding apparatus, which shall be maintained in safe and suitable condition for service, and tested before each trip. Sand pipes must be securely fastened in line with the rails.

21. **Whistle.**—Each locomotive must be provided with a suitable steam whistle, so arranged that it may be conveniently operated by the engineer.

Draw Gear and Draft Gear.

22. **Draw gear between locomotive and tender.**—The draw gear between the locomotive and tender, together with the pins and fastenings, shall be maintained in safe and suitable condition for service. The pins and drawbar shall be removed and carefully examined for defects not less frequently than once each three months. Suitable means for securing the drawbar pins in place shall be provided. Inverted drawbar pins shall be held in place by plate or stirrup.

Two or more safety bars or safety chains of ample strength shall be provided between locomotive and tender, maintained in safe and suitable condition for service, and inspected at the same time draw gear is inspected.

Safety chains or safety bars shall be of the minimum length consistent with the curvature of the railroad on which the locomotive is operated.

Lost motion between locomotives and tenders not equipped with spring buffers shall be kept to a minimum, and shall not exceed one-half inch.

When spring buffers are used between locomotive and tender the springs shall be applied with not less than three-fourths inch compression, and shall at all times be under sufficient compression to keep the chafing faces in contact.

23. **Chafing irons.**—Chafing irons of such radius as will permit proper curving shall be securely attached to locomotive and tender, and shall be maintained in condition to permit free movement laterally and vertically.

24. **Draft gear.**—Draft gear and attachments on locomotives and tenders shall be securely fastened, and maintained in safe and suitable condition for service.

Driving Gear.

25. **Crossheads.**—Crossheads shall be maintained in a safe and suitable condition for service, with not more than one-fourth inch vertical or five-sixteenths inch lateral play between crossheads and guides.

26. **Guides.**—Guides must be securely fastened and maintained in a safe and suitable condition for service.

27. **Pistons and piston rods.**—Pistons and piston rods shall be maintained in safe and suitable condition for service. Piston rods shall be carefully examined for cracks each time they are removed, and shall be renewed if found defective.

All piston rods applied after January 1, 1916, shall have the date of application, original diameter, and kind of material legibly stamped on or near the end of rod.

28. Rods, main and side.—Cracked or defective main or side rods shall not be continued in service.

Autogenous welding of broken or cracked main and side rods not permitted.

Bearings and bushings shall so fit the rods as to be in a safe and suitable condition for service, and means be provided to prevent bushings turning in rod. Straps shall fit and be securely bolted to rods.

The total amount of side motion of rods on crank pins shall not exceed one-fourth inch.

Locomotives used in road service.—The bore of main rod bearings shall not exceed pin diameters more than three thirty-seconds inch at front or back end. The total lost motion at both ends shall not exceed five thirty-seconds inch.

The bore of side rod bearings shall not exceed pin diameters more than five thirty-seconds inch on main pin, nor more than three-sixteenths inch on other pins.

Locomotives used in yard service.—The bore of main rod bearings shall not exceed pin diameters more than one-eighth inch at front end or five thirty-seconds inch at back end.

The bore of side rod bearings shall not exceed pin diameter more than three-sixteenths inch.

Oil and grease cups shall be securely attached to rods, and grease cup plugs shall be equipped with suitable fastenings.

Lights.

29.

30. Classification lamps.—Each locomotive used in road service shall be provided with such classification lamps as may be required by the rules of the railroad company operating the locomotive. When such classification lamps are provided they shall be kept clean and maintained in safe and suitable condition for service.

31.

32. Cab lights.—Each locomotive used between sunset and sunrise shall have cab lamps which will provide sufficient illumination for the steam, air, and water gauges to enable the enginemen to make necessary and accurate readings from their usual and proper positions in the cab. These lights shall be so located and constructed that the light will shine only on those parts requiring illumination. Locomotives used in road service shall have an additional lamp conveniently located to enable the persons operating the locomotive to easily and accurately read train orders and time-tables, and so constructed that it may be readily darkened or extinguished.

Running Gear.

33. Driving, trailing, and engine truck axles.—Driving, trailing, and engine truck axles with any of the following defects shall not be continued in service:

Bent axle; cut journals that can not be made to run cool without turning; seamy journals in steel axles; transverse seams in iron axles, or any seams in iron axles causing journals to run hot, or unsafe on account of usage, ac-

cident, or derailment; driving, trailing, or engine truck axles more than one-half inch under original diameter, except for locomotives having all driving axles of the same diameter, when other than main driving axles, may be worn three-fourths inch below the original diameter.

The date applied, the original diameter of the journal, and the kind of material shall be legibly stamped on one end of each driving axle, trailing truck axle, and engine truck axle applied after January 1, 1916.

34. Tender truck axles.—The minimum diameters of axles for various axle loads shall be as follows:

AXLE LOAD	Minimum diameter of journal	Minimum diameter of wheel seat	Minimum diameter of center
	Inches	Inches	Inches
50,000 pounds.....	5½	7¾	6⅞
38,000 pounds.....	5	6¾	5⅞
31,000 pounds.....	4½	6¼	5⅝
22,000 pounds.....	3¾	5	4¾
15,000 pounds.....	3¼	4¾	3¾

35. Tender truck axles with any of the following defects shall not be continued in service:

Bent axle; cut journals that can not be made to run cool without turning; seamy journals in steel axles, or transverse seams in journals of iron axles, or unsafe on account of usage, accident, or derailment; collars broken or worn to one-fourth inch or less in thickness; fillet in back shoulder worn out.

36. Crank pins.—Crank pins shall be securely applied. Shimming or prick punching crank pins will not be allowed. All crank pins applied after January 1, 1916, shall have the date applied and kind of material used legibly stamped on end of pin.

Crank pin collars and collar bolts shall be maintained in a safe and suitable condition for service.

37. Driving boxes.—Driving boxes shall be maintained in a safe and suitable condition for service. Broken and loose bearings shall be renewed. Not more than one shim may be used between box and bearing.

38. Driving box shoes and wedges.—Driving box shoes and wedges shall be maintained in a safe and suitable condition for service.

39. Frames.—Frames, deck plates, tailpieces, pedestals, and braces shall be maintained in a safe and suitable condition for service, and shall be cleaned and thoroughly inspected each time the locomotive is in shop for heavy repairs.

40. Lateral motion.—The total lateral motion or play between the hubs of the wheels and the boxes on any pair of wheels shall not exceed the following limits:

	Inch.
For engine truck wheels (trucks with swing centers).....	1
For engine truck wheels (trucks with rigid centers).....	1½
For trailing truck wheels.....	1
For driving wheels (more than one pair).....	¾

These limits may be increased on locomotives operating on track where the curvature exceeds 20 degrees when it can be shown that conditions require additional lateral motion.

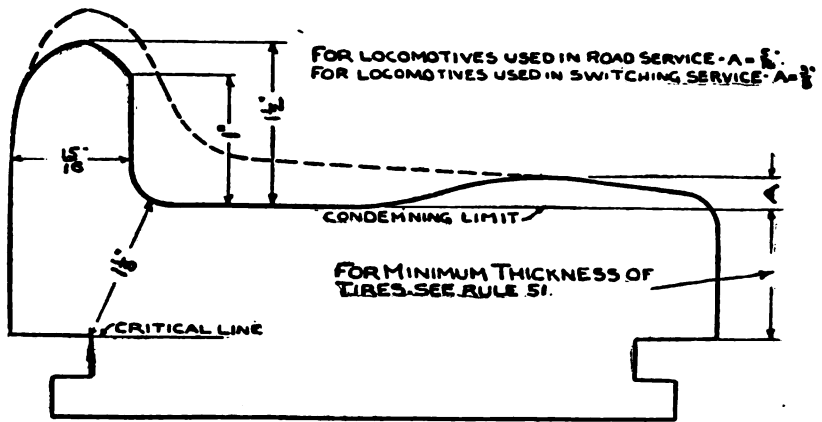


Fig. 1. Steel Tire
 Retaining ring fastening. Driving and trailing wheels

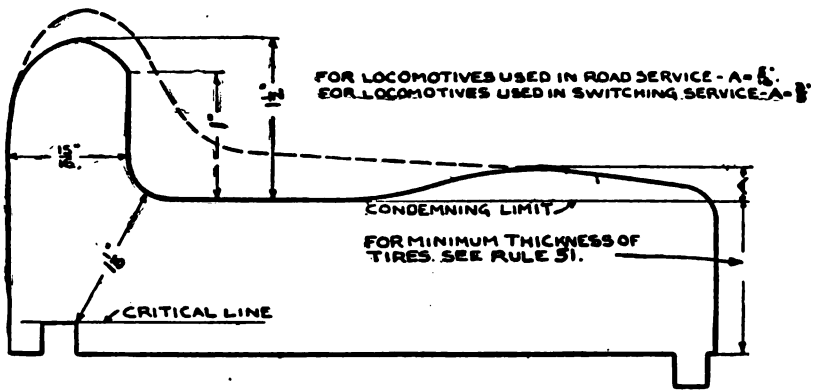


Fig. 2. Steel Tire
 Shrinkage fastening with shoulder and retaining segments. Driving and trailing wheels

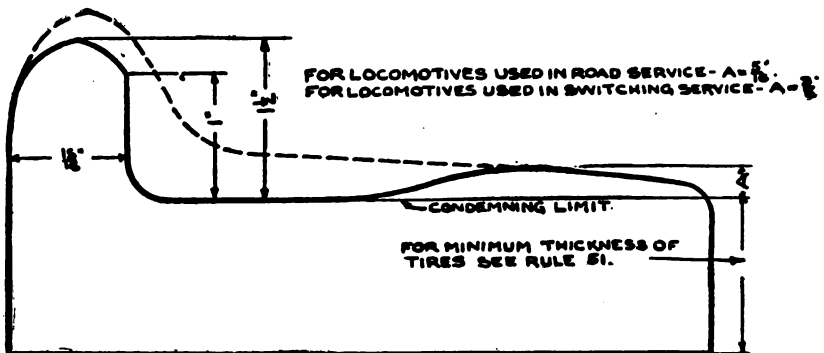


Fig. 3. Steel Tire
 Shrinkage Fastening. Driving and trailing wheels

The lateral motion shall in all cases be kept within such limits that the driving wheels, rods, or crank pins will not interfere with other parts of the locomotive.

41. **Pilots.**—Pilots shall be securely attached, properly braced, and maintained in a safe and suitable condition for service.

The minimum clearance of pilot above the rail shall be 3 inches, and the maximum clearance 6 inches.

42. **Spring rigging.**—Springs and equalizers shall be arranged to insure the proper distribution of weight to the various wheels of the locomotive, maintained approximately level, and in a safe and suitable condition for service.

Springs or spring rigging with any of the following defects shall be renewed or properly repaired:

One long leaf or two or more shorter leaves broken.

Springs with leaves working in band.

Broken coil springs.

Broken driving box saddle, equalizer, hanger, bolt, or pin.

43. **Trucks, leading and trailing.**—Trucks shall be maintained in safe and suitable condition for service. Center plates shall fit properly, and the male center plate shall extend into the female center plate not less than three-fourths inch. All centering devices shall be properly maintained.

A suitable safety chain shall be provided at each front corner of all four-wheel engine trucks.

All parts of trucks shall have sufficient clearance to prevent them from seriously interfering with any other part of the locomotive.

44. **Wheels.**—Wheels shall be securely pressed on axles. Prick punching or shimming the wheel fit will not be permitted. The diameter of wheels on the same axle shall not vary more than three thirty-seconds inch.

Wheels used on standard gauge track will be out of gauge if the inside gauge of flanges, measured on base line, is less than 53 inches or more than 53 $\frac{3}{8}$ inches.

The distance back to back of flanges of wheels mounted on the same axle shall not vary more than one-fourth inch.

45. **Cast iron or cast steel wheels.**—Cast iron or cast steel wheels with any of the following defects shall not be continued in service:

Slid flat.—When the flat spot is 2 $\frac{1}{2}$ inches or over in length, or if there are two or more adjoining spots each 2 inches or over in length.

Broken or chipped flange.—If the chip exceeds 1 $\frac{1}{2}$ inches in length and one-half inch in width.

Broken rim.—If the tread, measured from the flange at a point five-eighths inch above the tread, is less than 3 $\frac{3}{8}$ inches in width.

Shelled out.—Wheels with defective treads on account of cracks or shelled out spots 2 $\frac{1}{2}$ inches or over, or so numerous as to endanger the safety of the wheel.

Brake burn.—Wheels having defective tread on account of cracks or shelling out due to heating.

Seams one-half inch long or over, at a distance of one-half inch or less from the throat of the flange, or seams 3 inches or more in length, if such seams are within the limits of 3 $\frac{3}{8}$ inches from the flange, measured at a point five-eighths inch from the tread.

Worn flanges.—Wheels on axles with journals 5 inches by 9 inches or over with flanges having flat vertical surfaces extending seven-eighths inch or more from the tread, or flanges 1 inch thick or less gauged at a point three-

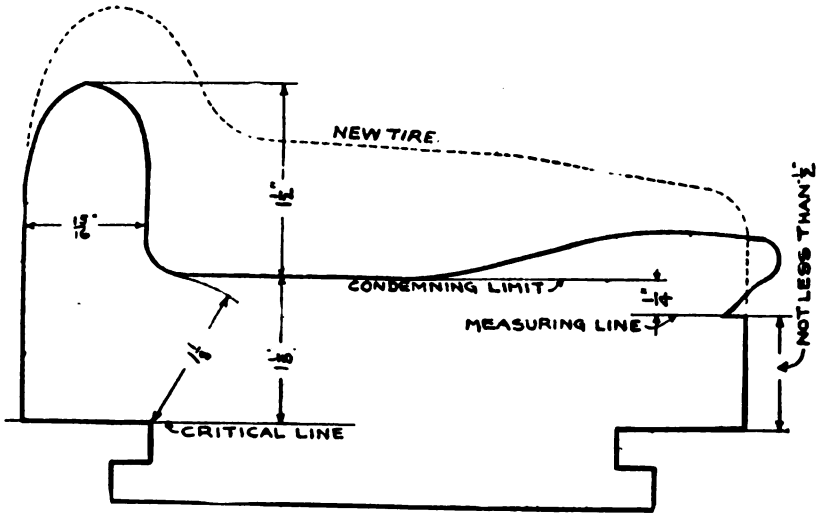


Fig. 4. Steel Tire

Retaining ring fastening. Minimum thickness for steel tires. Engine and tender truck wheels. (See Rule 46)

eighths inch above tread. Wheels on axles with journals less than 5 inches by 9 inches with flanges having flat vertical surfaces extending 1 inch or more from the tread, or flanges fifteen-sixteenths inch thick or less, gauged at a point three-eighths inch above the tread.

Tread worn hollow.—If the tread is worn sufficiently hollow to render the flange or rim liable to breakage.

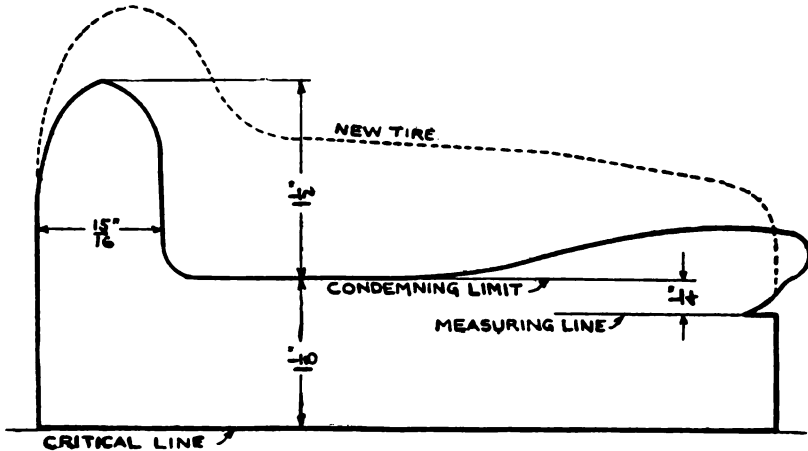


Fig. 5. Steel Tire

Shrinkage fastening only. Minimum thickness for steel tires. Engine and tender truck wheels. (See Rule 46)

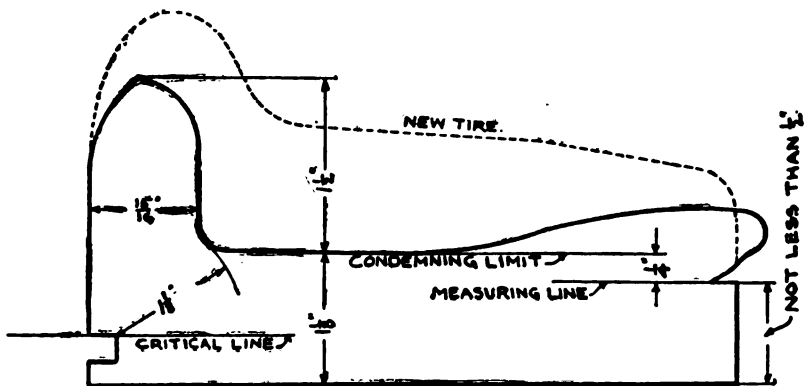


Fig. 6. Steel Tire

Retaining ring fastening. Minimum thickness for steel tires. Engine and tender truck wheels. (See Rule 46)

- Burst.—If the wheel is cracked from the wheel fit outward.
- Cracked tread, cracked plate, or one or more cracked brackets.
- Wheels out of gauge.
- Wheels loose on axle.

NOTE.—The determination of flat spots worn flanges and broken rims shall be made by a gauge as shown in figure 8 and its application to defective wheels as shown in figures 9, 10, 11, 12, and 13.

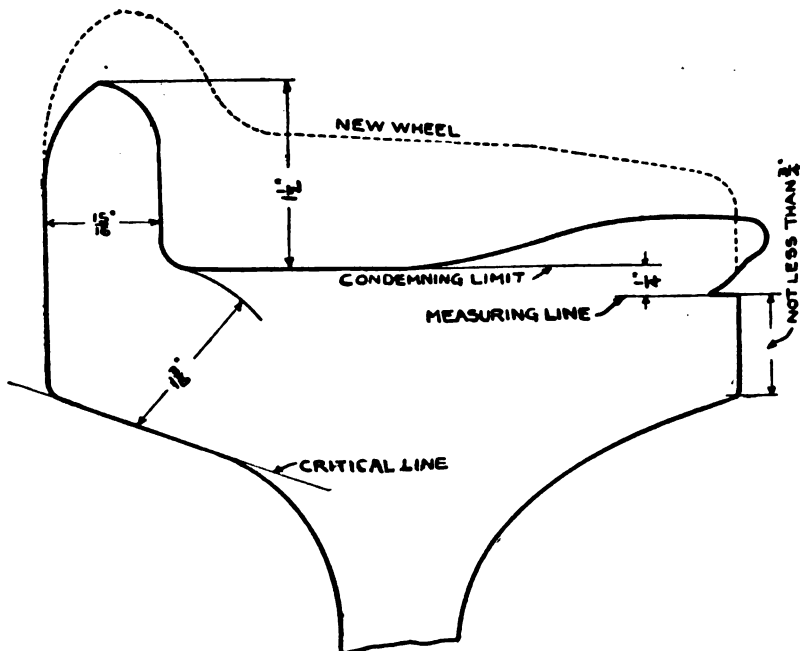


Fig. 7. Steel Wheel

Minimum thickness of rim. Engine and tender truck wheels. (See Rule 46)

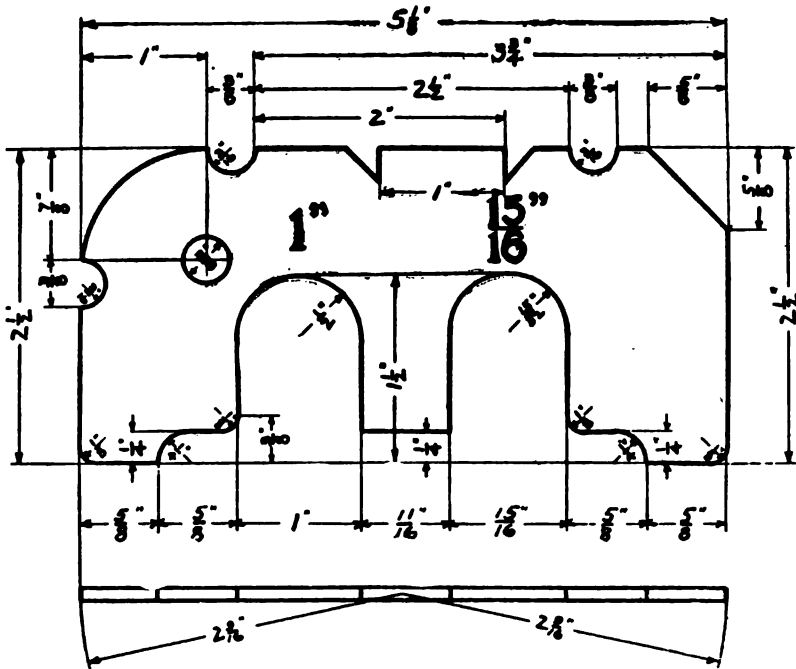


Fig. 8. Wheel Defect Gauge

This gauge to be used in determining flat spots, worn flanges and broken rims. (See Rules 45, 46 and 50)

46. Forged steel or steel tired wheels.— Forged steel or steel tired wheels with any of the following defects shall not be continued in service:

Loose wheels; loose, broken, or defective retaining rings or tires; broken or cracked hubs, plates, spokes, or bolts.

Slid flat spot $2\frac{1}{2}$ inches or longer; or, if there are two or more adjoining spots, each 2 inches or longer.

Defective tread on account of cracks or shelled out spots $2\frac{1}{2}$ inches or longer, or so numerous as to endanger the safety of the wheel.

Broken flange.

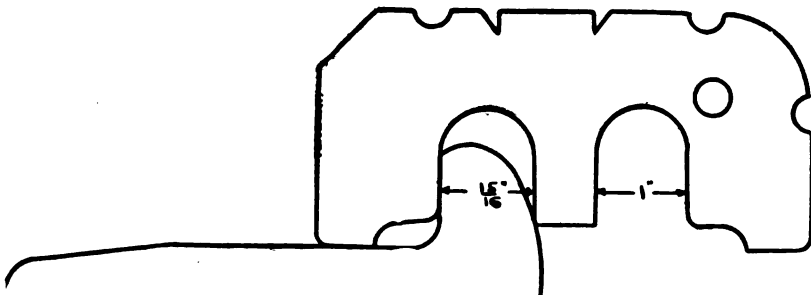


Fig. 9. Method of Gauging Worn Flanges

Flange worn to fifteen-sixteenths inch or less in thickness, gauged at a point three-eighths inch above the tread, or having flat vertical surface 1 inch or more from tread; tread worn five-sixteenths inch; flange more than $1\frac{1}{2}$ inches from tread to top of flange, or thickness of tires or rims less than shown in figures 4, 5, 6, and 7.

Wheels out of gauge.

47. Driving and trailing wheels.—Driving and trailing wheel centers with divided rims shall be properly fitted with iron or steel filling blocks before the tires are applied, and such filling blocks shall be properly maintained. When shims are inserted between the tire and the wheel center, not more than two thicknesses of shims may be used, one of which must extend entirely around the wheel.

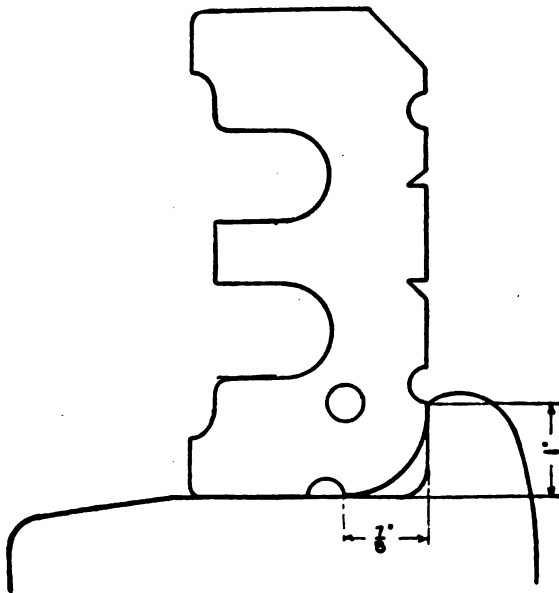


Fig. 10 Method of Gauging Worn Flanges

48. Driving wheel counterbalance shall be maintained in a safe and suitable condition for service.

49. Driving and trailing wheels with any of the following defects shall not be continued in service:

Driving or trailing wheel centers with three adjacent spokes, or 25 per cent of the spokes in wheel broken.

Loose wheels; loose, broken, or defective tires or tire fastenings; broken or cracked hubs, or wheels out of gauge.

50. Driving and trailing wheel tires.—The minimum height of flange for driving and trailing wheel tires, measured from tread, shall be 1 inch for locomotive used in road service, except for locomotives originally constructed for plain tires, when the minimum height of flange on one pair of wheels may be seven-eighths inch.

The minimum height of flange for driving wheel tires, measured from tread, shall be seven-eighths inch for locomotives used in switching service.

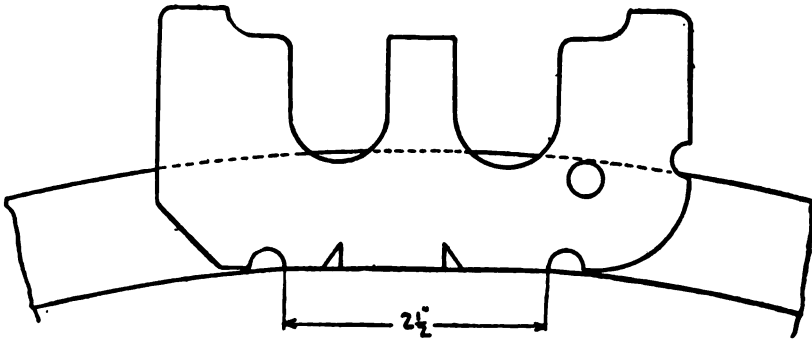


Fig. 11. Method of Gauging Shelled and Flat Spots

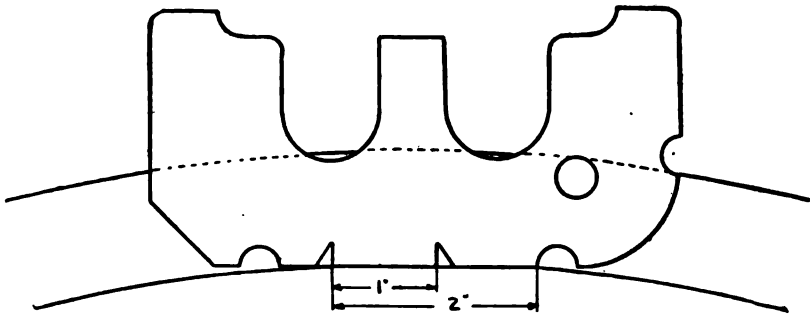


Fig. 12. Method of Measuring Flat Spots of One and Two Inches

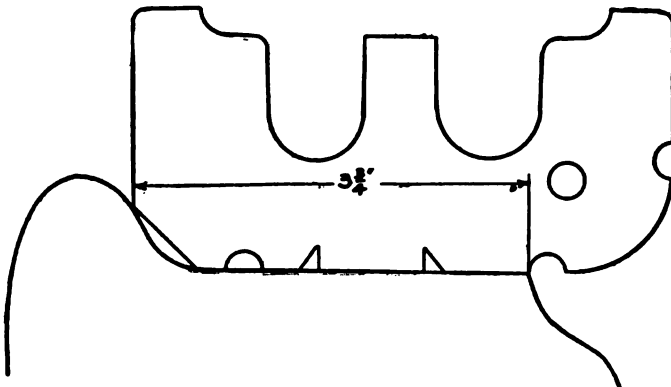


Fig. 13. Method of Gauging Broken Rims

The maximum taper for tread of tires from throat of flange to outside of tire, for driving and trailing wheels for locomotives used in road service, shall be one-fourth inch, and for locomotives used in switching service five-sixteenths inch.

The minimum width of tires for driving and trailing wheels of standard gauge locomotives shall be $5\frac{1}{2}$ inches for flanged tires, and 6 inches for plain tires.

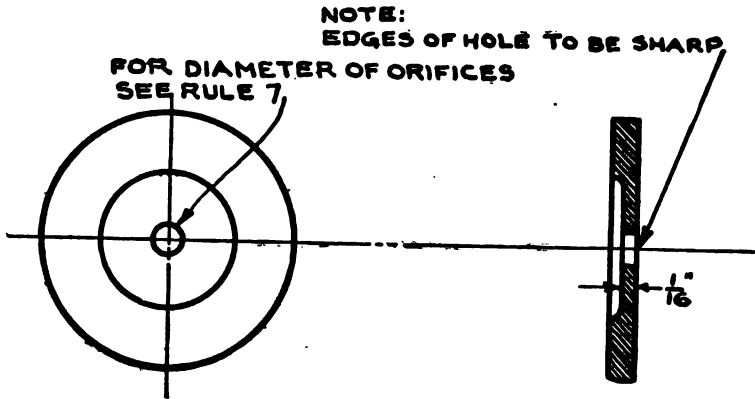


Fig. 14. Orifice

The minimum width of tires for driving and trailing wheels of narrow gauge locomotive shall be 5 inches for flange tires, and $5\frac{1}{2}$ inches for plain tires.

When all tires are turned or new tires applied to driving and trailing wheels, the diameter of the wheels on the same axle, or in the same driving wheel base, shall not vary more than three thirty-seconds inch. When a single tire is applied the diameter must not vary more than three thirty-seconds inch from that of the opposite wheel on the same axle. When a single pair of tires is applied the diameter must be within three thirty-seconds inch of the average diameter of the wheels in the driving wheel base to which they are applied.

Driving and trailing wheel tires with any of the following defects shall not be continued in service.

Slid flat spot $2\frac{1}{2}$ inches or more in length; flange fifteen-sixteenths inch or less in thickness, gauged at a point three-eighths inch above the tread, or having flat vertical surface one inch or more from tread; tread worn hollow five-sixteenths inch on locomotives used in road service, or three-eighths inch on locomotives used in switching service; flange more than $1\frac{1}{2}$ inches from tread to top of flange. (See figures 1, 2, and 3.)

NOTE.—The determination of flat spots and worn flanges shall be made by a gauge as shown in figure 8, and its application to defective tires as shown in figures 9, 10, and 11.

51. Minimum thickness for driving wheel and trailer tires on standard and narrow gauge locomotives:

Weight per axle (weight on drivers divided by number of pairs of driving wheels)	Diameter of wheel center	Minimum thickness, service limits	
		Road service	Switching service
	<i>Inches</i>	<i>Inches</i>	<i>Inches</i>
30,000 pounds and under.....	44 and under.....	1 $\frac{1}{4}$	1 $\frac{3}{8}$
	Over 44 to 50.....	1 $\frac{1}{8}$	1 $\frac{1}{8}$
	Over 50 to 56.....	1 $\frac{3}{8}$	1 $\frac{1}{4}$
	Over 56 to 62.....	1 $\frac{1}{8}$	1 $\frac{1}{8}$
	Over 62 to 68.....	1 $\frac{1}{2}$	.....
	Over 68 to 74.....	1 $\frac{1}{8}$	.....
	Over 74.....	1 $\frac{5}{8}$	.....
Over 30,000 to 35,000 pounds.....	44 and under.....	1 $\frac{1}{8}$	1 $\frac{1}{8}$
	Over 44 to 50.....	1 $\frac{3}{8}$	1 $\frac{1}{4}$
	Over 50 to 56.....	1 $\frac{1}{8}$	1 $\frac{1}{8}$
	Over 56 to 62.....	1 $\frac{1}{2}$	1 $\frac{3}{8}$
	Over 62 to 68.....	1 $\frac{1}{8}$	.....
	Over 68 to 74.....	1 $\frac{5}{8}$	.....
	Over 74.....	1 $\frac{1}{2}$	.....
Over 35,000 to 40,000 pounds.....	44 and under.....	1 $\frac{3}{8}$	1 $\frac{1}{4}$
	Over 44 to 50.....	1 $\frac{1}{8}$	1 $\frac{1}{8}$
	Over 50 to 56.....	1 $\frac{1}{2}$	1 $\frac{3}{8}$
	Over 56 to 62.....	1 $\frac{1}{8}$	1 $\frac{1}{8}$
	Over 62 to 68.....	1 $\frac{5}{8}$	.....
	Over 68 to 74.....	1 $\frac{1}{2}$	.....
	Over 74.....	1 $\frac{3}{4}$	.....
Over 40,000 to 45,000 pounds.....	44 and under.....	1 $\frac{1}{8}$	1 $\frac{1}{8}$
	Over 44 to 50.....	1 $\frac{1}{2}$	1 $\frac{3}{8}$
	Over 50 to 56.....	1 $\frac{1}{8}$	1 $\frac{1}{8}$
	Over 56 to 62.....	1 $\frac{5}{8}$	1 $\frac{1}{2}$
	Over 62 to 68.....	1 $\frac{1}{2}$	.....
	Over 68 to 74.....	1 $\frac{3}{4}$	.....
	Over 74.....	1 $\frac{1}{2}$	.....
Over 45,000 to 50,000 pounds.....	44 and under.....	1 $\frac{1}{2}$	1 $\frac{3}{8}$
	Over 44 to 50.....	1 $\frac{1}{8}$	1 $\frac{1}{8}$
	Over 50 to 56.....	1 $\frac{5}{8}$	1 $\frac{1}{2}$
	Over 56 to 62.....	1 $\frac{1}{2}$	1 $\frac{1}{8}$
	Over 62 to 68.....	1 $\frac{3}{4}$	.....
	Over 68 to 74.....	1 $\frac{1}{2}$	.....
	Over 74.....	1 $\frac{7}{8}$	.....
Over 50,000 to 55,000 pounds.....	44 and under.....	1 $\frac{1}{8}$	1 $\frac{1}{8}$
	Over 44 to 50.....	1 $\frac{5}{8}$	1 $\frac{1}{2}$
	Over 50 to 56.....	1 $\frac{1}{2}$	1 $\frac{1}{8}$
	Over 56 to 62.....	1 $\frac{3}{4}$	1 $\frac{3}{8}$
	Over 62 to 68.....	1 $\frac{1}{2}$	.....
	Over 68 to 74.....	1 $\frac{7}{8}$	.....
	Over 74.....	1 $\frac{1}{2}$	.....
Over 55,000 pounds.....	44 and under.....	1 $\frac{5}{8}$	1 $\frac{1}{2}$
	Over 44 to 50.....	1 $\frac{1}{2}$	1 $\frac{1}{8}$
	Over 50 to 56.....	1 $\frac{3}{4}$	1 $\frac{3}{8}$
	Over 56 to 62.....	1 $\frac{1}{2}$	1 $\frac{1}{2}$
	Over 62 to 68.....	1 $\frac{7}{8}$	.....
	Over 68 to 74.....	1 $\frac{1}{2}$	.....
	Over 74.....	2	.....

When retaining rings are used, measurements of tires to be taken from the outside circumference of the ring, and the minimum thickness of tires may be as much below the limits specified above as the tires extend between the retaining rings, provided it does not reduce the thickness of the tire to less than $1\frac{1}{8}$ inches from the throat of flange to the counterbore for the retaining ring.

The minimum thickness for driving wheel tires shall be 1 inch for locomotives operated on track of 2-foot gauge.

Tenders.

52. Tender frames.—Tender frames shall be maintained in a safe and suitable condition for service.

The difference in height between the deck on the tender and the cab floor or deck on the locomotive shall not exceed $1\frac{1}{2}$ inches.

The minimum width of the gangway between locomotive and tender, while standing on straight track, shall be 16 inches.

53. Feed water tanks.—Tanks shall be maintained free from leaks, and in safe and suitable condition for service. Suitable screens must be provided for tank wells or tank hose.

Not less frequently than once each month the interior of the tank shall be inspected, and cleaned if necessary.

Top of tender behind fuel space shall be kept clean, and means provided to carry off waste water. Suitable covers shall provided for filling holes.

54. Oil tanks.—The oil tanks on oil burning locomotives shall be maintained free from leaks. An automatic safety cutout valve, which may be operated by hand from inside and outside of cab, shall be provided for the oil supply pipe.

55. Tender trucks.—Tender truck center plates shall be securely fastened, maintained in a safe and suitable condition for service, and provided with a center pin properly secured. When shims are used between truck center plates, the male center plate must extend into the female center plate not less than three-fourths inch.

Truck bolsters shall be maintained approximately level.

When tender trucks are equipped with safety chains, they shall be maintained in a safe and suitable condition for service.

Side bearings shall be maintained in a safe and suitable condition for service.

Friction side bearings shall not be run in contact.

The maximum clearance of side bearings on rear truck shall be three-eighths inch, and if used on front truck three-fourths inch, when the spread of side bearings is 50 inches. When the spread of the side bearings is increased, the maximum clearance may be increased in proportion.

Throttle and Reversing Gear.

56. Throttles.—Throttles shall be maintained in safe and suitable condition for service, and efficient means provided to hold the throttle lever in any desired position.

57. Reversing gear.—Reversing gear, reverse levers, and quadrants shall be maintained in a safe and suitable condition for service. Reverse lever latch shall be so arranged that it can be easily disengaged, and provided with a spring which will keep it firmly seated in quadrant. Proper counter-balance shall be provided for the valve gear.

MONTHLY LOCOMOTIVE INSPECTION AND REPAIR REPORT.

Form No. 1

Locomotive { Number.....
Initial.....

....., 191 .

.....Company.

In accordance with the act of Congress approved February 17, 1911, as amended March 4, 1915, and the rules and instructions issued in pursuance thereof and approved by the Interstate Commerce Commission, all parts of locomotive No. including the boiler and appurtenances, were inspected on....., 191 . at....., and all defects disclosed by said inspection have been repaired, except as noted on the back of this report.

- 1. Steam gauges tested and left in good condition on....., 191 .
 - 2. Safety valves set to pop at pounds, pounds, pounds on , 191 .
 - 3. Were both injectors tested and left in good condition?.....
 - 4. Were steam leaks repaired?
 - 5. Condition of brake and signal equipment,
 - 6. Condition of draft gear and draw gear.....
 - 7. Condition of driving gear,
 - 8. Condition of running gear,
 - 9. Condition of tender,
- I certify that the above report is correct.

.....Inspector.

.....Inspector.

STATE OF..... }
COUNTY OF..... } ss:

Subscribed and sworn to before me this.....day of....., 191 , by.....inspectors of the
.....Company

.....Notary Public.

.....Officer in Charge.

The above work has been performed and the report is approved.

58. Upon application to the Chief Inspector, modification of these rules, not inconsistent with their purpose, may be made for roads operating less than five locomotives, if an investigation shows that conditions warrant it.

Filing Reports.

59. **Report of inspection.**—Not less than once each month and within 10 days after inspection a report of inspection, Form No. 1, size 6 by 9 inches, shall be filed with the United States Inspector in charge for each locomotive used by a railroad company; and a copy shall be filed in the office of the chief mechanical officer having charge of the locomotive.

60. A copy of the monthly inspection report, Form No. 1, or annual inspection report, Form No. 3, properly filled out, shall be placed under glass in a conspicuous place in the cab before the locomotive inspected is put into service.

Form No. 2

Locomotive { Number.....
 { Initials.....

.....Railroad.

LOCOMOTIVE INSPECTION REPORT.

INSTRUCTIONS.—Each locomotive and tender must be inspected after each trip or day's work and report made on this form, whether needing repairs or not. Proper explanation must be made hereon for failure to repair any defects reported, and the form approved by foreman, before the locomotive is returned to service.

Inspected at, time m. Date 191 ..

Repairs needed:

.....
.....
.....
.....
.....
.....

Condition of injectors..... Water glass.....

Condition of gauge cocks..... Brakes.....

Condition of piston rod and valve stem packing.....

Safety valve lifts at.....pounds. Seats at.....pounds.

Main reservoir pressure, pounds. Brake pipe pressure, pounds.

(Signature),

(Occupation)

The above work has been performed, except as noted, and the report is approved.

.....
Foreman.

NOTE.—Additional items may be added to this form if desired.

61. Not less than once each year, and within 10 days after required tests have been completed, a report of such tests, showing general condition of the locomotive, shall be submitted on Form No. 3, size 6 by 9 inches, and filed with the United States Inspector in charge, and a copy shall be filed in the office of the chief mechanical officer having charge of the locomotive. The monthly report will not be required for the month in which this report is filed.

Form No. 3 should be printed on yellow paper.

NOTE.—Samples of Forms No. 1 and 3, indicating exact size, color, weight, and grade of paper, will be furnished on application.

Accident Reports.

62. In the case of an accident resulting from failure, from any cause, of a locomotive or tender, or any appurtenances thereof, resulting in serious injury or death to one or more persons, the carrier owning or operating such locomotive shall immediately transmit by wire to the Chief Inspector, at his office in Washington, D. C., a report of such accident, stating the nature of the accident, the place at which it occurred, as well as where the locomotive may be inspected, which wire shall be immediately confirmed by mail, giving a full detailed report of such accident, stating, so far as may be known, the causes and giving a complete list of the killed or injured.

Safety appliances on locomotives will be inspected in accordance with the order of the Commission, dated March 13, 1911.

NOTE.—Locomotive boilers and their appurtenances will be inspected in accordance with the order of the Commission, dated June 2, 1911.

Modernizing Existing Locomotives.

"Of all the items in the splendid program scheduled for presentation at the 1916 convention of the American Railway Master Mechanics' Association," says the Railway Review in its issue of November 13th last, . . . "there is scarcely one that can be made of more interest and value to the members than 'The Modernizing of Existing Locomotives,'" the report on which is to be prepared by a committee of which F. J. Cole, of the American Locomotive Company, Schenectady, N. Y., is chairman.

"Through the office of the secretary of the association, this committee has issued an appeal to the members for information as to the character, extent and results of their practice in modernizing existing motive power equipment. While it is hoped that ample material will be forthcoming from which the committee can prepare a full and instructive report, the probabilities that such will be the case are remote; this because of the fact that, in so far as is generally known at least, but one road, the New York Central, has done any very extensive work of this kind. The scope of the transformations made to certain of the moderately old locomotives on that road, is fully covered in an article in the Railway Review for March 6, 1913.

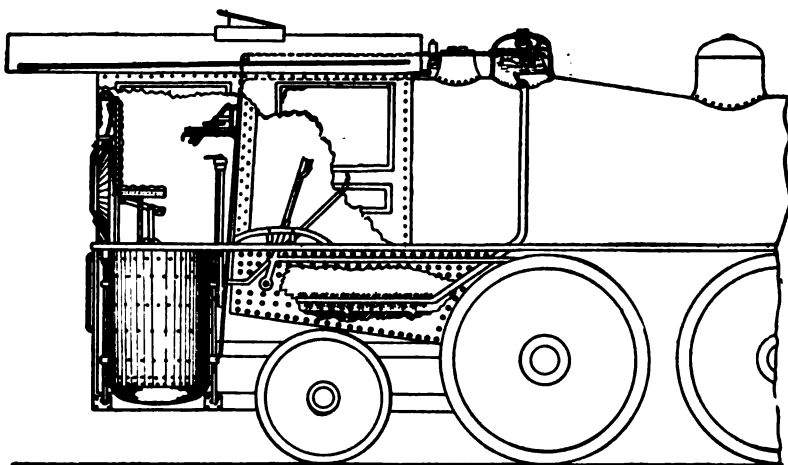
"That other roads have not also engaged in this work is certainly not due to the lack of engines that would serve as suitable subjects, nor in our opinion, to any question as to the profitableness of such operations, although it is true that many competent mechanical officials from sincere motives, discount the argument that any possible degree of economy is to be realized in this manner. It does appear when one considers how extensive the alterations are that must be made in reconstructing a Consolidation engine to produce a Mikado, for instance, that the expense is almost unwarranted. This impression comes from the fact that a new boiler, new cylinders, and new valve gears complete, are likely to be required. But why should this be the case? We have dozens of roads that have indulged in the expense for at least one of these items, and frequently two of them, for large numbers of engines and that have felt repaid for the investment, and yet no one can say that a Consolidation locomotive from ten to fifteen years of age, lacking a superheater, an arch, and outside gears, is in any sense a modern engine after having had but one or even two of these deficiencies corrected.

"The application of a superheater usually carries with it the use of cylinders of larger diameter. A locomotive of the age mentioned is ripe for the application of a new firebox, and with the

cost of these improvements, to which must be added the expense of dismembering the old boiler, it can hardly be argued that any saving has been effected over the cost of a new boiler for a Mikado type engine with its longer barrel, greater heating surface and deeper throat particularly when there is taken into consideration the greatly increased steam generating capacity at the same rate of combustion as prevailed with the Consolidation boiler. Superheaters are in no sense a luxury these days—and to retain Stephenson valve gears on anything more than a moderately heavy engine is the very reverse of economy. Having gone this far, there should be little question as to the advisability of

literature of the company we quote as follows:

"You have to meet steel and iron with the same material. A man can offer no resistance to steel and iron, and is helpless in case he is caught beneath his engine or the train. The length of time it takes an engineer to apply his air brakes, close his throttle and get ready to jump, in many cases, is too late; whereas, if the same second was used in pulling the lever under the seat it would have placed him away from his engine and, automatically, the throttle would be closed, the rails sanded, the engine reversed, the air brakes set in emergency, and the fire extinguished on the grates to prevent the destruction of the train by fire.



Safety Appliance for Engineers and Firemen

piecing out the frames and putting in a trailing truck whereby there is produced a power unit that has some chance of competing with a modern engine."



Life Saving Appliance for Locomotive Cabs.

There has been brought to our attention a unique safety device intended to protect and save the lives of engineers and firemen in cases of impending collision or other serious railroad accidents. It is the invention of Mr. W. A. Uttz, of Fort Worth, Texas, and is being promoted by the Railway Life-Saving Appliance Company, 1317 Market St., St. Louis, Mo. The illustration herewith depicts the appliance as carried on a locomotive. On the theory that steel coaches protect passengers, the inventor has provided a steel cylinder for the protection of the engineer and fireman. From the

"An engineer uses his seat in the usual place in the cab of an engine, and the seat and platform, which forms a part of the deck floor, is connected together, and the pulling of a lever causes the pins that support the platform to be pulled from under the seat and platform, and thereby causing the man, seat and all to drop into the safety appliance, which is carried directly under the engineer and fireman's seat. The seat is guided down into safety appliance by two guides or a track. . . . This appliance is not depending on any motive power from the engine to operate it. It is worked strictly by gravity. The safety appliance is made of $\frac{3}{4}$ -inch boiler-plate steel, and is reinforced with $1\frac{1}{2}$ x 4-inch Bessemer steel channel irons. It would hold up about 225 tons, if five channel rings were used, and will float in the water, it having a greater displacement in the water than it weighs; and if fifteen channel rings are used, it would hold up practically 500 tons or would be indestructible from a crushing standpoint. There are

four air valves on the inside of safety appliance for ventilation. Each valve can be opened from the inside, and they are concealed beneath the upholstery. There is also carried in the bottom of the safety appliance an oxygen tank to last a man from eighteen to twenty-four hours. The appliance is lined with four-ply asbestos to keep out heat. The appliance is equipped with an electric hand flashlight, emergency medical chest and a water life preserver. To guard against injury in being detached from a swiftly-moving train, 133 heavy coil springs and upholstery is used, or pneumatic air cushions on the inside.

"An engineer or fireman can release himself from the inside or the lid can be opened from the outside.

"The diameter is 36 inches if coil springs are used, and with air cushions the diameter would be 30 inches. The height of safety appliance is from 4½ to 5 feet. This appliance sets itself away from the engine automatically by two large iron arms; after the man has dropped into safety appliance it rolls down embankment out of the way, and in many cases it would never be in the wreck. An engineer or fireman could release himself from the inside and come out safely. It being round or cylinder shaped makes it hard to crush, and engine or car falling on it would either knock it away, roll over or imbed it in the ground"



Wet Rails.*

An impression prevails among railroad men that rainy weather increases the resistance of trains and that more fuel is used in pulling trains when the rails are wet than what is required when they are dry. A statement to that effect having been made by a railroad official moved a well-known traveling engineer to institute investigations of the power used on wet and on dry rails. Scientific experiments were carried on for several months and it seemed to be proved beyond question that with wet rails the wheel resistance was about 20 per cent less than when the rails are dry.

A general manager of a cable road having heard that statement made about the reduced wheel resistance on wet rails, made experiments for his own satisfaction, and found that the statement was correct. He explained the case by holding that when the rails have been washed by the rain there is less grit and sand left upon them to cause wheel resistance. This fact is readily observed also in stopping trains when the train will invariably run a considerable distance further when the rails are wet, although the retarding force of the brakes may be considerably increased to meet the expected emergency.

New Publications—Department of the Interior, Bureau of Mines.

A limited supply of the following publications is available for free distribution and may be had upon application to the Director of the Bureau of Mines, Washington, D. C. Applicants are asked to co-operate in insuring an equitable distribution by selecting publications that are of especial interest. The bureau advises that requests for all papers cannot be granted, and that publications should be ordered by number and title.

Technical Paper 64. Determination of nitrogen in coal; a comparison of various modifications of the Kjeldahl method with the Dumas method, by Arno C. Fieldner and Carl A. Taylor. 1915. 25 pp., 5 figs.

Technical Paper 105. Pulmonary disease among miners in the Joplin district, Missouri, and its relation to rock dust in the mines; a preliminary report, by A. J. Lanza and Edwin Higgins. 1915. 49 pp., 5 pls.

Technical Paper 112. The explosibility of acetylene, by George A. Burrell and G. G. Oberfell. 1915. 15 pp.

Technical Paper 116. Miners' wash and change houses, by Joseph H. White. 1915. 27 pp., 3 pls., 3 figs.

Technical Paper 123. Notes on the uses of low-grade fuel in Europe, by R. H. Fernald. 1915. 37 pp., 4 pls., 4 figs.

Special.

Bulletin 98. Report of the Selby Smelter Commission, by J. A. Holmes, E. C. Franklin, and R. A. Gould. 1915. 528 pp., 41 pls., 14 figs. One volume. Paper covers. \$1.25.

The bureau advises that: "Owing to the expense involved in the preparation and publication of this bulletin and the limited printing funds available for the use of the Bureau of Mines, it has been necessary to place a price of \$1.25 on the work. Orders should not be sent to the Bureau of Mines, but should be addressed to the Superintendent of Documents, Government Printing Office, Washington, D. C.

"This bulletin describes in detail the methods used, some of them new, in determining the contamination of the air and the damage to trees, crops, and live stock by the smoke and fume from the Selby smelter, in California, and gives the conclusions of the commission on the methods used by the smelter company to prevent injury. The bulletin is of especial interest to metallurgical companies, municipal or State boards of health, and persons investigating damage by smelter smoke.

The Aristocratic Piston.*

Particulars have recently reached us of a most destructive accident that happened to a powerful locomotive by one of the piston rings falling into the counterbore. Disaster overtook the cylinder and tumultuous ruin mastered the engine. Such an accident is due to a serious blunder on the part of the machinist who put in the piston, but it is one which happens more frequently than the mechanical railway world is aware of.

The fitting of a piston to a cylinder does not involve mechanical skill of a high order, but it calls for the employment of a careful, conscientious mechanic. Our tendency towards hero worship makes us believe that the piston is the heart of the steam engine. Until that element was invented all attempts at making a workable steam engine were failures. An injury happening to the piston, which might not be serious to another part, renders the whole engine useless. The engine may be of first class design, and may embody the least possible metal most judiciously distributed; the valve gear may be perfect in operation, and possessed of the most ordinary qualities, but if the piston is not perfect in its qualifications as a piston, the usefulness of the whole machine is proportionately impaired. The man who fits a piston so that a ring is likely to fall into the counterbore, is the same type as he who will drive in the piston with an improvised battering ram, saying that friction does not count.

The purpose of the piston is to furnish a steam tight barrier that shall move with the least possible friction. If the cylinder and piston could be made perfectly round and true, the piston could be fitted just loose enough to move freely,

and no packing would be required. The only friction in such an arrangement would be that due to the weight of the piston and rod end in horizontal engine. But first the defects in friction, and second the wear of the metal in use, renders packing necessary; hence a piston consists of two principal members; the piston box and packing. The friction of the packing depends upon the pressure exerted against the rings to produce a steam tight joint against the cylinder walls and is independent of the amount of wearing surface presented by the rings.

Of all the details pertaining to steam engines, there is none in which simplicity, durability and certainty are so much demanded as in the piston; and it may be set down as a fact that the simplest piston is the best. A plain, movable diaphragm, accurately fitted, and with two or three grooves around the edge, would answer every purpose if it were not for the wear of the metal; and the nearer we can approach this device in simplicity and effect, the less trouble there will be experienced with steam leaks within the cylinder, and also with cutting and wearing; in addition the cost of lubrication will be reduced to a minimum.

The most successful designers made the solid part of the piston so as to secure ample wearing surface, and they remember that a thick piston if properly designed, furnishes a greater proportion of surface for the support of the weight than a thin one. The solid part of the piston or the piston proper, is to be considered entirely separate with reference to strength, wearing qualities and general arrangement from the elastic or wearing portion. The packing in the piston is simply a concession to our inability to make and preserve a perfect and correct piece of workmanship.

*From Railway and Locomotive Engineering.

Our Special Study Course

THE WESTINGHOUSE AIR BRAKE

(PART 8, SECTION 5.)

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Later Forms of Equipment—Details—Operation, etc.

Type K Freight Triple Valve

1. *Inferiority of Previous Styles.*—After air brakes had been applied to all railroad rolling stock, and freight trains were entirely air equipped, it developed that the quick-action triple valve was not equal to the demands of the service, especially as with the advent of the very powerful locomotives of the present time freight trains commonly consist of one hundred, or more, cars.

It was found that the volume of brake-pipe air was so great that it could not be reduced in pressure rapidly enough at service application, *at one point of reduction*, such as by the engineer's valve, to prevent waste of auxiliary-reservoir pressure in back flow to the brake pipe through the feed groove, and waste of brake-cylinder pressure to the atmosphere through the leakage grooves; while the back flow of auxiliary-reservoir air still further increased the amount in the brake pipe that must be reduced. It was found impossible to increase the rate of brake-pipe pressure reduction at the engineer's valve without inducing emergency application of the brakes; and the brakes on a long train that would apply were slow in taking hold, and did so with a lessened power.

In releasing brakes on a long train, those on the forward cars releasing completely before the brakes at the rear of the train had commenced to let go, invariably caused the train to part when such release was made at low speed. The immediate recharging of the auxiliary reservoirs on the forward cars absorbed much air from the brake pipe, and this helped delay the brake release at the rear. When the engineer's valve was returned from *release* to *running position*, the equalization of brake-pipe pressure caused the more highly charged forward brakes to creep on—to "stick;" or, if another application were made immediately after releasing, invariably the brakes on the forward cars only, would apply, resulting in severe shocks to the train if the application was made while running.

2. *Effectiveness of the K Triple Valve.*—The improved freight triple valve is designated by the symbol "K," to distinguish its particular type. It has all the functions of the previous standard, quick-action triple valve, with certain additions. Instead of one *service application position* and one *release and charging position*, each of these positions is divided; when a service application is made, the position assumed by the triple valve depends upon the volume of brake-pipe air that is to be reduced; likewise, after an application, the position taken by the triple valve when the brake pipe is recharged de-

pends somewhat upon the air capacity of the brake pipe, but is mostly affected by the location of the triple valve—in its distance from the source of pressure supply.

Assuming a train of seventy cars, each car equipped with the *Type K* triple valve: when a service reduction is made all triple valves in the train move to the *quick service position*; auxiliary-reservoir air flows to the brake cylinder at a somewhat restricted rate; brake-pipe air also feeds to the brake cylinder, and with a similarly restricted flow; and the supply from both sources equals the desired rate for a normal service application.

When the brake pipe is recharged, on the cars nearest the locomotive—say the forward twenty-five or thirty cars—the *K* triple valves take the *retarded release and charging position*, in which the discharge of brake-cylinder pressure, while beginning at once, is choked back by having to escape through a very small port; and the recharge of the auxiliary reservoir is similarly restricted. On all the rest of the cars in the train back of these, the *K* triple valves take the *full release and charging position*, which is precisely the same as the usual release-and-charging position of the common quick-action triple valve. This auto-selective functioning to position is governed by the comparative quickness or slowness in the rise of brake-pipe pressure, the cars nearest the locomotive, as defined, getting the fuller force of the main-reservoir air, take the position for slowest release and slowest auxiliary-reservoir recharge; as the recharge progresses through the brake pipe its rise in pressure is continually slower, until having reached the middle or rear of the train the pressure increase is barely fast enough to move the *K* triple valves to the position for normal, or quick release and recharge.

3. Benefits from Quick Service.—On a train of considerable length, when a service reduction is made each *K* triple valve vents a portion of the brake-pipe air to the brake cylinder, and in so doing shortens the time required for the amount of reduction desired; this not only shortens the distance covered in stopping, but insures the prompt application of all brakes, the quicker movement of the triple valves preventing waste of auxiliary-reservoir air to the brake pipe, and brake-cylinder pressure to the atmosphere. With all cars in the train equipped with *K* triple valves, the braking action is more uniform, making the service application not only as rapid, but as free from shocks on a 50-car train with *K* valves as on a 30-car train with the old type of triple. Where all cars are not so equipped, each *K* triple valve in the train does its proportionate share in providing the quicker brake-pipe reduction.

Under the same conditions as with the old equipment, the *K* triple valve will give approximately one pound higher equalization pressure (in brake cylinder and auxiliary reservoir), due to the brake-pipe air entering the brake cylinder through the quick-service ports.

The quick-service feature automatically goes out of service, however, where the brake-pipe pressure is being reduced sufficiently rapid by the engineer's valve, as on short trains, and, in all cases, after about 25 pounds brake-cylinder pressure has been obtained.

4. Benefits from Uniform Release.—After an application on a long train with *K* triple valves, if a release is made while still running at a low or moderate rate of speed, the retarded release of the forward brakes prevents the slack of the train running out and thus avoids break-in-twos. When the pressure in the brake pipe is increased about three pounds above (faster than) that of the auxiliary reservoir, the *K* triple valves take the *retarded release position* ("uniform release"). In a 50-car train or longer, it is impossible to

raise the brake-pipe pressure three pounds higher than the auxiliary-reservoir pressure for more than thirty cars from the locomotive, even though the engineer's valve is held in full-release position.

5. **Benefits from Uniform Recharge.**—When a brake release on a train of K triple valves is made, the same movement to *retarded-release position* provides the *retarded recharge* of the auxiliary reservoirs—that is, on upwards of thirty cars from the locomotive, back. This prevents a too great absorption of brake-pipe air in the forward portion of the train, resulting in a quicker rise of brake-pipe pressure and prompter brake release toward the rear of the train—in other words, all brakes in the train are more *uniformly* recharged as well as released. Another benefit is that when the engineer's valve is returned to running position and the brake-pipe pressure equalizes

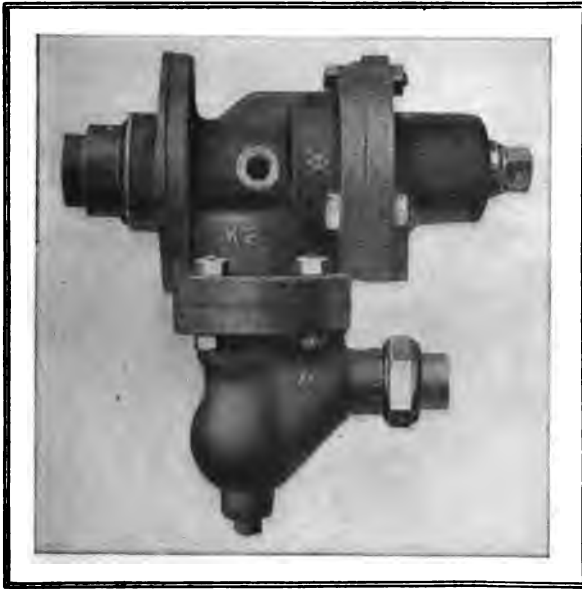


Fig. 140. THE TYPE "K" FREIGHT TRIPLE VALVE

to its normal proportions, the consequent drop of several pounds in the forward portion of the brake pipe will not cause the brakes at that point to re-apply—to "stick"—as was invariably the case with the older style triple valves.

6. **Sizes of K Triple Valves and Distinguishing Features.**—Fig. 140 is a photo-view of a "K-2" Triple Valve. The *Type K* triple valve is made in two sizes, the "K-1" for use with 8-inch freight-car brake cylinders (corresponding with the old H-1 or F-36), on cars having light weight, between 22,000 pounds and 37,000 pounds; and the "K-2" with 10-inch freight-car brake cylinders (corresponding with the H-2 or H-49), for cars of light weight between 37,000 pounds and 58,000 pounds. The K-1 will bolt on the same reservoir as the H-1; and the K-2 as the H-2. Each valve is marked with its designation on the side of the valve body, and the K-2 may be distinguished from the K-1 by the fact that it has *three*, as compared with *two*, bolt holes in the reservoir connection flange. Also, the check-valve case of the K-2 is fastened

to the valve body by four bolts-and-nuts, whereas the K-1 uses but two tap bolts for the purpose. In order to distinguish the *Type K* valves from the old standard type, their outside appearance being similar when attached to the auxiliary reservoir, a lug is cast on top of the valve body, as shown in Figs. 140, 141, 142 and 143, and this enables them to be easily recognized.

7. **Combined and Detached Equipment.**—A standard cast-iron auxiliary reservoir is included with the complete freight-brake schedule, which is furnished either combined with the brake cylinder (Type KC, Fig. 141), or detached therefrom (Type KD, Fig. 142), as desired, according to the conditions governing the installation; and either style may be furnished with either size of brake-cylinder and auxiliary reservoir, with the K-1 or K-2 triple valve, to suit. The reservoirs are of such a volume that with an initial

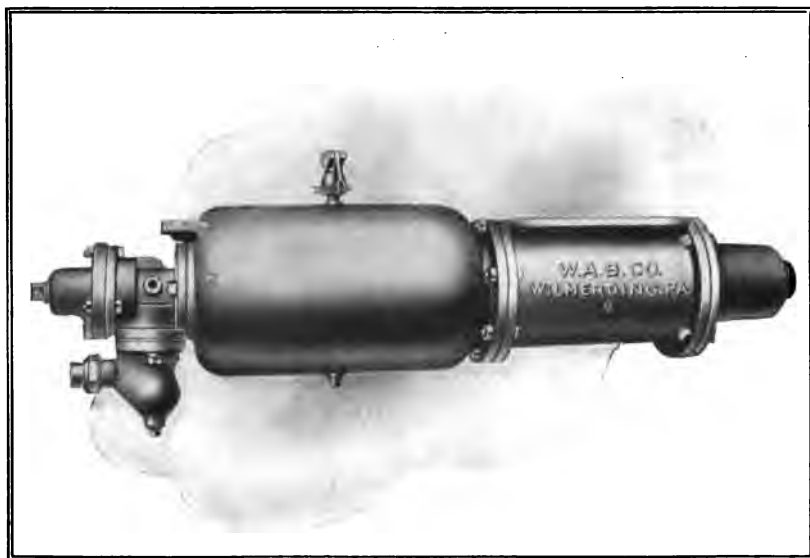


Fig. 141. TYPE KC COMBINED FREIGHT BRAKE EQUIPMENT

pressure of 70 pounds and standard (8-inch) piston travel, the auxiliary-reservoir and brake-cylinder pressures will equalize at 50 pounds.

8. **Details of the K-2 Triple Valve.**—Fig. 143 has a back view, and shows a vertical cross-section of this valve. The names of the parts are 2, Valve Body; 3, Slide Valve; 4, Main Piston; 5, Piston Ring; 6, Slide-Valve Spring; 7, Graduating Valve; 8, Emergency Piston; 9, Emergency-Valve Seat; 10, Emergency Valve; 11, Emergency-Valve Rubber Seat; 12, Check-valve Spring; 13, Check-Valve Case; 14, Check-Valve Case Gasket; 15, Check Valve; 16, Air Strainer; 17, Union Nut; 18, Union Swivel; 19, Cylinder Cap; 20, Graduating Stem Nut; 21, Graduating Stem; 22, Graduating Spring; 23, Cylinder Cap Gasket; 24, Bolt and Nut; 25, Bolt and Nut (for check-valve case); 27, Union Gasket; 28, Emergency-Valve Nut; 29, Retarding Device Body; 31, Retarding Stem; 33, Retarding Spring; 35, Graduating Valve Spring.

Fig. 144 shows the relative positions of the ports and cavities in the slide valve, graduating valve and slide-valve seat, of the K-2 triple valve.

9. Explanation of Fig. 143.—Referring to the sectional view of the K-2 Triple Valve in Fig. 143, the connection with the branch of the brake pipe is at union swivel 18. The retarding-device body, 29, protrudes into the auxiliary reservoir through an opening in the end of the reservoir, and permits free communication between the auxiliary reservoir and chamber *R* of the triple valve, in which the slide valve, 3, and graduating valve, 7, operate. Retarding stem 31 extends into chamber *R* and forms the stop against which the end of piston stem 4 and the end of slide valve 3 abut when they are moved to the release position, as shown in Fig. 143. In the back view, the opening marked "to brake cylinder" is the same as the outlet opening from chamber *X* in the sectional view, and comes opposite to the end of the tube that extends through the auxiliary reservoir to the brake cylinder, when the valve is bolted in place on the end of the reservoir, as shown in Fig. 142. Chamber *X* is situated over the emergency valve, 10, and under emergency piston, 8; it

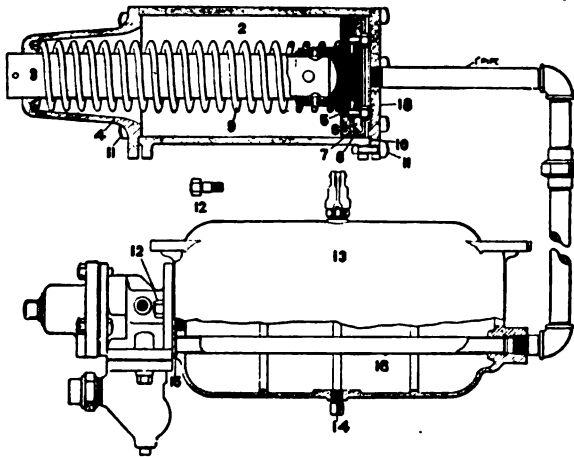


Fig. 142. Type KD Detached Freight Brake Equipment

connects with port *r* leading to the seat under slide valve 3 (Fig. 144). The emergency piston and parts below it are the same as in the older style, quick-action freight triple-valve. Port *y*, shown by dotted lines, connects chamber *Y* between check valve 12 and emergency valve 10, with port *y* in the valve seat (Fig. 144).

Port *t* leads from the slide-valve seat to the chamber above the emergency piston, 8. Port *p* is the exhaust port leading to the atmosphere. A passage cored through the slide valve connects port *o* on the top and on the face of the valve, both openings being of the same size. Port *q* also runs clear through the slide valve, is smaller at the top than in the valve face, and the smaller port is off center with the larger port in the face. Ports *s* and *z* extend through the slide valve to cavities in its face, port *z* being also widened at the top to form a cavity there.

There are no ports in the graduating valve, but, as the view shows, there is a small cavity, *v*, in its face; it is of the slide-valve style and seats on the top of the main slide-valve; its movements effect the opening and closing of the upper ends of ports *z*, *q* and *o*. Cavity *v* connects the upper ends of ports *o* and *q* in service application.

Referring to the face view of the main slide-valve, π is a long cavity connected by a restricted port (shown by dotted lines, in Fig. 144) with a "tail port" at its right-hand end; in release position, cavity π connects the ports through which the air escapes from the brake cylinder. Port b is cut diagonally from the face of the valve till it just cuts into the edge, at the top of the slide valve, and is to admit auxiliary-reservoir pressure to port t in emergency application.

Examination Questions and Answers.

THE WESTINGHOUSE AIR BRAKE.

(PART 3, SECTION 5.)

1. Q.—Why is not the old style quick-action triple valve adapted to the long freight trains of the present time?

A.—Brake-pipe pressure could not be reduced at service application fast

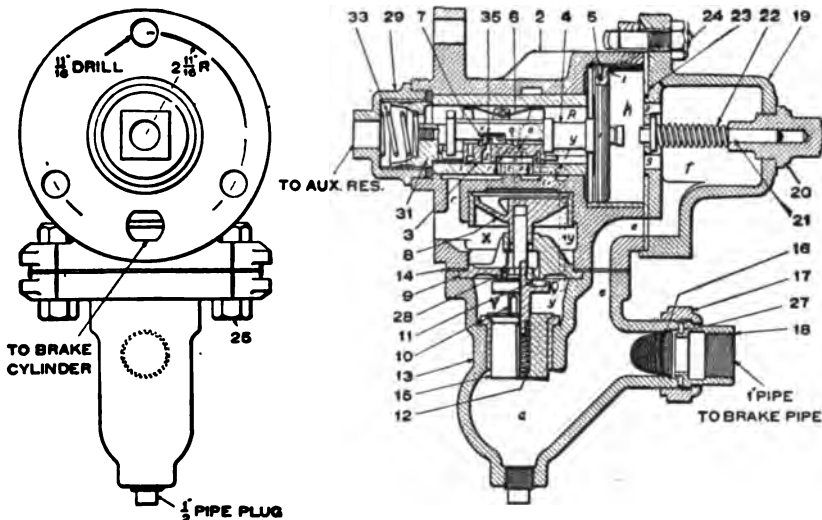


Fig. 143. K-2 Triple Valve, Actual Section and End View

enough to insure all brakes promptly applying; there was back flow of auxiliary-reservoir air through the triple check-valves, and waste of brake-cylinder pressure through the leakage grooves. In releasing, the forward brakes released first causing train parting, while running; and the auxiliary reservoirs on the forward cars were comparatively overcharged, causing their brakes to "stick," with a slowness of brake-pipe recharge in the rear portion of the train.

2. Q.—(a) Are those undesirable features overcome in the Type K triple valve? (b) Does the K triple valve include all of the functions of the previous standard triple valve? (c) And with what additions? (d) Name the operative positions of the K triple valve. (e) At service application what determines the position assumed by the K triple valve? (f) In quick-service position, from where does the brake cylinder receive its air pressure? (g) From where at full-service application? (h) After an application, when the brake pipe is recharged what position is taken by the K triple

valves on the 25 or 30 cars nearest the engine, and why is this? (i) What position will the triple valves take on the following cars, and explain why?

A.—(a) Yes. (b) Yes. (c) There are *two* releasing positions, and *two* service application positions. (d) Full Release and Recharge, Retarded Release and Recharge, Lap, Quick Service Application, Full Service Application, and Emergency Application positions. (e) The volume of the brake

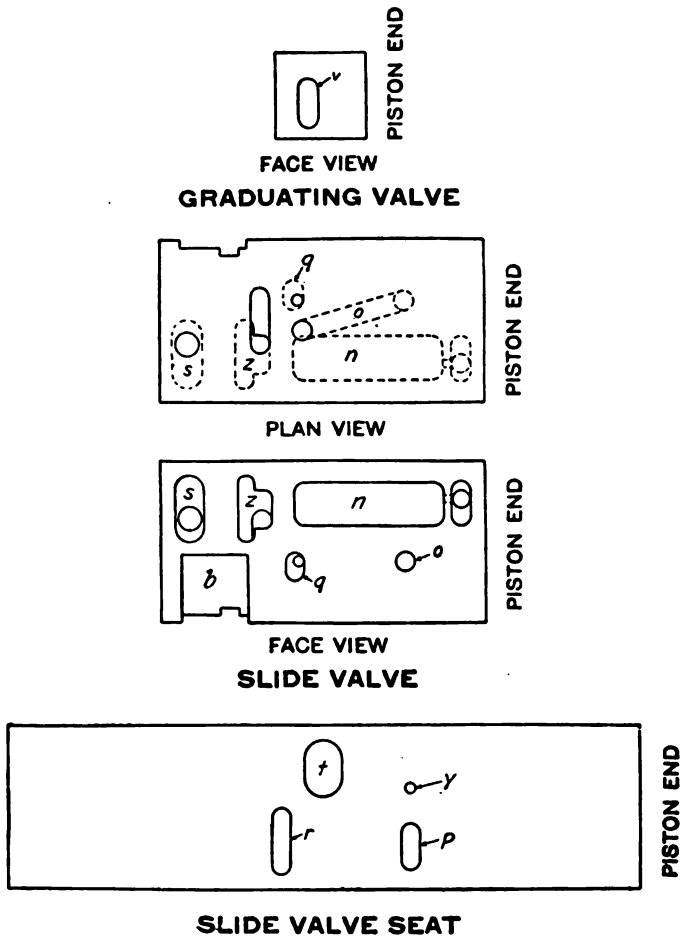


Fig. 144. Graduating Valve, Slide Valve and Slide Valve Seat, K-2 Triple Valve

pipe; with a short train the K triples take the full-service, and with a long train they take the quick-service positions. (f) From auxiliary reservoir and from brake pipe. (g) From the auxiliary reservoir only. (h) Retarded release and charging position; because the increase of brake-pipe pressure is more rapid in that portion of the train. (i) Full release and charging position; because the brake-pipe pressure increase is slower toward the middle and rear of the train.

3. Q.—(a) What are the benefits from “quick service?” (b) If only part of the cars in the train have K triple valves, are the braking results any better than if all the cars had the old style triple valves? (c) At full-on service application (quick service), how much higher brake-cylinder pressure is obtained than with the old style triple valve, in the same circumstances of application?

A.—(a) It quickens the time of application, insures against waste of auxiliary-reservoir and brake-cylinder pressures, and slightly increases the brake-cylinder pressure at quick-service application. (b) Yes; each K triple valve does its share proportionate to the whole. (c) About one pound.

4. Q.—(a) What are the benefits from retarded, or “uniform” release? (b) How much faster must the brake-pipe pressure be increased than the auxiliary-reservoir pressure, to cause the K triple valves to take the retarded-release position? (c) On a long train, can this 3 pounds differential pressure be secured on all of the cars? (d) On how many cars in the train, then, will the K triple valves take the retarded-release position? (e) How are the remainder of the K triple valves affected?

A.—(a) When the brakes on a long train are released while running, the delayed release in the forward portion of the train prevents the slack running out and jerking out drawbars; while standing, it prevents starting the train after the brake release is attempted and before the rear brakes have released, which would also cause train parting. (b) Three pounds. (c) No; only on the 25 or 30 cars nearest the engine. (d) On the forward 25 or 30 cars. (e) They will fully release and rapidly recharge, just the same as the old style quick-action triple valves.

5. Q.—(a) What are the benefits from retarded, or “uniform” recharge? (b) On what cars in the train is the retarded-recharge effective? (c) Does the movement of the K triple valve to retarded-release position also provide the retarded-recharge?

A.—(a) It prevents the auxiliary reservoirs in the forward portion of the train from becoming recharged to any considerable extent in excess of those at the middle and rear of the train, which would afterward cause brakes to “stick.” Also, in lessening the absorption of brake-pipe air at the head end of the train, its pressure increases more rapidly toward the rear, and the rearward brakes are more promptly released. (b) On the 25 or 30 cars nearest the locomotive. (c) Yes; both positions are identically the same.

6. Q.—(a) What is represented in Fig. 140? (b) In how many sizes is the K triple valve made, and corresponding with what former standard valves? (c) For what weight of cars is the K-1 triple valve intended? (d) For what weight of cars is the K-2 intended? (e) How are they distinguished? (f) How can a K triple valve be known from an old style triple valve?

A.—(a) A K-2 triple valve. (b) Two sizes, the K-1 and K-2. The K-1 takes the place of the old style H-1, or F-36 triple; the K-2 takes the place of the old H-2, or H-49 triple valve. (c) The K-1 is used on cars whose empty weight is between 22,000 pounds and 37,000 pounds. (d) The K-2 is used on cars whose empty weight is between 37,000 pounds and 58,000 pounds. (e) Each valve is marked with its designation on the side of the valve body; the K-1 has two bolt holes in the reservoir flange, while the K-2 has three holes; the K-1 has two check-valve case bolts, while the K-2

has four bolts. (f) Type K triple valves have a lug cast on top of the valve body, as shown in the plates; the old style triples have no such lug.

7. Q.—(a) What is meant by “combined” equipment? (b) What is meant by “detached” equipment? (c) What is shown in Fig. 141? (d) Can either style of equipment be procured for use with both the K-1 and K-2 triple valves? (e) What governs the relation in the sizes of auxiliary reservoirs with their associated brake cylinders?

A.—(a) Where the auxiliary reservoir and brake cylinder are bolted directly together. (b) Where the auxiliary reservoir is located apart from the brake cylinder, but in pipe connection with it. (c) The combined equipment; the detached equipment. (d) Yes. (e) Their sizes must be so proportioned that from an auxiliary-reservoir pressure of 70 pounds, and 8-inch piston travel, the auxiliary-reservoir and brake-cylinder pressures will equalize at 50 pounds.

8. Q.—(a) What is represented in Fig. 143? (b) What in Fig. 144?

A.—(a) Details of the K-2 Triple Valve—names of parts. (b) The relative positions of ports and cavities in the slide valve, graduating valve and slide-valve seat, of the K-2 triple valve.

9. Q.—What is shown in Fig. 143?

A.—A back view, and a vertical section in side view, of the K-2 triple valve.

(To be continued.)



Study Course in Electrical Railroading*

MAGNETISM AND INDUCED CURRENTS

Simple Dynamos

1. If we take a bar of iron and wind around its length a number of turns of insulated wire, and then pass a current of electricity through the wire, the iron core becomes a magnet and is capable of evidencing all the phenomena of permanent magnets, which were discussed in the preceding paper. In addition, however, a magnet so produced has the decided advantage of regulation within the limits of its saturation, i. e., its magnetic strength can be varied from zero to a maximum. Permanent magnets have a certain fixed strength of field which is always practically the same and cannot be altered, except by placing an auxiliary winding upon it, as shown, for instance, in the magnet and its winding of the ordinary telephone receiver. A magnet formed by passing a current of electricity through many turns of wire wound around it is called an *electro-magnet* to distinguish it from a permanent magnet. Electrical history records the first one to have been made in 1825.

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2. Every electro-magnet has a north and a south pole, the same as with permanent magnets. The same kind of a field of force exists except that fields of much greater strength can be produced with electro-magnets than with permanent magnets. In order to produce a north and a south pole the wire must be wound in the same direction around the iron core. Whenever a reversal of direction in the winding occurs there will be formed a consequent pole. If a bar of iron is wound with insulated wire and the iron core then removed, there will remain a spiral or helix. If a current of electricity be passed through the helix (also called *solenoid*), there will also be an evi-



Fig. 1.

dence of magnetism. If this solenoid, while carrying a current of electricity, be freely suspended, it will assume a position due north and south, the same as a permanent magnet. The solenoid, by virtue of many turns of wire closely grouped and current traversing it, has a magnetic field of force the same as any other magnet. Fig. 1 shows a solenoid and Fig. 2 a simple electro-magnet. They are both the same with the exception of the iron core. The arrows show the direction of the current in traversing the windings of the coil, and when moving in the direction shown in the figure the polarity of the solenoid or electro-magnet will be as indicated by the letters N and S respectively. If a current be flowing through Fig. 1 and small particles of iron be brought near, they will be drawn into the helix and retained by the magnetic effect of the coil. If the direction of the current in the coil be changed, the north and south poles will change places. The insertion



Fig. 2.

of an iron or other magnetic core into a solenoid immediately causes the lines of force to pass through it. The iron gathers them in as it were. It does this because the iron has far less resistance to the passage of lines of force than does air. All of the lines of force were in and about the solenoid before the iron was inserted, but after the insertion of the iron core they became condensed into a smaller space.

3. Electro-magnets can be made of any shape and with any grade of iron or steel for the core. The softer the iron the quicker it will attain its maximum magnetism for any fixed strength of current, and the more rapidly it will part with it. Therefore, for any piece of electrical apparatus in which a reciprocating or a vibrating motion is controlled by magnetism, the softer the iron should be. Magnetism produced in soft iron will only last as long as a current of electricity is maintained in a coil of wire surrounding it. If, instead of soft iron, steel be used, the strength of the magnet will be increased more slowly until saturation is reached. After the current is cut off the steel will retain (if hardened steel) nearly all of the magnetism it

had acquired; hence it is seen that steel is not suited to any apparatus where rapid reversals of current or rapid changes in the strength of the same are necessary for successful operation. It has been found that a bundle of soft iron wire for the core of an electro-magnet gives better results than a solid mass. They will receive and give up magnetism more readily than a solid piece of iron. It has been noticed, likewise, that when a rod of soft iron has been magnetized by a strong electrical current circulating around it, a sound is emitted at the time of closing the electrical circuit. A similar sound is created when the electrical circuit is quickly disrupted. This sound is presumably due to the molecules of the metal, which have been given something of a vibratory motion in consequence of their rapid magnetization or demagnetization.

4. From a description of the electro-magnet it is but a step to the subject of induced electrical currents. Induction, in general, is meant the effect which a body carrying an electrical current will exert upon another body adjacent to or at some distance from the first. It was in 1831 that Michael

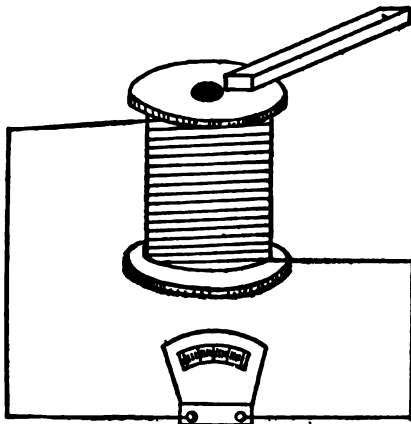


Fig. 3.

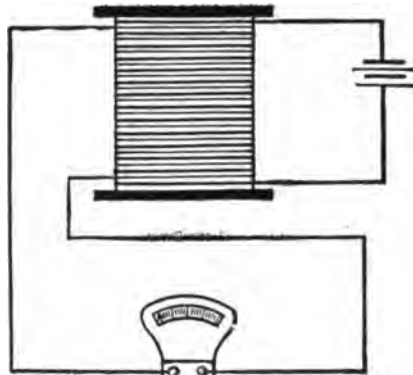


Fig. 4.

Faraday discovered the phenomena of induced electrical currents. Such currents can be produced in a copper wire from the influence of a second copper wire, which last wire is traversed by an electrical current. They may also be produced by means of magnets acting upon a metallic conductor of electricity. The simplest means of illustrating such inductive action is shown in Fig. 3.

5. Here we have a coil of wire—a solenoid, in fact—which has been wound upon a spool or bobbin, and has its terminals connected to a small indicating instrument (a galvanometer, for example). If a permanent magnet be quickly thrust into the solenoid the galvanometer needle will be deflected in one direction, but will immediately return to its normal position. If the magnet be quickly withdrawn the needle will be deflected in an opposite direction to what it was first. As fast as such a magnet can be inserted and withdrawn, just so rapidly will the needle of the indicating instrument vibrate. The needle vibrates because a current of electricity is induced in the circuit of which it forms a part. Another method of producing the same result is shown in Fig. 4.

6. In this example there is one layer of wire wound upon a spool as a helix and connected with a primary battery or other source of electrical supply. Upon the first coil, but insulated from it, is wound a much larger number of turns of insulated wire. This second coil is connected to the terminals of an indicating instrument as before. The moment the battery connection is made with the first coil a deflection of the needle will be shown. If the battery be disconnected an opposite deflection of the needle will be noticed. As often as such connections are made and broken the needle will be deflected. Deflections always take place in opposite directions when the circuit is made and when it is broken. If an iron core is inserted in the helix the deflections of the needle will be greatly increased. The same results can be obtained if the battery circuit is kept closed and the two coils quickly moved longitudinally and relatively with one another. The same results will be observed if the battery is connected to the first coil and provision is made so that, by inserting a resistance in the battery circuit, its

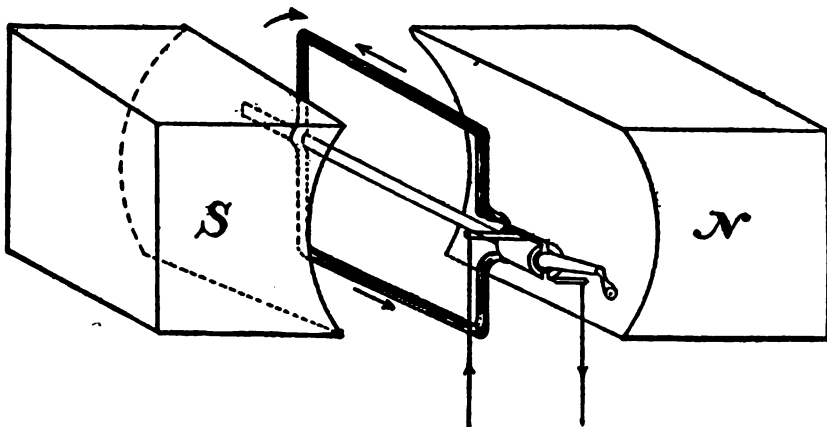


Fig. 5.

current strength can be quickly varied. Every time the strength of the electrical current that is flowing in the circuit is changed the needle will show a movement. That movement will be in a different direction, depending upon whether the strength of the electrical current is increased or decreased. This phenomena is, as will be observed, obtained in different ways; yet in each case, it is an induced current that is set up in the circuit. This phenomena of induced currents is the basic principle of all dynamos and motors and of a great many other electrical devices in use today. The importance of the discovery is apparent.

7. The simplest form of a dynamo in use today is contained within the upper box of those telephone sets which require the ringing of a bell by the person desiring to raise a subscriber without calling a central office. Operating the small crank outside of the box mentioned turns the armature of a small dynamo, commonly termed a magneto, and the electrical currents generated by this miniature dynamo cause the bell to ring. This form of dynamo is further simplified in Fig. 5, so as to make an explanation of the underlying principles easier of comprehension.

8. In Fig. 5, N and S represent the north and south poles of a horseshoe magnet, or the north and south poles of two different magnets, as the case

may be. From N to S, therefore, lines of magnetic force thread their way through the rectangular loop shown. For convenience of illustration and description the usual mechanical appliances forming a part of every dynamo are omitted from the drawing. The loop is intended to represent one turn of wire upon an armature of a dynamo or motor, with a small handle to illustrate the turning movement. Next to the handle shown is a two-piece *commutator*, which can be made from a copper or brass tube, slit in two and fastened upon a piece of wood and upon opposite sides thereof. Each half of the commutator is connected to one end of the loop. Upon the top and bottom of this commutator a copper brush presses lightly, these brushes or strips being connected to the external electrical circuits which are to be supplied with electricity. A copper brush, so-called, is nothing more than a strip of flat copper. It may be, and in practical machines is, replaced by pieces of carbon.

9. In Fig. 5 the loop of wire and the commutator form the *armature* of the dynamo. N and S are the *field poles*, which are stationary. The armature of any dynamo is the part of the machine in which the current is induced, and almost always is the revolving element. Many alternating current generators are now made in which the armature is stationary and in which the field magnets revolve. This is particularly so in the case of generators delivering current at a high electrical pressure. The extension of the handle in Fig. 5 represents the shaft of the armature, which in practice is supported in bearings and instead of a handle on the end, has a pulley to be driven by means of a belt, or without the pulley can be direct connected to the prime mover.

10. When the loop is in a vertical position, as shown in Fig. 5, the maximum number of magnetic lines of force pass through it, and as the loop is moved from this position toward the right or left 90 degrees it will assume a horizontal position, and at this point will embrace the minimum number of magnetic lines of force during a complete revolution. When the loop is stationary no E. M. F. is generated in it, but the moment a movement of the same is made in either direction an E. M. F. is generated in the loop which will cause an electrical current to flow into the external circuit. This current will be commutated at the commutator shown, pass from the brushes which are in contact with the commutator into the wires connected with the brushes, and from there into any or all of the electrical devices which may be a part of the external circuit. No current will flow, however, unless some one of the devices in the external circuit is actually connected into the external circuit in operative relation, such as a lamp, motor or some similar appliance. If no such device is connected into the circuit so that current from the miniature dynamo can flow through it, then no current will actually flow in the circuit. Under any circumstances, however, a difference of potential or electrical pressure will exist at the brushes of the dynamo, but no current will actually flow until it has an outlet, so to speak.

11. Let us suppose that the magnetic field is uniform and will remain so; also, that the loop is just past the vertical and that we will turn it in a right-hand direction, as shown by the arrow in Fig. 5. We will further assume that the outside or external circuit is closed. Then as soon as we move the loop it will cut through lines of magnetic force above and below. The upper part of the loop will be moving in one direction and the lower part of the loop will be traveling in an opposite direction. As a result of this movement an electrical current will be generated in the upper part of the loop,

moving from front to back, and in the lower half of the loop, moving in an opposite direction or from back to front, all as shown by the arrows. As soon as a half revolution is completed, however, the part of the coil which was on top now becomes the bottom part of the loop and the electrical current which was from front to back in that part of the loop, is now seen to have changed its direction and travels from back to front. This is because the loop has changed its position and direction of travel with respect to the direction of the path of the lines of magnetic force.

12. For every half revolution of a coil in a two-pole field there will be a change in the direction of the current. It is seen, therefore, that an alternating current (a current changing its direction) is generated and some

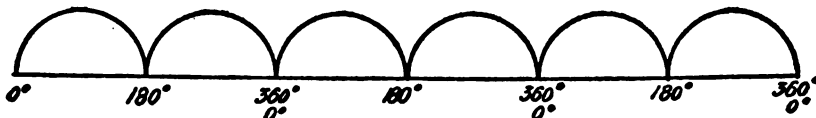


Fig. 6.

means must be devised to commutate the same if a direct current is desired. That is the function of the commutator. It commutates or rectifies the electrical current as it comes from the armature coil or coils.

13. Fortunately, there is a point called the *neutral point* or *diameter* of commutation, where the E. M. F. is reduced to a zero value and changes sign from plus to minus, or vice versa, as the case may be. Plus and minus means positive and negative, same as we learned when discussing primary batteries. At this point of zero value the brushes should be placed so that when current changes direction in the loop and hence in the commutator segments, these segments have traded places under the brushes and, while the direction of the current has changed in the coil, it still travels in the same direction through the brushes. This can easily be seen by tracing the flow of the

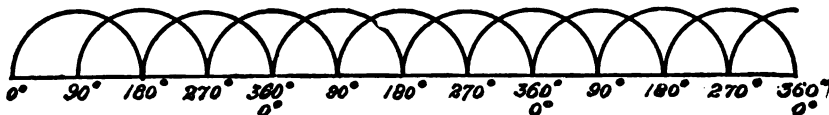


Fig. 7.

current as you imagine the loop to rotate. The same results could be obtained if the loop were kept stationary and the magnets revolved, but it would not be as simple a method mechanically with the device shown in the illustration.

14. The strength of the E. M. F. developed always depends upon the number of lines of force which the coil or coils cut. Such strength can be further varied by changing the effective length of the conductors, changing the number of revolutions which the armature makes, or changing the strength of the magnetic field. All other conditions remaining the same, the faster a dynamo is run the higher the voltage will be which it will generate.

15. If we plot a curve to show graphically the nature of the E. M. F. which a single coil dynamo will generate we will find a curve or set of them like Fig. 6. In this curve it is seen that the E. M. F. varies from zero through a maximum to zero every 180 degrees, corresponding to one-half a revolution of the armature. If, instead of one coil on the armature, we make

it two, which coils are placed at right angles to one another and the number of commutator segments increased to four, we would then obtain curves as shown in Fig. 7.

16. From this we gather that the greater the number of coils, and hence commutator segments, the more nearly we approach an absolutely straight line of E. M. F. Constant potential dynamos in practice possess this feature. If such were not the case incandescent lamps would show unpleasant changes in the intensity of light and motors running from such dynamos would show wide and annoying variations in speed. For incandescent lighting and for power purposes it is absolutely necessary that an even electrical pressure be maintained for any condition of service.

Dynamos and Their Development.

17. As shown above, the simplest dynamo consists of one coil of wire revolved in a two-pole field. This coil when rotated gives a current under a pressure varying from zero to a maximum and so on. To make the current direct, a two-part commutator was shown. For practical purposes, a dynamo generating a current which would vary through such a wide range would be of no use. The voltage must be uniform. In order to accomplish a result which would insure a uniform voltage or pressure, the number of commutator segments must be increased, which means that the number of coils of wire to be wound upon the armature must also be increased. There are usually as many parts to the commutator of direct current armatures as there are groups of coils in the armature circuit.

18. The earlier forms of direct current dynamos possessed but two field poles, but all of the modern dynamos have four poles or more. The greater number of field poles has made possible the reduction of speed of the machines and other advantages have been gained, such as better mechanical arrangement of the parts, higher efficiency and improved appearance. Eighteen hundred and 2,000 revolutions per minute used to be common speeds, whereas 400 and 500 were rare. At present speeds are run as low as seventy-five revolutions per minute for larger machines. The smaller sizes of dynamos are made for different speeds, going as low as is necessary for direct connection to modern engines. Steam turbine practice has now come to the fore. This has required the development of an entirely new line of dynamos, running at higher speeds than any heretofore designed, gaining in the unit cost of construction, economy of operation and decreased amount of floor space necessary for the installation of the equipment.

19. The simplest form of a dynamo shown herein was also the oldest form in that a current could be generated by virtue of the permanent magnetism of the fields—for in this case the two poles were those of steel magnets which had been given their magnetism from some other source. The voltage of the machine, therefore, could not readily be changed, except by varying the speed. This type of dynamo is called a *magneto-electric machine*. In this form of a dynamo the magnetism of the fields is sure to diminish slowly by aging, and is also likely to be weakened by hard usage. However, the form survives and has its largest use in telephone work, automobile generators, motor boat igniters and for testing sets in electric light and power stations. Another serious disadvantage of such forms of dynamos is the fact that permanent magnets can never exhibit and retain anything near the magnetism that can be given soft iron and steel by separate excitation. On this account, magneto dynamos are much heavier for a given output and correspondingly bulky.

20. The next development of the dynamo is referred to as the *separately-excited* type. The magnetism is given to the field from an outside source, such as a primary battery, another dynamo, etc. This form of machine is illustrated in Fig. 8.

21. The two-pole field will be used in the illustration referred to and those which follow in this paper for convenience and simplicity. A commutator with a larger number of segments is also shown, which means, as already pointed out, that there are a correspondingly greater number of armature coils and these are connected to their respective commutator segments. The field magnets terminating in the poles N and S are of the horseshoe form, equivalent to a bar magnet bent around upon itself. The lines of force or magnetism pass from the North to the South pole through the armature and thence through the field magnet core. A A are the brushes, which are shown bearing upon the commutator and connected to the outside circuit, which outside circuit may consist of the usual wiring to which may be connected lamps, motors or other translating devices. The direction of rotation is assumed to correspond to the direction of the hands of a watch, and the direction which the current will therefore take is as shown by the arrows.

22. B B represent the field coils in this case, through which an exciting current of electricity is caused to pass from the battery C. This exciting current may come from a primary battery, a storage battery or another dynamo, so long as it is a direct current sufficient in quantity and pressure for the purpose. The passage of this exciting current through the field coils at once forms an electro-magnet, precisely as shown in a previous article covering that subject. The poles of this electro-magnet are N and S. This electro-magnet produces, therefore, a field force of magnetism which passes through the armature D from N to S. When, therefore, the armature D is caused to revolve, its conductors wound upon it (which are not shown) cut those lines of force as it is termed, and a current of electricity is induced in the armature and in the circuit, therefore, to which the brushes bearing upon the commutator are attached. Such electrical current will be developed at a certain pressure or electromotive force, which pressure will depend upon the speed at which the armature revolves, the strength of the magnetic field or the number of conductors or groups of the same that are wound upon the armature.

23. The number of active armature conductors is, of course, constant in any one machine, and, therefore, to vary the voltage of the machine it is necessary to vary one or both of the other factors. As it is usually impracticable to have a source of motive power of variable speed, recourse

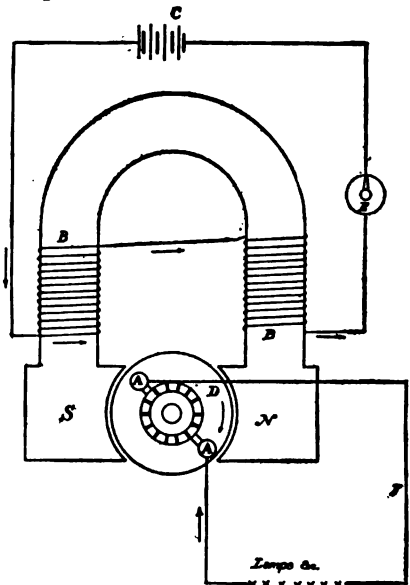


Fig. 8.

is had to the methods for varying the strength of the magnetic field, which means changing the strength of the magnetic field or, more plainly, increasing or decreasing the number of magnetic lines of force which pass through the armature. This is accomplished with every form of dynamo now built by inserting a *resistance box*, i. e., rheostat, in the field circuit. This is shown at *E*. A resistance box is made up of a number of coils of wire or equivalent resistance mediums, which coils are separated and insulated from one another. The later and more substantial forms of resistance mediums are made up of cast metal so as to be fireproof and practically indestructible. The coils or grids are connected within the resistance box in different ways, but in general have an end coming to a button on top of the resistance box over which may slide a contact arm. This arm is moved by hand when it is desired to change the voltage of the dynamo. The movement of the blade or contact arm over the contacts on the outside of the resistance box cuts in or out more or less of the resistance forming the resistance box. This increases or decreases the amount of current which can flow in the circuit in which such resistance is connected. This variation in the amount of current which can be caused to flow through the coils wound about the field magnets *B B* will produce a corresponding variation in the strength of the magnetic field or the number of lines of force passing through the armature, resulting in a change in the electrical pressure developed by the dynamo. The common name for a resistance box is *rheostat*.

24. It was not long after the advent of the second form of a dynamo that it was found possible to make dynamos self-exciting. The simple and practical methods of accomplishing this result are two in number: (1) The entire current generated by the armature is caused to pass through coils wound upon the field poles, thereby producing a magnetic field in the familiar way. This forms a *series dynamo*. (2) Only part of the current generated by the armature need be carried through the field coils. These coils are not connected in series with the armature, but are in *shunt* relation to it. Such coils are called *shunt coils* and such a dynamo is called a *shunt wound dynamo*. The field coils in this case have a larger number of turns of wire carrying a small current, while in the case of a series dynamo there is a smaller number of turns of wire carrying a large current. The product of the number of turns of wire times the number of amperes of current flowing through the turns is called *ampere-turns*, and it is the ampere turns which govern the strength of the magnetic field. For a given strength of the latter, any increase in the number of turns of wire on a field pole or upon any other electro-magnet, means a corresponding decrease of current necessary to flow, and vice versa.

25. Fig. 9 shows a series dynamo and the path the current takes, assuming the conditions to be the same as described for Fig. 8. *N* and *S* are the poles as before, *B, B* the field coils, *A, A* the brushes, *D* the armature and *F* the main circuit. This is the simplest of the self-exciting dynamos. At this point it may be asked how such a dynamo is self-exciting.

26. When any generator is built, a current from some external source is sent through the field winding for a few moments and then cut off. The effect has been to magnetize the fields with a separate current, and when the latter is cut off the iron in the field core will retain a certain small magnetization, called *residual magnetism*. It is, indeed, a very small percentage of magnetism that remains, and this is independent of the kind of iron. After the fields have been separately excited, the generator will ever afterwards

"pick up" of itself when set in motion and gradually attain full magnetization of fields and consequently full potential.

27. The series dynamo, as shown, has but one circuit. They are not as sensitive to picking up their voltage as a shunt wound dynamo—usually requiring full speed and resistance less than usual in the field circuit. In contradistinction to the shunt dynamo, they also require that the external circuit be closed, because there being but one circuit, the dynamo will not be able to show any voltage unless that circuit is closed. Series wound machines have the great objection of a tendency to show a reversal of the polarity of their fields, because of a backward flow of current, which can occur in electro-plating or in the charging of storage batteries. If such a dynamo is operating arc lamps in series with one another, the addition of a lamp will add to the resistance of the circuit and correspondingly diminish the power of the machine. This can be neutralized to a certain extent by

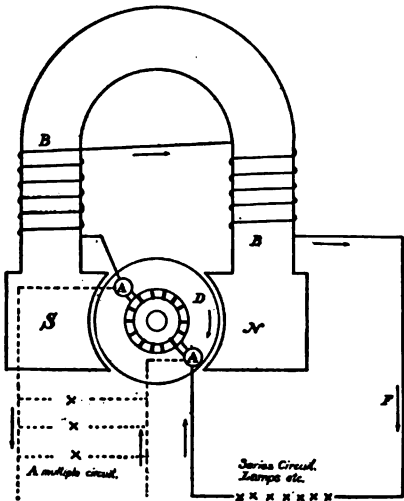


Fig. 9.

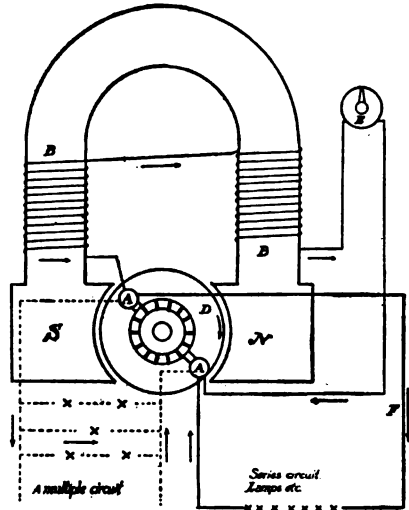


Fig. 10.

means of a rheostat. When a lamp is added to the circuit of the dynamo, cut out some of the resistance and so on. If the lamps were not in series with the armature, but in parallel with it, as shown by the dotted circuit, then for every additional lamp, the resistance of the circuit is decreased, and the current will increase around the field so that the rheostat would need to be cut in, inserting enough resistance to keep the voltage down. Such poor properties of regulation make the series dynamo an undesirable machine. When the same style of winding can be used for a motor, better things can be said.

28. The shunt wound dynamo is shown in Fig. 10. In this form it will be seen that there are two circuits, a shunt circuit and a main circuit. The former applies to the field only, while the latter is the circuit which passes to the lamps, motors, etc. It is endeavored to illustrate that the shunt winding on the field is made up of a large number of turns of small wire as against the reverse condition shown in Fig. 9. The symbols in the cut have the same reference as before. Wherever there are two or more paths for the current to take, it will divide itself in proportion to the resistance of

the different paths. In the case of the shunt dynamo, the shunt resistance is the same all the time. This is likewise true of the resistance of the entire shunt-circuit, unless the amount of resistance in use in the rheostat is changed. The resistance of the main or external circuit will vary, however, with the changes in the load. Every variation in such resistance will cause a change in the proportion of current flowing in the two circuits. We have seen how any change in the current strength circulating in the field coils changes the strength of the magnetic field and hence the voltage; consequently, we must resort to the rheostat for hand regulation in order to maintain a uniform voltage. In the shunt dynamo, if lamps or other devices using current are connected in multiple or parallel in the main circuit, the addition of a lamp will decrease the resistance of the main circuit. This will divert some of the current from the field winding, because of the change in the relative resistance. Therefore, the magnetism of the fields will drop

a little in strength, since less current is flowing through the shunt field winding. If the lamps are operating in series, the resistance of the main circuit is increased for every lamp added, and because of this more current will flow through the shunt winding, thereby strengthening the magnetic field and increasing the voltage of the dynamo. To obtain regulation, the rheostat must be employed and operated by hand when necessary. A shunt dynamo will "pick up" its voltage with greater ease than a series machine, and is less liable to a reversal of polarity of its field poles.

29. Some separate circuit self-exciting dynamos have been devised, but as they have never been developed on a practical basis, it is unnecessary to illustrate them here.

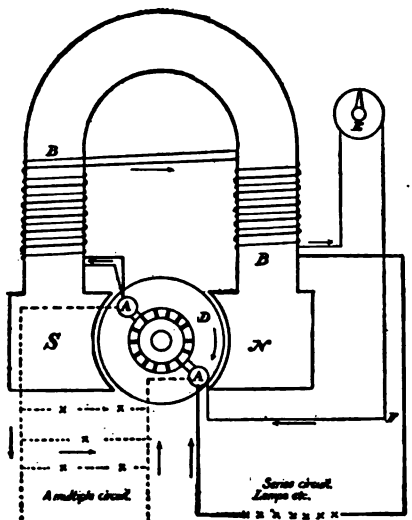


Fig. 11.

30. In each of the forms of dynamo shown it is noted that they are not automatic in their regulation. Such regulation as can be had must be by hand through the medium of a rheostat. Certain combinations of field windings have been devised, however, which give first class automatic regulation.

31. In general, we may say that a dynamo is made to supply current with steadiness to lamps for lighting. With the exception of street lighting, lamps are always connected into the circuits in parallel. Street lamps, with but few exceptions, are connected through one another in series. In the former method of multiple running, a dynamo must develop and maintain a constant pressure. In the series system of lighting, a variable pressure is brought about by a varying number of lamps, but there must be a constant current. In other words, if a system of street lighting employed 50 lights, each requiring 50 volts and $9\frac{1}{2}$ amperes of current, then if they were run in series the voltage of the generator would have to be 50 lamps times 50 volts, or 2,500 volts, and the current generated by the dynamo $9\frac{1}{2}$ amperes (as each lamp requires only such current strength). If, however, the lamps were connected in multiple, the voltage of the machine would need to be but

50 (not counting for line losses, etc.), while the amperage would have to be 475. The product of the number of lamps, strength of current and voltage of the generator will, it is noted, be the same in each case, requiring the same amount of horse-power, with one exception. Assuming the area of distribution to be the same, the line copper will need to be much heavier in the case of the fifty volt generator and the line losses will be more than when the lamps are run in series and a twenty-five hundred volt generator is employed. With heavier external losses, the output of the dynamo will need to be increased, and consequently more horse-power developed to accomplish the same result.

32. Fig. 11 shows the arrangement of field coils and circuits of a compound-wound dynamo, which is the modern form of a direct current dynamo affording automatic regulation for circuits requiring constant pressure.



Technical Contributions

ELECTRIC TRACTION BRAKE EQUIPMENT*

By F. B. FARMER.

Westinghouse AMM Brake Equipment.

Bearing in mind our assumption of a 15-pound service reduction, the brake valve and the triple valve on lap, as in Fig. 8, of the December, 1915, Magazine, graduated release is obtained as follows: We want the triple valve to move to release position; let part of the brake-cylinder air escape and then hold the rest until we desire a farther partial or complete release. Fig. 9 shows graduated release lap or how the parts will stand after a partial or graduated release. By reference to Figs. 8 and 9, the intervening operation of partly releasing can be understood.

As we wish to discharge but part of the brake-cylinder pressure, we do not want to fully restore the brake-pipe pressure, and, as straight-air lap position of the brake valve (Fig. 5 of September Magazine) does not make as large an opening from the control pipe into the brake pipe as does release and running position (Fig. 3 of August Magazine), the former should be used for graduated release. When it has allowed the brake-pipe pressure to increase from 55 pounds to, say, 60 pounds, the brake-valve handle

is returned to automatic lap position, Figs. 8 and 9.

Referring to Fig. 8, of December, 1915, Magazine, this increase in brake-pipe pressure in space *h*, the triple valve cylinder, will force piston *4* to its extreme position at the right, and the piston will carry main slide valve *3* and graduating valve *7* with it. Turning to Fig. 9 we find the main slide valve *3* where it was just moved to, but must assume piston *4* and graduating valve *7* moved as much to the right as the additional cylinder space at the right of piston *4* will permit. This will cause the graduating valve *7* to open port *k*, at its left, and, by means of its cavity *w*, connect *n* and *r*, which lead through the double check valve to the brake cylinder, with *m* and *p*, which lead to the atmosphere at *E.X.* At the same time that this allows the brake-cylinder air to commence to escape it also admits control pipe pressure, through *x* and *k*, to slide valve chamber *R* and the auxiliary reservoir. Control pipe pressure being 70 pounds, this will quickly raise the auxiliary reservoir pressure from 55 pounds to above 60 pounds. As soon as it became a trifle higher than 60 pounds, to which amount the brake-pipe pressure

* Continued from December, 1915, Magazine.

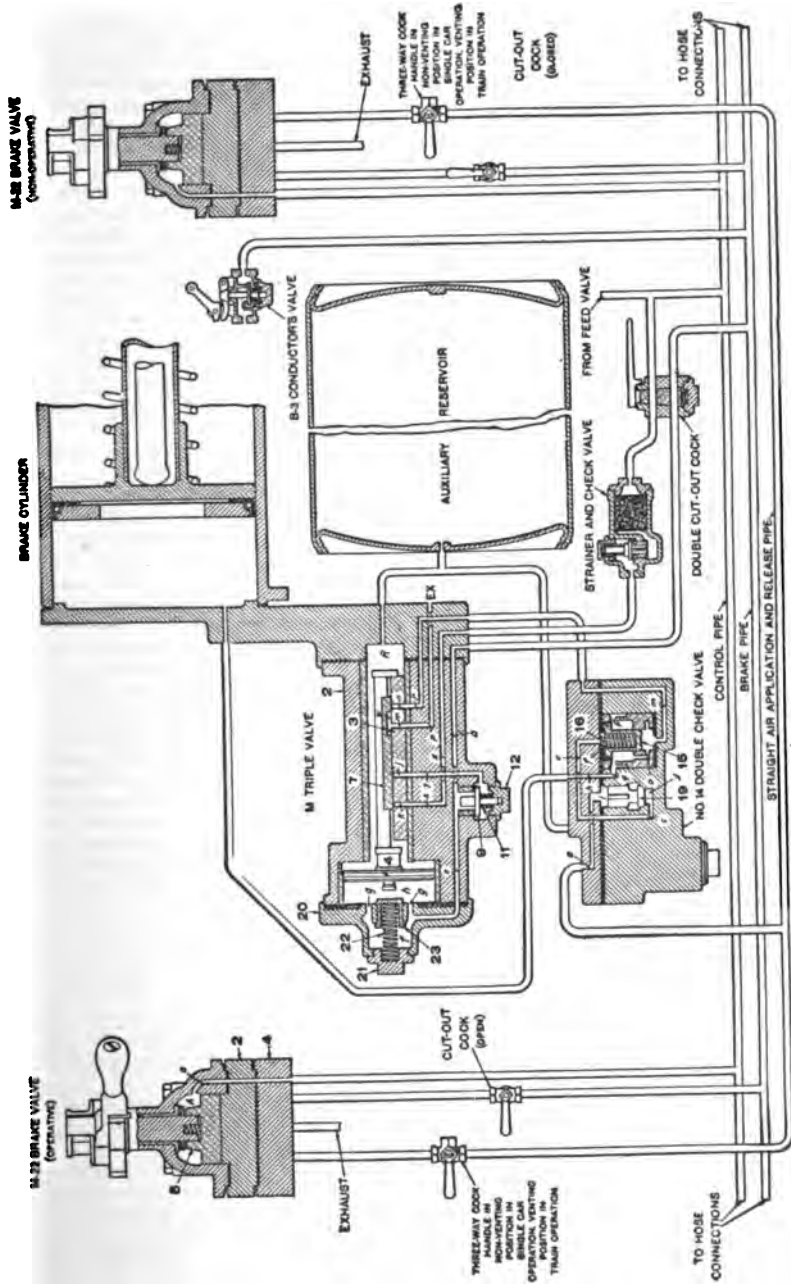


Fig. 9. AMM Brake Equipment—Graduated Release Lap

was raised, it started piston 4 to the left, carrying graduating valve 7 with it, to graduated release lap, as illustrated. It does not move farther because the collar or spider on the far end of the stem of piston 4 has met the resistance of slide valve 3, and graduating valve 7 has closed port *k*, thus preventing any farther increase of auxiliary reservoir pressure. Cavity *w* in graduating valve 7 has now disconnected ports *m* and *n*, thus stopping any farther release of brake-cylinder pressure.

If another partial or graduated release is wanted, the same operation is repeated with the brake valve, but it will be noted that the main slide valve 3 will not have to be moved again, it being in release position. Therefore, a lesser rise in brake-pipe pressure will now move the piston and graduating valve to release than when they were in service lap, Fig. 8, of December, 1915, Magazine. Consequently, an even smaller fall in brake-cylinder pressure can be had.

If complete release is desired, either without any graduated release or after use of the latter has partly released the brake application, move the handle of the brake valve to release and running position, so as to get the quickest flow from the control pipe into the brake pipe. This will keep the brake-pipe pressure higher than the auxiliary reservoir pressure until 70 pounds is restored in both brake pipe and auxiliary reservoir, brake fully recharged. This will hold piston 4 in release position and allow all brake-cylinder pressure to escape, illustrated by Fig. 3 of the August Magazine and therein fully described.

In complete release all of the brake-cylinder air does not escape at *EX*. As soon as the brake-cylinder air passing under piston valve 15 in the double check

valve has sufficiently reduced in pressure for spring 16 to overcome it, piston valve 15 is forced to its lower position, shown in Fig. 3. The remaining brake-cylinder pressure flows from passage *h* through ports *g*, *p* and *f*, passage *c* and *j*, raises check valve 19 and passes through *l* and *a* to the straight-air pipe. From here it passes to the atmosphere at the three-way cock when its handle is down, venting position, as when the automatic brakes are being used, but otherwise will pass out at the brake valve.

With brakes in good order, a service reduction of 20 pounds from a brake-pipe pressure of 70 pounds will fully apply them. This means that the original 70 pounds in the auxiliary reservoir has expanded into the brake cylinder until the pressures in the two are the same, termed equalized. If the piston travel is correct, 5 inches, and the brake cylinder does not leak, equalization will be at 50 pounds. Up to this point, a 20-pound service reduction, the auxiliary reservoir pressure reduces with the brake-pipe pressure. Hence, a small increase in brake-pipe pressure will raise it above that in the auxiliary reservoir and cause the triple valve to assume release position. If the brake-pipe pressure is reduced more than 20 pounds, the brake will not be applied heavier, the auxiliary reservoir air having already equalized into the brake cylinder, but the brake-pipe pressure will be left lower than the auxiliary reservoir pressure. As it must be made the higher of the two to get the triple valve to release, such excessive reductions of brake-pipe pressure will delay the release, and will explain what some have thought was "stuck brakes." In service applications don't reduce the brake-pipe pressure beyond that which will fully apply the brakes.

(To be continued.)



AIR PRESSURE CALCULATIONS*

By JOHN HAMILTON

Assume in Fig. 1 of the December, 1915, Magazine, that an air gauge be placed on the extremity of the shorter tube. When the stop cock is closed, and before mercury is poured into the longer tube, the air in the shorter tube will be exerting a pressure of 15 pounds to the square inch. The gauge, however, will indicate no pressure. When the first column of mercury is applied it will indicate a pressure of 15 pounds, but the actual pressure in the tube is 30 pounds to the square inch. If another column of mercury be added, the air in the shorter tube will be under a pressure of 45 pounds, but the gauge will only indicate a pressure of 30 pounds. The actual pressure in the short tube is known as absolute pressure, while the pressure indicated by the gauge is known as gauge pressure. Absolute pressure always exceeds gauge pressure by 15 pounds. It will be noted that the laws governing the compression and expansion of air are founded on absolute pressures, and, when problems are given involving gauge pressures, they must first be reduced to absolute pressures before the laws already given can be applied to their solution. The solutions will then be in absolute pressures, which will require the subtraction of 15 pounds in order to give gauge pressures. Absolute pressure begins at a point of no pressure and ends at a pressure of 15 pounds, which is the starting point of gauge pressure. A gauge will not indicate absolute pressure, as the pressure on the inside and outside of the gauge tube is equal. It must be remembered then that a reservoir containing, say 70 pounds gauge pressure, really contains air at a pressure of 85 pounds to the square inch, and that when air under pressure is expanded into another reservoir, the fact whether this reservoir contains atmospheric pressure or is devoid of all pressure must be considered if the resulting pressure is to be correctly calculated.

Problems involving either the expansion or compression of air, as already noted, resolve themselves into problems in proportion. A proportion consists of four terms, three of which must always be given in order that the fourth or unknown term may be found. Considering problems involving the compression of air, any one of the four conditions may be missing; therefore, to cover all problems that may arise in this connection,

requires the finding of any one of the four conditions named.

It will now be shown how a proportion may be solved. One way to do this is to designate the four terms of the proportion by letters, as follows:

Let a equal the pressure before compression.

Let b equal the pressure after compression.

Let c equal the volume before compression.

Let d equal the volume after compression.

Assume a is the unknown quantity, that the others are known and it is required to find the value of a . The law already given governing the compression of air must be kept clearly in mind; namely, that the ratio of the pressure before compression to the pressure after compression is equal to the inverse ratio of the volume before compression to the volume after compression. Care must be taken to write the proportions correctly. Writing it to conform to the above law we have

$$a : b = d : c$$

According to the rules of proportion, the product of the extremes is equal to the product of the means, a and c being the extremes and b and d the means. Then

$$a \times c = b \times d$$

Dividing each side of the equation by c , which does not alter its value, the value of a may be found in the terms of b , c and d , the known terms of the proportion. Then

$$\frac{a \times c}{c} = \frac{b \times d}{c}$$

As c will cancel in the first term of the equation, the result will equal

$$a = \frac{b \times d}{c}$$

or the pressure before compression will equal the pressure after compression multiplied by the volume after compression and divided by the volume before compression.

In one of the examples given, it was found with three columns of mercury, each 30 inches high, that the air in the small tube was under a pressure of 60 pounds, that the volume before compression was 1, and the volume after compression was 1/4. The application of the formula just derived should give the pressure of the air in the shorter tube before it was compressed. Substi-

*Continued from December, 1915, Magazine.

tuting the values of the letters in the formula,

$$a = \frac{b \times d}{c} = \frac{60 \times \frac{1}{4}}{1} = 15 \text{ pounds.}$$

This is correct, as the air in the shorter tube was under atmospheric pressure before mercury was poured into the longer tube.

Another method of solving problems in proportion is to allow the letter a to equal the unknown term, after which the proportion is properly stated and the value of the unknown term designated by a found. In this case the proportion will be written to conform to the law already stated, as follows; the unknown term being pressure before compression:

$$\begin{aligned} a : 60 &= \frac{1}{4} : 1 \\ a \times 1 &= 60 \times \frac{1}{4} \\ a &= 15 \end{aligned}$$

Assume that the pressure in the shorter tube was 45 pounds per square inch, the volume before additional pressure was applied being $\frac{1}{3}$ of its original. After being further compressed, the air was reduced to $\frac{1}{4}$ of its original volume. What was the pressure after compression

In this case it is the value of b that must be found. Writing the proportion and following the same reasoning as before:

$$\begin{aligned} a : b &= d : c \\ b \times d &= a \times c \\ a \times c & \\ b &= \frac{\quad}{d} \end{aligned}$$

The pressure after compression, therefore, equals the pressure before compression multiplied by the volume before compression, divided by the volume after compression.

Substituting the values of a , c and d in the formula $\frac{a \times c}{d}$, a being equal to 45 pounds, c being equal to $\frac{1}{3}$, and d to $\frac{1}{4}$.

$$a = \frac{45 \times \frac{1}{3}}{\frac{1}{4}} = 60 \text{ pounds.}$$

If the unknown quantity, the pressure after compression, be indicated by a , the proportion will be written as follows:

$$\begin{aligned} 45 : a &= \frac{1}{4} : \frac{1}{3} \\ a \times \frac{1}{4} &= 45 \times \frac{1}{3} \\ a \text{ will equal } & \frac{45 \times \frac{1}{3}}{\frac{1}{4}} \\ &= 60 \text{ pounds.} \end{aligned}$$

In the last two examples it should be noted that the solutions are given in absolute pressures and not gauge pressures. In the first example the gauge would indicate no pressure; in the second case the gauge pressure would be 45 pounds, or 60 pounds less 15 pounds.

Assume that c is the unknown quantity in the proportion as in the following example:

The air in the shorter tube is at a pressure of 45 pounds. After being further compressed, the pressure is increased to 60 pounds per square inch, while its volume is reduced to $\frac{1}{4}$ of its original. What was the original volume?

Writing the proportion and finding the value of c in the terms of the other three known quantities:

$$\begin{aligned} a : b &= d : c \\ a \times c &= b \times d \\ c &= \frac{b \times d}{a} \end{aligned}$$

Substituting the known values in the equation, the value of b being 60 pounds, a being 45 pounds, and d being $\frac{1}{4}$,

$$c = \frac{60 \times \frac{1}{4}}{45} = \frac{1}{3}$$

The volume of the air before it was further compressed was $\frac{1}{3}$ of its original volume. The value of c , or the volume before compression, is then equal to the pressure after compression multiplied by the volume after compression and divided by the pressure before compression.

Suppose that the value of d or the volume after compression is the unknown quantity, as in the following example:

Assume the pressure in the shorter tube is 45 pounds to the square inch and the air is occupying a space equal to $\frac{1}{3}$ its original volume. The pressure in the short tube is raised to 60 pounds due to additional mercury being poured into the longer tube, what is the volume of the air after compression?

Writing the proportion and finding the value of d in the known terms:

$$\begin{aligned} a : b &= d : c \\ b \times d &= a \times c \\ d &= \frac{a \times c}{b} \end{aligned}$$

The value of a is 45 pounds, and c is $\frac{1}{3}$, and the value of b is 60 pounds. Therefore the value of d equals

$$d = \frac{45 \times \frac{1}{3}}{60} = \frac{1}{4}$$

If in solving the last problem the unknown quantity be designated by a , the proportion will be written to conform to a law governing the compression of air.

45 : 60 = a : $\frac{1}{3}$
As the product of the extremes equals the product of the means,

$a \times 60 = 45 \times \frac{1}{3}$
dividing each term of the equation through by 60,

$$a = \frac{45 \times \frac{1}{3}}{60} = \frac{1}{4}$$

(To be continued.)

MOVEMENT OF TRAINS

By G. E. COLLINGWOOD

Points for Train Rule Examiners.

Train rule examiners should use local stations in their examination questions so that the men can make practical application of each case. Much thought should be given all questions to make sure that they bring out every vital point of the rule which is under discussion. For example, in Rule 18 it should be made clear that a yard engine, so called, which is outside the yard limits, is not a yard engine within the meaning of the rules governing yard engines. A yard engine working within yard limits is not considered a train.

Rule 19 explains the use of markers, and it should be pointed out that markers are used for the purpose of indicating the rear end of a train, and if no markers are on a train such train is not complete. A ruling has been made on this rule which is of importance to all. The question asked was as follows:

"Question.—Under the rules providing that signals shall be displayed one on each side of the rear of every train as markers to indicate the rear of the train, is it proper or not to display markers on both the caboose and the helper of trains to which helpers are attached to the rear?"

"Answer.—To answer the question specifically depends upon what the helper is. If the helper is running as an extra train, then both the train which it is assisting as well as the helper must display markers and also class signals. If, however, the helper is without train orders and couples in as a part of the train which it is helping, then the markers must be displayed upon the helper and not upon the caboose of the train which it is assisting. Markers displayed upon the helper and upon the caboose would indicate that there were two independent trains closed up."

Rule 20 provides for signals when a train is to follow another on the same schedule. It should be fully explained that a section has no authority to use the main track ahead of the signals which are displayed by the leading section and which authorize the movement of the section. Each section has equal time-table authority.

When an extra train is run from one point to another it must head in on the siding at its terminal station, as the order gives it no authority to the main

track at its terminal station, beyond the switch where an inferior train would enter the siding.

If it becomes necessary to move or couple to a car, engine or train which is protected by a blue signal, the workingman who placed the signal must first be notified and must remove the signal before the car thus protected can be moved or coupled to.

There are three methods by which one train may be superior to another train; (1) by right, which is conferred by train order; (2) by class, which is conferred by time-table; (3) by direction, which is conferred by time-table. Right is superior to class or direction.

Rule 72 fixes the relative superiority of each class of trains. At the time this rule was adopted the fear was expressed that it would make a great many more train orders by the reason of having so many classes, and it was also thought that trains would be delayed much more than by the 30-minute rule which was formerly in effect. And because of this the committee of the American Railway Association added a note to the rule, as follows: "Note.—It being represented to the committee that some of the roads represented in the convention will be unable, on account of limited telegraph facilities, and other local causes, to carry out this rule in its literal meaning and full scope, it is suggested by the committee that such roads may issue regulations to arrange this matter in some other way. The committee believes, however, that a test of the rule and its literal enforcement will result to the entire satisfaction of those using it."

Rule 73 provides that extra trains are inferior to regular trains. There is no superiority between extra trains except that an extra train moving in the direction in which the time-table confers superiority will hold the main track at a meeting point with an opposing extra.

There is some misunderstanding about the application of the 12-hour limit to a schedule and this point should be fully explained. For example, when more than one section is running on a schedule each section loses both right and class when it becomes twelve hours late, there being no allowance made for sections keeping five minutes apart. That is, it has been

argued that because sections are required by rule to keep five minutes apart, unless some form of block signals is in use, the second section of a train would not lose right and class until it was twelve hours and five minutes late. But such argument is in error.

It is also claimed that a train holding an order to run one hour late would not lose right and schedule until it was thirteen hours late on its time-table schedule, for the reason that the explanation to a run late order states that the order makes the schedule time of the train named as much later as stated in the order, and other trains receiving the order are required to run with respect to the time stated as before required to run with respect to the regular schedule time. But the run late order does not affect the life of the schedule, as Rule 82 refers to the schedule time as indicated on the time-table.

Before the days of the Standard Code schedules were good until fulfilled or annulled and it was not unusual, in case of accident, for trains to be two or three days late. This state of affairs made it a difficult matter to properly check the register for overdue trains and many accidents resulted directly from this condition.

The American Railway Association has made three rulings on Rule 82, as follows:

"Question.—Under Rule 82, a train scheduled to arrive at B at, say, 10:00 a. m. and leave B at 10:30 a. m. and to arrive at C at 11:00 a. m., fails to reach B before 10:00 p. m. and flags itself to B. Has it a right, under the rules, to proceed to C, providing it can leave B before 10:30 p. m. and arrive at C at or before 11:00 p. m.?"

"Answer.—No; unless authorized by train order."

"Question.—Will you please advise me if a train arriving at a point where, say, one hour dead time is shown, 11 hours and 55 minutes late on its schedule arriving time, can leave any time within twelve hours of its leaving time?"

"Answer.—Yes. A train arriving at a station less than twelve hours late on its schedule arriving time does not lose its right. It has fulfilled that part of its schedule; after which, the leaving time only at that station need be taken into consideration, and if such train can depart within any time less than twelve hours late on its leaving time, it has, under Rule 82, the right to proceed. Should a train at any point fail to make its schedule within the twelve-hour limit, it cannot thereafter resume its schedule without train order, even though it overtakes it."

"Question.—Under Rules 82 and 91. Does the second section of a train running from A to D, the schedule showing arriving time at D, say, 11:30 a. m., lose right at D at 11:30 p. m. or 11:35 p. m.?"

"Answer.—At 11:30 p. m."

Questions and Answers

Locomotive Running and Repairs.

Answers by F. P. Roesch.

2554. Leaky Flues.—We burn oil fuel on our engines and have a lot of trouble on account of lower flues leaking. Is there any way to change the draft or not?—*J. S.*

Answer.—If the leaking is due to the action of the draft it can readily be changed so as to increase the draft through the upper flues and decrease it through the lower flues, by raising the diaphragm or deflector plate. The probabilities are, however, that the leakage is due to having the burner located under the throat sheet; that is, at the front of the firebox, with large air openings on

either side of the burner, thereby allowing too much cold air to be drawn in through these openings when the engine is drifting and the fire cut down low. If this is the case, would suggest that you apply a front damper, so that these openings can be closed while drifting, supplying all the air necessary through the rear openings, if any. If, however, the flues begin to leak when the engine is working steam, raising the deflector plate in the front end so as to give a more even distribution of the draft might help.

2555. Boiling Point of Water.—“What is the difference in the temperature of water at the boiling point under

atmospheric pressure and under a pressure of 200 pounds?"—*E. F.*

Answer.—Water boils at sea level, where the atmospheric pressure is 14.7 pounds per square inch, at 212 degrees Fahrenheit, and at 200 pounds pressure at 388 degrees Fahrenheit; consequently the difference between the boiling points under atmospheric pressure and 200 pounds pressure is $388^{\circ}-212^{\circ}=176^{\circ}$ F. At points above sea level, however, where the atmospheric pressure is less, water will boil below 212 degrees.

2556. Carrying Water.—"How high should water be carried in a locomotive boiler to obtain best results? Explain."—*E. F.*

Answer.—This depends altogether on the quality of the water; that is, whether or not it is inclined to foam, as with the lighter or foaming waters it is necessary to carry the water much lower in the boiler than with water that does not foam. At any rate, it is always best to carry the water as low as possible consistent with safety to get the best results out of the locomotive; this, with good water would be about two gauges and with light water one solid gauge. This applies particularly when starting. After the train is under headway and the water has settled, the amount carried can be slightly increased. Explanation: In order to obtain the best results the water in a locomotive boiler should be carried as low as possible consistent with safety, because when handling a saturated steam locomotive if the water is carried too high it may result in priming; that is, carrying some of the water over into the valves and cylinders with the steam, thereby destroying the lubrication, increasing the friction, resulting in a decreased speed, increased fuel consumption, and the straining and perhaps the breaking of some part of the valve gear, as well as increasing the wear on valves, cylinders, cylinder packing, etc. There is also the possibility of knocking out cylinder heads, breaking pistons, etc., where piston valves are used.

When handling a superheated steam locomotive the evil effects of too much water as mentioned above, such as destroyed lubrication, wear and tear on valve gear, etc., are very much reduced, but there are other effects equally as bad resulting from too much water in the boiler. For instance: The efficiency of a superheated steam locomotive depends altogether on the temperature of the steam; that is, on the degree of superheat obtained. Now if the water is carried so high in the boiler that it is carried over with the steam into the super-

heater elements, the heat surrounding the superheater elements which would otherwise be used to add heat to the steam passing through them simply is used to convert the water in the steam into steam without materially increasing its heat, thus simply making an auxiliary boiler instead of a superheater out of the superheater elements.

Again, with water inclined to foam, if any is carried over with the steam it will be highly impregnated with the semi-solid foaming matter, this matter will be deposited in the form of scale on the inside of the superheater elements and act as a non-conductor of heat, and thereby reduce the superheat or total temperature obtained. All this has a tendency to reduce the efficiency of the locomotive, as the steam may not take up enough superheat or additional heat to raise its temperature to a point where no condensation will occur in the cylinders, and therefore more steam will be required to do the same work, resulting in an increased fuel consumption, an apparently poor steaming engine, more work for the fireman, and longer time on the road. In fact, it is in the long run more detrimental to carry too much water in the boiler on a superheated steam locomotive than on a saturated steam engine, because on the superheater the bad effects are not so noticeable by the engine men; that is, by water thrown from the stack, dry valves, etc., and consequently men may run along trip after trip, and think they are doing all right, when as a matter of fact they may be wasting coal by the ton and not know it.

In Europe it is customary to apply pyrometers to all superheated steam locomotives, and the engine men pay more attention to the reading of the pyrometer than to the reading of the steam gauge, as if the pyrometer shows that the steam has the right degree of heat, they know that it must necessarily have the right pressure, while without a pyrometer the steam gauge may register the desired pressure and yet there may be no superheat whatever in the steam, owing to the water being carried too high, or there may be less than half the desired amount of superheat present owing to smoky fire, poor combustion, etc., so that the engine is little if anything better than a saturated engine. In our opinion no better fuel-saving investment could be made by any railroad company than the universal application of reliable pyrometers to all engines using superheated steam.

2557. Squaring Valves, Walschaert Gear.—"Please explain how to square the valves on an engine having piston

valves, inside admission, Walschaert gear, giving sketch if possible."—*G. E. S.*

Answer.—This is fully covered in answer to question 2513, pages 33 to 39, in the July, 1915, issue of the Magazine.

2558. Carbon in Firebox of Oil-Burning Locomotive.—"How may the formation of carbon in the firebox of an oil-burning locomotive be avoided?"—*Member.*

Answer.—The formation of carbon in the firebox of an oil-burning locomotive can best be avoided by a perfect atomization of the oil. When a heavy or asphaltum base oil is used the oil should be well preheated before it is discharged at the burner, at which point it should be also thoroughly atomized. Carbon is also formed by using wet sand when sanding flues, or by tilting sand spout down so that a portion of the sand will lodge just in front of the burner, or by sanding flues when the engine is not being worked hard. Carelessness in this respect will allow a little bank of sand to accumulate in front of the burner, and unvaporized globules of oil striking this mound of sand simply throw off the volatile gases, the heavier portion of the oil being deposited in the form of carbon.

2559. When to Remove Carbon and Care of Carbon Pans, Oil-Burning Locomotive.—"When is it proper to remove carbon from the firebox of an oil-burning locomotive, and what must be avoided in the breaking up of same while engine is under steam and working? What care should be given to carbon pans? We have had a great deal of trouble with the last proposition, several fires being attributed to the breaking up of carbon while engine was working steam. Should the carbon be broken up and pushed out of firebox while on the road? Please give full information as to what a fireman should do."—*Member.*

Answer.—Would say that it is always best to remove it as soon as found, or when it begins to interfere with the steaming of the engine. When it is being removed, however, it should always be while the engine is drifting, and in that case the fire should be entirely extinguished, as otherwise gases might form in the firebox, the explosion of which may cause injury to the fireman. In removing this carbon from in front of the burner it should simply be pulled back to the rear of the firebox and not allowed to pass through the holes in the carbon pans. Neither should it be broken up so fine that it can be picked up by the action of the draft and carried out of the stack, but an endeavor should be made to loosen it from the vicinity of the

burner in as large flakes as possible, pulling these flakes back toward the rear and sides of the firebox and away from the air openings. Then when the opportunity offers, while standing still, it can be raked out of the carbon pans if necessary. If not, it can be left in there until arrival at the terminal.



The Westinghouse Air Brake.

Answers by F. B. Farmer.

1182. What Caused Emergency Application.—"A few days ago we had a train, consisting of nine steel sleepers, a steel diner and the engine, and were backing from the station to the coach yard. The engine had the No. 6 ET locomotive brake equipment, the diner had LN and the sleepers had the older or PM equipment. The train was moving at about 25 miles per hour when the engineer made a service reduction of about 20 or 25 pounds to reduce speed. After speed had reduced to about 3 or 4 miles per hour the engineer put the brake valve handle in release position, and just as soon as he did so we got a severe emergency application, causing a bad shock to the equipment. Kindly explain what could have caused this emergency application when the brake valve handle was put in full release."—*H. J. L.*

Answer.—If all the observable circumstances have been described then this case has all of the indications of a severe slack run-out, causing a bad jerk, without any emergency application of the brakes. So heavy a reduction at the speed mentioned would alone be liable to cause the train first to "stretch" heavily, but without any jerk at the engine; then, as it rapidly slowed down, to "bunch" as heavily, compressing draft gear and buffer springs, though again with no bad shock at the engine. The slack run-out would be caused, while backing, by the brakes on and near the engine taking hold first. The run-in would follow after the reduction was completed because the car brakes, then all set, would be holding better than the engine brakes. It would also be aided by the reaction of the draft rigging springs.

When the brake valve was moved to release position the car brakes near the engine would commence to release first, which would temporarily tend to push the slack in harder. Then when the other car brakes did release the slack would be driven out by the compressed coupler and buffer springs, and would be yanked out harder by the fact that the heavily applied engine brakes would not have begun to release, as with ET equipment release position of the automatic brake valve

holds them applied, if set before. The only wonder is that the train was not broken in two. The reduction was too heavy for the train and the speed, and the engine brakes should have been prevented from applying by use of the independent brake-valve release position.

If it is known positively that the brakes did apply quick action just at the time of releasing or immediately thereafter, while the automatic brake valve was yet in release position, the more probable explanation is that someone opened a conductor's valve or the back-up hose cock. If such an opening were made far from the engine and while the slack was out, there would be a heavy run-in as the brake pipe pressure on and near the engine at this time would be so much above that in the auxiliary reservoirs as to prevent the brakes on this part of the train from acting until those at the other end had stopped the train. As nothing is said in the question concerning any very sharp or reverse curves, or hose found parted after the stop, which latter the action described suggests may have followed, we cannot look to them for an explanation.

1183. Air Compressor "Short-Stroke."
—“What is the trouble with a 9½-inch air pump that jumps badly? This occurs at about mid-stroke. Please understand that it does not ‘jiggle’ or ‘flutter,’ but jumps so at times that it seems as though it would break off from the bracket. At other times it works good. I cannot find any remedy for it. Have had all of the air valves changed, but that did not help. Have asked several engineers and they say they never saw another pump act the way it does. Do you think the exhaust pipe has anything to do with it?”—*F. J. B.*

Answer.—The only way the exhaust or other pipe connected to the compressor could have any bearing on this is to vibrate heavily and strike some adjacent pipe or other metal part and in that way increase what might otherwise be no more than a moderate thud at the compressor to a much more severe one. This has occurred without any compressor defect, it taking place when the compressor was working slowly against full pressure. It can be tested for by pressing against one and another of the pipes, when the pound is occurring, to note whether any reduction occurs.

The compressor reversing at mid-stroke indicates some fault with it. This could cause a heavy thud. It would be increased and the compressor would “jump” if it or its bracket were loose or if the bracket were not substantial.

The probable cause for reversing at mid-stroke is a bent reversing valve stem, the part extending from the steam head down into the hollow piston rod. In some positions and when well lubricated this might have no effect, but at moderate or slow speed and when the stem is dry it would cause reversal where it bound enough to move the reversing valve. A bent reversing valve stem will be shown plainly by wear on its side or on the side of the button on its lower end.

This is undoubtedly a steam end trouble. If the reversing valve stem is found straight other parts to be examined are the reversing valve and seat to see that they are fitted and free from shoulders. While there are other and less probable causes for the reversing at mid-stroke, it is believed the trouble can be remedied through the suggestions already offered.

1184. Release After Emergency With No. 6 ET Equipment.—“On page 285 of September, 1915, issue the emergency operation of the distributing valve is described. It reads in part:

“The operation of the distributing valve when releasing after an emergency application is just the same as when following a service application. But one peculiarity will be noticed: when the equalizing portion has been moved to its release position the application chamber (that had remained empty during the emergency operation) is again cut into communication with the application cylinder and pressure chamber, and now absorbs a large amount of their pressure; this expansion of the application cylinder pressure causes it to drop to about 15 pounds.”

“It remains the fact that if the application cylinder with 65 pounds pressure in it were connected with the application chamber with no pressure in it the equalized pressure would be 15 pounds, but isn't it also a fact that when the equalizing portion returns to release position the pressure chamber air is excluded from the application cylinder the instant communication is made between the application cylinder and the application chamber? It seems to me that if the application cylinder, the application chamber and the pressure chamber were all connected their pressures would equalize at about 50 pounds.”—*R. G. W.*

Answer.—You are right in your understanding that when the release movement of the equalizing parts occurs the pressure chamber is cut off at the time the application cylinder and the application chamber are connected. Therefore, the statement quoted is in error to this extent. This is one of those slips that the best writers will make at one time or another.

1185. Friction, Its Cause and Result.—"What produces friction, and what is the result of excessive friction?"—*E. F.*

Answer.—Friction is the resistance offered to motion between surfaces in contact. A familiar example is the resistance between the brake shoes and the wheels when brakes are applied. Friction is produced by the surfaces in contact interlocking, or, stated differently, catching on each other. If there is movement between the surfaces when one is pressed against the other the resultant friction will cause wear. Where this wear occurs there will be heat. The heavier the pressure and the faster the motion, the greater will be the wear and the heat.

Excessive friction is a relative term, it depending on where the friction is produced. Brakes depend on friction for their effectiveness. So does the power of the locomotive; for it is the friction between the driving wheels and the rails (commonly termed adhesion) that enables the power of the locomotive to be applied to pull the train. Otherwise, as between journals and brasses, friction is detrimental to train movement. Therefore, it is reduced as much as practicable by lubricating such surfaces. A lubricant, such as oil, grease, etc., is a substance interposed between the surfaces where friction is not desired. Its action is to prevent the surfaces from coming into actual contact without in itself offering appreciable resistance to their motion. To whatever extent it fails to reduce friction will wear and heat develop, and where these are excessive, meaning excessive friction, a cut journal, a melted bearing or even a broken journal are among the possibilities.

The modern, heavy, steel passenger car has developed a condition of what might be termed excessive friction between brake-shoe and wheel. For an efficient brake the maximum pressure applied by the brake shoe to the wheel must be increased in proportion to the weight carried by the wheel. With some of the steel cars this shoe pressure required is so great with one brake shoe per wheel that an emergency application stop from high speed has actually melted the faces of the brake shoes. Such high heat not only greatly reduces the holding or retarding power of the brakes, by softening the shoe metal, but also causes far more rapid shoe wear than will follow in producing the same retarding power where the brake shoe temperature is not so high. This difficulty is overcome by applying two brake shoes to each wheel, one on each side, and thereby applying half the

pressure to each that would be required with but one shoe per wheel. This is termed the clasp brake.

1186. Air Compressor Capacity.—"What is the capacity in free air per minute delivered by the 9½-inch pump? by the 11-inch pump?"—*E. F.*

Answer.—This depends on the speed, the pressure worked against, the condition of the compressor, and the time over which high delivery is to be continued. Speaking generally, these compressors can deliver respectively about 40 and 60 cubic feet of free air per minute if in good order, but would heat excessively if such deliveries were long continued.

1187. Time to Charge Main Reservoir.—"In what time should one 9½-inch pump charge a main reservoir of 50,000 cubic inches from zero to 110 pounds? Two 9½-inch pumps? One 11-inch pump? Two 11-inch pumps?"—*E. F.*

Answer.—Based on conditions in the answer to the previous question, about six minutes for one 9½-inch compressor and about four minutes for one 11-inch compressor. If compressor speeds were the same where using two of each size these times would be cut in half. As a matter of fact, the usual piping would not permit of obtaining equal speeds. Then, too, leakage from piping, etc., a variable, would increase the time in each case.

1188. Time to Charge a Train.—"How long should it require to charge the brakes on 75 cars from zero to 70 pounds with one engine having one 9½-inch pump? One 11-inch pump? Two 9½-inch pumps? Two 11-inch pumps?"—*E. F.*

Answer.—Such information has little practical value because in service there will be variations in condition of air compressor, speeds that can be obtained, speeds that will be obtained, rate of brake pipe leakage, amount of other leakage, and proportions of 8-inch and 10-inch car equipments. The auxiliary reservoir of the 10-inch equipment is 50 per cent larger than that of the 8-inch equipment.

Assuming the compressor deliveries given in the answer to a previous question, that there is no leakage, and that one-half of the brakes are 8-inch and the others 10-inch it would take about 17 minutes for one 9½-inch compressor to charge a 75-car train to 70 pounds, and about 11 minutes for one 11-inch compressor. Theoretically two compressors should charge the train in one-half the time required by one. Practically it will be something over half as long because

they are generally so piped as to prevent obtaining quite as high speed.

1189. Brake-Cylinder Pressures Obtainable with Various Brake-Pipe Pressures.—"What pressures do you get in the brake cylinder with 70 pounds, 80 pounds and 90 pounds brake-pipe pressure, piston travel being 7 inches?"—*F. H. S.*

Answer.—While the following figures are from tests made many years ago with 8-inch freight brake equipment, they are doubtless reasonably accurate. They are for a full service application. With 70 pounds brake-pipe pressure 51 pounds brake-cylinder pressure was obtained; 80 pounds brake-pipe pressure gave 58 pounds cylinder pressure; and 90 pounds brake-pipe pressure gave 66 pounds cylinder pressure. Emergency applications with the brake-pipe pressures specified gave 59 pounds, 67 pounds and 77 pounds brake-cylinder pressure respectively.

Where retaining valves are in use, a full service application from the same brake-pipe pressure will give a higher brake-cylinder pressure. Just how much higher it will be than when they are not in use depends mainly on whether the equipment is so maintained that each retaining valve holds what it is supposed to (ordinarily 15 pounds in freight service), on whether brakes are reapplied before the pressure has blown down to 15 pounds, and on whether the auxiliary reservoirs are actually recharged to the assumed pressure. With good maintenance and operation and trains of moderate length no serious error will be made by assuming, with retaining valves in use, that a full service application will give approximately the same cylinder pressure for each brake-pipe pressure as stated for an emergency application.



Train Rules and Train Practice.

Answers by G. E. Collingwood.

892. Rule 94 and Form E.—"No. 74 is a second class train of superior direction due to leave A at 5 p. m., F at 8:55 p. m., G at 9:35 p. m., H at 10 p. m. and arrive at Z at 11:15 p. m.

"No. 75 is a second class train of inferior direction due to leave Z at 2 p. m., H at 3:40 p. m. and arrive at A at 9 p. m.

"The following rules are involved:

"Rule 85. A train leaving its initial station on each division, or leaving a junction when a train of the same class in the same direction is overdue, will proceed on its own schedule and the overdue train will run as provided in Rule 91."

"Rule 91. Unless some form of block signals is used, trains in the same direction must keep at least ten minutes apart, except in closing up at stations."

"An inferior train must keep at least ten minutes off the time of a superior train in the same direction."

"(Form E Example 3). 'Under (3) the first named train must not pass the designated point before the time given, unless the other train has arrived. The train last named is required to run with respect to the time specified, at the designated point or any intermediate point where schedule time is earlier than the time specified in the order, as before required to run with respect to the schedule time of the train first named.'

"Rule 85a. In case a third class train is being delayed any train of the same or inferior class may pass and run ahead without orders, but where an extra train passes a section of a train it must notify all opposing trains of having passed such train."

"Rule 93. A regular train which is delayed, and falls back on the time of another train of the same class, will proceed on its own schedule."

"Rule 94. (Same as Standard Code.)

"Order No. 2, 'No. 75 has right over No. 74 Z to A but wait at H until 10 p. m. G until 10:25 p. m. for No. 74.'

"No. 75 arrives at H at 9 p. m. and can easily make G by 9:35 p. m., which is No. 74's schedule leaving time at that point. May No. 75 disregard its wait at H and go to G for No. 74, clearing them as required by Rule?"

"Order No. 1, 'Engine 434 run extra A to Z ahead of No. 74, No. 75 wait at F until 8:55 p. m. for extra 434 north.'

"Extra 434 north, created by the above order, is overtaken at F by No. 74 and, there being no train order office at F, proceeds on order No. 2 under the second paragraph of Rule 94, after consulting with No. 74.

"Is extra 434 north required to observe No. 74's schedule leaving time at G, there being no regular trains overdue except No. 75 and no opposing extras?"

"If, instead of extra 434 north, a regular train of the same class as No. 74, over which No. 75 is superior by right, is being delayed at F for No. 75 and being overtaken by No. 74 with order No. 2 proceeds on that order under second paragraph of Rule 94, would it be required to observe No. 74's schedule time at G?"—*M. J. K.*

Answer.—No. 75 must not disregard its wait order for No. 74 and proceed to G, clearing No. 74 as required by rule. The reason for this rests in the fact that train orders supersede train rules with which they conflict, as long as they remain in effect. The explanation to the third example of Form E will not permit No. 75 to pass the waiting points except as provided for in the explanation. Such an understanding is neces-

sary to protect any train which may have authority to use the time named.

Extra 434 moving ahead of No. 74 under the second paragraph of Rule 94 would be moving on the authority of No. 74's schedule, and in the interest of safety should not exceed the schedule time of No. 74 while the movement is being thus made; however, Rule 94 does not contain such a provision. The caution pointed out in the case of an extra should be observed by a regular train should it be moving ahead of No. 74 on Rule 94.

There are many angles to Rule 94 which should be more clearly taken care of by the rule itself.

893. Should Have Copy of Order Which is Annulled.—"No. 1 runs from A to Z and No. 2 runs in the opposite direction. When No. 1 was ready to leave A it was given order No. 16 reading 'Order No. 14 is annulled, No. 1 engine 3558 meet No. 2 engine 3406 at M.' No. 1 also received a terminal clearance card. Was it necessary for No. 1 to have a copy of order No. 14, or not?"—*D. L. M.*

Answer.—Rule 201 provides that train orders must contain neither information nor instruction not essential to such movements. It is, therefore, to be understood that the words, "Order No. 14 is annulled" are essential to the movement of No. 1 or they would have no place in order No. 16, under the rules. But as No. 1 does not hold order No. 14, the words are not essential to the movement of No. 1 so far as No. 1 can know. It follows that the words referred to should not have appeared in order No. 16, or if they do appear in the order, No. 1 should be given a copy of order No. 14 so that it can fulfill that portion of the order, as No. 1 cannot annul an order which it does not hold.

894. Two Questions.—" (1) According to standard rules can a train arrive at a station or depart from a station ahead of time?"

" (2) Order No. 11, 'Reduce speed to six miles per hour from G to a point 500 yards west where derailment occurred.' This order dated September 26, 1915. The question is this: Is it necessary for this order to be re-dated each day?"—*Member 534.*

Answer.—(1) But two times are shown at any station for a train, under standard rules. When two times are shown, the earlier time is the arriving time and the later time is the leaving time. A train must not arrive at a station ahead of its arriving time, when it is shown, and it must not leave a station ahead of its leaving time. Where but one time is shown at a station it is, unless

otherwise indicated, the leaving time. The time at a station applies to the switch where an inferior train enters the siding, when there is a siding at the station. If there is no siding it applies at the place from which fixed signals are operated; if no fixed signals at that station, then it applies at the point where traffic is received on discharged.

(2). It is not necessary to change the date of the order to correspond with the date on which it is to be delivered. Train orders, once in effect, continue so until fulfilled, superseded or annulled.

895. An Examination Question.—"No. 1 engine 25 will meet second No. 2 engine 23 at H.' The question is asked as follows: 'If second No. 2 should arrive at H with signals displayed, will No. 1 have the right to proceed against the third section of No. 2 without further orders?'

"No. 2 is superior to No. 1 by direction; both are trains of the same class. The answer given was that No. 1 should remain at H for third No. 2 or get orders against them. Our examiner says No. 1 will proceed without further orders. Please explain."—*Member 836.*

Answer.—The order which No. 1 holds to meet second No. 2 at H does not confer any authority on No. 1 against any section of No. 2 except the second section, and as schedule No. 2 is superior to No. 1, all sections of No. 2 are superior to No. 1 except as No. 1 may be given right over them.

Your examiner is wrong. Third No. 2 holds no orders at all concerning No. 1, and the rules provide that each section on a schedule has equal time-table authority, and it follows that as third No. 2 is not restricted by right, it is superior to No. 1 and may disregard No. 1 except that it must approach all stations prepared to stop until it meets No. 1. This is covered by Rule 90, which states that trains must stop at the schedule meeting stations, if the train to be met is of the same class, unless the switch is right and the track clear. When the expected train is not found at the schedule meeting station, the superior train must approach all sidings prepared to stop until the expected train is met.

The above rule is a good one with the exception that it does not contemplate that the superior train may be late, and, as a result, there is no provision made for the superior train approaching all sidings prepared to stop until after it passes its schedule meeting station. However, good judgement would dictate that third No. 2, in this case, should approach

all stations prepared to stop, after it is on No. 1's time, until it meets No. 1.

896. Cannot Assume Schedule at F.—“Train No. 263 is scheduled from A to Z. “Order No. 9, ‘No. 263 engine 277 has right over No. 262 A to F.’ When No. 263 arrived at C it received an order as follows: Order No. 10, ‘Engine 277 run extra C to F with rights over second and third class trains.’ In this case was it necessary for the crew to have the annulment of No. 263 from C to F?”

“Trains No. 262 and 263 are scheduled from A to Z, but one crew has been pulled off and No. 263 from A runs to F and then returns to A as No. 262. I claim that all No. 262 needs at F is a clearance addressed to 262. Is this correct?”—*Member 677.*

Answer.—Order No. 10 is an abbreviated form of the third example of Form G, and, if permitted on this road, it confers right to the extra over second and third-class trains in both directions, and it is not necessary for extra 277 to have the annulment of No. 263 from C to F, except that engine 277 should be withdrawn from schedule 263 because it is to run extra, and, as the engine assumed authority to the schedule at A, it had authority to use the schedule to Z and such authority should be withdrawn.

The schedule for No. 262 extends from Z to A and it would be entirely proper for a crew to assume the schedule at Z and proceed thereon to A, but it is not permissible for any train to assume a schedule at an intermediate station. The fact that the train turns regularly at F does not make F a terminal station for that schedule, because the time-table governs a schedule and it shows No. 262 scheduled from Z to A. The train should receive an order at F to run as No. 262 from A to F.

897. Form C Order.—“No. 2 is a train of the superior time-table direction. No. 1 is a train of the same class in the opposite direction. The following order is given: Order No. 1 to train No. 1 at C, ‘No. 1 has right over No. 2 C to H.’

“F is the time-table meeting point and No. 2 makes F for No. 1 and takes the siding, and when No. 1 comes along stops No. 1 and notifies it that it has arrived at F. Can No. 1 proceed to the next register station, which is W, or is it necessary for No. 1 to get further orders against No. 2 at H, notwithstanding the fact that No. 1 and No. 2 met at F?”—*Member 635.*

Answer.—No. 1 may properly proceed against No. 2 from H without further orders against No. 2. The fact that No. 1 has met No. 2 fulfills the schedule of No. 2 so far as No. 1 is concerned. If the No. 2 which No. 1 met at F was a

train which was started from H and it was the intention of the train dispatcher to run another No. 2 from Z to H, then it would be the duty of the train dispatcher to notify all trains interested of such fact.

The present Standard Code does not now contain the requirement that No. 2 must stop No. 1 in case it reaches a point beyond that named in the order before meeting No. 1.

No. 1 may proceed to W, which is the next register station, and, if it finds that No. 2 displayed signals to W or that No. 2 had not arrived at W, then it would be the duty of No. 1 to get orders against second No. 2 or against No. 2, as the case may be. Otherwise if No. 1 is not notified to do so, it does not have to protect against No. 2 after having met that train at F.

898. May Use Time at any Intermediate Station.—“Order No. 5 was sent to extra 27 west at E, reading as follows: ‘No 2 will wait at A until 6:15 p. m., B until 6:40 p. m. and C until 7:05 p. m. for all trains.’

“No. 2 is due to leave D at 6:40 p. m. by its time-table schedule. Extra 27 is at E and cannot make D and clear No. 2's schedule time. Would it be correct practice for extra 27 to use up to 7:05 p. m., the time shown on order No. 5, to make D for No. 2? Can the train dispatcher start a train out of D as No. 2, on time, while the order remains in effect?”—*Member 586.*

Answer.—Train No. 2 must not pass the designated points before the time stated in order No. 5. Any other train receiving the order is required to run with respect to the time designated at the specified points or any intermediate station where the schedule time of No. 2 is earlier than the time named in the order, as before required to run with respect to the regular schedule time of No. 2. By the term “any intermediate station where schedule time is earlier” is meant, any station between the last station at which time is named in the order and the point at which the extra, or inferior train, received the order. In short, the order made the schedule time of No. 2, so far as extra 27 was concerned, 7:05 p. m. at D.

After the train dispatcher has issued order No. 5 to extra 27 at E, he is not at liberty to start No. 2 from D on time. There could be no objection to his so doing in case order No. 5 was not held by any train beyond D, because in such a case the schedule of No. 2 would remain unaffected beyond D. But if any train held order No. 5 beyond D the schedule of No. 2 would be thereby re-

stricted because of the right conferred upon the opposing train to use the time at any intermediate station.

899. Train Order Schedule Does Not Expire When Twelve Hours Overdue.—

"An order is given as follows: 'Engine 398 will leave A October 28th and run extra to Z on the following schedule regardless of all freight trains: Leave A 10:20 a. m., H 12:40 p. m., M 2:06 p. m., arrive Z 4:25 p. m.'

"The question has repeatedly been asked as to whether or not the schedule becomes dead when it is twelve hours overdue."—*M. M. H.*

Answer.—The above order does not follow the standard form and in that respect it is defective; however, that fact does not affect the life of the schedule. Rule 82 covers the case of a time-table schedule; it states that time-table schedules, unless fulfilled, are in effect for twelve hours after their time at each station. It will be noted that this refers only to time-table schedules and has nothing to do with train order schedules. Train order schedules are governed by Rule 220, which states that train orders once in effect continue so until fulfilled, superseded or annulled. It follows that a train order schedule does not become dead when it is twelve hours overdue at any station.

900. Old Time-Table Cannot Authorize.—"No. 2 is a through train scheduled to leave its initial station A at 7 a. m. daily. On October 1st a new time-table took effect at 7 a. m., showing schedule No. 2 due to leave its initial station at 2:30 a. m. The question is this: can No. 2 leave A on October 1st, and if so, how will it be governed?"—*H. G. M.*

Answer.—It is assumed that the schedules correspond otherwise as to terminal station, direction, etc. In this case the old time-table would be superseded at 7 a. m. before it could authorize No. 2 of October 1st, and as a result there would be no train of the preceding time-table to retain its train orders and assume the schedule of corresponding number of the new time-table. It follows that No. 2 must be governed by the first sentence of Rule 4, which provides that each time-table from the moment it takes effect supersedes the preceding time-table and its schedules take effect on any division at the leaving time at their initial stations on such division. This means that a schedule which is not authorized by the old time-table becomes effective when it is due to leave its initial station after the new time-table takes effect. In this case the time has been set back to 2:30 a. m., and it follows that No. 2 of October 1st

cannot run on the schedule, as the new time-table does not authorize it.

If No. 2 of the old time-table had been due to leave its initial station at 6:59 a. m. instead of 7 a. m., then the old time-table would have authorized No. 2 of October 1st and it could then have assumed the new schedule at 7 a. m. and proceeded as a delayed train. Or if the time had not been changed, the new time-table would have authorized the new schedule at 7 a. m.

901. Five Questions on New Time-Table Taking Effect.—" (A). Train No.

51 is due to leave its initial station A at 11:50 p. m. on the old time-table. A new time-table takes effect at 12:01 a. m., showing No. 51 due to leave its initial station at 12:10 a. m., which is 20 minutes later than it was due to leave on the old time-table. Can No. 51 of the old time-table assume the new schedule from the point where it is overtaken by the new schedule?

"(B). No. 38 is due to leave Z, its initial station, at 11:45 p. m. on the old time-table; but a new time-table takes effect at 12:01 a. m., showing No. 40 due to leave Z at 11:45 p. m. No. 38 being taken off the time-table. Can No. 38 assume schedule No. 40 when the change of time-tables takes place? Can No. 38 be run out of Z? When and where can No. 40 be run?

"(C). No. 53 is due to leave A, its initial station, at 12:25 a. m. on the old time-table. A new time-table takes effect at 12:01 a. m. which shows No. 53 due to leave A at 11:25 p. m. What action will opposing trains take in regard to No. 53's schedule on the date of change? Can No. 53 run?

"(D). No. 2 is due to leave Z, its initial station, at 11:55 p. m. on the old time-table. A new time-table takes effect at 12:01 a. m., showing No. 2 due to leave its initial station at 12:01 a. m. Can No. 2 which left its initial station at 11:55 p. m. assume the new schedule at 12:01 a. m., at time of change of time-tables?

"(E). No. 74 is due to leave A, its initial station at 11:50 p. m. and runs Saturday only. A new time-table takes effect Sunday at 12:01 a. m., showing No. 74 due to leave A at 12:05 a. m. If No. 74 was on time it could be at C when the new time-table took effect. Can the train dispatcher give No. 74 an order to run as first or second No. 74 from that point?"—*A Reader.*

Answer.—The questions fail to give information as to whether or not the schedules concerned correspond as to class, direction and terminal stations, but in making the replies it is assumed that they do so correspond, unless otherwise mentioned.

(A). No. 51 of the old time-table could not assume schedule No. 51 of the new

time-table for the reason that the only available schedule which could be assumed would be the one due out of its initial station at 12:10 a. m. After the time-table took effect, and this schedule does not correspond as to date with the schedule of the old time-table and it therefore could not be assumed.

Supposing that the new time-table took effect on October 15th, the train of the old time-table would be a train of October 14th, while the new schedule is a schedule of the 15th, and for this reason the train of the old schedule could not assume it. But schedule No. 51 of the new time-table would be in effect at 12:10 a. m., for the reason that it is due to leave its initial station after the new time-table takes effect, and, as no other schedule of that day has been in effect, such schedule is good, but it cannot be assumed by the train of the old time-table because it fails to fulfill the requirements as to date.

(B). No. 38 which left Z at 11:45 p. m. on the old time-table could not assume the new time-table schedule No. 40, as Rule 4 provides that schedules must correspond as to number.

No. 38 can run out of Z on the old time-table, providing that it can make some telegraph station before the new time-table takes effect, because when the new time-table takes effect it is dead. Or the dispatcher might give it an order to run extra after 12:01 a. m., in which case, if it had right over all superior trains which could operate under the new time-table, it might properly proceed from Z, even though it could not make a telegraph station before the new time-table took effect.

No. 40 cannot run out of Z until 11:45 p. m. on that date for the reason that it is a train without a corresponding number. Its schedule takes effect at the leaving time after the time-table takes effect, which would be at 11:45 p. m. on the date when the new time-table took effect.

(C). At the time the new time-table took effect No. 53 of the old time-table was not due to leave its initial station and there would be no train on the road at time of change to assume the new schedule, even though the rules would permit it. Let us suppose that the change of time-tables took place October 15th; No. 53 of October 14th would be the train which left its initial station at 12:25 a. m., October 14th, but on account of the schedule being set back one hour it would make the first schedule of that number, on the new time-table, and the one which would naturally be

assumed in case the rules so provided, the one due to leave A at 11:25 p. m. the 14th. But it can be seen that inasmuch as No. 53 of the 14th has run, the schedule of the new time-table due to leave A at 11:25 p. m., the 14th, could not be in effect. Another reason why it could not be in effect is that it is due to leave its initial station before the new time-table takes effect.

No. 53 can leave its initial station at 11:25 p. m., October 15th.

(D). No. 2 which left its initial station at 11:55 p. m. cannot assume the new schedule for the reason that the only available schedule would be the one due to leave Z at 12:01 a. m. on the following date, and that schedule does not correspond as to date and could not be assumed. But the schedule is in effect at 12:01 a. m. and is competent to authorize a train at that time under the new time-table.

No. 2 of the old time-table should not leave Z unless it can make a telegraph station before the new time-table takes effect, or unless it has orders which will take care of it after the new time-table takes effect.

(E). No. 74 cannot assume the new schedule for the reason that the schedules do not correspond as to date of leaving A, but it would be entirely proper and in accordance with standard rules to give train No. 74, the train which lost its schedule at C, an order to run as No. 74, or any section of that schedule on the new time-table.

Rule 201 provides that train orders will be issued for movements which are not provided for by time-table, and as the schedule of the new time-table is in effect but fails to provide for the train of that number, of the old time-table, to assume it, a train order can properly be used for that purpose.

902. All Sections Included.—"No. 59 is a second-class train and received an order as follows: 'No. 59 will run ahead of No. 1 A until overtaken.'

"No. 1 overtook No. 59 at B and passed No. 59. No. 1 was displaying signals for a following section. Did No. 59 have the right to run ahead of second No. 1 from B until overtaken?

"One of our members failed to pass the examination for promotion because his answer was 'no.' Would like a full explanation, as there is misunderstanding on this point."—Member 397.

Answer.—The rules are plain upon this point and No. 59 had the right to proceed ahead of each and every section of No. 1 until overtaken.

Whenever a regular train is mentioned in a train order by its schedule number alone, without engine number, conductor's name or section number, each and every section on that schedule is included in the order and each and every section must be given a copy of the order and must be governed thereby. In this case No. 59 was given right to run ahead of any and all trains moving on schedule No. 1 from A until overtaken. When first No. 1 passed No. 59, No. 59 was at liberty to proceed ahead of second section of No. 1 until overtaken by second No. 1, because Rule 218 states that when a train is named in a train order by its schedule number alone all sections are included and each section must be given copies of the order; therefore, when first No. 1 overtakes No. 59 it can pass, but No. 59 can proceed ahead of following sections until it is in turn overtaken by the second section, when it must permit that section to pass. It will be noticed that second No. 1 holds exactly the same instructions with respect to No. 59 that first No. 59 holds.

In connection with this point it will be noticed that the rules are plain, and if it is safe for No. 59 to run ahead of first No. 1 on the order it is equally safe for No. 59 to run ahead of following sections which hold the same order. To fully understand an order which mentions a train by its schedule number alone when such schedule is being fulfilled by several sections, it is only necessary to substitute the several sections for the schedule number; for example, "No. 59 will run ahead of first and second No. 1 from A until overtaken," has exactly the same meaning as the order actually given to No. 59.

Years ago, before the advent of the Standard Code, when a train was named in a train order by its schedule number alone, such order only referred to the first section, in case there were more than one section on that schedule. But

now the practice is changed, as indicated by the reply.

903. Classification Signals.—"Will you please explain what is meant by classification signals and what they are used for?"—*J. K. L.*

Answer.—Under standard rules there are no such signals as classification signals. A great many years ago, before the Standard Code of rules had been evolved, the signals displayed on the front of an engine to denote that another section was following, or to denote that the train was an extra, were called classification signals because such signals put the train in one class or another; that is, the signals denoted that it was an extra train or that another train was following on the same schedule. The name which was used at that time still clings to the signals in spite of the fact that such signals do not denote class.

Under standard rules all signals displayed by a train are known as "train signals," which in turn are explained as, headlight to the front of every train, markers to indicate the rear end, signals on engine to indicate section following, and signals for extra train.

It is sometimes said that extra trains are of inferior class to all other trains, but such statement is misleading and is not correct, as extra trains have no class at all and cannot, therefore, be inferior in class. Extra trains are inferior trains, but not trains of inferior class. Such expressions have originated because signals for extra trains and sections are called "classification signals," in so many cases.

Signals displayed by an extra train are for the purpose of notifying all concerned that it is not a regular train, so that other trains will know its standing and not mistake it for a regular train. Signals displayed by a leading section are for the purpose of notifying all concerned that there is another train coming on the same schedule with the same superiority.



DISCUSSION OF CURRENT TOPICS

REPORT OF UNITED STATES COMMISSION ON INDUSTRIAL RELATIONS

Supplemental Opinions and Suggestions by Commissioner
A. B. Garretson*

Possessors of Great Wealth Scorn Law's Mandates and Society's Opinions, Prostitute Administration of Justice and are Practically Immune from Penalties Prescribed by Law

(Continued from December, 1915, Magazine)

My signature is appended to the report of Mr. Basil M. Manly, Director of Research and Investigation of the United States Commission on Industrial Relations, submitted to the commission and transmitted herewith, as to the findings of fact contained therein.

I am in general agreement with the recommendations contained in that report except as to the formation of the system of state and federal commissions and a federal industrial council.

Of this recommendation I neither approve nor condemn. But out of regard for the opinion of the great body of intra-state labor most directly affected I dissent.

* President Order of Railway Conductors.

I am also in accord with the statement of fact contained in the report of George P. West on the Colorado situation.

I am favorable to the extension of the provisions of the Newlands Act to all classes of interstate employes who can constitutionally be brought under its provisions and would favor the enlargement of the body administering it to meet the added responsibilities which would thereby be placed upon it, but limiting the powers thereof to the settlement of industrial disagreements and to the gathering of information germane to their mission.

I favor the creation of state commissions, similarly constituted and acting in co-relation and understanding with the federal board.

I heartily concur with the report of Commissioners Lennon and O'Connell except on those points where disagreement is herein noted, and I render individual opinion and suggestion only on

Causes Underlying Industrial Unrest.

Any student who accepts and applies the belief that the "proper study of mankind is man" cannot fail to trace certain fundamental causes, general in their character, which underlie industrial unrest, which will continue to grow until either the causes are peacefully removed or revolution ensues.

To me, there appears to be four of these basic causes.

The first lies in the inequitable distribution of the fruits of industry.

Our industrial system makes it possible for one man, in only a portion of the span of human productive life, to take unto himself and claim as his own a fortune of a hundred million dollars or more, while millions of deserving men, availing themselves of every opportunity for unremitting toil, are only able to secure a grave in the potter's field or else burden their families with an installment debt for the cost of interment.

The creation of such colossal fortunes naturally breeds in the mind of the possessor the sentiment, belief and practice that he is superior to society and not subject to the law. The possession thereof makes him unregardful of the opinions of society or of the mandates of the law, incites him to disregard and hold himself independent of the moral precepts and beliefs of society and tends toward the effort to prostitute the administration of justice, and, under the present system, renders him practically immune from the penalties prescribed by the law.

The transmission to heirs or trustees, degenerate or otherwise, of fortunes so vast or of business interests so far-reaching makes them the virtual arbiters of the destiny of hundreds of thousands of their fellow beings, in regard to whom they have neither sympathetic feeling, intelligent interest nor humanitarian desire, and the testimony before this commission has made it evident that in some instances these heirs or representatives even resent the imputation that any obligation whatever can rest upon them for the welfare of the said fellow beings or that even intelligent knowledge as to what would constitute well being should be required of them.

Second, the methods of the formation and administration of law would, in themselves, justify undying, righteous unrest from the fact that they create, encourage and demonstrate knowledge and belief that there is no equality before the law as between the man who has and the man who has not.

Primarily, there is the trend through legislation to exalt the property right at the expense of the personal right. Next, the tendency of a great majority of our courts to extend and amplify this trend. This appears in the declaring unconstitutional of a great portion of the legislation that in

later years is appearing if it in any way restricts the rights of property, while at the same time any legislative act which tends to make effective the constitutional, personal right of the individual is nullified upon the same ground.

In other words, to exalt money above man.

The tendency, also, of a large number of the same tribunals is to legalize the maintenance of armed forces, either by the corporation or the large individual employer, and the virtual levying of war through the use of the state militia as a private guard for property interests or as an economic weapon for the purpose of prejudicing the interests of the worker is abetted and approved, while at the same time rigorously prosecuting and punishing the individual for taking any similar action, individually or collectively, in defense of his person or his family.

Thus, the man who uses a deadly weapon to protect himself or his home against the aggression of hired thugs, has set in motion against him the whole machinery of the state, while the corporation which enlisted, equipped and paid a private armed force, formed and used, not for the maintenance of peace or the protection of property, but solely as an economic weapon, is lauded as a conservator of peace, law and order.

Our laws deal strictly and effectively with those who contribute to the delinquency of an individual but the hirelings of a corporation may debauch a state for their own economic gain and receive only laudation from those who "sit in the seats of the mighty."

The man, who, on account of hunger of himself or family, steals a loaf, is held up to public view as a "horrible example" of the increase of crime and decadence of the moral sense, while he who exploits the public or by dishonest or fraudulent representation or manipulation, secures millions of their money is, by the same agencies held up to the youth of the land as an example of what intelligent effort and devotion to business may accomplish.

The system of wholesale arrests during industrial disturbances for acts which, committed under ordinary conditions and when no industrial disturbances prevailed would not constitute ground for arrest, is one of the significant indications of the use of governmental agencies, not as a preserver of peace but as a purely economic weapon.

The intrusion of what has been aptly described as "invisible government" into all the channels of life, the educational system,—primary, secondary and higher,—the church, the press, the legislative branch and the judicial system and the recognized potency of its meretricious efforts contributes its elements to the whole.

Third. Irregularity of employment with the consequent restriction of opportunity and with its consequent extension of belief that unremitting toil under present conditions can bring no fair recompense, thus stifling healthy incentive to labor, is creating an army of unemployed that must, in the last analysis, be reckoned with and unless remedy is found whereby incentive may be restored and recompense be made apparnt, society itself must pay the forfeit.

Fourth. Land monopoly with resulting prohibitive price, the greatest influence in creating congestion in the cities, bears its own share of the responsibility for unrest.

Tracing the history of every vanished civilization makes apparent the fact that in every instance decadence was preceded by urban congestion and by immense land holdings by the aristocrat or the capitalist.

As to the remedy for these evils, an income and inheritance tax that would be, above a certain figure, absolutely confiscatory, would make impossible, first, the creation, and second, the transmission of the dominating accumulation of wealth in the hands of any individual, group or family. When the unlimited power of reward or purchase had ceased to exist, the subconscious tendency of legislatures and of those who interpret and administer the law to be subservient to property interests would, of necessity, disappear.

It is worth consideration as to whether or not a limitation can properly be set upon profit in a business enterprise.

Every code, ancient and modern, prescribes penalties for usury, and modern codes define the rate of interest permitted. Therefore, if a man loans money, he can only demand what is prescribed as the legal rate for the use thereof.

Is it, or is it not, equally consistent for the government to prescribe a rate beyond which profit shall not extend?

In the question of dealing with land, should the same doctrine be applied to land that, in the arid states, is applied to water, i. e., that no more land can be held by an individual than he can put to productive "use," thus making unused land revert to the state and acquirable by those who would utilize it.

(To be continued.)

Factory Inspection in South — Chief of Tennessee Department a B. of L. F. and E. Man.

Under the caption "Factory Inspection in the South," the "Merchant and Manufacturer," published at Nashville, Tenn., in its twentieth anniversary number gives some extracts from an address by W. L. Mitchell, Chief of the Department of Workshop and Factory Inspection, of Tennessee, before the Governmental Labor Officials of the United States and Canada, at Detroit. Chief Mitchell is a member of Lodge 100 of our Brotherhood. The following are some of the extracts from his address appearing in the "Merchant and Manufacturer":

"To more than any other one factor the credit for the development of factory inspection in the South belongs to the efforts put forth by organized labor. Tennessee is a pioneer among the Southern States in factory inspection legislation, and thus far more has been accomplished in that state, both in the enactment and enforcement of such legislation, than in any other southern state."

Brother Mitchell then tells of efforts made and steps taken with a view to the improvement of industrial conditions by means of factory inspection legislation in the States of Georgia, Alabama, Florida, Kentucky, Louisiana and Virginia, and continuing, said:

"Tennessee has been progressively and earnestly considerate of the general ef-

forts and accomplishments of the labor departments of the Northern and Eastern States, and has greatly profited by adopting in substance, if not always in form, many of the statutes and rules governing these departments. But much remains to be done in this respect in Alabama, Mississippi, North and South Carolina, Louisiana, Florida and Tennessee.

"Tennessee, with just pride, emphasizes the fact that its minor labor laws are among the best in the Union, *that these laws are enforced.* Georgia and Alabama, at the last session of the legislature, passed minor labor laws that, if enforced, will materially advance the interests of the future citizenship of these states."

The second annual report of the Department of Workshop and Factory Inspection, State of Tennessee, submitted by Chief Mitchell to Governor Rye, summarizes the work of that department for the fiscal year ending December 1, 1914, makes brief mention of the several laws under the supervision of that department, gives the principal features of the statutes, and suggests remedial legislation as follows:

"An amendment to the Child Labor Laws, providing a more comprehensive and systematic method of determining the ages of minors who may seek employment.

"An amendment to the law, limiting the hours of labor for women and children under the age of sixteen years, and making more specific the industries in-

cluded and the authority and power of the department as related to the enforcement of this Act.

"An amendment to the law, creating the Department of Workshop and Factory Inspection, more specifically defining the powers, broadening the scope of said department and providing for an increase in the appropriation for the expenses of the department."

The report contains a number of sta-

tistical tables, treats of industrial accidents, classified industries, and manufacturing industries and mercantile establishments inspected, and shows much care and ability in its preparation.

We congratulate Brother Mitchell on the success of his work as Chief of this very important department of his State's government.

MINE STRIKE IN ARIZONA

Governor and Sheriff Determined That Strikers Shall Get a Square Deal

Men Decline to Sign Away Their Constitutional Rights—Refuse to Agree to Withdraw from Unions

Since September 11, 1915, nearly 5,000 workers who to that date had been employed in the metal mining industry of the Clifton-Morenci Metcalf district of Arizona have been out on a strike because they ask for a living wage and humane employment conditions and refuse to sever their connection with their unions in accordance with the demands of the mining companies that they do so and sign a blank form prepared by the managements of the mines to that effect.

The strikers are standing solidly together—men of every craft and every nationality—and it is most gratifying to know that the authority of the governor's office and of the sheriff's office, instead of being used to break the strike and harrass the strikers, is being exerted to make sure that these workers are subjected to no oppressions or impositions by the forces of "big business," either through the use of gunmen disguised as militia, as in the case of the Colorado mine strike, or through any of the other brutalities and law violations on the part of employing interests of which the striking miners were made the victims in that struggle, or in any other way. Elsewhere in this issue we publish an article in this connection in which Governor Hunt of Arizona, in reviewing this strike gives utterance to sentiments that are so rarely entertained by men in such a position, so strikingly exceptional as coming from such a source, so expressive of an absolute independence of the powers of wealth and of an utter disregard of the consequences of offending them, that so boldly and manfully proclaim official revolt against their despotism and proprietorship of public officials that it can well be regarded as the most notable expression in defense of the constitutional rights and liberties of workers that has come from such a source since the "Invisible Government" has come into power.

A. F. of L. Convention Endorses Strike.

The recent convention of the American Federation of Labor, held in San Francisco, Cal., commencing November 8, 1915, adopted the following resolutions regarding the Clifton-Morenci strike:

"WHEREAS, The miners of Morenci, Clifton and Metcalf, Arizona, for the first time in the history of these camps have organized; and

"WHEREAS, The mining companies issued notices to the men to the effect that they must sever connections with their Union and sign a blank form prepared by the mine management to that effect; and

"WHEREAS, Upon their refusal to so do, they were forced to strike for the right to belong to a Labor Union; and

"WHEREAS, For more than two months they have maintained their struggle, as not a wheel is turning, or a man working in any of the three camps, except those authorized to do so by the Union; and

"WHEREAS, The powers of the governor's office or those of the office of the sheriff are not being used to demoralize or defeat the strikers, and be it said, to the great credit of the governor of Arizona and the sheriff of Greenlee county, that they have zealously guarded the honor and trust placed in their keeping by the people of that State and county; therefore be it

Resolved, That this Thirty-fifth Annual Convention of the American Federation of Labor gives its endorsement to the strike of the miners and kindred workers of Morenci, Metcalf and Clifton, and that it urges upon the affiliated organizations that whatever assistance be within their power be rendered to the Arizona strikers in this struggle, and sent to F. B. Hocker, Treasurer Relief Committee, Box 511, Clifton, Arizona."

In an appeal sent out by Ernest Mills, Secretary-Treasurer Western Federation of Miners, it is declared that this strike will be won if the men and their families can be fed; also that it is a strike which means much to the workers of the Southwest and the entire country, and he urges all who can afford to do so to aid these strikers and to send their contributions to F. B. Hocker, Treasurer Relief Committee, Box 511, Clifton, Arizona. All contributions whether large or small will be greatly appreciated.

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One Reason For "Preparedness"

Huge Army and Navy Mean Fat Profits for Multi-Millionaires.

In connection with the clamor for "preparedness," which "big business" and its servile press has started, the following news item is interesting to the extent that it discloses one of the primary influences and incentives that is behind the movement for a huge militaristic system and a mammoth navy for the United States:

Washington, December 15.—Representative Tavenner, of Illinois, made the first preparedness speech of the session in the House today, urging government manufacture of all war materials. He attacked the Navy League as being composed in part by men who profit from the sale of munitions.

Since 1887, Tavenner declared, four firms in the United States have virtually had a monopoly on war orders, dividing millions for munitions that might have been produced from 20 to 60 per cent cheaper in government arsenals or navy yards.

Tavenner said the Midvale Steel Company, Charles M. Schwab and J. P. Morgan were the founders of the Naval League. Munition companies controlled by these men, he said, have a monopoly on armor plate and since 1887 have sold the government \$102,000,000 of their product.

"We have paid for armor plate an average of \$440 per ton, when we could produce it in a government plant for \$238 per ton," said Tavenner. "Of the \$102,000,000 spent since 1887 we could have saved approximately \$35,000,000 by government manufacture. I contend that we could have a one-fourth larger navy without the levying of an extra cent of taxation if the United States made its own armor plate and munitions."

When Tavenner charged that American armor plate companies sold their product to Russia for \$249 a ton, while the United States paid them \$616 a ton, Cyclone Davis, of Texas, shouted "Amen!" with camp meeting fervor.



YOUNG ROCKEFELLER'S VISIT TO COLORADO MINES AND THE LABOR (?) ORGANIZA- TION HE STARTED

**Financial Monarch's Intercourse With His Subjects Characterized
by Numerous Condescensions and Elevation (?) of
Workers to Status of "Partners"**

**Industrial Plan Formulated in Wall Street as a Substitute for Labor Unionism
Chiefly Characterized by Feudalistic Paternalism and Control
by Employing Interests**

Young John D. Rockefeller has started a labor organization all his own. Being a multimillionaire he is of course privileged to start anything and to have anything that the power and influence of wealth can procure for man. He is even privileged to trifle and, for his own selfish ends, experiment with the destinies and liberties of great bodies of working men and in the exercise of that privilege has foisted on the men employed in the Rockefeller mining properties in Colorado a "Plan" for the control in his own interests of their industrial, social and economic liberties. This plan, while embracing a species of representation for the presenting of grievances, differs none in results to him nor in the enjoyment of constitutional liberty by the workers it affects from the system of oppression, injustice and intimidation which, prior to its adoption, characterized the relations of the Rockefeller interests with the workers in the same territory.

The "plan" was announced on October 2nd last by young John D. himself at a "joint meeting" of the officers of the Colorado Fuel and Iron Company and the representatives of its employes at Pueblo, and a week or so prior to this young John D. spent in visiting the coal mining properties, the camps in the southern coal fields, etc., the published accounts of his visit being illustrated with photographs in which he is shown—in one standing beside

the school teacher outside one of the schools while the school children filed into the building—in another in the center of a company of Boy Scouts in uniform [glorious ideal of democracy and industrial freedom]—in another shaking hands with a long line of miners—and in another wearing a suit of new overclothes in which he is reported to actually have gone down in one of the mines.

During his visit he attended some social events of the workers, and it is reported, danced with some of the miners' women folk.

The reports of the condescensions that characterized this visit of his financial majesty to his "subjects" would not be credible were they not vouched for through his own publicity mediums.

In view of all that has been disclosed by the admissions in young John D.'s testimony before the United States industrial relations commission and other evidences which demonstrate his knowledge of the wrongs and oppressions to which the workers in the Rockefeller properties in Colorado were subjected all the time they were being made victims of such wrongs and oppressions, some of the statements he made in his speech above referred to will, to say the least, be interesting.

He started out by declaring that it was a red letter day in his life; that it was the first time he had ever had the good fortune to meet the representatives of the employes and the officers and mine superintendents of that great company together and that he was glad to be there and would remember the gathering as long as he lived. He then told of his having visited the camps, the homes of the employes, having met their wives and children, and said they had met there on that occasion as friends. He then stated that every corporation is composed of four parties; the stockholders who put up the money, etc., the directors, who see that the executives are wisely selected, etc., the company's officers, who conduct the current operation of business, etc., and the employes who contribute their skill and their work; and declared that the interest of all these four parties was a common one and an effort to advance one interest at the expense of any other meant loss to all. He then exemplified his remarks with a square table with four legs, showing that it would not be complete without four sides, that if cut into quarters and each quarter separated from the others it would all fall down, etc., etc., but as all four sides were perfectly joined together it was a perfect table and if parties interested in a corporation are not "perfectly joined together" there is a discordant and unsuccessful corporation. He said that the table was square, he declared that every corporation to be successful must be on the square, also that the table was level that each part was supported by its own leg and so that equal responsibility rested on each of the four parties united in a corporation. "When you have a level table," he said, "or a corporation that is on the level you can pile up earnings on it (piling coins on the table)," and then he committed himself to the following noteworthy and memorable utterance: "Now, who gets the first crack at the earnings? You know that we in New York don't. Here come along the employes and first of all they get their wages (removing some of the coins), every two weeks like clock work, just what has been agreed on; they get the first chance at the pile. You men come ahead of the president, the officers, the stockholders and directors," etc.

"And then the officers and superintendents come along, and they get theirs. They don't get it until after you have gotten yours (removing more coins)."

"Then come the directors and they get their directors' fee (removing the balance of the coins) for doing their work in the company."

"And, hello! There is nothing left!"

"This must be the Colorado Fuel and Iron Company, for never, men, since my father and I became interested in this company as stockholders some fourteen years ago, never has there been one cent for the common stock."

Poor young man and his poor aged father, how sadly, sadly pathetic.

Then the tale of woe is continued and repeatedly is it stated by the said John D., Jr., that not for fourteen long years has one cent of money been realized by the stockholders and—so that "you men" might work and get your wages and salaries. Oh, what noble philanthropy! What self-sacrificing munificence, what whole-hearted, reckless generosity, what absolute subordination of all selfish instincts, that these dear workers might get their wages.

"There are mighty few of you," continued this noble champion of the poor man's rights "who have heard it." "What you have been told," he declared, "what has been heralded from the Atlantic to the Pacific is that those Rockefeller men in New York, the biggest scoundrels that ever lived, have taken millions of dollars out of this company on account of their stock ownership, have oppressed you men, have cheated you out of your wages, and 'done' you in every way they could. That is the kind of 'dope' you have been getting and that is what has been spread all over this country. And when that kind of talk was going on, there were disturbances in this part of the country because the four sides of this table were not square and the table was not level."

Now, how could any person believe, particularly if familiar with the old man's long life of earnest devotion to the interests of mankind—to the uplifting of humanity, with his unselfish regard for all his business competitors, etc., that either himself or young John D. could ever cheat or oppress anyone? And then did not the young man declare in this speech that: "The common stockholders have put \$34,000,000 into this company in order to make it go, so that you men will get your wages, you officers have your salaries and the directors get their fees, while not one cent has ever come back to them in these fourteen years." "Mr. Welborn," he said, "Am I telling the truth." and Mr. Welborn, who is president of the Colorado Fuel and Iron Company, said he was. But who could doubt it, why ask for corroboration? Continuing his address, young John D. said:

"If there is anyone who questions that statement, let him speak." No one spoke. "Now, let me put it to you men, is it fair, in this corporation where we are all partners, that three of the partners should get all of the earnings, be they large or small—all of them—and the fourth nothing?"

Evidently John D. and his papa must be living on the interest of their debts.

"I just want you to put that in your pipes and smoke it and see if it tallies with what you have heard about the stockholders oppressing you." "Some" great smoking. "Capital is entitled to a fair return, just the same as labor is." [Poor mistreated Capital.] . . . "Now the stockholders have been pretty patient all this time; they have taken a lot of abuse because people have not told the truth. I think if we had all gotten together, as we have today, months and years ago, and discussed these questions, and the facts had been fairly presented, that there is not a man in this room but who would have said: That is not a square deal, and in so far as I have anything to do with this company, whether I am digging coal, driving mules, or sitting in an office directing operations—whatever my position, I will do what I can to see to it that every last man in this big family here gets a square deal."

We wonder what caused John D. or his papa to conceive the "get together" and the "family" idea at this late day after the reign of injustice and

oppression which characterized their Colorado mining industries had become a blot on the entire nation?

The report of the United States Commission on Industrial Relations and the fearlessness of Chairman Walsh has been bitterly denounced by the corporation press, its work characterized as useless and the money appropriated to defray its expenses as wasted, but irrespective of all their scoffing, of all their denunciations, of all their misrepresentations regarding the Commission and its work they will have to admit the tremendous influence of that work when it has impelled this heretofore inexorable denizen of Wall Street, this haughty arrogant king of finance, the junior John D., to unbend to the extent of resorting to such tactics as characterized his visit to these mining properties, his speech of October 2nd and his formulation of this "plan."

Continuing this remarkable address, young John D. said:

"This meeting has been called today for the purpose of seeing whether we can work out and agree upon among ourselves here, some plan which will accomplish what I feel sure we all want to accomplish. I have been asked to explain the plan which is up for our consideration. . . .

"I have talked with all of the men whom I could get in touch with who have had experience with or have studied these vital questions. I have conferred with experts, and I have tried in every way to get the best information I could looking toward the working out of some plan which would accomplish the result we are all striving to attain."

Strange that one professing such sincerity would have omitted the best of all experts from these conferences, viz. the officers of the United Mine Workers of America.

Continuing, he said, "in conjunction with Mr. Welborn and other able advisers, we have worked out a further development of the plan adopted last fall. Then I said to myself, nothing shall be said about this plan, nor will we undertake to complete it until I have myself seen every mining camp operated by the company. And now I have visited every camp, with the exception of those on the western slope, and lack of time alone has prevented my getting over there to see you men. I have gone, as you know, to every camp in the southern fields, have talked privately with every superintendent, except one who was away. . . . I have gone into scores of your homes and met your wives and children, and have seen how you live; I have looked at your gardens, and in camps where fences were only recently built, have seen how eagerly you have planted gardens the moment opportunity was afforded, and how quickly you have gotten the grass to grow, also flowers and vegetables, and how the interest in your homes has thereby been increased. I inquired specifically about the water supply at each camp; I went down into several of the mines and talked with hundreds of the miners; I looked into the schools, talked with the teachers, inquired what educational advantages your children were getting. I asked what opportunities you men, my partners, had for getting together socially, and visited some of your clubhouses and saw plans for others. I went into your wash-houses and talked with the men before and after bathing. As you know, we have pretty nearly slept together—it has been reported that I slept in one of your night shirts—I would have been proud had the report been true."

We would here comment on the entire lack of a knowledge or appreciation of the principles of industrial liberty that is expressed in the feudalistic paternalism of these utterances of this financial czar—in his boast of the variety of condescensions which has characterized his coming in contact with his "moujiks." How these men live, what their gardens produce, what they may do socially or religiously is, or under a free system of government ought to be, none of his business. What would be thought of a railroad president who would visit the district in which the employes of his company lived at some large terminal and go around poking his nose into the homes of the engineers, firemen, brakemen, conductors, or other employes to find out how

they live, what opportunities they had for "getting together socially," how they felt before and after bathing, what was being taught in the schools to which they sent their children, etc., etc., and yet precisely the same principle of industrial independence and American freedom would be outraged in one case as was in the other. When a man has performed his work under proper working conditions and the firm or individual employing him paid him for that work their obligations are, or at least according to the American constitution should be at an end and the domestic and social affairs of that workman and his family are or should be entirely their own business.

Further along he says:

"And, frankly, every waking moment since I left you men in the Fremont district last Saturday, practically every daylight hour of this last week, has been spent with the officers of this company in constant, careful, earnest thought looking towards the development of such a plan as would serve our common interest in the best possible way."

It is noteworthy that he spent all these daylight hours with the "officers" of the company developing a plan to serve "our common" interests, the term "common," of course, embracing the interests of the employes—his "partners"—although by his own inadvertent admission the said partners had no part in the development of the said plan.

"Some" partners! What!

The "Plan"

The plan provides for annual meetings by employes for election of representatives, said meetings to be held annually on the second Saturday in January and the meeting to be called by directions of the president of the company and through announcements posted by his instructions, one representative to be chosen for each 150 wage earners, provisions being made for election of such representatives by secret ballot. It is provided that at these annual meetings employes "may" consider and make recommendations concerning matters pertaining to their employment and other matters referred to them by the president of the company, etc.; it is also provided that the camps of the company be divided into districts, district conferences to be held at the call of the president of the company, and the places to be designated by him within two weeks after the election of representatives. The company to be represented at such conferences by its president or his representative, and the company's representatives not to exceed the representatives of the employes, and "the conferences to be presided over by the president of the company or such executive officer as he may designate." Thus, the presiding officer and one-half of the membership of each conference are representatives of the company. Who controls the conferences?

Then it is provided that the district conferences shall select joint committees each composed of six members, three members to be representatives of the company and three to be representatives of the employes, said joint committees to be

- (a) On Industrial Co-operation and Conciliation;
- (b) On Safety and Accidents.
- (c) On Sanitation, Health and Housing;
- (d) On Recreation and Education.

So that all the way through the "plan" there are ample representatives of the company to hear everything that the representatives of the employes may have to say, and the extent to which under such conditions the employes' representatives are likely to accomplish anything in advancing the industrial and economic wellbeing of their constituents must be clear to all familiar

with the policy of these Rockefeller interests in dealing with their wage-earners in the past.

Then it is provided, amongst other things, that the Joint Committee on Industrial Co-operation and Conciliation may, at any time throughout the year bring up any matters pertaining to the prevention or settlement of industrial disputes, terms and conditions of employment, maintenance of order and discipline in the several camps, company stores, etc., and so the duties of all committees are set forth: the committee on sanitation, health, and housing to have charge of all matters pertaining to hospitals, physicians, nurses, wash and locker rooms, gardens, fencing, etc.; the committee on recreation and education to look after all matters coming under the head of social entertainment, "religious exercises, churches and Sunday schools," and it should be borne in mind that one-half of the members of all these committees are company representatives.

And then we have the following as a part of the plan:

"There shall be on the part of the company and its employes a strict observance of the federal and state laws respecting mining and labor and the company's rules and regulations supplementing the same."

We will admit that a decision to observe the federal and state laws is indeed a most remarkable concession, a fact that can be readily appreciated by all familiar with the extent to which such laws have been disregarded in the past by these Colorado mining companies.

It is also provided that the scale of wages and the rules regarding working conditions shall be posted in a conspicuous place, at or near every mine, and another provision of the plan is "that there shall be no discrimination by the company or by any of its employes on account of membership or non-membership in any society, fraternity or union." This latter provision is, we believe, written exclusively for public consumption, and we doubt that any active union man could long retain employment or that any effort to extend amongst these men to any great extent membership in the United Mine Workers' Union would for a moment be tolerated.

The plan also professes to make it optional with the employes as to whether or not they shall trade at the company stores and provides also that the miners may exercise the right to employ checkweighmen as provided by the state statutes. How liberal! We fear that failure to trade at the company's stores would not be to the best interest of any man desiring to continue in the company's service, this generous (?) "privilege" to the contrary notwithstanding.

And then there is provided a right of appeal to the president of the company against unfair conditions and failure to secure satisfactory adjustment through mine superintendents, etc.

And the plan provides that "the president's executive assistant, in addition to other duties, shall, on behalf of the president, supervise the administration of the company's policies respecting social and industrial betterment."

A company periodical is provided for, "which shall be a means of communication between the management, the employes and the public, concerning the policies and activities of the company."

Then it is likewise provided that the company shall defray the expenses of joint conferences, including the payment of traveling expenses of the employes' representatives when attending such conferences and annual joint meetings and their reimbursement for the working time necessarily lost in

so doing. Of course this fact ought not in the slightest to interfere with the said "representatives" freedom of action or expression. No! No! perish the thought.

"Rockefeller Sees Only His Own Friends."

Commenting on the visit and activities of young John D. amongst the Rockefeller Colorado mining industries, we have the following in a press dispatch that appeared at the time from C. H. Newell, editor of the Denver Express:

Denver Editor Takes Lid Off Colorado Trip and Tells The Truth About It.

Denver, Sept. 24.—John D. Rockefeller, Jr., is in Colorado trying to put a sugar-coating on the bitter open-shop pill he told a congressional investigating committee a year ago last April he stood ready to offer his employes as a substitute for unionism.

It is his first visit to the vast coal properties of the Colorado Fuel and Iron Company in 12 years.

An expert was first hired to press agent this visit of John D. Rockefeller, Jr., to Colorado. Ivy Lee was hired as a publicity man.

"You must practice the art of getting believed in!" Lee wrote Rockefeller after the Ludlow massacre, according to the Walsh records.*

Press Agents Ready.

So Rockefeller . . . didn't overlook the publicity end.

The night before he reached Trinidad three friendly newspapers in Denver and the Associated Press man were notified that he would begin the next morning a tour of his coal camps.

Reporters and photographers were on hand with King†, President Welborn and other C. F. & I. officials to welcome the man who Walsh says owns Colorado and whose "will and conscience" King testified, "is more powerful than all the people of Colorado."

He was surprised, of course, but quite willing to take them along on his trips about the coal camps of Las Animas county.

He wanted to meet all the miners, compliment all the women and make friends with all the children in every camp. He succeeded in meeting many. Those he met, were the strikebreakers, imported to replace the 9000 union men who lost the great Colorado strike. Plenty of ex-strikebreakers told him they liked conditions and wages.

And he did find conditions better than ever they have been before in the history of the coal mining industry.

Better for "Breakers".

He found that the death of women and children at Ludlow had brought about better conditions for the strikebreakers than ever their fathers and brothers had enjoyed.

Rockefeller had the battle of Ludlow explained to him by his agents while he stood on the little hill from which a deadly machine gun fire was poured into the miners' colony. He didn't visit the "death hole."

He talked to miners' wives about the price of food, the kind of food they had, whether they had enough, ate with miners, told the school kids to obey and respect their teachers, inspected the clubhouses built by his company as substitutes for union halls, which the strikers would have been glad to build and tried, in the frankest sort of way, to make the miners feel that he was their friend.

He dug coal 10 whole minutes at Frederick, slept at the mine boss' house, borrowing a night shirt and a comb.

Frank Walsh himself, couldn't have given the miners he met there a more conventional and hearty assurance of his friendship than did Rockefeller.

He motored over the 35-mile road built this summer with a \$100,000 donation from the Rockefeller foundation.

He posed for the movies and the press photographers as obligingly as an actor. He rambled all over Trinidad.

*Records of the United States Commission on Industrial Relations

But he didn't go near the jail where John Lawson, whose conviction the Supreme Court stayed, was confined.

How the "Publicity" End Works.

As an evidence of how the Rockefeller Colorado visit has been "doped out" to the public and how such presentation of it must serve to delude that portion of the public uninformed on industrial matters and on the aims, purposes, principles and methods of labor organizations—as an instance of how the publicity end of the scheme was directed and how it operates, we quote extracts from an article which appeared under the heading "The New Freedom for Labor," in the issue of October 21st of Leslie's Illustrated Weekly Newspaper, and which is a sample of articles on the subject published in magazines and the daily press generally. These extracts follow:

The New Freedom For Labor (Copyrighted)

John D. Rockefeller, Jr., has given his answer to labor unionism.

Almost a year after the United Mine Workers of America called off the Colorado strike which cost scores of lives and millions of money, Mr. Rockefeller formulated his own industrial plan—the most notable experiment in the history of the relations between labor and capital. Mr. Rockefeller answered union labor by giving labor something more than unionism. The United Mine Workers demanded the right of collective bargaining; they (or such of them as are employes of the Colorado Fuel and Iron Company) got it. They demanded the right to belong to the union without interference; they got it. They demanded the privilege of depriving of a livelihood every miner who did not choose to join the union; they did not get that.

Having studied the industrial problem and made up his mind just what were the rights of labor and capital, Mr. Rockefeller proved his faith in his workmen by giving them a weapon with which to crush him—if they wished. The agreement he voluntarily tendered to his employes includes the fullest right of organization. Mr. Rockefeller has staked his own and the company's future on the fairness of his industrial plan and the good faith of the miners, some of whom in 1913-14 were carrying rifles against the company coal camps.

On September 20th Mr. Rockefeller arrived at Trinidad, Colo., to pay a long-promised visit to the mines of Colorado. The next few days furnished a revelation to friend and foe. With an occasional company officer or mine superintendent as his guide and with a few newspaper correspondents, of whom the writer was one, as his companions, the mine owner walked unguarded through the coal camps, visiting the miners' homes, the mule stables, the coal pits themselves. He donned overalls and dug coal far underground. He made speeches to school children. He ate beans in coal diggers' boarding houses and danced with miners' wives and daughters. . . .

The plan with which the Rockefeller interests answer the challenge of the United Mine Workers of America embodies a written contract, insuring the faithful observance by the company of its agreement with the miners. It recognizes the right of collective bargaining between labor and capital. Furthermore, it grants to every employe the right to belong to any union he wants to—or to none at all. It does not grant "recognition" to the United Mine Workers of America. Mr. Rockefeller has intimated that some time he may be willing to deal directly with a national labor organization, but he has made it sufficiently clear that the man not connected with a union shall have full protection in his right to work. This eliminates the "closed shop" and the "check off" system, two of the ideals of the United Mine Workers.

Industrial Partnership.

Several months ago the Colorado Fuel and Iron Company instituted a system of mediation through officers of the company and representatives elected by the miners. Taking this as a basis, Mr. Rockefeller devised an elaborate plan of industrial partnership with his employes. . . .

This is the New Freedom for Labor, which the miners employed by the company have hastened to endorse. If outside interference is eliminated, there will be peace and prosperity hereafter in the Colorado coal field.

The following is from an editorial that appeared in another issue of the same publication:

Labor and Capital Get Acquainted. (Copyrighted)

In visiting the mines and miners' homes in Colorado, Mr. John D. Rockefeller, Jr., has shown good faith and common sense in the way he has acted. He went there to become acquainted with conditions as they actually are and that the miners might become acquainted with him. Speaking to a little group of men down in the mine, Mr. Rockefeller told them that he couldn't get along without them, nor could they get along without him, that they were partners, and that he wanted to do business with them on that basis. As Mr. Rockefeller turned away one of the miners remarked, "You are not as bad as you are painted." Mutual acquaintance will disarm suspicion and distrust. . . . The charge that Mr. Rockefeller and his business associates are enemies of labor unions appears to have been fully refuted in Mr. Rockefeller's declaration that the Colorado Fuel & Iron Company, in which he is interested, does not care whether its employes belong to a union or not. . . . His visit there, it is believed, has accomplished much good.

As to Mr. Rockefeller's "Sincerity."

In a press dispatch of April 23rd last, Chairman Walsh of the United States Industrial Relations Commission is quoted as saying:

"The Commission has made as a part of its record a mass of correspondence not only showing that the Rockefellers were in constant touch with every phase of the Colorado coal strike situation but they knew the strike was coming and were prepared for it.

"Mr. Rockefeller testified at the hearing of the Commission in New York and also before the Congressional Investigating Committee that he had kept his hands off the strike situation and had no knowledge of conditions in the coal fields.

"The letters and telegrams which we have today filed in the record made it plain that every step taken by Rockefeller agents in Colorado in the strike was taken with the knowledge and assent of Mr. Rockefeller's office in New York.

"Another amazing revelation in this correspondence is that contained in letters exchanged by Mr. Rockefeller and Mr. Lee, his publicity agent at the time Governor Ammons was acting in the strike adjustment. . . ."

Under date of June 10, 1914, Mr. Rockefeller wrote this to Mr. Lee:

"Several points in my memorandum, however, could even more appropriately be used in the letter from Governor Ammons to President Wilson which you are proposing to prepare as soon as the major's memorandum reaches you which I hope will be very shortly."

Now, of course, because of Mr. Walsh's success in bringing to light the correspondence referred to in the foregoing press dispatch and other facts which evidently Mr. Rockefeller and his associates would have very much preferred to have kept in obscurity he naturally incurred the deep resentment of the said Mr. Rockefeller and his "business" associates and friends and referring to this resentment to which John D. gave vigorous and widely published expression, we read in another press dispatch that Mr. Walsh said:

"I note the Rockefeller defense to the Ludlow Massacre is that the two women and eleven children who met their death on that occasion were not 'shot' but merely 'smothered' to death in a pit while the bullets from the mine guards were flying over the mouth of the pit.' Entire candor, however, should have moved Rockefeller to add the additional details that his mine guards in the guise of state militiamen burned down the tents and looted the victims before and after their deaths."

Continuing further, he said:

"Mr. Rockefeller in his letter to me stated that it appeared singular to him that I was one to disturb the industrial peace."

"If the trial of Lawson and the Ludlow Massacre is industrial peace then

women and children at Ludlow were not shot but smothered to death and I lay this at the door of the Rockefeller group."

Where, let us again ask, was young Rockefeller's altruism? Where were all of his fine ideals regarding "partnership," etc., where were his "get together," and "one big family" ideas while the injustice and murderous oppression that found its climax in the Ludlow massacre was being dealt out to the miners of Colorado? Where was all of his industrial philanthropy and solicitude for the social, economic and religious welfare of the employes of these mining properties while his mine managers were flagrantly violating the laws of the State of Colorado that had been enacted for the protection of their employes? Where was all his concern for the enjoyment by these miners of the right of representation before the officials of the company to present grievances and seek their adjustment while his subalterns, acting with his knowledge and approval, were crushing out from amongst these men that legitimate organization and the only free one that represents the occupation of coal mining, namely, the United Mine Workers of America?

No, Mr. Rockefeller, you cannot delude the great army of organized wage-workers of the North American continent by any such tactics. Nor anyone outside of that army familiar with the facts and with the history of the industries you control. Your motives are too clear, you have become alarmed because of the publicity that has been given to your methods and to the feudalistic conditions which you and other members of the American aristocracy of wealth have brought into existence in this republic. You may delude the uninformed in industrial matters into a belief that all will now be well in your Colorado properties and thus hope to have the influence of public opinion behind you in perpetuating your modified system of feudalism—your "benevolent despotism"—a system you have evidently adopted in the hope of averting congressional action because of conditions of which the public knew little before the United States Commission on Industrial Relations subjected them to the searchlight of publicity with that intensified glare made possible by the power and standing of that congress created body.

View the situation as we may to this conclusion we are forced and it is likewise our conviction that so long as conditions are tolerated which permit of the concentration of wealth, the accumulation of vast private fortunes, just so long will the power of that wealth be utilized to deprive workers of their constitutional rights and liberties and of an honest share of the products of their labor. No industrial plan can be a success that does not mean to every worker identified with it the full and free exercise of his constitutional rights and liberties. Nor until, through just legislation and the establishment of a sane economic system, such concentration of wealth and all the evils that go with it will have been rendered impossible will the useful citizenship of the country come into their own.



A GOVERNOR DEFIES THE POWERS OF WEALTH

Arizona's Chief Executive Fearlessly Takes Issue With Labor's Oppressors

The Clifton-Morenci Strike Situation Reviewed by Geo. W. P. Hunt, Governor of Arizona, Who Appeals for Strikers in Proclamation

In making a careful analysis of the Clifton-Morenci strike situation with due attention to the chronological order of events, the most casual observer must inevitably be driven to the conclusion that for unusual, as well as distressing features, it has no parallel in the industrial history of the United States. In support of the foregoing statement, one may dwell briefly but with emphasis on the unique spectacle of three mine managers who, after an abandonment of their companies' properties, fled not only from the district, but from the state in a manner so melodramatic, so true to the technique of the movies as to suggest quite forcefully to the perfectly naive mind that the theatrical effect was, after all, the object of the exodus. Added to the peculiar situation occasioned by the managers' show of mock terror and their precipitate departure for Lordsburg on a switch engine, is their subsequent action in establishing headquarters in an adjoining state and from that coign of vantage proceeding with the seeming utmost deliberateness and imperturbability to give attention to their usual affairs mundane.

In the meantime, the situation in and around the abandoned mining properties of the Clifton-Morenci district was no less unique than that created by the managers through their hasty hegira. The violence, the street corner objurgations, the rebellion against law and order, which have so unhappily characterized many industrial disturbances, were almost wholly lacking. On the contrary, pickets assigned to duty by the workingmen's organizations faithfully patrolled the environs of the company properties. Through the activities and influence of the employes themselves, violence in every guise and form was firmly and effectively discouraged.

Perfect peace with an underlying current of grim determination and sense of gravity evidently reigned throughout these several communities of the temporarily unemployed. According to the testimony of many who have come from the scene of the strike, a moral order superior to that prevailing in times of uninterrupted industry was everywhere manifest, for every serious minded working man instituted himself a committee of one to co-operate with the county sheriff, preserve the peace and set his influence against overt or openly disorderly acts of every kind. Uppermost in the minds of several thousands of workmen was the single purpose of having actual wrongs redressed, and of hastening a resumption of mining operations under conditions that should be permanently satisfactory to both companies and employes.

One might logically have thought that in such a state of affairs, rendering both life and property secure, the mine managers in their El Paso headquarters should have found cause for gratification, and would, consequently, have regarded the situation as an invitation to the arbitration of existing differences relative to conditions of employment. At least, the unparalleled orderliness of these five thousand employes called for some slight expression of appreciation

Strikers Misrepresented by Press and Other Mine Company Partisans.

Unhappily, however, many of Arizona's newspapers, irresponsible to everyone, except their corporate owners or directors, published stories, not merely grossly exaggerated, but, in many instances, deliberately untrue purporting to show that a reign of terror and violence existed at the scene of the strike. In fact, while these very stories were being so assiduously circulated, and were, alas, being entertained or abetted by the mine managers in El Paso, there came into the executive office verbatim statements from twenty-five or thirty people of many walks of life, who, while residing in the troubled district, testified that they had never been coerced, threatened or intimidated by the representatives of the workingmen's organizations. To further corroborate these statements and likewise to refute the affidavits of alleged refugees acting under the direction of the mine managers' attorneys, came daily from the commanding officer of the State Militia detachment, which had been despatched, chiefly for moral effect, to the scene of the strike, conservative reports that such peace and quiet as any ordinary community might reasonably expect prevailed in Clifton and Morenci. The only inference to be drawn, therefore, is that the company managers themselves found in the workingmen's orderly conduct a source of chagrin rather than elation.

How Employes Were Permitted To Present Grievances.

Promptly following the flight of the three mine managers and the despatching of militiamen to the stricken mining district, proposals for arbitration, or at least for a free discussion of differences between both sides of the industrial controversy were submitted alike to employers and employes. It became in this connection quickly manifest that whereas the workmen eagerly welcomed every proposition advanced, the mine managers had figuratively to be wooed or coaxed into an agreement for the meeting of employes' committee. In fact every attempt at a conference was at first flatly rejected on the ground or pretext that the presence of the Western Federation organizers in the district was the insurmountable obstacle in the way of arbitration. Through the co-operation of the organizers and employes the former were quickly withdrawn from the Clifton-Morenci district, and almost contemporaneously with their withdrawal, a proposal for a conference with a committee of seven elected workmen was presented to the managers. Reluctantly the proposition was acceded to by Messrs. Carmichael, McLean and Bennie. The committee of seven employes reached El Paso only to be speedily rejected as conferees on the ground that they were officers of the Clifton-Morenci local federation of miners. At the same time the committeemen were informed that if a number of representatives not holding positions as officers or organizers of the federation should be elected by the workmen, the managers would then proceed to ascertain whether five of the number would be acceptable as conferees. It may have been presumed by the company managers that a proposal so biased and unfair to the employes would be promptly rejected, and that, in this way, the attempts at conciliation would summarily cease. To the credit of the workingmen, however, be it said that they at once met the managers' demands despite the manifest unfairness of giving the companies a voice in the selection of the employes' committee. A new delegation of fifteen was at once chosen in meetings regularly held, and a list of the tentative conferees sent to the managers in El Paso.

After parleying between themselves for a day or two, during which interval the companies' agents in Clifton and Morenci were called upon for information regarding the records and standing of the fifteen elected com-

mitteemen, the mine managers, having no apparent alternative in the court of public opinion, indicated five of the fifteen delegates as being suitable for admission to their presence for the purpose, not of arbitration, but only for a "full and free discussion" of existing differences. Just how "full and free" this discussion proved to be may be inferred from the fact that at the first interview following the five committeemen's arrival in El Paso, the managers announced that they would first interrogate the workingmen's delegates regarding their side of the situation, and, thereafter, would hear the inquiries and requests of the latter. The first part of this impromptu understanding was punctiliously and thoroughly carried out, but after approximately three days' meetings had been occupied by the managers in obtaining such information as they desired, the employes' committee, instead of being encouraged to present its questions and proposals, was suddenly confronted with the companies' written statement, which, in substance, demanded that the men return to work under the conditions which led to the strike, and, thereafter, await the pleasure and magnanimity of the managers in considering the matter of wage adjustment.

How The "Publicity" Agencies Operate.

Almost simultaneously with the flashing of this written demand on the workmen's committee, the managers, either personally, or through their attorneys, gave out to the press, subject to release three days later, a story thousands of words long, in which their version of the strike from its inception was exhaustively presented. From this story most of the facts unfavorable to the companies' attitude and actions were scrupulously, or rather unscrupulously, excluded. Pending the time when this censored and distorted account of the strike and the different conferences should be delivered into the possession of the different corporation controlled newspapers of Arizona, the "conference," which from the first had been a farcial affair, so far as the mine managers were concerned, was prolonged on one pretext or another until, at the end of a full week of managerial pretense and deception it was concluded on Saturday, October 23. On that same day the Arizona Gazette, whose sympathies and financial affiliations are widely known and whose daily edition customarily goes to press at three o'clock, came out with the assertion that the El Paso conference had been concluded at three-thirty that afternoon, and then presented a three thousand word statement of the managers' attitude at the conclusion of their meeting with the employes' committee. Such hypocrisy and double-dealing need no interpreter. He who runs may read it at a casual glance.

But meanwhile other influences were at work. For example, the Creighton news and private detective agency of Phoenix was busily serving its clients. Again no elucidations are necessary, for an array of Ned Creighton's communications to the newspapers of the State speak eloquently, as follows:

Phoenix, Arizona, October 15-16, 1915.

Can you use full page electro for your next week's issue, subject of copy the truth about the Clifton-Morenci strike conditions? Give me your net page rate for plate, also size of page and latest date plate must be in your hands to insure publication; also your total circulation. Copy for page will contain cuts of strike scenes, affidavits of refugees driven out of Clifton and Morenci and also story of conference scheduled to be held in El Paso, Saturday, 16,

which, from present indications, will be the beginning of the final settlement of the strike matter. If used must not be labeled advertisement or marked in any way to indicate same as paid matter, as written copy will clearly state part taken by Western Federation of Miners in trouble and object of publishing is to make clear why companies in district refused to deal with the Western Federation. Bear in mind in making rate that entire matter will be sent you in plate form. Will also submit to my client a proposal to issue a supplement containing matter similar to that outlined above, which supplement, if used, would bear name of the paper with which it is distributed. If supplement is decided upon what would be your charge to use such supplement with your regular issue? Mail me immediately five copies of your latest issue. Make liberal use of telegraph at my expense in giving me full immediate answer.

NED CREIGHTON.

7:04 A. M.

(COPY.)

Phoenix, Arizona, 9:40 A. M., 16.

Santa Cruz Patagonian, Patagonia, Arizona.

Could you use supplement, and if so how many, and at what rate? Wire answer.

NED CREIGHTON.

10:11 A. M.

Ernest Douglas, Manager.
Features for Newspapers,
Arizona News Bureau.

Phoenix, Arizona, October 22, 1915.

Santa Cruz Patagonian, Patagonia, Arizona.

Dear Sir: I am sending you by parcel post cuts showing scenes in the Clifton-Morenci district under the domination of the Western Federation of Miners.

If you use two or more of these cuts in your next issue, sending me ten copies of your paper, together with your bill in duplicate for \$10.50 the same will be promptly paid.

Yours truly,

NED CREIGHTON.

Merely as a commentary on the activities of Mr. Creighton and his clients, and leaving all inferences to the reader, passages of Federal law may be quoted, as follows:

Section Two, Act of Congress, August 24, 1912, Supplement 1914. Federal Statutes Ann., page 316.

That all editorial or other reading matter published in any such paper, magazine or periodical for the publication of which money or other valuable consideration is paid, accepted or promised shall be plainly marked "advertisement." Any editor or publisher printing editorial or other reading matter for which compensation is paid, accepted or promised without so marking the same, shall, upon conviction in any court of jurisdiction, be fined not less than \$50.00 nor more than \$500.00. (37 Stat. L. 553.)

Sec. 5440. (All parties to a conspiracy equally guilty.)

If two or more persons conspire either to commit any offense against the United States or to defraud the United States in any manner or for any purpose, and one or more of such parties do any act to effect the object of the conspiracy, all the parties to such conspiracy shall be liable to a penalty of not more than ten thousand dollars (\$10,000.00) or to imprisonment for not more than two years or to both fine and imprisonment in the discretion of the court. (R. S.)

Continuing the narrative, it may be stated that in response to a telegram sent from the Governor's office on October 2, immediately following my return from Clifton, where all efforts toward conciliation or even toward obtaining a free discussion of differences between the managers and their workmen had been fruitless, respectfully requesting the United States Department of Labor to authorize a special investigator to make a full inquiry and report on industrial conditions in the mines of Arizona, including, of course, those at Clifton and Morenci, the Department responded by appointing Hon. Jos. S.

Myers, of El Paso, to act in this emergency as its special representative. Following the last conference at El Paso, Mr. Myers, in accordance with my telegram of concurrence addressed to the Department of Labor, left Phoenix, where he had been reviewing data bearing upon Arizona's mining industry, and personally appeared before the mine managers in their Texas headquarters. His mission was purely conciliatory and embraced a tender of his services as mediator between the companies and their employes. The managers, however, with seeming indifference toward a settlement, firmly declined this extended courtesy.

What is The Mine Managers' Real Motive.

Thus the situation is brought down to the present time when the indifference of the managers, as stated hereinbefore, is seemingly the most serious obstacle in the way of an early settlement. Concerning the cause of this supreme indifference one can, of course, at this juncture merely conjecture. Whether financial negotiations involving the future ownership of the three mining properties is delaying arbitration, or whether the known fact that the British government is levying a thirty-three and one-third per cent income tax on all its subjects, has in any measure influenced the situation cannot as yet be stated with certainty. It does, however, seem likely from my observation of this critical condition affecting so seriously the welfare of Arizona, that the mine managers' oft reiterated contention that operations cannot be resumed until the Western Federation is eliminated, or, in other words, until thousands of freeborn workmen surrender their constitutional right of organization, is, in the last analysis, a handful of dust thrown in the eyes of the public as an excuse for the dilatory tactics thus far pursued.

Seeks Only a Square Deal.

For my part, as Governor of the State, I stand ready, as heretofore, to encourage by every possible means a speedy settlement through fair dealing on both sides. When, however, the methods employed by any element of either side of this unfortunate controversy are manifestly unfair and calculated to injure rather than help the situation, I shall not hesitate to so declare in terms unmistakable as to their interpretation. In such a crisis the primary consideration is the welfare of the State as a whole, and, of course, in this connection, it is self-evident that general permanent prosperity and happiness for the greatest number of citizens are dependent directly upon such an adjustment between employers and employes as shall insure absolute justice for both and special privilege for neither.

Since, moreover, present indications point to a prolongation of the present deplorable situation which in the light of the limited resources of the workingmen, must, in the absence of relief measures, visit serious hardships upon many families and individuals of the strike district, I deem it to be my bounden duty to apprise the general public of the true conditions and to appeal by proclamation to the known generosity of Arizona's people. A proclamation which is commended to the considerate attention of every public spirited citizen is reproduced below.

A PROCLAMATION

BY THE GOVERNOR OF ARIZONA

Appealing to the People of Arizona for Generous Co-operation in Relief of Suffering Families in the Clifton-Morenci Mining District.

This is the season of harvests, that especial time of the year when toll is taken of Nature's bounteous usufruct; when industries are measured in terms of their products; when labor takes accounting of that which it produces and when prosperity is carefully gauged in its relation to human

endeavor. It is well, if at this period of the year when the day of Thanksgiving approaches, they who have plenty may freely celebrate their good fortune with the comforting assurances that the grim spectre of woeful want is not abroad anywhere in the land. For the observance of feast days when the hungry go unfed, the houseless go unsheltered and the sorrowing go un-comforted must savour sharply of sacrilege, and ever be tinged with sadness.

In the Clifton-Morenci Mining District of Greenlee County, State of Arizona, there exists deplorably a condition whereby nearly five thousand workmen are deprived of employment, and where, consequently, hundreds of families with their slender savings exhausted are entering upon the rigorous winter season without any dependable supply of the necessities of life. Words cannot express or pictures portray the extreme suffering that even now is baring its cruel visage to the worthy people of this stricken district.

Pursuant, therefore, to the plain dictates of humanity, I, Geo. W. P. Hunt, Governor of Arizona, do hereby proclaim the serious need of food, fuel and clothing in the Clifton-Morenci district, and do earnestly appeal to the generous people of this state for such contributions of money and supplies as will alleviate suffering and afford means of simple sustenance for penniless families in this time of industrial trouble. All civic and benevolent organizations are especially urged to organize and conduct movements for the gathering and shipment of supplies to the Workman's Relief Committee, care of the Sheriff of Greenlee County, Clifton, Arizona, to the end that, through ministrations unto those who are afflicted, the spirit of mercy and brotherly love may be exemplified in our citizenship.

IN WITNESS WHEREOF, I have hereunto set my hand and caused the Great Seal of the State of Arizona to be affixed.

Done at Phoenix, the capital, this 27th day of October A. D., 1915.

(Seal.)

Geo. W. P. HUNT,

Governor of Arizona.

Attest: SIDNEY P. OSBORN, Secretary of State.



Industrial Items of Interest.*

"No Strike Is Ever Lost."—In his report to the Colorado State Federation of Labor convention, President McLennan made these optimistic references to the Colorado coal miners' strike:

"The astounding manner in which it has opened the eyes of the general public to the ordinary injustices and abuses with which the worker is beset has made it worth while and laid the foundation for future dividends for labor, and it can be set down as a hard and fast rule that 'no strike was ever lost.' Behind all the expense, the suffering and the hardship are the hidden gains, which will only be realized and appreciated in the future. Each strike will have its effect on subsequent strikes. It must have a tremendous effect on each subsequent occasion when labor confronts capital with a bill of industrial rights.

"As an instance of the effects of the strike on the coal operators of Colorado,

the Colorado Fuel and Iron Company, in a burst of repentance and with a desire to play to public applause, asked its non-union men in the various camps in southern Colorado to meet, discuss any grievances they might have, select their committeemen, and have their wrongs, real or fancied, brought to the attention of the company. There is no record of their having been so kind, so indulgent, so paternalistic prior to the strike. The nonunion men came together in several of the southern camps, they formulated demands very similar to those which the union had asked in the first place. They asked for a 10 per cent increase in wages, and also something that the union had never asked for, the discharge of several harsh and tyrannical pit bosses. It was what these men had learned from the union and its fight that made them ask for those things. They had learned the things which the union had demanded. They had compared their own unhappy state with what it would be if they were union men enjoying all the fruits of successful unionism, and being given a

chance, they asked for these things. They did not get them until backed by the strength of organization."

No Consumptive "Cures."—After many investigations under the pure food and drug act, of many preparations advertised as consumption cures, the department of agriculture has been unable to find a single one that can in any sense be regarded as a "cure" for tuberculosis. Some contain drugs that may at times relieve distressing symptoms of the disease, but this is all, the department says.

Since passage of the pure food and drug law, forbidding false and fraudulent claims, there has been a marked tendency to label these preparations "remedies" instead of "cures" or "infallible cures."

W. U. Employs "Spotters."—The Western Union Telegraph Company not only maintains a "spotter" system, known as a special agents' department, to spy on employes with regard to their union affiliation, but the policy of the company is to fight the union with all the powers at its command, to discharge operators who are members of the union, and to refuse to deal with union officials.

These frank statements were part of the testimony of Newcomb Carlton, president of the Western Union, before the United States industrial relations commission.

The witness made no attempt to conceal Western Union's hostility to unionism, and admitted that hundreds of operators had been discharged for membership in the union and that many of these had been refused employment by certain telegraph companies controlled by Western Union. Equally frank admissions were made relative to the low wage of telegraphers.

President Konenkamp of the Commercial Telegraphers' union followed Mr. Carlton. He showed that the highest rate in New York is \$100 a month. This ranges to zero "for those who work for nothing for several months to get into the service." The witness said increased wages were followed by a "speeding up" order, and that in branch offices operators work up to thirteen hours a day seven days a week. The unionist agreed with President Carlton as to the employment of "spotters," but he went into the

detailed workings of this spy system. In answer to the question, "What do you consider is the remedy for these evils?" the union executive said:

"The most important remedy is the right to organize."

"What are your demands?"

"All we have ever asked is the right to organize."

What Seamen's Law Means.—"The howl against the new seamen's law is a howl against union labor at sea.

The above is one of the viewpoints of William Marion Reedy, editor of Reedy's Mirror, of St. Louis, Mo., who discusses the seamen's bill as follows:

"Now we are being told that we shall never get an American merchant marine because of the recently passed seamen's bill. That bill provides better pay, better quarters, better food, better medical attention for sailors on our ships. It provides that sailors shall have liberty to leave a ship at other than the pleasure of the ship's master, and shall get their pay when they leave. It provides more safety appliances for crew and passengers in case of wreck. It provides that a certain heavy percentage of the crew shall be able to understand the language spoken by the ship's officers.

"All this means, we are told, that the cost of operation of ships under American registry will be so much greater than the operation of ships under foreign flags, that ships will abandon American registry to escape the burden. But the logic is imperfect. The new law should mean that American ships will have the pick of the best seamen that the best seamen will mean more safety for cargoes and passengers, that this should lower the rates of insurance and effect a certain saving of money in general efficiency of operation.

"The measure is likely to better the condition of seamen on the ships of other nations by making it necessary for those ships to meet the American standard. Ship-owners, we may assume, will not be precipitate in getting other than American registry upon the ground that they don't want the best seamen, don't want to provide the best accommodation for their crews. There will not be many who will carry out the threat to take registry under the Chinese flag and then look for American business.

"The howl against the new seamen's law is a howl against union labor at sea. But, broadly speaking, union labor is the best labor, on land or at sea, and the best labor is the cheapest in the long run, because most productive."

MOTHER'S ROSES

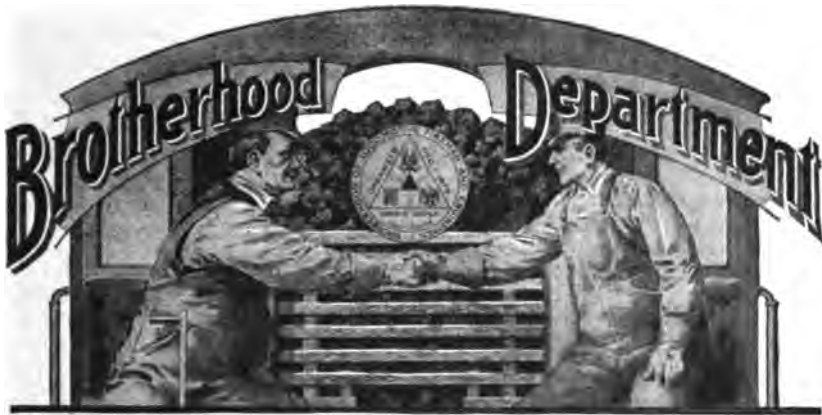
By ADELBERT CLARK

The fragrant roses that you brought last night
Hold all the love and sadness of the year;
They hint of glories born in realms of light,
And loneliness distilled from sorrow's tear.
And they remind me, dear, of mother's roses—
I saw them all as in the long ago.
Ah, no, dear! not the sweet old-fashioned posies
That in the morning's sunbeams love to grow.

Sit here beside me, dear, and I will tell you
About each one she loved so true and well.
First, there was grandpa in the soldier-blue—
A story that you've often heard me tell.
Then comes my father, killed 'way down in Maine;
A railroad man, a brave, true engineer,
And here's his picture taken once again
When he and ma were courting, Lizzie dear.

Then here's your auntie Jane, she used to be
The pretty village belle of Salemtown;
She married "Sailor Tom" and went to sea—
And they were lost, for all on board went down.
Then here's your uncle John who went out west,
And uncle Henry who went with him, too,
And here is Ralph—the youngest and the best—
He died beneath the red and white and blue.

Yes, these are mother's roses, Lizzie dear;
I've kept them in her album stored away,
And when the wintry nights are long and drear
They cheer and bless me on my weary way.
Yes, bring the fragrant roses nearer still,
For they will bless and cheer me in the glow
Of God's bright dying sunset on the hill,
Where these dear ones are sleeping 'neath the snow.



Communications intended for publication should reach this office not later than the 10th of the month to insure their appearance in the following issue. Write on one side of the paper only. All typewritten matter should be double spaced. Sign name and address in all instances, not necessarily for publication, but as evidence of good faith. Correspondents may, if they desire, use a nom de plume, but no attention will be paid to anonymous communications. The Editor and Manager reserves the right to revise or reject any communication if he deems it to the best interests of the Brotherhood to do so.

Obituary notices and resolutions and detailed accounts of events of a purely local nature can not be published. Pictures are published only when same are of general interest.

All orders for subscriptions should be sent to the Editor and Manager.

Members when changing their address should immediately notify the Magazine office. All changes for the Directory should reach this office previous to the 10th day of the second month of the quarter in which it is desired that such changes should take effect.

Inquiries for the address of or any information concerning another, should be made through the secretary of the lodge nearest the residence of the person making such inquiry.

HEADLIGHT AND BELL RINGER RULES ARGUED BEFORE INTERSTATE COMMERCE COMMISSION

Brotherhoods Represented by Grand Chief Stone and President Carter

Rules Recommended by Chief Inspector McManamy Endorsed by Chief Executives of Enginemen's Brotherhoods

FROM THE NATIONAL LEGISLATIVE REPRESENTATIVES*

On December 4, 1915, the rules recommended by the Chief Inspector of Locomotives, requiring high power headlights and automatic bell ringers, were argued before the Interstate Commerce Commission. Certain railroad companies had vigorously opposed the approval of the provision in the code relating to headlights on road locomotives.

Hearings had been held before the Commission and briefs filed by the counsel for the companies and by Grand Chief Engineer W. S. Stone and President W. S. Carter, on behalf of the Brotherhood of Locomotive Engineers and Brotherhood of Locomotive Firemen and Enginemen. Carriers had thirty days in which to file their main brief and thereafter the employes had fifteen days in which to file a reply brief, followed by a reply brief by the carriers

*H. E. Wills, A. G. C. E., B. of L. E.; P. J. McNamara, Vice-Pres., B. of L. E. and E.; W. M. Clark, Vice-Pres., O. R. C.; Val Fitzpatrick, Vice-Pres., B. of R. T.

for which they were allowed ten days. The carriers' main brief covered 81 printed pages, the employes' reply brief 75 printed pages and the carriers' reply brief 46 printed pages. After the hearing reported in the November, 1915, issue of the Magazine, the International Acetylene Association asked for permission to intervene in the case, and on being permitted to do so filed a short brief opposing the rule recommended by the Chief Inspector and which had been strongly endorsed by the organizations of employes.

Grand Chief Stone and President Carter made the argument on behalf of the employes at the hearing and the Chief Inspector, Brother Frank McManamy, read a carefully prepared statement defending the high power headlight as a safety device and setting forth the reasons for recommending Rules 18, 29 and 31. C. C. Paulding, solicitor of the New York Central, and Stacy B. Lloyd, assistant general counsel of the Pennsylvania Railroad, made the argument on behalf of the objecting carriers. Mr. Oscar F. Ostby, chairman of the legislative committee of the International Acetylene Association, appeared for that body and opposed the rule.

The principal objection to the rule comes from certain Eastern lines which claim that the high power headlight, while being suitable and safe in certain sections of the country and on other roads, would be a dangerous appliance on their particular lines on account of heavy traffic, multiple tracks, and automatic signal systems. The companies relied mainly upon this line of argument and drew comparisons between the Pennsylvania, Erie, and New York Central lines and Western and Southern roads which now use the modern headlights.

In referring to this argument, Chief Inspector McManamy said in part:

"If the density of traffic makes it dangerous to use headlights of the intensity required by Rule 29, is it not strange that in the St. Louis terminal (where a check which I have had made since the hearing of the records of interlocking towers No. 1, which controls all train movements into and out of the station, shows 1,720 train movements during each 24-hour period, 688 of which are made during the hours when headlights are required) accidents are not constantly occurring?

"In no instance have the carriers shown traffic density of more than 600 trains in 24 hours. This is due to the fact that in the large eastern cities referred to, union stations do not exist, each road operating its own terminal, while at the St. Louis terminal all passenger trains entering St. Louis use the union station. The St. Louis terminal locomotives, which handle most of these trains, are all equipped with electric headlights, and the other locomotives which were operating there at the time of our investigation are also equipped with electric headlights. . . ."

"When boiled down, the situation at the larger terminals is simply this: They have more trains and more tracks. If meeting a train in a certain position with relation to a signal does not interfere with the proper signal indication, meeting another train in a similar position with relation to another signal will have no different effect. . . ."

Grand Chief Stone made the leading argument for the employes. He reviewed at length the evidence submitted at the hearing by the locomotive engineers who had used the modern headlights and pointed out the lack of experience with the good lights of the officials who were called by the companies to testify against them. He also attacked the report of the committee of the Master Mechanics' Association and the tests of the Wisconsin railroad commission, upon which the railroads relied.

He pointed out that the railroads had failed to show any number of accidents that might be attributed to the use of high power headlights on the lines which are now equipped with them, or to show by way of comparison that the number of accidents on the lines using the modern lights was greater

than the number occurring on the roads which still use the old oil lamps. He said:

"They are afraid to make or show any comparison, because they know the showing would be strongly in favor of power headlights."

In response to a question of Commissioner Hall, if the recommendation of the Chief Inspector represents the best and last thought in the effort of the employes to deal with the headlight question, Grand Chief Stone said:

"Yes, sir; and that represents the endorsement of 844 delegates at an international convention. That is their very best thought, and I want to emphasize as strongly as I may, that I am authorized to speak for 350,000 railroad men in this country, and that is what they want and that is what they have endorsed."

President Carter followed with a brief but telling argument. He declared on the basis of the statistics submitted by the companies themselves that so far as the West and South are concerned, they have already practically solved the problem of high power headlights in that they have equipped a large percentage of their railroads with this device in the interest of safety. Continuing he said:

"Now, gentlemen of the Commission, we respectfully submit that if the high power headlight is as dangerous as the carriers would here try to make you believe, the slaughter of employes and the traveling public on these western roads would be terrible. But do they bring any witness here from the West on the railroads where there are already 78 per cent or nearly 79 per cent of the locomotives equipped with high power headlights." No; they purposely did not, and for the best of reasons, for had the officers of those roads come here they would have had to testify that the high power headlights, instead of being a menace, are actually a safe appliance."

Again upon the basis of figures submitted by the carriers, President Carter pointed out that 41.4 per cent of the total cost of equipping all locomotives not now equipped with the high power headlights, so as to come within the provisions of Rule 29, will fall on five railroads, namely, the Pennsylvania, New York Central, Boston and Maine, Erie, and Central of New Jersey. He said:

"This 41.4 percent of all the estimated expense falling on those five railroads is a matter of serious concern. It demonstrates that those five railroads have not kept up with the procession. It demonstrates that those railroads have not done as other roads have done, and partially, if not entirely, met this expense in the past. . . . But shall these five railroads and their neglect in the past prevent the rule from being placed in operation for the protection of the lives and limbs of railroad employes and the traveling public?"

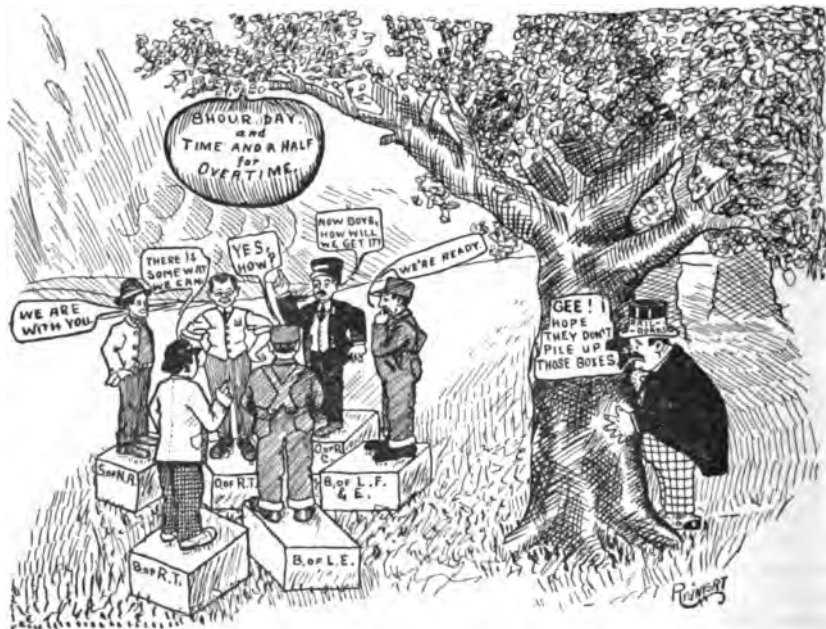
On another phase of the question, President Carter said:

"When this Commission approves the rule proposed by the carriers it is in effect the abrogation of all the rules enacted by state legislatures. These carriers have not the combined strength and financial and moral influence to go into those states and secure the abrogation of those rules, those laws already enacted, but they hope to come here and under a federal statute secure their abrogation through a rule adopted by the Interstate Commerce Commission. Gentlemen, I hope that you have serious regard for that thought. It is not only put up to this Commission to adopt the rule, but to say whether they will undo what the people of so many states have already done."

The rule recommended by the Chief Inspector would require a headlight on road locomotives that would reveal a dark object the size of a man a distance of 1,000 feet to persons of normal vision in the cab and under normal weather conditions. The carriers recommended a formula put forth by the Master Mechanics' Association, which would permit the use of the poorest type of oil headlight now in use.

The efforts to secure the adoption of the headlight rule have occupied a great part of the time of the National Legislative Representatives and the Legislative Bureau in Washington throughout the past two years. First came the fight for the bill to extend the Boiler Inspection Law to cover the entire locomotive and tender, which had to be put through the Senate and House of Representatives and receive the approval of the President. After this hard fight to get the bill passed, which extended for two sessions of Congress, it became necessary to defend the rules at the conference before the Chief Inspector. A great deal of work was required to compile in proper form the vast amount of valuable data which was submitted by the state legislative boards and road chairmen and individual members of the organizations showing the importance of the high power headlights to the men in the cabs of the locomotives and have this material ready to present to the Commission at the hearing and in the argument. In addition, the preparation of the printed briefs was a task of much importance, as it was thought unlikely the several members of the Commission would even take the time to look at the voluminous record of the hearings and would base their decision upon the matters contained in the briefs and brought to their attention at the oral argument.

On account of some matters introduced in the argument by the Chief Inspector, counsel for the companies requested permission to file a further brief and it was necessary for the representatives of the employes to secure time in which to reply to what might be said by the carriers. The Commission granted the companies ten days and an additional ten days to the employes. It is expected that a decision will be handed down by the Commission at an early date after the final briefs are in.



How Soon Will They Decide?

Sparks.

In this issue appears an article by Governor Hunt, of Arizona, reviewing the Clifton-Morenci mine strike, which should be read by every member. It is the expression of a *real* governor regarding an industrial disturbance.

We have for sale a new series of air-brake charts in colors. The set consists of fifteen charts on the P-C Passenger Car Brake Equipment of the Westinghouse Air Brake Company, and shows diagrammatically the No. 3-E Control Valve in its various operative positions. Price per set of fifteen charts, including printed descriptive matter, 35 cents, prepaid to any address. Remit to John F. McNamee, Editor and Manager, Traction Terminal Building, Indianapolis, Ind.

When preparing communications for publication in the Magazine, contributors are requested to write on one side of the paper only, and if matter is typewritten it should be written double space.

A copy of "A Plea," a beautiful sacred song by Adelbert Clark, whose poems appear monthly in our Magazine, and who is composer of "The White Star of Heaven," can be secured for 25 cents. Music by Canadian composer, W. Francis Firth. Send orders direct to Francis Firth Music Co., 23-25 Farmer Street, Detroit, Mich.

A copy of the Catechism of the Electric Headlight, containing supplement on the Pyle National Equipment "E" with folders, can be secured for 50 cents. Remit to John F. McNamee, Editor and Manager, Traction Terminal Building, Indianapolis, Ind.

January is a good month in which to get busy soliciting subscriptions for the B. of L. F. and E. Magazine, as it is the beginning of a new year and many people like to start their subscriptions to a magazine at that time. Write to John F. McNamee, Editor and Manager, Traction Terminal Building, Indianapolis, Ind., for full particulars.

Bound volumes of the Locomotive Firemen and Enginemen's Magazine for 1914 can be secured for \$3.50 each, prepaid to any point in the United States, and to any point in Canada or Mexico for \$4.50 subject to duty. Send orders to John F. McNamee, Editor and Manager, Traction Terminal Building, Indianapolis, Ind.

A set of twelve colored charts of the No. 6 ET Locomotive Brake Equipment in its different operative positions, together with descriptive matter and a piping diagram of the LT Automatic Control Equipment may be obtained for 35 cents. Send remittances to John F. McNamee, Editor and Manager, Traction Terminal Building, Indianapolis, Ind.

The second section of the first edition of "Sparks and Cinders," a book of poems by Bro. J. Alex Killingsworth, is now on sale. This edition is an exact duplicate of the first edition. It will sell at 75 cents a copy. This is a price to meet the times. This book will prove a valuable acquisition to the library of any Brotherhood man. Orders should be sent to J. A. Killingsworth, 21 Myrtle St., St. Thomas, Ont., Canada.

Henry H. Klein, author of "Standard Oil or The People" and "Bankrupting a Great City," which books have been reviewed in past issues of the Magazine, advises that he will make the following rates to our readers: "Standard Oil or The People," in paper cover, 18 cents; in cloth, 35 cents. "Bankrupting a Great City," in paper cover, 30 cents; in cloth, 60 cents. The prices named include postage. Orders should be addressed to Henry H. Klein, Tribune Building, New York, N. Y.

Don't forget to notify the Magazine office when changing your address so that you will receive the Magazine regularly each month. The Editor and Manager is very desirous that each and every member gets his Magazine regularly as issued.

As the Directory is corrected up to the 10th of February, May, August and November, all notifications of changes of address, etc., to appear in the Directory should be in the hands of the General Secretary and Treasurer not later than the first day of the months named.

A piping diagram of the LT Automatic Control Equipment may be secured for ten cents. Send orders to John F. McNamee, Editor and Manager, Traction Terminal Building, Indianapolis, Ind.

Our subordinate lodges and every member of the Brotherhood and of all labor unions should write their Congressmen urging the early publication by Congress of the evidence taken by the United States Commission on Industrial Relations. Also request your Congressman to send you a copy of the "Manly Report" of the Commission.

Before sending contributions or pictures to the Magazine office please read the standing notice at the head of the Brotherhood Department and thus save unnecessary letter writing and loss of time.

Brothers, always keep on hand a supply of application blanks. Keep some constantly in your pocket so that you may always be ready to enlist in the ranks of the Brotherhood any eligible man you may meet.

Anonymous letters cannot be published in the Magazine. Unless a communication is signed by the writer it is useless to send it to this office. If desired, names will be withheld from publication.

Brothers, you should put forth your best efforts to have every non-union fireman and hostler with whom you are acquainted join the Brotherhood without further delay.



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CANADIAN MEMBERS WHO HAVE VOLUNTEERED IN OVER-SEAS CONTINGENTS



The Year 1916.

By the time this issue of the Magazine reaches the members of our organization the curtain will have rung down on the year 1915 and we will be starting our affairs for the year 1916. I take this opportunity of wishing each and every member a bright, prosperous and happy New Year. I sincerely trust that the year 1915 with all of its hardships and lack of positions has not dealt so hard with the members of our organization as we would naturally believe it has. On the other hand, I sincerely trust that while many of our members have been forced to leave the service of the railroad companies on account of the depression in business, they have been able to secure other employment and in that way be in a position to provide for themselves and families. To those of our members who have met with hardships in trying to keep their heads above water, I extend my sincere sympathy, and wish for them, during the year 1916, much better conditions.

At the time of writing this article everything seems to be looking up in all directions, and reports coming to this office are that the railroads are doing an exceptionally prosperous business. I hope and trust that business will be so good that all of our members will have continuous employment, and that those of them who experienced adversities during the year 1915 will have ample opportunity to recover from them.

The depression in business has cost the organization quite a considerable reduction in membership, and I urge upon each and every member to put forth an effort to have those who felt compelled to leave the organization to again become members, and to solicit all of those who have recently entered the railroad service, and who are eligible, to join our order. Let each and every one put his shoulder to the wheel and try to make the year 1916 the most prosperous in the history of the Brotherhood.

Issuing Receipts to Expelled Members.

I deem it advisable and necessary at this time to again call to the attention

of our financial secretaries the provision in our laws which requires that they shall not issue an official receipt to a member who has been expelled, until such time as they receive notice from this office of the expelled member's readmission. We have so many cases wherein the financial secretary advises us that upon receipt of the money from the expelled member he issued him a receipt because he desired to leave town, or something of that kind. The issuing or giving of an official receipt to an expelled member is entirely wrong, and a practice that has compromised the organization in several instances.

When a member fails to pay his assessments on time and in that way becomes expelled, he is not entitled to an official receipt until such time as the financial secretary is advised that he has been readmitted by the General Secretary and Treasurer. I urge upon all financial secretaries to be sure and not issue an official receipt to any expelled member until such time as he receives notice that the expelled member has been readmitted.

We have just settled a case in court which was the result of a financial secretary issuing receipts to an expelled member and accepting money for the following month, without ever applying to this office for the readmission of the member. I urge upon financial secretaries to be guided entirely by the provisions of the Constitution as to their duty in this particular, because the one who fails to pay his assessments on time is primarily at fault for any unpleasant results that ensue from his failure to do so. We should not be compelled to settle cases in court owing to the fact that officers of subordinate lodges deliberately violate the Constitution and issue receipts to persons not entitled to them.

Readmission of Former Members.

Now that business is gradually picking up we are receiving many applications for the readmission of former members, and some of our lodges are using the Form G-48 (applications for the readmission of former members) in the same manner as they would an application for

new members, which is entirely wrong, because when soliciting a former member to again join the organization, he should be required to complete a Form G-48, making a request of the lodge to apply for his readmission. Let him pay you \$1.00 and then let the application for his readmission be submitted to the lodge, and if the lodge decides to apply for the readmission of the former member, then he should be advised to immediately go to the local medical examiner, be examined, and turn over the application for beneficiary certificate to the recording secretary of the lodge, who in turn will forward both forms to this office.

Those soliciting former members to rejoin the organization should not hand out to such former members a Form G-48 and ask them to fill it out later, but on the other hand should ask them to fill it out at that time, providing they desired to again join the organization, and turn the application back to the soliciting member so that the matter can be presented to the lodge at the first meeting thereafter, and in that way secure the readmission of the former member at the earliest possible date. Handing out Forms G-48 in the same manner as you do applications for membership is not proper, and I urge upon those who are soliciting former members to rejoin to follow the instructions contained above, and secure the signature of the former member while discussing the matter of his again becoming a member.

Changing Beneficiaries.

I again call this matter to the attention of our members and urge upon them that if they have not had designated in their beneficiary certificate the person whom they desire to receive the amount represented by the certificate in case of death, to do so. When a member loses his wife or his mother, and the certificate is made payable to either one, he should immediately make provision to have a beneficiary designated who would be entitled to receive the amount of the certificate in case of his death. Do not permit this matter to drag along, as is done by some of our members, and in this way make it necessary for those left behind to go into court and settle their differences, or pay an attorney a part of the amount of the certificate in order to have it properly adjusted, or, in other words, to settle differences between the contending parties.

We have recently had a case come to this office where a member had died and the certificate was payable to his mother,

yet the mother had been dead for over five years. No attempt had been made to change the beneficiary, and the payment of the claim was held up for nearly ten months before we could get the matter adjusted so as to pay the proper party.

Another instance in which we have recently paid the amount of a certificate was where a member had the certificate made payable to his wife, and the wife left him and their children and went away with another man. This was five years prior to the death of this member, yet he had never made a change in the designation of his beneficiary, even though he had two small children depending upon him for support.

According to the information which we received his wife lived with the other man until the time of his (the husband's) death, and immediately after the death married the man with whom she had lived. We were compelled to pay the amount of this certificate to this former wife and leave the two small children to be cared for by their grandmother, who was unable, or not in a position, to be left with the care and expense of these two orphans.

Such cases as this should impress on every member who has neglected to have designated in his beneficiary certificate the name of the person to whom he desires payment made in case of his death, to do so at once, and while I have written on this subject many times, I hope that those reading this article and who plead guilty to not having seen to it that the proper beneficiary has been designated in their certificate will do so at once.

Again the Old Timers Passing Away.

In the September, 1915, issue of the Magazine, I made reference to the passing of seven of our old-time members. Since that article appeared in the Magazine I have received several communications with reference to the number of old members we have in the organization, how old they are, etc. Of course, it would be a tremendous task to figure the age of all of the members of the organization at the present time, and we have never attempted to do anything of this kind, but while passing upon the claims for payment December 15, 1915, I again noted a large number of the old timers having passed away, and whose claims were ready for payment. I again take the opportunity of making mention of these. In this article I give the age of these members. Below will be found the names, the numbers of the lodges of which they were members and the num-

ber of years of their continuous membership in the organization:

Name	Lodge No.	Years	Mos.
Cook, W. S.....	150	23	10
Crimmans, D. J....	141	29	7
Dorey, William ...	362	27	6
DeFrehn, B. H....	251	27	3
Ewing, George W..	673	20	10
Nulson, L. A.....	109	29	11
Parkinson, L. A...	333	30	
Shearer, John	178	32	

It has been felt by a great many that we have an unusually large number of members who have reached the age or are about to reach the age of seventy, and for that reason I am giving below the ages of the members just above referred to, and with these the amounts that we have received on account of Beneficiary and Benevolent Fund assessments during their membership. You will note that

out of the eight members whose ages are recorded, only one had reached the age of seventy years:

Name	Age	Amount
Cook, W. S.....	53	\$429.50
Crimmans, D. J....	57	513.15
Dorey, William	51	486.50
DeFrehn, B. H....	60	481.50
Ewing, George W...	61	379.50
Nulson, L. A.....	67	516.50
Parkinson, L. A....	58	517.50
Shearer, John	70	541.85

Since September last we have paid the claims of quite a number of old-time members, but during October and November there has not been any unusual number of claims of old-time members filed. Where it is found that we have eight during any one month, I feel it would be interesting to our members to be advised of this.

Forum

Canadian Legislative Board Should be Convened on Schedule Time.

A suggestion has been made that our Legislative Board be not convened as provided for in our by-laws, but that its next meeting be postponed for an indefinite period. This, to my mind, would be a retrograde move—a backward step. We have progressed from the time when our board could not be convened except on request of a majority of lodges, and it is now legally provided that we shall convene once in three years.

Unfavorable industrial conditions is urged as one reason why we should not convene; the same reason can be urged against holding our triennial convention on schedule time. It should be the business of legislative bodies to devise ways and means to improve or remedy unfavorable industrial conditions. Lack of legislative matters of sufficient importance to justify convening the board is urged as another reason why we should go into cold storage indefinitely. There never was a time when there were more matters of importance to wage earners to be considered than at present.

Are we satisfied to be told there is no money to finance peaceful industry and mines, mills and railroads must shut down and workers go jobless and hungry,

when we see our militant statesmen raising hundreds of millions of dollars to equip armies for the horrible business of war? When we see three-fourths of the civilized world engaged in destroying property and life, with all modern methods of destruction and the other one-fourth supplying the waste and providing for all the usual legitimate requirements of humanity, without any appreciable increase in effort, are we satisfied to work ten, twelve, sixteen or as many hours as the occasion demands for a day's work and continue to believe the bunkum story that the time is not opportune for an eight-hour day?

Are we satisfied with the fairy tale that an old age pension cannot be financed, when we see five hundred million-dollar loans negotiated without any difficulty? It is about time we were beginning to write our ideals on the statute books; arbitration has been weighed in the balance and found wanting.

Are we satisfied to have the system of raising revenue by taxation on industry and improvement, leaving land values practically exempt, to continue forever? We have passed resolution after resolution on this matter. Will we fold our arms and wait for the millennium dawn to bring results?

Are we satisfied with our immigration



Top row, left to right: J. W. Kuykendall, 124; Chas. Hight, 758; R. T. Dixon, 185; J. E. Bjorkholm, 134; C. Igrig, 197; H. J. Veit, 444; W. C. Allen, 278; F. Wenig, 194; D. G. Walsh, 203
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 Bottom row, left to right: H. J. Arrles, 747; J. O'Toole, 146; A. S. Merr, 43; Vice Chairman, S. R. Schauer, 104; Chairman, Geo. F. Wolf, 478, Sec.-Treas., H. F. Boyer, 29; C. E. March, 189; A. J. Hillmeyer, 345

JOINT PROTECTIVE BOARD, C. M. & ST. P. RAILWAY

laws? When the man-hunting game is over, our surviving Canadian volunteers will return, many of them cripples, penniless, jobless, and with them will come the illiterate European hoards who can underbid us in the labor market. Labor is a commodity, so our authorities tell us. Will we deal with it now or wait until it reaches flood tide? The physically fit of our Canadian manhood are being induced to take part in the European war. The dimes, dollars and widow's mites of the people are being poured out like sand. What say are we to have in the settlement? Will we have representation in the Imperial Councils, or will we pay the immense taxation of blood and treasure without representation?

Will the curse of militarism be relegated forever to the bottomless pit, or will it continue as in the past to be the dominant factor in world affairs? Are we satisfied with the militia law which provides for bayoneting strikers back to work, an iniquitous law which the working class should not tolerate? Will any provision be made for the enforcement of the legislation which we have already secured through the ef-

forts of our board, or will we be cheated out of the fruits of our labor by failing to follow it up?

Time and space will not permit me to elaborate on the many matters of importance that could be dealt with by the board. There is enough in Nova Scotia alone to amply justify convening the board, and I presume the same is true of the other provinces as well. If we are satisfied that all is well, let us close the book and hand it again to the minister, but your humble servant for one is not satisfied. Let the board be convened on schedule time, start the ball rolling in connection with some of the matters I have mentioned, and organized labor throughout the Dominion will line up with us. Legislation is the strong right arm of the labor movement, the only movement under the shining sun which can solve the bread and butter problem of life.

In conclusion let me propose a toast, Our Legislative Board "get her hot," "take the tonnage" and "make the mileage."

JOHN R. STEWART, Vice Chairman, Canadian Legislative Board, Province of Nova Scotia.



COWAN, TENN., JOINT UNION MEETING A BIG SUCCESS

**Men of Train Service Orders on Branches of Nashville, Chattanooga
and St. Louis R. R. Hold Enthusiastic Gathering**

**Resolutions Adopted Pledging United Effort for Eight Hour Day, Time and One
Half for Overtime, Co-operation and Urging Publication of Evidence
Taken Before U. S. Industrial Relations Commission**

On Sunday, November 28th, men of the B. of L. E., O. R. C., B. of L. F. and E., and B. of R. T. employed on the branches of the Nashville, Chattanooga and St. Louis Railroad held a Joint Union Meeting which filled the Masonic Hall at Cowan, Tenn., and which was characterized by unexcelled enthusiasm, and a determination to leave nothing undone to promote co-operation, harmony and good will amongst the various railroad labor organizations with a view to united action in the protection of the common interests of the men of the respective crafts. The meeting was ably presided over by Brother W. H. Holland, General Chairman of the Nashville, Chattanooga and St. Louis R. R.; Brother Jewel Rollins of Lodge 100, B. of L. F. and E., Nashville, Tenn., acting as Secretary.

Brother John F. McNamee, Editor and Manager of the Magazine, was present to represent President Carter and addressed the meeting, calling attention to the absolute necessity for thorough organization amongst the men in all branches of railroad service and co-operative action on the part of their various organizations as an essential condition to securing fair wages and humane working conditions.

He spoke of what had been accomplished thus far through the efforts of the railroad labor organizations and of the conditions with which their members would have to contend were it not for the continuous work, the untiring vigilance and the unceasing diligence of the various orders in protecting and defending the rights and interests of their members. He told of the many injustices, wrongs, hardships and deprivations to which railroad men were wantonly subjected before the railroad orders became effective fighting forces. He called attention to the dangers that threatened the political as well as the industrial liberties of the useful citizenship of the country as a result of the concentration of vast wealth in comparatively few hands, declaring that our entire political system is subject to and controlled by the financial and industrial kings, who collectively constitute what we call the "Invisible Government." He said that the money power and its determination to oppress labor must be met with labor's economic power, supported by a system of organization and co-operation that will insure absolute unity of action, and that it was only through such a system of organization that the workers would ever receive a fair proportion of the wealth they produced.

"Preparedness" Means Labor's Subjugation.

He called attention to the present agitation for a vast military establishment and to the efforts of the "kept" press—the various mouth-pieces of "big business" throughout the country to create a public sentiment in favor of militarism and navalism under the pretext that the United States should establish and maintain a condition of military and naval "preparedness" with a view to defending the country against invasion. He stated that, should congress be so foolish and so false to the best interests of the country as to yield to the clamorings of the moneyed monarchs and their servile press to the extent of creating such a force that, irrespective of what restrictions might be provided to the effect that it could not be used in industrial disputes, etc., if such force is once established, the fact that it exists, and that one fact alone, will insure its being used to crush any formidable movement the workers may engage in for their own emancipation, for he said, with "big business" controlling the man commanding such a force—the man whose one word could set it in motion either in conformity with or in violation of law or constitution, it would be used, right or wrong, for any purpose and at any time that "big business" might dictate, and he cited precedents to support that declaration. The forefathers of the Republic, he said, declared that a large standing army constituted a menace to the liberties of the people, and that, while it was argued that a "citizen soldiery" was not a standing army, that nevertheless, as long as any military organization of such vast proportions existed whether as regulars, or militia or "reserves," or whatever they might be called—as long as that force would have to respond to the orders of a supreme commander or be under the control of a small group, such supreme commander or such small group could direct such force as they pleased, and ultimately use it, if they so wished, to crush the common people's liberties and even change the form of government. He declared that

militarism—a large standing army or military establishment of any kind, “reserves” or otherwise, was diametrically in conflict with the fundamental principles upon which the republic of the United States rests and urged his hearers to write their Congressmen and United States Senators and protest against the “preparedness” program that it is being sought to foist on this peace-loving nation.

At the conclusion of Brother McNamee's remarks, Brother J. H. Welch, of Atlanta, Georgia, General Chairman of the B. of L. E., N. C. and St. L. R. R., addressed the meeting. He reviewed the work of the Brotherhoods, spoke of the results that had been accomplished along protective lines, told of conditions in olden times and said that, as the Brotherhoods grew stronger and more effective in protecting the interests of their members, the employment conditions became correspondingly better and better. He told entertainingly of incidents that had arisen in his work as general chairman and in the work of some of his associate general chairmen of the other orders, and urged the men to be true to their organizations and attend their lodges as regularly and often as their work would permit, and to keep constantly in touch with the work of their respective orders. He said that prompt payment of dues and frequent attendance at lodge and division meetings were essential not only to the members keeping informed on the work of the organizations, but to the ultimate success of the various orders as well. At the conclusion of Brother Welch's address, Chairman Holland, in a few well chosen remarks, brought the meeting to a close.

The following resolutions were unanimously adopted:

Concerted Movement.—Eight-Hour Day and Time and One-Half For Overtime.

WHEREAS, The representatives of the B. of L. E., O. R. C., B. of L. F. and E., and B. of R. T., in the Southeastern territory have, in recent months, taken action with a view to a Joint Concerted Movement looking towards the establishment of an eight-hour day and time and a half for overtime and of other improvements in wage and employment conditions, and

WHEREAS, The hardships of employment conditions in train and yard service generally are continually increasing and becoming more and more intolerable, and

WHEREAS, It is now full time that such a Joint Concerted Movement be started.

Resolved, That this meeting heartily favors immediate action along this line and that we urge upon the chief executives of the various train service organizations to take the necessary action towards a universal movement for an eight-hour day and time and a half for overtime.

Resolved Further, That the secretary of this meeting is hereby instructed to forward copies of this resolution to the executives of the four organizations.

Co-operative Agreement.

WHEREAS, The chief executives of the Brotherhood of Locomotive Engineers, Order of Railway Conductors, Brotherhood of Locomotive Firemen and Enginemen and Brotherhood of Railroad Trainmen have prepared a co-operative agreement, which agreement provides for united effort on the part of the four organizations in advancing the common interests of their members, and

WHEREAS, Said co-operative agreement is to become effective when adopted by a two-thirds referendum vote of the membership of said organizations, and

WHEREAS, It is the sense of this meeting that the time for such co-operation has long since arrived. Therefore be it

Resolved, That we earnestly endorse the said agreement and urge that action be taken on same by the four organizations, in accordance with their respective laws as soon as possible.



C. H. McCurdy, 589
 A. J. Barbee, 776
 Vice Chairman

A. C. Morse, 744
 M. O. Laisure
 Gen. Chairman

R. D. Ulrey, 483
 M. W. Curry, 493
 Sec.-Treas.

J. Carroll, 573
 E. E. Deaton, 24

J. T. Yacoby, 164
 J. F. Diggs, 6

C. T. Gorrell, 78

JOINT PROTECTIVE BOARD, M. K. & T. SYSTEM

Report of the United States Commission on Industrial Relations.

WHEREAS, The powers of wealth are exerting every possible influence with a view to preventing the publication by Congress of the evidence taken by the United States Commission on Industrial Relations, and

WHEREAS, Said evidence exposes as they have never before been exposed, the existence of feudalistic conditions in the United States in many large industries, mining and otherwise, such conditions being maintained in violation of the law and the constitution of both state and nation, and

WHEREAS, Such evidence discloses also the prevalence of despotic and brutally oppressive wage and employment conditions, not only incident to these feudalistic conditions, but in many other industries as well, and

WHEREAS, The freedom and well being of the useful citizenship of the United States demand that such evidence be given the greatest possible publicity, and

WHEREAS, Its publication has been recommended by the United States Commission on Industrial Relations, and

WHEREAS, It will require all of the influence of organized labor to overcome the opposition that the big corporations hereinbefore referred to are directing against its publication by Congress,

Resolved, That we demand of the Congress of the United States that all of the evidence taken by the United States Commission on Industrial Relations be published for general distribution, and that all members of the organizations represented at this meeting are hereby urged to write their respective congressmen demanding the publication of this evidence and requesting a copy of the Manly Report of the United States Commission on Industrial Relations, as the library of every wage-earner should contain a copy of that report.

MEMBER.



GRAND LODGE CONVENTIONS

I. Evils of the Present System

By ROBERT F. COLE*

The movement for reducing the number of delegates to Grand Lodge conventions has been given great momentum by the submission of a concrete plan by the Board of Directors. This commendable action on the part of that board has inspired a large number of interesting articles by members of the Brotherhood who favor legislation along such lines, and everywhere there is growing a powerful sentiment averse to the idea of large conventions; there is developing a general belief that the subordinate parts of our Brotherhood have grown so numerous that it is unwise to collect them in one body for the transaction of business, and the result is that many earnest minds have come to the conclusion that some change is absolutely necessary if we are to deal intelligently with the problems of the future.

The members of this Brotherhood have been undergoing an education in the affairs of our own organization, and in the manner and method of making laws for our guidance, and they are beginning to awaken to the fact that there is a complexity of causes which contribute to prolonged, expensive and

*This is the first of a series of three articles by Bro. Robert F. Cole, member of Lodge 19, Sparks, Nevada, on the subject of Grand Lodge Conventions. Brother Cole is Secretary-Treasurer of the Southern Pacific (Pacific) System Joint Protective Board, and has represented his lodge in Grand Lodge Convention at St. Paul in 1910, where he served as Chairman of the Special Committee, and at Washington in 1913, where he served as Chairman of the Magazine Committee.

erratic conventions. There have been many who believed that all that was necessary was to elect the right kind of delegates, but there is something beyond the mere personnel of the convention. It is the system and not the delegates; it is the machine and not the operator which is at fault. Enlightened opinion on the subject, given freely through the columns of the Magazine, is changing many who have believed in the old system and is encouraging those who heretofore have faced this problem with despair. Our membership has become greatly interested by the articles which condemn the old or present method of holding conventions, and the best minds of our Brotherhood are studying the question as never before.

In the medley of defects which stand out prominently none seem to me of greater importance than these four: (1) impossibility of calm and rational deliberations; (2) absence of order; (3) non-attendance at sessions by delegates; and (4) enormous cost of conventions. Each of these points is of sufficient worth to require extended comment but I shall only dwell on them briefly with the hopes that abler writers will take them up and disclose all the facts for the information of those who have not attended a convention or studied the proceedings of past conventions. It will not only be the purpose of this article to examine briefly these defects of the present plan of holding conventions, but to outline as clearly as possible in so brief a space, the attempts which have been made at recent conventions to remedy the evils, and to propose means of preparing ourselves to meet the issue at the next convention of the Brotherhood.

Conventions too Large.

The most universally accepted opinion of all seems to be that the number of delegates to our conventions has grown so large and unwieldy that such meetings have ceased to be deliberative bodies. No legislative or law-making body, which handles the intricate and widely diversified questions of nations, comes anywhere near approaching the size of the one which we select to handle the affairs of our Brotherhood. Our conventions haggle for hours and days over questions which ought to be left to the heads of departments, or officers of the organization, and the most important and far-reaching resolutions are tabled without the semblance of debate. At the Washington convention four attempts were made to place before that body this very question of reduced delegations, but all four of the propositions were tabled in less than as many minutes. A question of donation which had been authorized by the Columbus convention was after lengthy debate withdrawn at the St. Paul convention, and the same question, after being thrice rejected by the Washington convention, was finally again authorized by the same body. Three yea and nay votes were cast on this question and enough time consumed in debating and voting on the subject to pay the donation five times over.

Reports of committees are sometimes presented and adopted without any debate or argument, and again they are rejected after lengthy debate even though the preponderance of evidence is in favor of adoption. Consideration, re-consideration and reversals become the order of the day as best suits the temperament or mood of the vast assemblage. To stand aside and view the matter calmly it becomes glaringly apparent that reason is drowned beneath the flood of impulse, and the cause is not that the delegates are unfitted for the work, or unconscious of their duty, but because the action of any large body of men so assembled is predicated on sentiment, impulse and chance. The best trained parliamentarians and men accustomed to stand in the arena of debate could not legislate wisely in an assemblage

of this size, so why blame the individual delegates when trifling legislation commands hours of debate and great fundamental policies are cast lightly aside.

Absence of Order.

Without any reflection on the presiding officer, than whom none is more fitted for the position than he who has served us in recent years, it must be frankly stated that at times conventions have become very disorderly, paying no heed to the repeated raps of the gavel or the voice of the President. Even when the convention is in perfect order it is almost impossible for those in the extremes of the assemblage to hear or understand the speeches of men not accustomed to addressing large audiences; that fact makes it impossible for all to take part in the discussion of any question and is rightfully used by many as an excuse for not voting.

With nearly one thousand men huddled together it is not uncommon to see or unnatural for hundreds of the delegates to be visiting with each other, unheedful of the argument of the speaker or the call for order. Important measures come and go while the delegates in the rear cannot possibly understand what is being done, and what man could sit in silence day after day without breaking rules of order or losing his interest in the work at hand! This charge of disobedience to the gavel is not made exclusively against the delegates of our Brotherhood, but is applicable to any legislative assemblage of equal numbers. There are those who will say that they have attended public gatherings of ten thousand people and heard distinctly every word of the speaker; and it is true, but the conditions are different. Such an assemblage is only required to sit motionless and silent for an hour or two at the most and they are listening to something vitally interesting or to a person of great renown; and if that same assemblage should be required to remain a few hours longer they would grow restless and inattentive even to the magic of an orator's voice.

I do not charge that the delegates who attend our conventions are there for pleasure, because I believe they represent the most select and conscientious members of the organization, but unfortunately they become the victims of the system under which conventions are held, and when acting without mature deliberation and prevented by the size of the convention itself from acting with knowledge of what is going on, they most naturally grow tired of playing the part of mere spectators. With patience exhausted they venture to stir about or talk or otherwise disturb the proceedings.

Non-Attendance at Sessions.

Any member of this Brotherhood who has not attended a convention can hardly appreciate the enormous number of delegates who through causes above enumerated fail to attend the daily sessions of the convention. Many plans have been tried to compel attendance, but it has been one of the most difficult things to accomplish; in fact, no plan has yet succeeded. Attendance committees have been appointed, attendance checks used, and every manner of scheme tried to maintain a full attendance, but they have all failed, and failed because attendance does not mean a participation in the proceedings. It is impossible to exaggerate the non-attendance of members after the first week, and no man can seriously or truthfully charge that the absent delegates are merely pleasure-seekers; they are men who cannot make themselves a part of the proceedings and who have learned by experience that the convention is too large. On many occasions but little more than half of the delegates are in the hall, or take active part in the proceedings; a check



Top row, left to right: G. M. Baker, 134, B. L. E.; J. Johnson, 163, B. L. E.; C. E. Beeder, 24, B. L. F. & E.; M. C. Dennis, 84, B. L. F. & E.; H. C. Crandall, 81, B. L. E.; Wm. Kalber, 489, B. L. F. & E.; E. J. Richards, 32, B. L. F. & E.; Richard McBride, 184, B. L. E.
 Middle row, left to right: D. F. Michie, 87, B. L. F. & E.; A. J. Overgard, 394, B. L. F. & E.; O. J. Mitchell, 113, B. L. E.; F. R. Hanke, 297, B. L. E.; H. M. Strridge, 313, B. L. F. & E.; Lloyd Cox, 123, B. L. F. & E.; B. F. Parker, 44, B. L. E.; H. E. Gallagher, 7, B. L. F. & E.; O. J. Cotton, 115, B. L. E.
 Bottom row, left to right: E. G. Peerson, 41, B. L. E.; C. F. Tracy, 84, B. L. E., Sec.-Treas.; G. C. of A., and Ass't Sec'y Joint Committee; A. L. Konold, 149, B. L. E.; Gen'l Chas B. L. E.; W. L. Richards, 84, B. L. E., Vice Chmn B. L. E., and Chairman Joint Committee; D. W. Smith, 123, B. L. F. & E.; Gen'l Chmn B. L. F. & E.; L. Hankins, 84, B. L. F. & E., Vice Chmn B. L. F. & E., and Vice Chairman Joint Committee; Anton Schmidt, 437, B. L. F. & E., Sec.-Treas. B. L. F. & E., and Secretary Joint Committee.

JOINT COMMITTEE OF THE B. OF L. E. AND B. OF L. F. AND E., UNION PACIFIC RAILROAD

carefully made of the actual number of standing votes recorded at the Washington convention (1913) shows that 102 such votes were taken and that the average number of delegates participating in the vote was only 531, ranging from a minimum of 326 to a maximum of 801. Just think! Only 64 per cent of the entire number permitted to take an active part. Again it is the system and not the individual who is to blame, and I believe that if this matter is reviewed in its proper light that the blame will be ultimately placed where it belongs.

Enormous Cost of Conventions.

It is not intended to argue that the old convention system should be done away with simply for the relief from payment of assessments. No greater mistake could be committed by our members than to imagine that the business of this Brotherhood can be transacted without expense. We cannot escape the burden of cost; we cannot make conventions inexpensive, but we can make them less expensive. All students of Brotherhood affairs have witnessed with alarm the fast increasing expense of holding large conventions, and notwithstanding the fact that any plan of legislation must of necessity be a matter of expense, there is room for economy.

In this connection nothing will speak with greater force of argument than actual statistics and I am going to employ that means of presenting the truth and logic of the assertion that conventions are growing more and more expensive as the years go by. Take for example the cost of the last four conventions, as already presented by the Board of Directors: The Milwaukee convention in 1906 cost \$80,856.50; the Columbus convention in 1908 cost \$158,295.50; the St. Paul convention in 1910 cost \$134,742.00; and the Washington convention in 1913 cost \$261,423.00.

There is every reason to expect that the cost of future conventions, held under the present system, will show still further increases, for the very reason that they are growing larger in the number of delegates attending and their work will be retarded by the defective conditions which accompany the expanding size.

Conventions Will Make no Change.

Let us now pass to a consideration of the fact that no convention has yet given serious consideration to a plan for reducing the number of delegates. This would seem at first thought to cast a reflection on the delegates who go to make up the conventions. Again I charge the system with fault and not the individual. Take the individual delegates who will go to make up future conventions, or those who have made up past conventions, and talk to them singly, or in small groups, and you will find that by far the greater number favor restricted delegations, but present the question to them in convention assembled, and there, surrounded by that demoralizing influence—the shifting of responsibility—with individual identity lost in the great mass of delegates, and we find the very same men actually treating this important question with indifference, if not contempt.

The psychology of the thing is too deep for me; I only know by experience and observation that it is an undeniable fact. Out in the wide world men, individually, are for peace; collectively, they are for war with all its horrors. Lloyd George of England has aptly said: "It is idle to talk disarming in the midst of armed camps." And it is just as futile to talk of reducing the number of delegates in the midst of a thousand delegates. The more carefully it is analyzed, the more it becomes evident that the delegates, fol-

lowing the unexplainable instincts of human nature, and while acting in large assembly, will never vote to reduce their own number.

The Washington convention gives us a typical example of the treatment which this question has been accorded: Four separate motions or resolutions, having for their purpose a reduction in the number of delegates at future conventions, were promptly tabled without debate. For confirmation of this astounding statement, perhaps not fully realized by the Washington delegates and most surely not known to the membership at large, you are referred to pages 951, 1008, 1100 and 1296 of the convention proceedings of 1913. The question therefore naturally arises as to how any change can ever be made, and this is by no means the smallest consideration in connection with this movement. In view of the repeated failures of conventions themselves to act, the writer here proposes a political expediency oftentimes found necessary and used by the people of a nation, and which seems to him the only measure which offers the least promise of success.

Let the Men in the Overalls Act.

The force and agency which must be employed to reduce the size of conventions is the combined opinion of our membership, expressed in unmistakable terms by them on the floor of our lodge rooms, and by the subordinate lodges to the Grand Lodge convention. Resolutions which contain iron-clad instructions and which will place delegates under obligation to the men whose interests they represent should be passed and issued to every delegate to the Denver convention in 1916 by his lodge. If this measure is adopted it will free the delegate from the clutches and influences of impulsive assemblages, and moreover it will be an undeniable expression of the wishes of the membership at large. And last, but most important of all, it will insure the adoption of concrete legislation on the subject.

Those who believe that the new day calls for new policies will unite behind the movement to throw off the burdens of large conventions and provide new methods of handling our affairs. On the other hand, those who feel that they can personally profit by loose and antique methods will obstruct every movement which promises to promote real progress; but their forces cannot seriously arrest the onward march of those who believe in a change, and in the end this important question will yet be settled on its merits after fair and full discussion in the arena of debate.

Election of Officers in Subordinate Lodges.

I have noticed several articles in the Magazine in the past regarding the election of officers in subordinate lodges and am heartily in favor of the plan suggested in Bro. G. E. Bowman's article on page 356 of the September, 1915, Magazine entitled "Election of Officers in Subordinate Lodges." I believe by all means that the election of officers should take place in the lodge room by the members present, as under the present plan, and as Brother

Bowman states, there are a great number of brothers elected to office who are not qualified to fill the positions.

Our lodge has a great number of members scattered all over the country, and when the ballot is sent them they vote for the man whose name sounds the best to them. Of course these members never attend our meetings and I do not think they should be entitled to vote for the officers.

I believe that all offices in the local lodges should be filled by members who can be present at all the meetings, but we

have a few members in our lodge who are chronic kickers and do not think that roundhouse men, although they be good members, should hold offices.

We also have several members who do not take any active interest in lodge matters, but at the same time are the worst fault finders, and for this reason I believe the members who take an active part in the lodge work should elect the officers.

I do not believe that in a lodge of any

size one member should hold the same office more than two terms if there are enough members at the home terminal qualified to hold these offices, and these men I believe should be men who are in actual railroad service and not in other walks of life.

Our lodge at the present time is in first class condition financially and we are gaining new members all the time.

C. G. COATES,
President Lodge 573.



REMINISCENCES OF HOME

By J. A. KILLINGSWORTH
Author of Sparks and Cinders

When you've camped 'neath foreign sky
Tears will dim each watchful eye
As your thoughts turn homeward to
This dear land that's home to you.
Home will seem the dearest place,
And you'll see a dear old face
In your dreams of home sweet home.
Matters not where you may roam
Mother's smile and blessing, too,
Shall be seen and felt by you.
You will feel her presence nigh
When the bullets thickly fly,
And the deadly shells o'erhead
Sing a requiem for the dead;
When the battle's din and crash
And the cannons' roar and flash
Make the earth appear to be
Hell let loose in revelry,
In a far-off country
Mother, dear, will pray for thee;
And a grateful nation, too,
Will keep anxious eyes on you
Hoping that where'er you roam
You'll come back to home sweet home.

Official

Addresses Wanted.

Persons desiring to learn the address of or any information concerning a member or any other person, will please communicate with the secretary of the lodge nearest the residence of the person desiring such information. Upon receipt of a communication from the secretary of such lodge, requesting that a notice be published in the Magazine inquiring for such address or other information, same will be complied with. However, the Magazine cannot undertake to act as a collection agency, and must decline to lend itself to such purpose. Information should be sent to the person specified in the notice. The following inquiries have reached this office since our last issue went to press:

James Brown.—Has black eyes, black hair and mustache; is about 5 ft., 5 in. tall and is about 55 years of age. Joined Lodge 127 in 1887 and afterwards belonged to Lodges 167, 191 and 192. He is supposed to be married and living in or near St. Louis, Mo. Anyone having information as to his whereabouts kindly communicate with his sister, Mrs. Margaret Hartog, 5143 Wells Ave., St. Louis, Mo.



Lost Traveling Cards, Etc.

This office has been notified of the loss of the following traveling cards, receipts, etc., and the request is made that all members be on the lookout for them. Should they be discovered in the possession of persons not entitled to them they should be forwarded to the owners or to the secretaries of the lodges that issued them:

Bro. P. D. Rowe, of Lodge 170, reports the loss on October 25th or 26th last, between Wiseton and Saskatoon, Sask., Canada, of service letter from the Northern Pacific, also money order for \$5.50. If found kindly return to Bro. M. L. Helm, Financial Secretary Lodge 170, 704 Utah St., Huron, S. D., or Bro. P. D. Rowe, St. Ignatius, Mont.



The Home Account.

The following donations were received at the Home for Aged and Disabled Railroad Employes for the month of November, 1915:

Grand Division, B. of L. E.	\$2,460.71
Grand Lodge, B. of R. T.	2,594.02
Grand Division, O. R. C.	2,274.82
O. R. C. Divisions	12.00
B. of R. T. Lodges	16.00
L. A. to O. R. C. Divisions	10.00
L. S. to B. of L. F. and E. Lodges	10.00
L. A. to B. of R. T. Lodges	20.00
Joseph Mulholland, Lodge 752, B. of R. T.	500.00
James Costello, Division 270, O. R. C.	1.00
Alfred Lunt, Lodge 877, B. of R. T.	1.00
C. S. McKay, Division 119, B. of L. E.	1.00
A member of Division 249, B. of L. E.	1.00

\$7,901.55

Miscellaneous.—Two quilts from Lodge 104, L. S. to B. of L. F. and E., Heavener, Okla.; quilt from Division 285, L. A. to O. R. C., Hugo, Okla.; quilt, handkerchiefs, pipes and tobacco from Division 312, G. I. A. to B. of L. E., Seattle, Wash.

Respectfully submitted,
JOHN O'KEEFE,
Secretary-Treasurer and Manager.

Beneficiary Statement

To SUBORDINATE LODGES:

OFFICE OF GENERAL SECRETARY AND TREASURER, PEORIA, ILL., December 1, 1915.

The following is a statement of receipts in the Beneficiary Department for the month of November, 1915.

RECEIPTS.

Table with 16 columns: Lodge No., Amount, Lodge No., Amount, Lodge No., Amount, Lodge No., Amount, Lodge No., Amount, Lodge No., Amount, Lodge No., Amount, Lodge No., Amount. Rows contain numerical data for various lodges.

Beneficiary Statement—Continued

Lodge No.	Amount	Lodge No.	Amount	Lodge No.	Amount	Lodge No.	Amount	Lodge No.	Amount	Lodge No.	Amount	Lodge No.	Amount	Lodge No.	Amount	Lodge No.	Amount
858	71 50	878	125 95	710	163 35	721	28 60	742	55 00	763	75 35	784	34 65	805	75 90	826	.....
859	167 75	880	120 25	701	133 10	722	60 50	743	162 80	764	84 15	785	166 10	806	89 65	827	.....
860	156 20	881	109 45	702	94 00	723	58 85	744	30 80	765	121 55	786	.....	807	.....	828	65 55
861	56 65	882	85 80	703	51 70	724	26 40	745	67 65	766	36 85	787	118 25	808	150 70	829	49 50
862	71 50	883	90 20	704	205 70	725	68 75	746	26 40	767	86 35	788	62 25	809	76 45	830	81 40
863	145 20	884	124 80	705	83 60	726	61 05	747	33 60	768	302 50	789	40 15	810	38 50	831	21 45
864	71 50	885	215 05	706	48 95	727	81 35	748	24 75	769	34 10	790	63 80	811	67 10	832	21 45
865	83 05	886	53 35	707	84 70	728	105 05	749	91 80	770	139 15	791	40 15	812	157 85	833	40 50
866	492 80	887	90 20	708	.....	729	35 75	750	66 55	771	75 35	792	92 40	813	.....	834	56 10
867	160 60	888	79 20	709	85 80	730	115 50	751	20 90	772	.....	793	64 90	814	100 10	835	99 55
868	106 15	889	31 35	710	65 45	731	83 05	752	73 70	773	94 60	794	49 50	815	129 25	836	136 95
869	67 65	890	103 95	711	113 85	732	55 00	753	41 25	774	138 15	795	74 80	816	33 10	837	103 40
870	259 00	891	37 95	712	43 45	733	112 55	754	46 20	775	.....	796	116 05	817	78 10	838	104 50
871	75 35	892	50 40	713	130 35	734	93 50	755	88 00	776	151 25	797	88 00	818	105 60	839	48 40
872	85 80	893	14 30	714	75 90	735	99 55	756	28 05	777	69 85	798	56 65	819	122 10	840	159 65
873	640 20	894	75 90	715	87 95	736	50 05	757	90 20	778	72 05	799	171 60	820	99 00	841	169 30
874	22 55	895	51 15	716	101 20	737	25 65	758	35 20	779	145 20	800	32 45	821	84 70	842	42 90
875	287 65	896	52 25	717	45 65	738	30 80	759	116 05	780	46 75	801	122 10	822	72 60	843	52 25
876	60 50	897	48 40	718	89 65	739	62 70	760	68 20	781	111 10	802	76 45	823	122 10	844	.....
877	128 70	898	180 40	719	174 35	740	119 90	761	104 50	782	262 85	803	111 65	824	101 20	845	.....
878	103 95	899	63 80	720	38 50	741	31 35	762	67 65	783	150 15	804	137 50	825	22 00	.....	.....

Received during month of November.....\$121,806 75
 Respectfully submitted, A. H. HAWLEY, G. S. and T.

Western Concerted Wage Movement

ASSESSMENT TO REIMBURSE PROTECTIVE FUND

ASSESSMENT No. 1, \$0.50.

PEORIA, ILL., January 1, 1916.

All Members in Engine Service on the Following Railroads:

Atchison, Topeka & Santa Fe (Proper); Terminal; Louisiana & Arkansas; Mineral Range; Minneapolis St. Paul & Sault Ste. Marie; Missouri & North Arkansas; Missouri, Kansas & Texas; Missouri, Oklahoma & Gulf; Missouri Pacific; Northern Pacific; Oregon Short Line; Oregon-Washington R. R. & Navigation Co.; Panhandle & Santa Fe; San Antonio & Aransas Pass; Santa Fe, Prescott & Phoenix; San Pedro, Los Angeles & Salt Lake; Southern Pacific (Atlantic System); Southern Pacific (Pacific System); Spokane, Portland & Seattle; St. Louis, Brownsville & Mexico; St. Louis & San Francisco; St. Louis Southwestern; Terminal R. R. Ass'n and the St. Louis Merchants' Bridge Terminal R. R.; Texas & Pacific; Trinity & Brazos Valley; Union Pacific; Union Stock Yards; Union Railway of Memphis; Wabash; Western Pacific; Wichita Valley; Wiggins Ferry, Yazoo & Mississippi Valley.

SIRS AND BROTHERS:—In accordance with the provisions of Article 25, Section 16, of the Constitution, you are hereby notified of Assessment No. 1, in the sum of fifty (\$0.50) cents. This amount is payable to the Financial Secretary of your lodge on or before the first day of February, by all members whose names are on the rolls in engine service January 31st. Any member liable therefor, failing or declining to pay will stand expelled the same as for non-payment of monthly assessments. Yours fraternally,

W. S. CARTER, President.

A. H. HAWLEY, General Secretary and Treasurer.

Article 25, Section 16. (c) Upon the conclusion of such conference the President and General Secretary and Treasurer shall have authority to levy an assessment upon all members in engine service on the lines participating in the movement, of sufficient amount to cover the expenses so incurred, the same to be placed in the Protective Fund of the Brotherhood for the money originally advanced for the purpose.

(d) Any member failing or declining to make payment of such assessment when levied, shall stand expelled as is provided for in the laws governing the non-payment of assessments.

Statement of Death and Disability Claims

PAID BY THE GENERAL SECRETARY AND TREASURER FROM OCTOBER 31, 1915, TO NOVEMBER 30, 1915

Claim No.	NAMES	Lodge No.	Death or Disability	DATE	Am't of Insur'nce	CAUSE
5375	Fred'k K. Dunlop (a)	407	Death	Dec. 16, 1914	\$ 175.00	.....
5324	John T. Ferebee	100	"	Aug. 15, 1915	1,500.00	Uremic poisoning
5426	John W. Gaston	381	"	Sept. 9	1,500.00	Peritonitis
5437	Delver C. Watts	187	Disability	Aug. 26,	1,500.00	Amputation of foot
5426	Thos. E. Hodnett	70	"	Oct. 22,	1,000.00	Blind one eye
5440	Elmer S. John	140	Death	Sept. 8,	2,000.00	Collision
5442	James Yarbrough	709	"	Sept. 11,	1,000.00	Cancer
5443	Alton H. Everett	723	"	Sept. 14,	1,500.00	Septicemia
5443	Edw. C. Fryor	757	"	July 19,	1,500.00	Derailing of engine
5443	Raymond S. Kiwell	87	"	Sept. 13,	1,500.00	Falling from train
5447	Henry Weaver	166	"	Sept. 14,	1,500.00	Appendicitis
5443	Robt. L. Kincheloe	281	Disability	Oct. 21,	1,500.00	Blind in one eye
5461	Mala T. Burt	618	Death	Aug. 24,	1,500.00	Cerebral hemorrhage
5462	Thos. A. Nipper	797	"	Sept. 9,	1,000.00	Derailing of engine
5462	Walter James	98	"	Sept. 1,	1,000.00	Gun shot wound
5464	Clifton A. Bell (b)	377	"	July 11,	1,000.00	Consumption of lungs
5466	Frank H. Bogart	404	"	Sept. 13,	1,500.00	Bronch-pneumonia
5467	Mont. Sidebottom	675	"	Sept. 19,	8,000.00	Crushed bet. cab & chute
5461	Benton W. VanDyke	285	"	Sept. 13,	1,000.00	Pneumonia
5462	Frank Herlan	85	"	Sept. 11,	1,500.00	Meningitis
5467	Grover Meiser	162	"	Sept. 28,	1,000.00	Derailing of engine
5469	Terry T. Beeler	45	Disability	Sept. 12,	1,500.00	Amputation of foot
5471	Alexander S. Harvey	199	Death	Sept. 13,	1,500.00	Anemia
5472	Russel S. Kistler	230	"	Sept. 23,	2,000.00	Hit by base-ball
5477	Fred O Chambers	269	Disability	Aug. 29,	8,000.00	Amputation of hand
5478	Geo. H. Wrights	553	"	Sept. 7,	1,500.00	Amputation of foot
5461	Walter R. Goodman	812	Death	Sept. 24,	1,000.00	Collision
5482	Jesse A. Northrop	336	"	Sept. 7,	1,500.00	Convulsions (Insanity)
5483	Ivan S. Hagle	70	"	Sept. 26,	8,000.00	Derailing of engine
5484	Joshua Cabbiness	60	"	Oct. 4,	1,500.00	Gun shot wound
5486	Fred'k McVilvie	91	"	Oct. 3,	1,500.00	Derailing of engine
5486	Peter B. Bush	290	"	Sept. 29,	1,500.00	Collision
5486	James S. Burns	123	"	Sept. 18,	1,500.00	Appendicitis
5484	Parvin B. Smick	256	"	Oct. 6,	1,500.00	Consumption of lungs
5753	Michael McKeever	14	"	July 23,	1,500.00	Run over by engine
5757	Clyde C. Snyder	740	"	July 23,	1,500.00	Peritonitis
5648	Garfield W. Martin	182	"	Sept. 4,	1,500.00	Derailing of engine
5623	Hugh D. Wilford	181	"	Aug. 9,	1,000.00	Killed in battle
5623	Elbert J. Cox	324	"	Sept. 27,	1,500.00	Gasoline explosion
5626	Thos. J. Connors	75	"	Aug. 22,	500.00	Crushed under car
5622	J. H. Cunningham	98	"	Aug. 16,	1,000.00	Nephritis
5796	Herman Trueb	140	"	July 2,	500.00	Cirrhosis of liver
5715	Joseph W. Carlson	416	"	Aug. 26,	1,500.00	Struck by train
5796	Leon B. Fox	293	"	Aug. 8,	1,000.00	Struck by auto
5801	James H. Campbell	82	Disability	Nov. 12,	8,000.00	Blind one eye
5870	Frank F. Derby	485	"	Sept. 16,	1,500.00	Amputation of foot
5830	Andrew N. Kloster	482	Death	Apr. 6,	1,000.00	Exposure
5812	Claude B. Moore	85	"	July 31,	1,000.00	Hemorrhage of lungs
5826	Joseph M. Middleton	186	"	Sept. 25,	500.00	Cerebral hemorrhage

(a) Claim No. 5375. Deduction only paid.

(b) Claim No. 5854, Originally Class "A," \$350.00 paid in Consumption Allowances.

Summary for month of November, 1915.

Death Claims.		Disability Claims.		Total number of claims paid during month.....48
No. Claim	Amount	No. Claim	Amount	
21-A	\$31,500.00	5-A	\$7,500.00	Total amount paid during month.....\$68,325.00
11-B	11,000.00	1-B	1,000.00	
3-O	1,500.00	-O	.....
2-D	4,000.00	-D	.....
3-E	300.00	2-E	6,000.00	
1-irregular	950.00			
Deduction	125.00			
40	\$54,225.00	8	\$14,500.00	

Pending Claims November 30, 1915.

76 death claims aggregating.....	\$105,728.50
26 disability claims aggregating.....	65,500.00
Total of 102 claims aggregating.....	\$171,228.50

Statement of Death and Disability Claims

FILED WITH THE GENERAL SECRETARY AND TREASURER DURING THE MONTH ENDING DECEMBER 15, 1915.

No. of Claim	NAME OF MEMBER	No. of Lodge	Date of Filing	Character of Claim	Amount of Ben. Cert.	When Payable (if Approved)	Cause of Death	Cause of Disability
5887	James Hussey	266	Oct. 8, '15	Disab.	\$1500	Nov. 15, '16	.....	Paralysis
5888	L. D. Richey	77	Nov. 18, '15	Death.	1000	Jan. 15, '16	Heart disease	
5889	Geo. W. Sterling	281	Nov. 18, '15	Death.	1500	Jan. 15, '16	Suicide	
5970	Glen G. Smith	694	Nov. 18, '15	Death.	1500	Jan. 15, '16	Run over by train	
5972	Edward Lynch	218	Nov. 18, '15	Disab.	1500	Jan. 15, '16	.....	Blind one eye
5973	Wm. Parks	185	Nov. 19, '15	Disab.	1500	Jan. 15, '16	.....	Consumption of lungs
5978	Rob't H. Jarman	588	Nov. 19, '15	Death.	1500	Jan. 15, '16	Collision	
5977	Julian Dixon	685	Nov. 19, '15	Death.	2000	Jan. 15, '16	Killed in battle	
5978	Jerome Posten	2	Nov. 23, '15	Death.	1500	Jan. 15, '16	Diabetes	
5979	Earl J. Rowlin	175	Nov. 23, '15	Disab.	1500	Jan. 15, '16	.....	Blind one eye
5981	Gilbert Leslie	85	Nov. 24, '15	Disab.	1500	Jan. 15, '16	.....	Blind one eye
5982	Wm. M. Meredith	85	Nov. 24, '15	Disab.	1500	Jan. 15, '16	.....	Amputation of foot
5983	John W. Evans	812	Nov. 24, '15	Disab.	1000	Jan. 15, '16	.....	Consumption of lungs
5984	Jos. G. Luat	59	Nov. 24, '15	Death.	500	Jan. 15, '16	Diabetes	
5985	John Joest	160	Nov. 24, '15	Death.	1500	Jan. 15, '16	Bright's disease	
5986	Herbert A. Flint	198	Nov. 29, '15	Death.	1500	Jan. 15, '16	Blood poison	
5987	Rhino C. Meyers	240	Nov. 29, '15	Death.	1500	Jan. 15, '16	Falling from engine	
5988	David D. Padgett	780	Nov. 29, '15	Death.	1500	Jan. 15, '16	Boiler explosion	
5989	Chas. E. Page	9	Nov. 29, '15	Disab.	1500	Jan. 15, '16	.....	Locomotor ataxia
5990	Chas. T. Flynn	215	Nov. 29, '15	Disab.	1500	Jan. 15, '16	.....	Consumption of lungs
5993	Geo. H. Shultz	7	Nov. 30, '15	Death.	2000	Jan. 15, '16	Consumption of lungs	
5994	Edward J. Roche	44	Nov. 30, '15	Death.	2000	Jan. 15, '16	Striking car	
5995	Thos. R. Cruthers	863	Nov. 30, '15	Death.	1500	Jan. 15, '16	Lung and heart dis.	
5996	Elgie Saunders	116	Dec. 2, '15	Death.	1000	Jan. 15, '16	Typhoid fever	
5997	J. D. Skelton	8	Dec. 2, '15	Disab.	2000	Jan. 15, '16	.....	Bright's disease
5998	R. C. May	604	Dec. 2, '15	Disab.	1500	Jan. 15, '16	.....	Consumption of lungs
6000	Rob't A. Carnegie	767	Dec. 2, '15	Disab.	1500	Jan. 15, '16	.....	Blind one eye
6003	Chas. H. McFall	276	Dec. 4, '15	Death.	1500	Jan. 15, '16	Pneumonia	
6004	Walter Cowling	841	Dec. 4, '15	Death.	1000	Jan. 15, '16	Killed in battle	
6005	Patrick Delaney	496	Dec. 4, '15	Death.	1500	Jan. 15, '16	Consumption of lungs	
6006	John T. Gallagher	57	Dec. 7, '15	Death.	500	Jan. 15, '16	Falling from train	
6007	Henry C. Songer	59	Dec. 7, '15	Death.	1500	Jan. 15, '16	Falling from trestle	
6008	Patrick T. Grace	101	Dec. 7, '15	Death.	1500	Jan. 15, '16	Intestinal obstruction	
6009	Thos. Brown, Jr.	486	Dec. 7, '15	Death.	1500	Jan. 15, '16	Thrown from wagon	
6010	Jas. D. Ayers	446	Dec. 7, '15	Death.	1500	Jan. 15, '16	Struck by train	
6011	Fred C. Henry	659	Dec. 7, '15	Death.	500	Jan. 15, '16	Run over by cars	
6012	Walter J. Weber	89	Dec. 7, '15	Disab.	2000	Jan. 15, '16	.....	Bright's disease
6015	W. J. McDonald	427	Dec. 7, '15	Disab.	1500	Jan. 15, '16	.....	Heart disease
6017	H. Viar	236	Dec. 8, '15	Death.	1000	Jan. 15, '16	Consumption of lungs	
6018	Jas. D. Lester	590	Dec. 8, '15	Death.	1000	Jan. 15, '16	Drowned	
6019	Robt. G. Murray	115	Dec. 9, '15	Death.	1500	Jan. 15, '16	Bright's disease	
6021	Philip J. Sharrard	84	Dec. 9, '15	Disab.	2000	Jan. 15, '16	.....	Blind one eye
6023	Louis B. Dennis	59	Dec. 13, '15	Disab.	1500	Jan. 15, '16	.....	Consumption of lungs
6024	Jos. B. Jones	88	Dec. 13, '15	Disab.	1500	Jan. 15, '16	.....	Amputation of foot
6025	John H. Taylor	84	Dec. 13, '15	Disab.	500	Jan. 15, '16	.....	Locomotor ataxia
6027	Thos. H. Hawkins	105	Dec. 13, '15	Death.	1500	Jan. 15, '16	Pneumonia	
6028	Wm. H. Frederick	212	Dec. 13, '15	Death.	1500	Jan. 15, '16	Crushed bet. engines	
6029	Lewis B. Miller	384	Dec. 13, '15	Death.	1000	Jan. 15, '16	Heart disease	
6030	Wm. O. Greer	444	Dec. 13, '15	Death.	1500	Jan. 15, '16	Suicide	
6031	Chas. J. Flint	248	Dec. 14, '15	Disab.	1500	Jan. 15, '16	.....	Bright's disease
6034	Allen J. Kelly	196	Dec. 14, '15	Disab.	500	Jan. 15, '16	.....	Amputation of foot
6035	Richard Hampleman	217	Dec. 14, '15	Death.	1500	Jan. 15, '16	Collision	
6036	Henry Barr	827	Dec. 14, '15	Death.	1500	Jan. 15, '16	Consumption of lungs	
6037	Bernice H. Roberson	591	Dec. 14, '15	Death.	1500	Jan. 15, '16	Boiler explosion	
6038	Herman F. Zelt	141	Dec. 15, '15	Death.	1000	Jan. 15, '16	Boiler explosion	
6039	Claude Rhodes	824	Dec. 15, '15	Death.	1500	Jan. 15, '16	Tertiary leucic	
6041	Wm. L. Keith	667	Dec. 15, '15	Disab.	1500	Jan. 15, '16	.....	Consumption of lungs

Statement of Funeral Benefit Claims

FILED WITH THE GENERAL SECRETARY AND TREASURER DURING THE MONTH ENDING DECEMBER 15, 1915.

No. of Claim	NAME OF MEMBER	No. of Lodge	Date of Filing	Amount of Ben. Cert.	When Payable if Approved	Cause of Death
97	Wm. F. Wall	188	Nov. 18, '15	\$175	Jan. 15, '16	Hemorrhage of brain
98	Guy B. Wood	28	Nov. 28, '15	175	Jan. 15, '16	Heart disease
99	John Q. Mays	115	Dec. 2, '15	175	Jan. 15, '16	Consumption of lungs
100	Chas. H. Lupton	448	Dec. 18, '15	175	Jan. 15, '16	Pneumonia

Statement of Funeral Benefit Claims

PAID BY THE GENERAL SECRETARY AND TREASURER FROM OCTOBER 31, 1915, TO NOVEMBER 30, 1915.

Claim No.	Lodge No.	NAME	Class	Amount	Cause of Death
90	107	Emerson W. Hoover	Hon.	\$175 00	Bright's disease
91	174	J. B. Huston	Hon.	175 00	Endocarditis
92	286	Wm. D. Cornwall	N. E.	175 00	Consumption of lungs
93	42	Frank J. McNamara	N. E.	175 00	Acute indigestion

4 claims, aggregating \$700.00

Statement of Benevolent Claims

PAID BY THE GENERAL SECRETARY AND TREASURER, FROM OCTOBER 31, 1915, TO NOVEMBER 30, 1915.

Claim No.	Lodge No.	NAME	Amount Carried	Amount Allowed
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No new claims.

Paid on claims previously published \$2,815.00

Statement of Consumption Allowances

PAID BY THE GENERAL SECRETARY AND TREASURER FROM OCTOBER 31, 1915, TO NOVEMBER 30, 1915, UNDER THE PROVISIONS OF PARAGRAPH (b), SECTION 12 OF ARTICLE 12, OF THE CONSTITUTION.

Claim No.	Lodge No.	NAME	Amount
5783	888	Floyd H. Mosier	\$ 50.00
5780	78	Oney E. Mahoney, Jr.	50.00
5850	287	Bernard Dunlap	50.00
5858	420	Martin A. Longstreet	50.00
5858	548	Edward A. Burke	50.00
5780	625	Lillian L. Conner	50.00

6 Claims paid, aggregating \$ 800.00

Paid on Claims previously published 8,000.00

Total \$8,800.00

Beneficiary, General, Protective, Funeral Benefit and Local Assessments for the Month of February, 1916.

OFFICE OF THE GRAND LODGE, B. OF L. F. AND E. }
PEORIA, ILL., January 1, 1916. }

To all Members of Subordinate Lodges:

SIRS AND BROTHERS—You are hereby notified that Beneficiary Assessment for the payment of death and disability claims, General Fund Assessment, Protective Fund Assessment, Funeral Benefit and Local Assessment, are now payable and must be paid to the Financial Secretary of your lodge on or before February 1, 1916, in the following amounts, viz.:

	Beneficiary Assessment.	General Fund Assessment.	Protective Fund Assessment.	Funeral Benefit
Class E Members.....	\$3 30	\$0 25	\$0 10	.....
Class F Members.....	2 75	25	10	.....
Class D Members.....	2 30	25	10	.....
Class A Members.....	1 65	25	10	.....
Class B Members.....	1 10	25	10	.....
Class C Members.....	55	25	10	.....
Non-Ben. Members		25	10	\$0 25
Honorary Members		25	10	25



Local Lodge Assessment in such an amount as may be determined by your lodge, but in no case to be less than twenty-five (\$0.25) cents.

Any member failing or declining to make payment, as above provided, will be subject to expulsion from the order as per Section 8, Article 19 of the Constitution, said expulsion taking effect February 2, 1916.

Yours fraternally,

W. S. CARTER,
President.

A. H. HAWLEY,
General Secretary and Treasurer.

Notice to Financial Secretaries.

OFFICE OF THE GRAND LODGE, B. OF L. F. AND E. }
PEORIA, ILL., January 1, 1916. }

To Financial Secretaries of Subordinate Lodges:

SIRS AND BROTHERS—You are hereby notified to collect Beneficiary, General Fund, Protective Fund and Local Assessments (now due and payable on or before February 1, 1916), from all beneficiary members on the rolls of your lodge January 31, 1916, and *Funeral Benefit Assessment from all Honorary and Non-Beneficiary Members*. General and Protective Fund Assessments from all members in the following amounts, viz.:

	Beneficiary Assessment.	General Fund Assessment.	Protective Fund Assessment.	Funeral Benefit
Class E Members.....	\$3 30	\$0 25	\$0 10	.....
Class F Members.....	2 75	25	10	.....
Class D Members.....	2 30	25	10	.....
Class A Members.....	1 65	25	10	.....
Class B Members.....	1 10	25	10	.....
Class C Members.....	55	25	10	.....
Non-Ben. Members		25	10	\$0 25
Honorary Members		25	10	25

You will collect from all members Local Lodge Assessment in such an amount as may be determined by your lodge—in no case to be less than twenty-five (\$0.25) cents. All Grand Lodge Assessments to be forwarded on the forms furnished by the Grand Lodge, same to reach the General Secretary and Treasurer not later than the 20th of February, 1916.

Every member whose application for Beneficiary Certificate is approved by the General Medical Examiner during the month of January will be liable for double the above amount for Beneficiary Assessment for the month of February, according to class of certificate.

Yours fraternally,



W. S. CARTER,
President.

A. H. HAWLEY,
General Secretary and Treasurer.



Notice.

Communications intended for publication in the Ladies' Department of the Magazine should, in all cases, be addressed to the Editress, Agnes G. Strong, 527 Greene Street, Boone, Iowa.

Matter for the Grand President should be addressed to Mrs. Maude E. Moore, 15 Market Place, Stratford, Ontario, Canada, and that for the Grand Secretary and Treasurer to Mrs. Mary E. DuBois, 711 Story Street, Boone, Iowa.

Correspondents are requested, when sending communications for publication in the Magazine, to kindly write on one side of the paper only, and if matter is typewritten it should be written double space.



Happy New Year.

We are stepping upon the threshold of another twelve months. The record of 1915 is closed and no power of ours can change it, but may we not turn back the pages and from failures and mistakes learn wisdom? Resolutions are useless unless they are followed by their fulfillment.

The pages of this new book are pure and white and they wait our thought and action. Let us record on this first page that sweetest of lessons taught through the glad season just closed—"Love one another." Let each day record some helpful words spoken and some good deeds done. Let us try to exemplify in our lives the virtues taught by the lowly Nazarene.

AGNES G. STRONG.

Greetings from Our Grand President.

Once again we face another year with its possibilities. It seems but a very short time since the 1915 New Year greetings were penned. Time on its swift wings has carried us through twelve months, and now we look back on our work and we alone know if we have faithfully carried out the work we should have done, and done the best with our time and opportunities.

Many who were with us last year have laid the burden down, and are at rest, and it remains with us to carry on the good work—to ring out the bells of success each month, chiming with an anthem of enthusiasm that will delight prosperous lodges and strengthen those that struggle for existence, and to let our light so shine that it will generate in those eligible for membership a strong desire to be one of us.

The year that has just passed, while not as successful with regard to the increase of membership, was one of universal peace throughout our society. Very little friction was evident, which is cause for thankfulness. The depression, which was general throughout the continent of North America, prevented the growth of our order to some extent, but in the coming year we hope to overcome same.

Let each member get that "go-ahead" spirit and enthusiasm that is sure to tell. Let the new officers who are entrusted with the affairs of the lodge be so actuated and keep their lodge in the front

rank, always remembering that it is the duty of every member to support their lodge under any circumstances, avoid if possible any cloudburst that will disturb the serenity of their lodge, be very jealous of its honor, and strain to exemplify within and without their lodge the excellent principals of our motto.

The progressive lodge is the one that conducts its business in the lodge room only and hides the shortcomings of its officers and members from the public.

We want to make this year 1916 a banner year. We want to gain in membership and make our standing one to be proud of. To do this we must strengthen the tie of sympathy, keep in touch with the heart of the organization by personal contact—the interchange of thought with thought. From these sources alone will we reap a rich harvest.

More is required of a member than attendance at the meetings, and payment of dues. We want our members to elevate the standard of our order. Let us ask ourselves what we have done in the past year, and what we are doing in the active practice of Charity out of our lodge. Let us all remember that the development of the inner individual life is to be found in the true conception and faithful performance of duty.

So let us go forth, firm in our desire and determination to do good work so when the year closes we can say,—

"I do not know where falls the seed that I have tried to sow with greatest care;

But I shall know
The memory of each waiting hour below,
Sometime,—somewhere."

With best wishes for every success in the New Year in all your undertakings, and with best wishes to each individual member and the organization at large.

MAUDE E. MOORE.



"Lest We Forget."

In view of the laws made at the last convention in connection with changes in our amendments to the Constitution, kindly note the following:

Sec. 62—AMENDMENTS TO CONSTITUTION—HOW MADE.—The Constitution of the Grand Lodge and Subordinate Lodges may be altered, amended or repealed at a meeting of the Grand Lodge in the following manner: The proposed alteration or amendment shall quote in full the section to be altered, amended or repealed and incorporating therein the alterations or amendments sought to be made, and shall also have the seal of the lodge attached thereto, attested by the signature of the Secretary of the lodge, as well as five members thereof, including the Presi-

dent, and filed with the Grand Secretary and Treasurer not less than sixty days prior to the next meeting of the Grand Lodge. The Grand Secretary and Treasurer shall refer, for consideration and recommendation to the Grand Lodge, all such proposed alterations and amendments to the Committee on Constitution and By-Laws, the members of which shall be convened, by the Grand President, in the city where the meeting of the Grand Lodge is to be held, at least three days prior to said meeting. Grand Lodge officers shall have the right to submit such alterations or amendments as they may deem advisable. Every alteration or amendment referred to the said committee shall be reported back to the meeting, and if its recommendation is adopted by a two-thirds vote of the members present, it shall become the law of the Society, and unless otherwise directed, it shall go in effect the first day of January of the ensuing year. Provided, that no alteration or amendment submitted after the expiration of the sixty days herein provided, or which does not state the number of clause, sentence or section to be altered or amended, shall be received or entertained by the Grand Lodge.

(Note.—The First Triennial Meeting of the Grand Lodge directed that hereafter all proposed alterations or amendments to the laws shall be submitted or filed with the Grand Secretary and Treasurer not less than sixty days prior to the next meeting of the Grand Lodge.)

Therefore, any alteration or amendment submitted or offered thereafter, or which is not in strict conformity with Section 62, would not and could not be considered.

Sec. 168. The reports of all Grand Lodge Officers shall be printed before the Grand Lodge convenes. All Grand Officers shall submit their reports to the Grand Secretary and Treasurer, not later than February 1 of the year in which the Triennial Meetings of the Grand Lodge is held, that the said officer may have ample time for printing and shipping.

All resolutions, properly written and signed by the required number of members of your lodge must be in the office of the Grand Secretary and Treasurer not later than April 3, 1916.

Immediately after the election of officers the secretary should report to the office of Grand Secretary and Treasurer all changes in officers, and also the name of the delegate (and alternate) elected to represent her lodge at the coming convention to be held in Denver, Colo., June 5, 1916.

The president and secretary of each local lodge should see that the resolutions of her lodge are made to conform with the above Section 62, that they may have due consideration by the Committee on Constitution and By-Laws and be taken up by the convention.

If the work is well done by the lodges the work of the convention will be correspondingly improved.

Let every sister and also every Grand Lodge Officer put forth her very best efforts that the coming convention may go down in history as the "best ever."

MARY E. DuBois,
Grand Secretary and Treasurer.



A Recipe.

Just mix a little sunshine with a smile,
Then when feeling glum or blue,
Why, just take a dose or two,
And you'll feel better in a little while.

J. ALEX KILLINGSWORTH,
St. Thomas, Ont., Canada.



A Happy New Year.

This is a greeting that is not bounded by latitude or longitude, and there are few places in the civilized world where it is not annually heard. In all sincerity, we join the host of well-wishers, and extend to our readers a salutation which has for centuries been the expression of feelings of friendship and good-will.

Standing on the threshold of the New Year, there is something pleasant, and yet something sad in thinking of the days that are no more.

The threads that run through the web of life are of many colors. Last year there were welcomes and farewells; smiles and tears; sunshine and darkness; success and failures; encouragements and discouragements.

The beginning of a New Year is generally started with good resolutions. Unfortunately many of these resolutions are soon broken, and yet, there is some benefit to be derived from the mere making of them, whether we are successful in keeping them or not.

The making of a resolution is a determination to discard something that is wrong, and that of itself is one step taken toward embracing the right.

The resolution is the best part of human nature, the not keeping it is an evidence of human weakness.

Sisters, let us endeavor to live true up to our motto and let our order be nearer and dearer to you than ever before; join hands and hearts and let us make 1916 the banner year, and let us endeavor to promote the B. of L. F. and E.,—the order we all love, and without which we could not exist.

Let us, like the good Janus, for whom the month of January is named, look forward as well as backwards, and by the

light of past experience accomplish more than we have ever done.

I send my greetings, full of love and good wishes, to my associate Grand Officers and each and every member of the Ladies' Society. We know not what the coming year has in store for each one, but whatever of joy or sorrow comes, may each be ready to meet it and accept, for such is life.

ELIZABETH SMITH,
Chairman Board of Grand Trustees.



New Year Greetings.

New Year greetings to all who are interested in our Ladies' Society, and may the new year bring to each and every one of you the joys "with interest" that the old year withheld.

All members of the Ladies' Society join with me in sending greetings to you who are not as interested as you ought to be, and extend an invitation to come join our union band. We are earnestly striving to fulfill the ideals of the founder of our order—to be a friend indeed to the fireman when the dark shadows gather, and to be ready to help those he leaves at home while out on his run. The uncertainty of life, and the ever-changing and unexpected conditions that the morrow might bring creates a demand for emergency, which we aim to meet promptly and efficiently. This demand comes oftener to the railroad man's home, than to any other home. We must be ever ready to extend the hand of charity and render first aid to broken hearts by giving freely of that loving kindness and encouragement of which the world has so much need.

The many and beautiful precepts of our organization endear it to the hearts of loyal members. Earnest souls cannot come in contact with its splendid work without gaining a helpful and lasting knowledge of the real "worth-while" things of life, not least among them—service to others and a belief in that inevitable law that we must live the things we teach, or our work is in vain. This kind of living calls for self-denial and some other sacrifices we do not like, but live them we must if we want to win—and its the winning that counts.

We must ever bear in mind that the race we start from the cradle is not won or lost until the rope that lowers our casket is withdrawn from the grave, and He who is our rightful Judge, gives us our crown of victory or cross of failure.

STENA WARD,
Chairman Grand Executive Board.

Welcome 1916.

While we feel sad to say "Good-bye" to the old year, still we always welcome the New Year and make plans whereby our own individual lodge and the Ladies' Society as a whole will be benefited.

How many of us make resolutions that we will attend our lodge meetings more regularly; will bring in at least one new member in this year and many other things that will be a benefit to our lodge, and then do we keep them? I hope more of such resolutions will be made and more kept in this year 1916.

Did you ever think that each member is responsible for the success or failure of her own lodge? If each one of us do our "bit," think where our society will stand.

Each officer of a lodge should consider it her duty to be at her post to open the meeting, unless unavoidably kept away. Don't let little things detain you.

And, sisters, do not forget the hearty handshake when you go to your lodge meetings. It will help all and especially the timid sister to feel more at home. After all it is the little things that count.

When discussions arise in the lodge room, don't bring in "what we do in other orders" that we may belong to, but go to our Constitutions and By-Laws, and if we cannot find something there to satisfy have the secretary write to our Grand President or one of her subordinate officers, with whom you may be acquainted, and I am sure you will get help.

Now, sisters, as members of the Ladies' Society, let us be exemplary ones, doing as little harm as possible and as much good as we can.

I wish you, one and all, a happy and prosperous 1916.

M. LILLIAN YOUNGS,
Member Board of Grand Trustees.



The Big Ten.

Below is given the membership of the ten largest lodges of the Ladies' Society of the B. of L. F. and E., as reported December 1, 1915:

1. No. 3, Hazel, Peoria, Ill.164
2. No. 125, Charity, Jackson, Mich.129
3. No. 28, Hyacinth, Fort Wayne, Ind.122
4. No. 81, E Pluribus Unum, Logansport, Ind.122
5. No. 10, Helpmate, Elkhart, Ind.109
6. No. 60, Pride of 174, Harrisburg, Pa.107
7. No. 142, Empire, Buffalo, N. Y. 105
8. No. 36, Autumn Leaf, Sayre, Pa. 99

9. No. 59, Easter Lily, Pt. Jervis, N. Y. 90
10. No. 113, Fort Orange, Albany, N. Y. 86



Acknowledgment.

Bro. T. D. Turner, Lodge 368, B. of L. F. and E., Springfield, Mo., desires to thank the Grand Lodge of the Ladies' Society for the prompt payment of \$500 insurance claim of his late wife, who was a member of Lodge 276, Ladies' Society. In a letter to the Grand Secretary and Treasurer he says: "I appreciate very much the efforts put forth by the members. They had full charge of the funeral and the services were very impressive and will never be forgotten."



New Lodge Organized in Virginia.

Tidewater Lodge 19, Victoria, Va., was organized November 25, 1915, with a charter membership of thirteen.

Organizer Sister May Bless, Harrisburg, Pa.



Suppose You Try Smiling.

Your burden is heavy, I haven't a doubt,
But others have loads they must carry
about;

And they are not whining.
Some people are glad if but half of the
day

Lies out of the shadow, or part of the
day

They see the sun shining:
I know you are lonely, but other hearts
ache

And bravely refuse to be bitter or break
Because of life's sorrow.

They think of the joy in the lands far
away,

And hasten the slow passing hours of to-
day

With hopes of tomorrow.
Suppose you try smiling.
This funny old world is a mirror, you
know,

Turn its way with a sneer, or the face
of a foe,

And you will see trouble.
But meet it with laughter and looks full
of cheer,

And back will come sunshine and love
true and dear

Your blessings to double;
Suppose you try smiling.

All places are open to those who are glad,
Too many lack courage, too many are sad,
Those near you need cheering;
So sing with your burden, the way is not
long.

And if you look upward your heart will
grow strong,

And skies will be clearing;
Suppose you try smiling.

—MYRA GOODWIN PLANTZ.

Encouragement.

BY ADELBERT CLARK.

The little crosses that we bear
 Would not seem half so great,
 If we would loosen up the chains
 Of envy and of hate;
 If we would sing the happy song
 That others love to hear,
 Even though it did not bring to us
 A grain of hope or cheer.

The cross is not so heavy, when
 We help another soul,
 We're on a higher plane and stand
 Much nearer to the goal.
 Take heart, dear friend, and sing the song
 That other souls would hear,
 And the singing of the song shall be
 The sunshine of the year.

The little crosses that we bear
 Will lessen in their weight,
 And strength will come renewed to us
 Before we reach the gate.
 A smile will take the place of scowl
 When we have faced the morn.
 The sweetest lilies ever grew,
 In blackest soil were born.

**Retrospection.**

When this letter finds its way into print the year 1915 will have faded into history. In our lodge work we have been most blessed, all our members having been spared to us, meetings fairly attended and no decline of general interest among our members. We have added four new sisters during the past year, and have several more in view. We have held our social gatherings once a month during nearly the entire year, namely, with Sisters Peet, Bell, Sigsbee and Sherman, two in the lodge room and one with Mrs. O. A. DuPuis, who is not a member but a staunch friend of Autumn Lodge. Her husband not being a railroad man she cannot join the Ladies' Society, but aids us in every way, and her name is written deeply upon our hearts if not upon our list of membership.

Our board of trustees have found the work most pleasant this year, meeting each quarter at the home of our collector, Sister Sherman, and enjoying her dainty luncheons after the business of the meeting is over. I hope all sister lodges have as pleasant hours following that line of work as have we.

Sisters Lulu Hunt, of Portlandville, N. Y., and Mary Hayse, of Whitehall, N. Y., have been called upon each to give up a beloved child by a drowning accident. Brother and Sister Hunt's son Ornil was their only child, and a boy beloved by all who knew him. The family home is close by a lake. The little fellow, a good swimmer, was taken with chills

and sank to his death in sight of the house, scarcely ten minutes after leaving his parents' side. While deeply shocked at their sad bereavement, we could only stand helplessly by in that sad hour and ask the Heavenly Father to give to Brother and Sister Hunt the comfort we prayed for them to have.

Scarcely three months later Brother and Sister Hayse gave up their youngest daughter Kathleen to the waters of Lake Bomoseen, in the State of Vermont, where she was spending the day with a camping party. With her perished Miss Georgia Neddo, a friend of the family, who gave up her life trying to save the child. Surely no greater love is there than this, "that he giveth up his life for another."

Dear friends, "The pure in heart shall see God," and your loved ones today are beyond the sorrows and trials of earth, and for you there are the comforting words of W. G. Bryant, who wrote:
 God hath marked each sorrowing day,
 And numbered every tear,
 And Heaven's long age of bliss shall pay
 For all we suffer here.

IMOGENE BATES.

**Influence.**

"Beautiful valley of Eden,
 Home of the pure and blest,
 How often amid the wild billows
 I dream of thy rest—sweet rest."

Teaching school in the rural districts was not just the same in the early days as it is today.

The teacher was not "chooser," but "beggar," and had to go where she could, whether with congenial people, or otherwise. Sometimes the surroundings were very unpleasant,—and one had to adapt themselves to conditions. As a rule, however, the homes and people were generally pleasant.

In my many years of teaching I was in homes of all kinds and conditions, but one home in particular I am going to write of here. The people were three, all over 65 years of age—a man, his wife and her sister, a widow. I dreaded going there, for I thought it would be dull and lonesome for me. I arrived late Sunday evening. There was an air about the people and the home that seemed to breathe words of welcome and peace and harmony.

The next morning I went down to breakfast and the wife told me to be seated. The husband started the sweet sacred hymn, the chorus of which I have headed this little writing with, and all joined with him. Dear reader, I wish you all could have heard those dear old

voices, so low, tremulous and sweet, singing those precious words of promise and rest. It was not like any singing I had ever heard. The words lifted my mind from earth's trials and sorrows up and beyond and away, until it seemed I could almost see that Beautiful Valley. When the singing ceased the husband opened a well-worn Bible and read a few verses of Scripture, after which all knelt in prayer, and a petition was sent to God to protect us and guide us through the coming day. Every day was begun in prayer and ended in prayer. Every deed and word of theirs was an influence for a pure and upright life, and I have always been so thankful that I have had the privilege of living in that home and could have that loving Christian influence as I did. Many times those scenes come back to me, and though those dear ones have long since passed to the Great Beyond, I know their influence for good has extended far beyond their "ken." If I ever reach that Beautiful Valley of Eden that we all are striving to reach, I shall know the influence of those dear old people helped to bring me there.

D. R.



Nineteen Hundred Fifteen.

Swiftly and silently has the year nineteen hundred fifteen swept away while from the budding leaves to the last brown shock of corn in the wind-tossed field we have watched its growth, and now only the tender memories linger in our hearts to remind us of what it held and whether good or evil it may not come to us again.

In our lodge-life we have been most successful. Our membership shows a fair increase and likewise we have gained a goodly number of new lodges considering the tragic condition of the times; and never have we been better off in our financial standing. As a whole we have little to be dissatisfied with. Standing then upon such good basis this glad New Year should be a most happy one in every sense.

In this first month of the twelve, we seat our newly-elected officers. Let us see to it that we uphold and give to them every sisterly consideration possible throughout the entire three hundred and sixty-five days. Suppose each one of us secures a new member; think of what our increase in membership would be for just this one year; assuming that we are every one able to attend meeting regularly this year; what a pleasure it would be and what a help to the local lodges, were we to perfect ourselves in the ritualistic work; become familiar with the Constitu-

tion and By-Laws and enter heartily into every plan that is for the betterment of our individual lodges, what an improvement it would be for the entire Ladies' Society—and after so doing to realize it was just what we promised to do when we became a member. I suspect we all take the obligation filled with the highest ideals about the running of things and how hard we were going to help keep them going smoothly. Whether we have been able to keep to that standard or not each heart must answer for itself. If at times we have been disappointed, did we lose heart at once or have we tried to make the lodge just what we expected it would be; might there not be a mutual failure of expectation? The other members may have held the same thoughts about us that we have not fulfilled, so we had better brighten up every one of those good thoughts that we used to have and come right back. Every lodge wants the smiling faces and happy hearts. We need the social side just as much as we need the beneficial. Remember the beneficial part will go to our friends anyway after we are gone, so we may just as well go to meeting and be sociable and receive the many blessings offered by the Ladies' Society instead of simply paying our dues and remaining away nursing some tiny grievance that a word or two would make right and could be easily forgotten if we so willed.

Let's start this new year aright. Nineteen hundred and sixteen is the light in the window and it is always burning to welcome the absent ones.

"We would rest ere the work is done.

Ere the Master's satisfied?
So toil we must till the set of sun

Lest the hire be denied.
And so till the set of sun toil on,

Oh, soul of mine achieve
Till the grand reward and the glory's won
For life's not make believe."

IMOGENE BATES.



Letters from Friends.

FROM L. S. 64—(*Magazine Correspondent, Denver, Colo.*) The first of 1915 we started a membership contest with our worthy president, Sister Strain, and worthy vice president, Sister Mabee, as captains. The winners are to have a banquet. The contest has brought out our members and added quite a number to our roll of membership.

We are very busy getting ready for the 1916 convention. Our worthy Grand President and Grand Secretary and Treasurer enjoyed their visit with us last May and when they leave after our con-

vention in 1916 we want them to have a warm spot in their hearts for every member of our beloved Colorado.

We have been very proud of the special compliment paid us by our Grand President, Sister Moore, at the union meeting held when she was in Denver. It has helped us to improve our floor work more than anything else could have done.

Our beloved Sister Lucy M. Tripp passed away on the morning of November 5th last, at Mercy hospital at the age of thirty-one years. She was an earnest worker and loyal member—always doing something that would help the Ladies' Society.

Our deepest sympathy goes out to her bereaved husband and little children. May God comfort them in their hour of sorrow. Best wishes to all sister lodges and love to our sister Editress.



FROM L. S. 255—(Member, Crestline, Ohio.) Pride of 299, No. 255, has not been heard from for some time, but nevertheless we are, thanks to the ambition of the "faithful few," still in existence. Although we have not done much in keeping our "goat" in action as we can only boast of one new member this year, we feel on account of the depression of business it was impossible to induce eligibles to join.

Our president, Sister Strough, having been absent quite a number of meetings on account of enjoying a trip across the country to Los Angeles, we were greatly benefited by the efficient work of our worthy vice president, Sister Lamoureux, in planning for our May Day dance from which we realized the sum of sixty dollars. It was our first public affair. Of course a great deal of our success was due to several of the brothers in selling tickets which was greatly appreciated. During the summer months our lodge held afternoon socials at the members' homes and during the winter months we give progressive euchre socials in our lodge room all of which have been very successful.

We celebrated our fourth anniversary on October 18th, having invited the members of Hyacinth Lodge of Fort Wayne, also Acme Lodge of Alliance, Ohio, to join us in our celebration. Covers were laid at the banquet table for seventy-five. Seventy responded to the announcement of a three course dinner. After the last course a great number of brothers and sisters responded to the call for remarks.

A musical program was afterwards rendered followed by dancing until a very late hour.

FROM L. S. 153—(Mary O. Whent, Schreiber, Ont.) Again we would let you know of the doings of Beaver No. 153. Although few in number our energy is strong and with the help of one another we strive to be successful in our undertakings.

Recently an afternoon tea was held at the home of our past president, Sister Dillion, and a goodly sum realized, which was turned over to the Red Cross Society, which is doing great work here to help our brave soldiers at the front. A number of brothers from Red Rock Lodge 387 have given themselves for the cause of their king and country, also a number of boys whose relatives are members of 153. I am sure they all take with them the good wishes and blessings of Beaver Lodge for a safe return.

I am sorry that we cannot report new members for 1915. I am sure I don't know what to say or who to blame for this. It really must be the fault of our single brothers in being too shy. However times have been so very poor in this country that one cannot blame them altogether, but I see there are a few who are eligible to become numbered with us and I feel sure now that times are brightening we will have a better report for 1916. Meetings have been very well attended.

There has been much sickness and a great many deaths in our midst. Sister Dillion and Sister Lidkea, formerly a member of 153, mourn the loss of their nephew and husband, respectively. Sister Lidkea who has been a member since the organization of 153, left Schreiber to make her home in the West, and until lately was getting along nicely when the sudden death of her husband spread shadows of sorrow over her home. Sister Lidkea's mother, Sister Holmes, is our vice president, and has been a member for a number of years. We extend our heartfelt sympathy to them in their sad bereavement.

A joint meeting was recently held with the brothers of Red Rock 387, at which time we had the pleasure of Brother Works' company. A most interesting meeting was held after which lunch was served by the sisters of 153.

May we not in this new year as officers and members make a special effort to visit the sick and shut-in's, to attend every meeting possible with a smile and a little joke. It will help brighten up the way, all will enjoy themselves and it will seem more like one large family out for an afternoon's pleasure. Is that not one of the chief objects of our order? Let us try as never before to work together for the good and welfare of our

own society and strive to live up to our splendid motto "Friendship and Charity."

We meet the first and third Thursday afternoons at three o'clock in Mechanic's Institute and a cordial invitation is extended visiting members to any meeting. Good luck to our dear Editress, Sister Agnes G. Strong, and all Grand Officers and all sister lodges.



FROM L. S. 269—(A. Fertig, Mauch Chunk, Pa.) Lodge 269 of Mauch Chunk celebrated their fourth anniversary in the Odd Fellow's hall on November 13th last. Members of Lehigh Lodge 251, B. of L. F. and E., were guests of the ladies, and the gathering was treated to select musical numbers through the generosity of C. S. Wilson, who played the Edison diamond disc machine. After the musical program followed a banquet which terminated toward midnight.

We were very sorry that our Grand President, Sister Maude E. Moore, was not with us on this occasion. We had made elaborate preparations to welcome her.



FROM L. S. 161—(M. E. Lindsay, West Toronto, Ont.) We have been at a standstill in regards to increasing our membership. We find our meetings very sociable and interesting, and we would like to see more of the sisters out and an extra effort made to attend all meetings and thus encourage our worthy president, Sister Burt, whom we know gives her time and labor for the good and welfare of our society.

We held our annual pumpkin pie social and euchre on October 31st last, and as usual were delighted to have with us the brothers of 262 who defrayed the expense of the euchre. A fine time was had.

We still continue remembering the boys at the front—having sent over our third parcel of gifts. Wish we could do more as the need is very urgent.

One quilt is progressing, but not as quickly as we would like; we meet to sew on it once a month at one of the sister's homes, and we certainly enjoy these meetings together and do good work.

Sorry to learn of our Grand President's illness and hope she is fully restored to her usual good health. I wish her, our dear Editress and all members a very happy and prosperous New Year.

FROM L. S. 278—(Pearl E. Lash, Montpelier, Ohio.) Sunrise sisters have not been heard from for some time but nevertheless we have been progressing. Our meetings are held regularly every two weeks with our faithful president, Dessie Casper in the chair. Our past president, Sister Ross, moved to Chicago with her husband and lived there for some time, but they have returned to us and we are very happy to have them back in Montpelier, for Sister Ross has been one of our faithful workers.

Our noodle supper to the public made for us \$29.00 clear. Sister Ethel Yoder, who has been our faithful treasurer for many months, has moved to Cleveland. We miss her very much, but our good wishes go with her and her husband to their new home.

A serious accident some while ago resulting in death came to our midst like a thunder bolt from a clear sky and took Brother Mervin Kirk. Sunrise sisters claim three members of Brother Kirk's family—a wife, sister and mother-in-law. Brother Kirk left a dear young wife and two sweet children. He was held in the highest esteem by everybody as was plainly seen by the vast throng of people representing every railroad man's order in his home town that followed him to his last resting place, and by the many floral tributes.

The sympathy of Sunrise sisters goes to Sister Sadie Schoenell in her late bereavement; also to our Grand President Sister Moore, and hope she will soon be entirely well again.

Sunrise sisters extend good wishes to our dear Editress and a standing invitation to her and any sisters who may come our way.



FROM L. S. 215—(Mabel E. Belden, Plattsburg, N. Y.) Lodge 215 is progressing. We have recently been called upon to part with one of our charter members, Sister Easica McKay, whose death came as a great shock, as she was ill but a few days. By her earnestness and sincerity and her kind and cheerful disposition, she endeared herself to all who came in contact with her.

To her husband and the other members of her family we extend sincere sympathy in this their sad bereavement.



FROM L. S. 165—(Ollie Martin, Trewton, Mo.) We have recently added two new names to our membership roll and at each initiation a light lunch was served

in honor of our new sisters. At the beginning of 1915 two captains were appointed and the membership divided on either side—one side entertaining each meeting. This has proven real helpful, as the entertaining side usually has a short program and lunch. Several times we have had prospective members to meet with us during our social hour after lodge meeting is closed.

On Hallowe'en we entertained the brothers' lodge by giving a social and two weeks later the brothers returned the hospitality by giving a big reception to the ladies. A feature of the brothers' entertainment was that they were their own cooks and their lunch was sure substantial and bountiful.

During the fall months we planned a Christmas bazaar, held December 16th and 17th. One day each week a sister had the members of our lodge meet with her and we worked on our fancy work for the bazaar. This promoted a splendid good time, besides accomplishing lots of work for the bazaar.

We cannot tell you of all the good times we have had, but we do extend to all sisters a standing invitation that whenever you are in or near Trenton be sure and visit Annabel Lodge 165, and then you will know our hospitality is unbounded.



FROM L. S. 366—(*Eulalia Groves, North Fond du Lac, Wis.*) On December 1st, Sisters Nelson and Davis entertained Paramount Lodge at a calico party. Sister Friess received the honor for the best costume, being dressed as Sunbonnet Sue. The rooms were prettily decorated in the lodge colors and the time was spent in playing games and a spelling match. Needless to state a good time was enjoyed by all who attended.

Paramount Lodge 366 holds its regular meetings the first and third Mondays of each month and a most cordial invitation is extended to visiting sisters.

Best wishes to all sister lodges for a happy New Year.



FROM L. S. 123—(*Mary E. Hicks, Derry, Pa.*) Pride of 310 Lodge 123 was organized in June, 1915, with a membership of seventeen. We have initiated three new members since being organized and hope to gain more new members in the near future. So many ladies have been held back on account of the depression in business.

Our meetings are held the second Thursday of each month. We have had

quite a number of social affairs since being organized. The first affair was a strawberry and ice cream social, held at the home of our secretary, Sister Romig, at which time all reported an enjoyable time. Then we had a measuring social at the home of our treasurer, Sister Paterson. The brothers' lodge was invited. Then a masquerade on Hallowe'en at the home of our vice president, Sister Rupert, who proved a very successful hostess. An old-fashioned taffy pull was the feature of the evening. A goodly sum was derived from each social.

Now, our plans are being made for a pumpkin pie social at the home of our chaplain.

May the year 1916 bring joy and happiness to all.



FROM L. S. 236—(*Cornelia Perry Francis, Covington, Ky.*) New Year greetings to one and all.

We have not contributed to the Ladies' Society Department of the Magazine for some time for it seems we don't have a great deal of news to write about, as it is very hard to get the members interested. They are so easily discouraged. Nevertheless we have a few days of sunshine along with the gloom. On July the twenty-second we held a lawn fete and cleared thirty dollars. We felt this was doing fine as there are so few of us to work.

We initiated two new members this summer and have other prospectives.

It made us very sad to hear of Sister Schoenell's great loss, for she is very dear to us and we look upon her as a big sister who will gladly at any time straighten out our troubles and give us advice. She visited us at different times and did us a world of good and if each sister would only follow her good advice and act accordingly I feel sure we could work in peace and harmony forever.



FROM L. S. 213—(*Flossie Miller, Wellington, Kan.*) We have two new candidates to initiate.

We meet the first and third Thursdays of each month at 2:30 o'clock and would be so glad to welcome visitors.

The second and fourth Thursday of each month we have our five cent socials at the home of some sister. Light refreshments are served but a fine of fifty cents is imposed if more than three articles of food are served. We all enjoy these meetings very much as it brings us together once each week and thus a greater interest is kept up.

FROM L. S. 354—(*Alice Mullaney, St. Marys, Pa.*) Lodge 354 is progressing rapidly in membership as well as socially. Our first entertainment was given by our president and secretary, Grace L. Dillion and Ruby Talbot, and was held at the home of the latter. Cards formed the principal amusement after which a musical program was rendered by several of our well known musicians. At twelve o'clock the guests repaired to the dining room and it is needless to say that all did full justice to the dainty chicken supper that was set before us.

Then the brothers entertained the members of 354 at a banquet. The hall was tastily decorated in the lodge and national colors. After the repast some time was spent in speech making, after which dancing was indulged in and just before the strains of "Home Sweet Home" Bro. C. E. Radaker presented us with ten dollars in gold as a token of esteem from brothers of 651.

On July 18th last we were entertained at the home of Brother and Sister Crawford in honor of the former's birthday. He was presented with an umbrella as a token of remembrance.

On September 24th last we celebrated in honor of our second anniversary. Suffice it to say that all present had a most delightful time. Sisters Pruyne and Hoffman must not be overlooked for two very pleasant evenings can be recorded as having been spent with them and all voted them royal entertainers.

Last, but not least, an evening of fun and frolic at a Hallowe'en party at which Brother and Sister Gahr were host and hostess. Arriving at the Gahr home we were met by two "ghosts" who escorted us into the house. After an hour spent in trying to ascertain "Who was Who," the masques were removed. Words are inadequate to describe the wierd and fantastic costumes. Various games were enjoyed throughout the evening after which refreshments were served. All present were so impressed that it was decided to make this an annual affair.

We have had several initiations lately and expect several more in the near future.

FROM L. S. 51—(*Nettie Tucker, Denison, Texas.*) The members of No. 51 are working hard for the interests of our order. The writer does not get to attend meetings as often as she would like, as she lives in Francis, Okla., one hundred miles from Denison, but it was her privilege to be present at meeting on November 3rd. On that day we had one candidate to initiate from Francis, Okla.

The officers all manifest great interest in their work and our president always wears the same sweet smile.

It is such a pleasure to read the letters from sisters in our Magazine.

I agree with Sister Ethel Rooks of Lodge 363 in her letter in the November issue in which she says we should always give our members a hearty hand shake when we enter our lodge room as it is so encouraging. In many ways it helps to encourage members to attend lodge meetings and makes those out of town members feel welcome. It is not much trouble to take a sister by the hand and say, "I am glad to see you present." It is a good habit to form.

Best wishes to all sister lodges, Grand Officers and our Editress for a happy and prosperous New Year.



FROM L. S. 96—(*P. E. Helferich, Fort Dodge, Iowa.*) We are pleased with our little lodge which was organized three years ago. We have had many banquets and birthday parties, and during the summer months have picnics in the parks.

At the election of officers the retiring president is always presented with a silver spoon with initials and number of lodge engraved on it.

On Sunday, December 5th last, we served a banquet for the brothers and had a pleasant time. Many new faces were seen in both lodges. Music was furnished by Miss May Gulliver on the piano and solos were sung by Brothers Sinclair, A. B. Keeney, L. Pray and S. Carrigan, which was much enjoyed by all present.

I wish you all success and prosperity in 1916.



FROM L. S. 157—(*Mildred Ashfield, Ottawa, Ont., Can.*) Wake Up Lodge is still in existence even if we are not heard from often. Recently we held a euchre and dance which proved very successful. We cleared twenty-five dollars.

With the New Year we are entering a contest for new members, the losing side to donate some article to the lodge room. We will let you know how we succeed later on.

Kindest regards to Sister Strong and sister lodges.



Death Report.

Sister Lucy Tripp, Lodge 64, Denver, Colo., died November 5, 1915. Cause of death, septic nephritis.

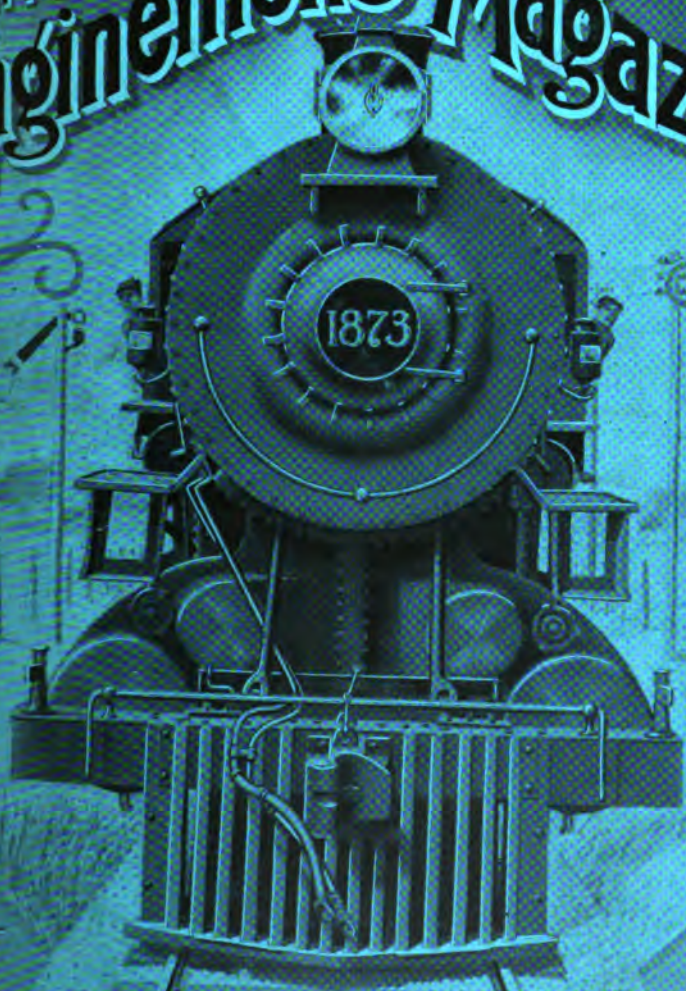
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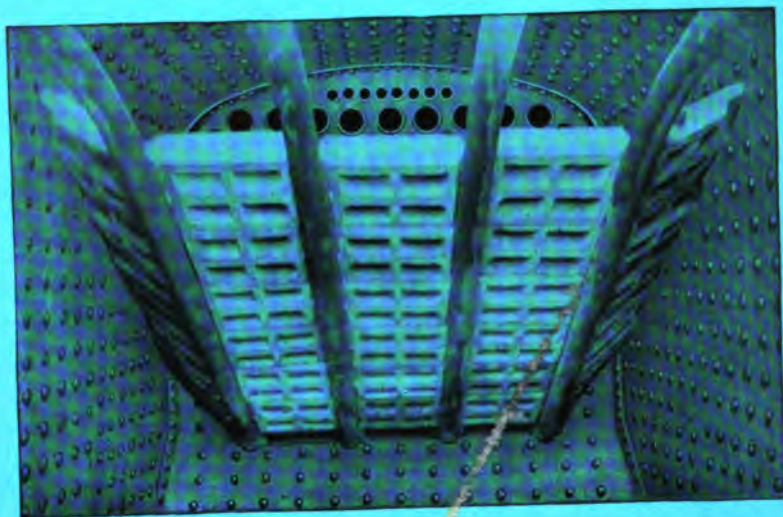


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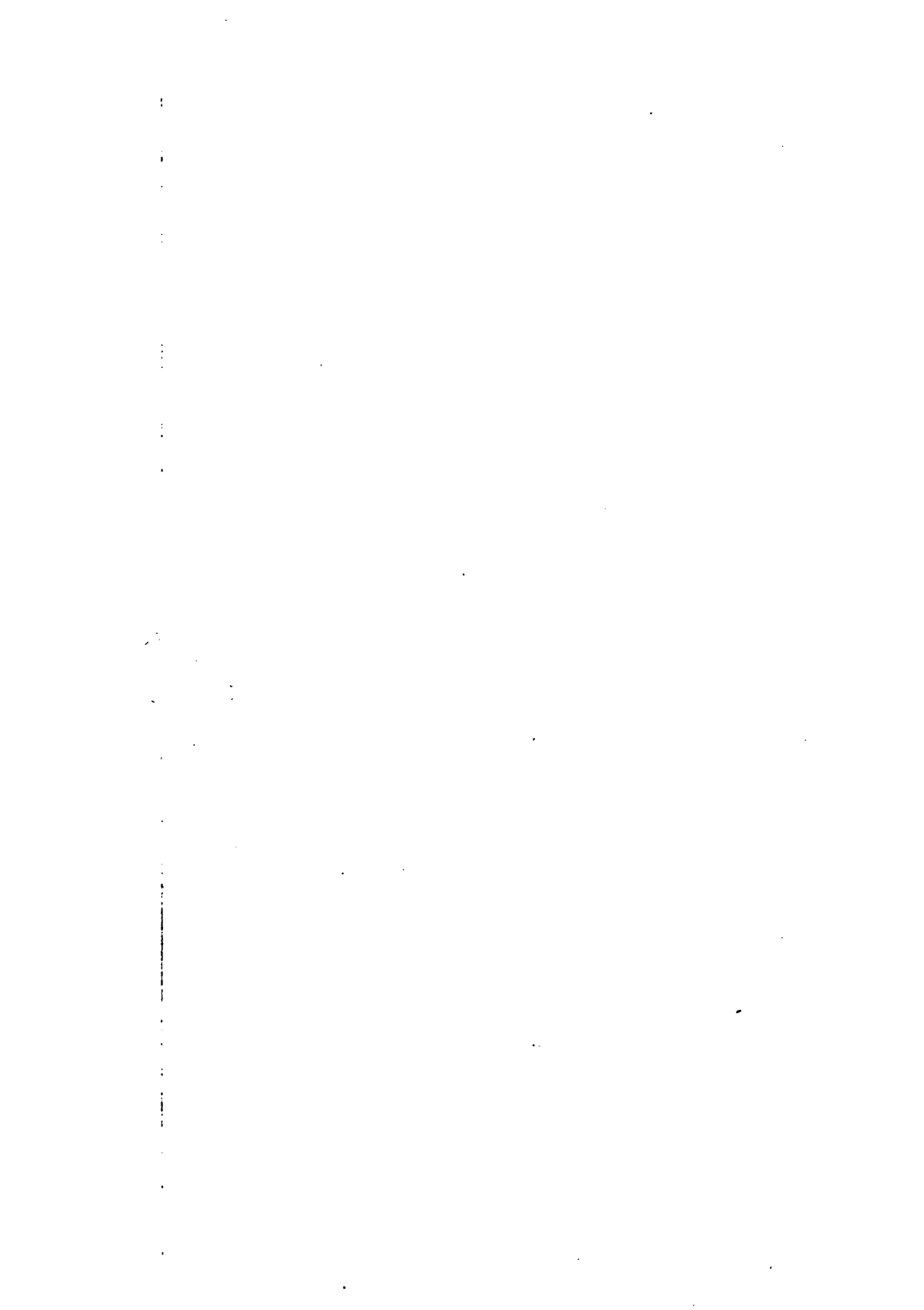
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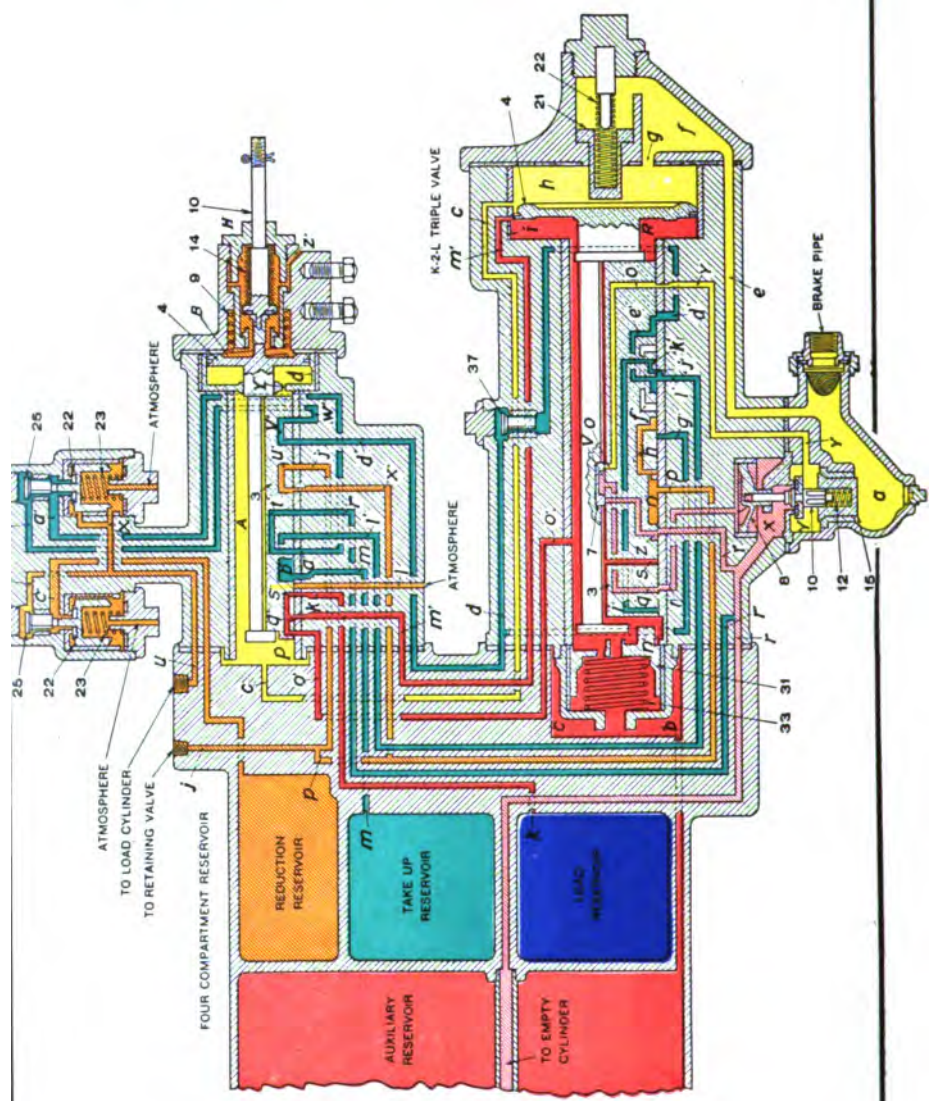
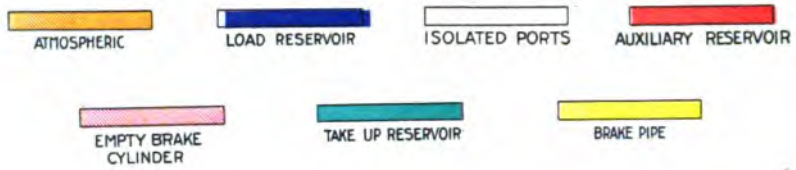


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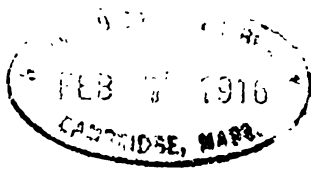
PRESSURES



Locomotive Firemen and Enginemen's Magazine Educational Charts
WESTINGHOUSE AIR BRAKE SERIES

PLATE 104—EMPTY AND LOAD BRAKE

View Showing Triple Valve in Quick Service Lap Position;
Change-Over Valve in Load Position, Diagrammatic



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COLUMBUS, OHIO,

FEBRUARY, 1916

PLATE 104--EMPTY AND LOAD BRAKE

View Showing Triple Valve in Quick Service Lap Position; Change-over Valve in Load Position, Diagrammatic

Plate 104 of the Westinghouse Air Brake Series of the Locomotive Firemen and Enginemen's Magazine Educational Charts shows the *KL* Triple Valve and H-3 Change-over Valve, with a portion of the Four-Compartment Reservoir, of the freight-car *Empty and Load Brake*, in a diagrammatic sectional view in which all of the parts are represented as though in one single plane. The Triple Valve is in **QUICK SERVICE LAP POSITION**; and the Change-over Valve is in **LOAD POSITION**.

The Triple Valve: The brake pipe reduction having ceased, when the auxiliary-reservoir pressure in slide-valve chamber *R*, feeding to the brake cylinder through port *z* in the slide valve and port *r* in the seat, had become slightly less than the remaining brake-pipe pressure on the right of triple-valve piston *4*, this change in the differential of the pressures on the piston forced it to move back to the left, until the shoulder of the piston stem struck the right-hand end of the slide valve, and the pressure differential not being great enough to overcome the frictional resistance of the slide valve upon its seat, the piston was stopped at that point. Meanwhile, the back-lapse of the piston carried with it the graduating valve, *7*, which closed ports *z* and *o* in the slide valve; the closing of port *z* stopped the further flow of auxiliary-reservoir air to the brake cylinder; and the closing of port

o—cutting it off from connection with port *q* in the slide valve—terminated the quick-service feed of brake-pipe air to the brake cylinder; the parts of the triple valve then being in the position of *Quick Service Lap*, as shown in the plate.

As the plate shows, the reaction of the triple-valve piston and slide valve to the *lap position* does not close nor affect any of the parts communicating with the change-over valve or the chambers of the four-compartment reservoir.

The Change-over Valve: *Lap position* for the change-over valve is the same as was described in last month's Magazine in explanation of Plate 103, *Full Service Position*, although in the present chart the valves 23 and check valves 25 are not yet shown as having seated.

Errata—Plate 100

In the descriptive matter accompanying Plate 100, in the October, 1915, issue of the Magazine, which showed the Triple Valve in FULL RELEASE AND CHARGING POSITION, and the Change-over Valve in LOAD POSITION, the closing paragraph was in error in stating that: "The reduction reservoir and take-up reservoir, as well as other chambers and ports of the change-over feature not herein alluded to, remain devoid of air pressure in this position," etc., as the coloring of the plate shows that the Reduction Reservoir, *only*, is "devoid of pressure" at this time, the other three reservoirs being in charge from the brake-pipe or auxiliary-reservoir pressures.

List of References on Locomotive Valve Gears, Mechanical Stokers and Motor Cars.

In the May, 1915, issue of the Magazine we published a "List of References on Locomotive Valve Gears," which was followed in the September, 1915, issue with a "List of References on Locomotive Mechanical Stokers," these lists being prepared by the Bureau of Railway Economics Library, Washington, D. C.

In the present issue will be found the first installment of a "List of References on Railway Motor Cars," same to be continued in our March number. The usefulness of these lists of references should be apparent to anyone who is interested in the subjects treated, as files of a large number of the periodicals to which the articles mentioned therein are credited can often be found in public libraries and reading rooms.



The Arrowrock Dam—Boise Irrigation Project.

The Arrowrock dam, near Boise, Idaho, which, after five years' work, has just been completed by the United States reclamation service, if not the highest, is one of the most wonderful

structures of its kind in the world. From the top to the low points of the foundation measures almost 350 feet. The dam impounds the waters of the Boise river and will serve the double purpose of flood prevention and irrigation. While the engineering work on this dam is justly regarded as a scientific triumph the most notable feature of the achievement is the fact that the United States government built the dam for \$5,500,000, a sum \$2,000,000 less than the original estimate. Had the same work been done by one of the big municipalities of the United States, the probability is that considering the graft and other trimmings incident to crooked politics, the project would have cost two or three millions more than the original estimate instead of two millions less, but the federal government has a way of its own for keeping graft out of such enterprises which operates so effectively that any attempt to "put a crooked deal over on Uncle Sam" is practically sure of detection and its promoters of punishment.

The entire cost of the system with its necessary connections, etc., is \$12,000,000. It will be employed in the Boise irrigation project, which embraces several hundred thousand acres of rich land. It is believed that in twenty years

settlers will have returned to the government its total original cost. The Arrowrock dam is a demonstration of the efficiency of the United States reclamation service and of its value to the people, and because of the success of this project the interesting question arises why not have the United States reclamation service drain the millions of acres of rich swamp land in the country and thus make productive vast tracts of soil

of that branch of the federal government. This is the only standard gauge road in the United States built and operated by the government. The president of the United States is, by virtue of his office, the official president of this road and has authority to issue passes over it. From its earnings since 1911, in which year it was built, a surplus has been turned back into the treasury of the United States. The de-



THE ARROWROCK DAM NEAR BOISE, IDAHO

Dam nearing completion, with water flowing through for irrigation below. The dam cost \$5,500,000 and was four and a half years in building. It contains 610,600 cubic yards of concrete.

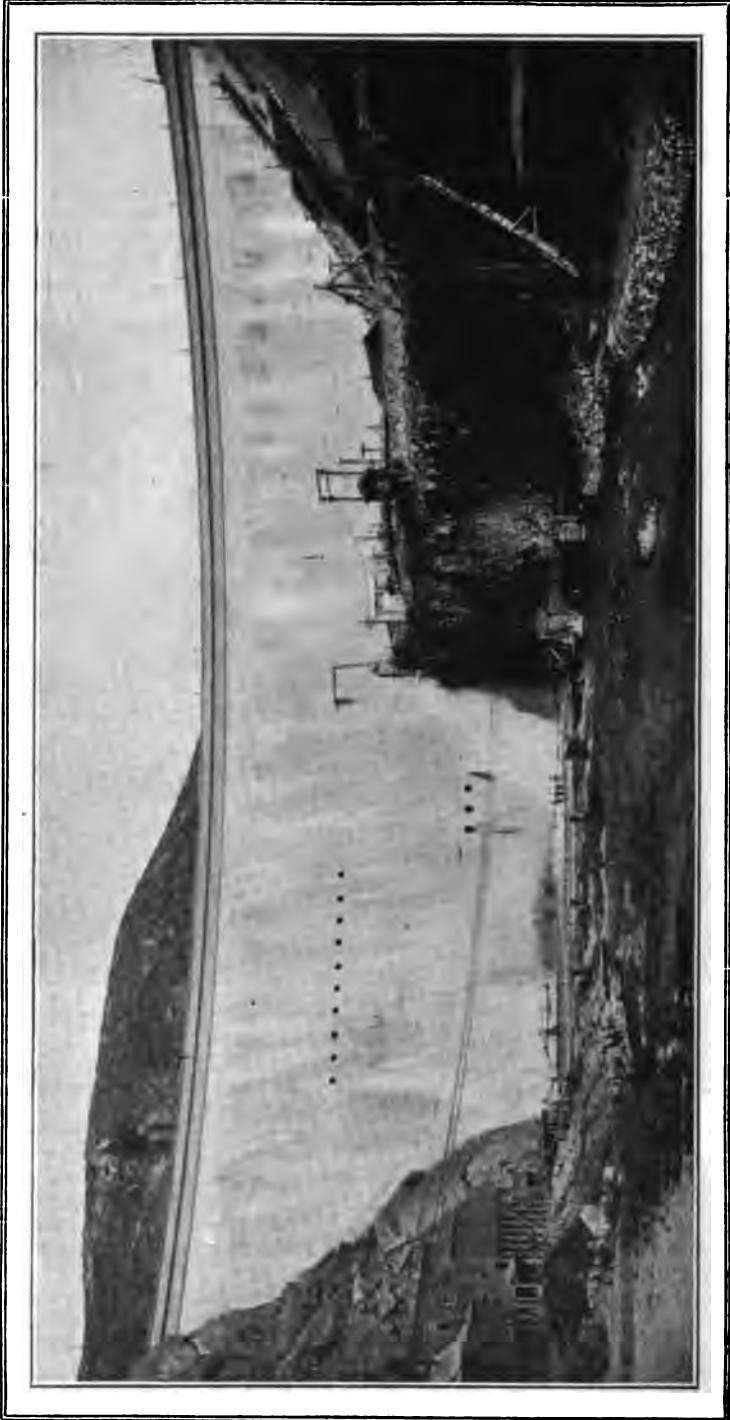
(Luhken, Photo., Boise, Idaho)

now valueless? This acreage could then be disposed of in moderate sized farms, thus making these deserts bear fruit. The best interests of the people also demand that water power sites be controlled and developed by the federal government.

The line of railroad constructed by the reclamation service to carry supplies from Boise, Idaho, to the Arrowrock dam, which is located twenty miles above Boise, also reflects the effi-

ciency of the federal government. This is the only standard gauge road in the United States built and operated by the government. The president of the United States is, by virtue of his office, the official president of this road and has authority to issue passes over it. From its earnings since 1911, in which year it was built, a surplus has been turned back into the treasury of the United States. The de-

cision to build the road was the solution of the problem of transporting supplies for the gigantic undertaking of erecting the Arrowrock dam across the Boise river. Advices state that since its operation this road has earned a net surplus of \$62,334.09, or a higher percentage, considering the distance, than many much longer railroads in various parts of the country. Its total freight earnings are \$238,713.36; its switch earnings have



THE ARROWROCK DAM NEAR BOISE, IDAHO

The highest dam in the world, measuring 348.5 feet. It converts the channel of the Boise river into a reservoir with a capacity of 80,000,000,000 gallons of water for the irrigation of 234,000 acres of land in Boise Valley.
(Lahken, Photo., Boise, Idaho.)

amounted to \$506.50. A total of \$50,212.75 was taken in for passenger fares, of which amount the government paid \$1,811.25; tickets and cash fares amounting to \$48,272.82 and excess baggage charges \$128.68. The miscellaneous earnings of the road amounted to \$984.40, bringing the total gross earnings up to \$290,417.01. The total operating cost amounted to \$228,062.92. The train

acres, located tributary to Boise, Caldwell and Nampa, and for the partial irrigation of which water will be impounded behind the dam in a mountain reservoir 18 miles long and having a storage capacity of 80,000,000,000 gallons. In the construction of the dam there was used approximately 600,000 yards of concrete, as well as a large amount of steel and rock. To reach



THE ARROWROCK DAM NEAR BOISE, IDAHO

Visitors inspecting the dam from the driveway over the crest on the day of the dedication, October 4, 1915.

(Luhken, Photo. Boise, Idaho.)

mileage up to July 1, 1915, was 105,129, with an operating cost per mile of \$2.17. There were a total of 63,327 passengers carried. The freight hauled reached 13,826,401 ton miles, of which 60,314 was commercial, 1,894,764 government supplies and 11,871,323 gravel and sand.

Uncle Sam's railroad is the connecting link to reach the site of the big dam, which was dedicated October 4th last with appropriate ceremonies in the city of Boise and also at the dam. This date also marked the completion of the Boise dam project, comprising 243,000

solid granite, on which the foundation rests, it was necessary to pass through 91.5 feet of volcanic rock. The cost of the dam is said to have been \$5,500,000, while the installation of the complete system cost \$12,000,000, which amount the settlers are to repay during a period of twenty years. Besides a device for lifting logs from the reservoir and landing them by means of a chute in the river below, the Boise project also includes an electric plant generating 3,000 horsepower.

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(Railway and Engineering Review, v. 43:43; Jan. 17, 1903.)

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Motor Cars for Steam Railways.

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Motor Cars on the Great Western.

(Railway Age, v. 37:350-51; Mar. 4, 1904.)

Motor cars on this English railway have been successful and more will be put into service.

Motor Cars on Bavarian Railroads.

(Railroad Gazette, v. 36:333; Apr. 29, 1904.)

The government has asked for bids—states general specifications.

Motor Cars on European Railways.

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Our Special Study Course

THE WESTINGHOUSE AIR BRAKE

(PART 2, SECTION 5a.)

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Later Forms of Equipment—Details—Operation, etc.

Type K Freight Triple Valve

(Continued from January, 1916, Magazine)

10. Operative Positions of the K Triple Valve.—Figs. 145 to 150, inclusive, show the K Triple Valve in sectional elevation, with the operative parts in the respective positions of Full Release and Charging, Quick Service, Full Service, Lap, Retarded Release and Charging, and Emergency. As all of the ports and cavities in the slide valve and seat can not be shown truly in a single section, in the illustrations to follow all ports and passages are arranged so as to show them in one plane, in a diagrammatic manner; the actual proportions and construction of the valve have been disregarded somewhat, that the connection of the several ports and the operation of the valve may be more easily understood. The letters designating the ports and passages appearing in Figs. 143 and 144, and the diagrammatic plates, Figs. 145 to 150, inclusive, correspond throughout, and by comparing them and referring to the explanations given, the various connections and the relations of the different ports will be seen.

11. Full Release and Charging Position.—Fig. 145 is a diagrammatic view of the K Triple Valve in this position. Brake-pipe air entering as shown, flows through passage *e*, *e* to chamber *f*, *f* in the cylinder cap, and through ports *g*, *g* to chamber *h* on the face of the triple-valve piston, thence through feed groove *i*, now open, to chamber *R* around and above the slide valve, which is always in free communication with the auxiliary reservoir. The rate of brake-pipe pressure increase not being 3 pounds faster than the recharge of the auxiliary reservoir, the piston is not moved to the left any further than contact with the retarding stem and spring, thus permitting the free flow of air from the feed groove, *i*, to chamber *R*—"full charging position." Air continues to flow from the brake pipe to the auxiliary reservoir until their pressures become equal, when the latter is then fully charged.

At the same time, cavity *n* in the face of the slide valve connects port *r* in the seat (leading to the brake cylinder) with port *p* in the seat (leading to the atmosphere at *EX*), and through these connections brake-cylinder air is quickly and fully exhausted—this representing the feature of "full release position."

Brake-pipe air unseats check valve *15* for an instant, and charges chamber *Y* and port *y* to an equalization, when the check valve reseats. The

emergency valve, 10, prevents brake-pipe pressure in chamber Y from flowing to the brake cylinder directly.

12. Quick Service Position.—The degree of brake-pipe reduction, at a graduated service application, is not the determining factor as to whether the K triple valve will take the *quick service* or the *full service* position; this is regulated chiefly by the comparative volume of brake-pipe air. When a service application is made the pressure in chamber *h* is gradually reduced, and as soon as it is sufficiently less than that in chamber *R* on the other side of the triple-valve piston, the higher pressure on the auxiliary-reservoir side of the piston overcoming the friction of piston packing-ring

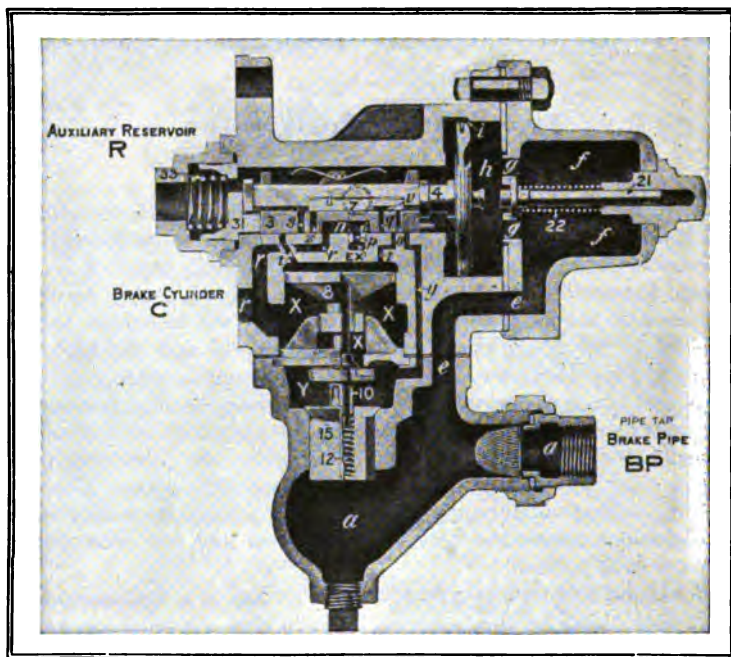


FIG. 145. THE K TRIPLE VALVE, FULL RELEASE AND CHARGING POSITION

and slide valve, these parts, with graduating valve 7, are moved to the right until the piston strikes the graduating stem, 21, which is held in place by the compression of graduating spring 22; now, whether the piston's movement is stopped by this resistance, just at this point, or that the piston may move a little further against the graduating spring, is determined by *the initial rate of brake-pipe pressure reduction*. In this case we assume a long train, a large brake-pipe volume and a consequently slower initial reduction of its pressure—about equalled, at the point reached, by the loss of auxiliary-reservoir pressure to the brake cylinder (as will be explained), and the triple valve is stopped in the position of *quick service* as shown in Fig. 146.

The first movement of piston 4 closed feed groove *i*, preventing auxiliary-reservoir air from flowing back into the brake pipe, the graduating valve at the same time opening the upper end of port *z* in the slide valve; the

movement of the slide valve closed the connection between port *r* and the exhaust port, *p*, and has brought port *z* into a restricted communication with port *r* in the slide-valve seat; and through these connections air from the auxiliary reservoir now flows to the brake cylinder.

The first movement of the graduating valve also connected the two ports *o* and *q* in the slide valve, through cavity *v* in the face of the graduating valve; while the movement of the slide valve brought port *o* in register with port *y* in the slide-valve seat, and port *q* with port *t*; and, through the connections so made, the air in chamber *Y* flows to the chamber above emergency piston *8*, and past the loosely fitted edges of the piston to chamber

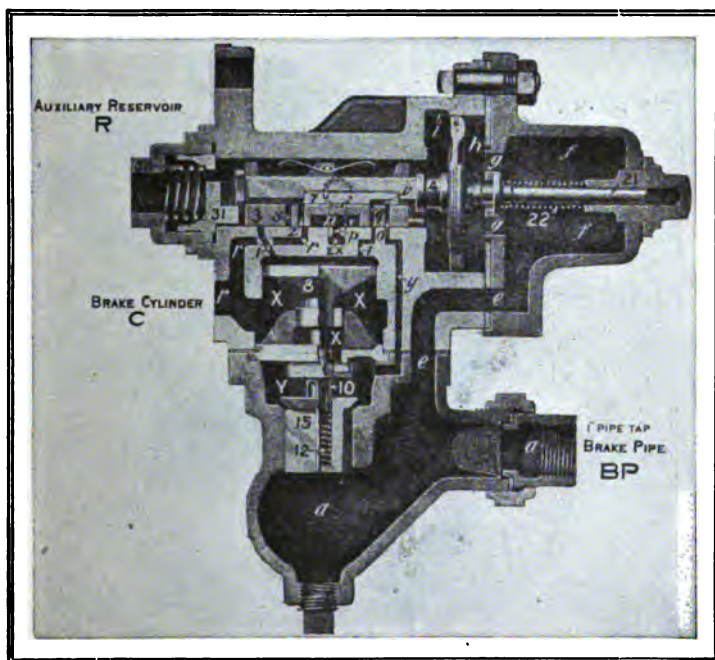


FIG. 146. THE K TRIPLE VALVE. QUICK SERVICE POSITION

X and the brake cylinder; when the pressure in chamber *Y* has reduced below the brake-pipe pressure in chamber *a*, check valve *15* is raised, allowing brake-pipe air to flow past it and through the ports as described above, to the brake cylinder. The sizes of these ports are proportioned to an exactness so that the feed of brake-pipe pressure to the top of the emergency piston, *8*, is not heavy enough to force it downward and cause an emergency application, yet it absorbs enough air from the brake pipe to cause a definite local reduction in brake-pipe pressure at that point, which is transmitted in similar manner by the next triple valve, and the next, and so on, thus increasing the rapidity with which the brake-pipe reduction progresses throughout the train.

13. Full Service Position.—We assume in this case a short train. A service reduction having been made, the movements of the triple-valve piston, slide valve and graduating valve are the same and from the same cause, as explained with reference to the preceding position. Now, however, the

smaller volume of brake-pipe air is reduced, *initially*, faster than before—faster than can be equalled by the reduction of auxiliary-reservoir pressure to the brake cylinder, when the quick service position is reached—consequently the movement of piston 4 to the right continued after striking the graduating stem, until the graduating spring was slightly further compressed, at which point the movement was stopped, with the triple valve in *full service position* as shown in Fig. 147.

It might be expected that the movement of the triple-valve piston would continue on to the emergency position; but this is automatically prevented, when only a service reduction is made, when piston 4 and its attached

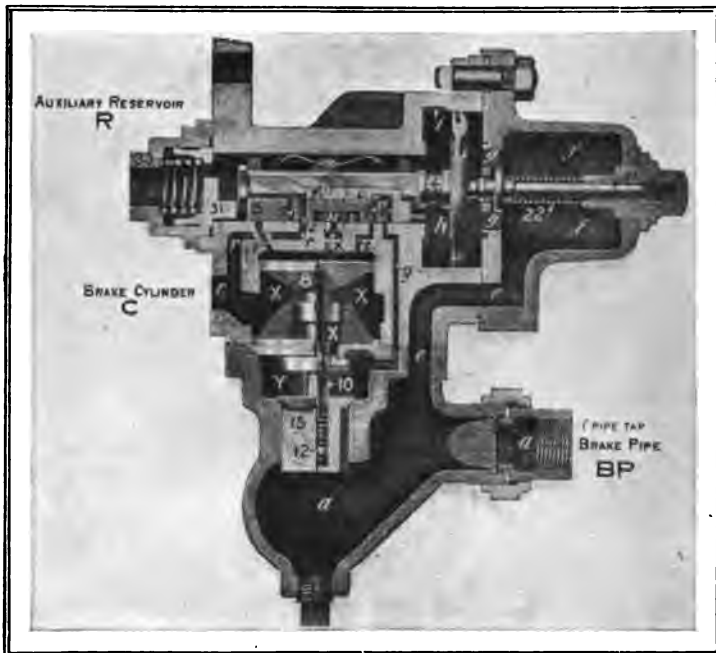


FIG. 147. THE K TRIPLE VALVE. FULL SERVICE POSITION

valves have reached the position shown in the plate. It will be remembered that in the *quick-service position* port *z* in the slide valve and port *r* in the seat were only in part register, restricting the auxiliary-reservoir air supply to the brake cylinder; but when piston 4 has drawn the slide valve to the position of *full service*, as shown, ports *z* and *r* are brought into full register, thus reducing the auxiliary-reservoir pressure more rapidly in its quickened flow to the brake cylinder, and thereby lessening at the proper time the air pressure that is driving the triple valve piston to the right.

At the same time, the slide valve has closed port *y* in the seat, cutting it off from port *o* in the slide valve, so that the flow of brake-pipe air to the brake cylinder is stopped; this checks the rate of fall of brake-pipe pressure, which is the second factor in preventing emergency application; and now, the position and functioning of the K triple valve corresponds exactly with the ordinary "service position" of the older style, common quick-action triple valve—except that in the K triple, in this position the gradu-

ating spring is further compressed, giving it a greater resistance, and this is the third factor in preventing emergency action.

14. *Lap Position*—Fig. 148 represents the K Triple Valve in the *lap position*, having automatically receded from the *quick service position*. When the brake-pipe reduction at the engineer's valve ceased, auxiliary-reservoir air continued to flow through ports *z* and *r* to the brake cylinder, until the pressure in chamber *R* became enough less than that in the brake pipe to move piston *4* and graduating valve *7* to the left, until the shoulder on the piston stem struck the right-hand end of slide valve *3*; this offers resistance; and as the difference in pressure which will move the piston and

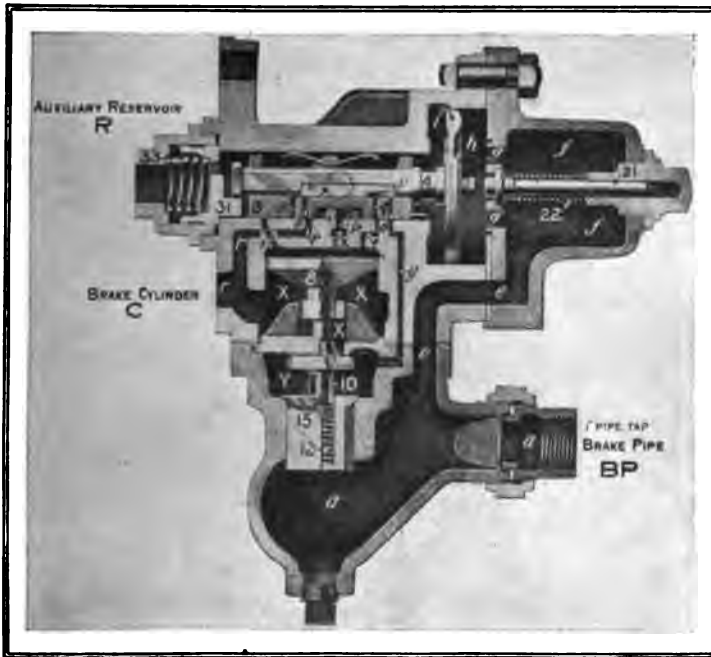


FIG. 148. THE K TRIPLE VALVE. LAP POSITION

graduating valve will not be sufficient to move the slide valve as well, the piston stops in the position shown in Fig. 148. This back-lapse has caused the graduating valve to close port *z* and cut off further flow of auxiliary-reservoir air to the brake cylinder; it has also closed port *o*, thus preventing any feed of brake-pipe air through the quick-service ports to the brake cylinder.

If further reductions of brake-pipe pressure are made the operation described will be repeated, until by the time the brake-pipe pressure has been reduced about 20 pounds the auxiliary-reservoir and brake-cylinder pressures become equal, after which any further reduction is only a waste of brake-pipe air.

15. *Retarded Release and Charging Position*.—Fig. 149 shows the K Triple Valve in the *retarded release and charging position*. Following an application the brake pipe has been recharged, and this triple valve is on one of those cars near enough to the locomotive on which the brake-pipe pressure

is being increased 3 pounds or more faster than the open feed groove could charge up the auxiliary reservoir; consequently the brake-pipe pressure is relatively great enough to force piston 4 to the extreme limit of its leftward traverse, the end of the piston stem striking the retarding stem, 31, and forcing it to further compress retarding spring 33, until movement is stopped when the piston, 4, is seated, as shown in the plate.

The exhaust cavity, *n*, in the face of the slide valve now connects port *r* from the brake cylinder, with port *p* to the atmosphere, and the brake begins releasing; but as the exhausting air must pass through the small "tail port" that connects the two face openings of cavity *n* (see Fig. 144), the discharge

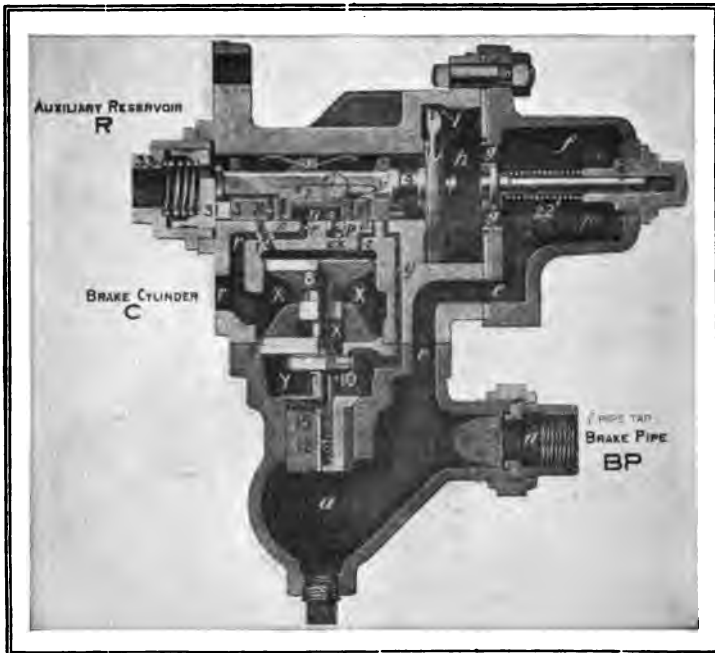


FIG. 140. THE K TRIPLE VALVE. RETARDED RELEASE AND CHARGING POSITION

will be quite slow, and by reason of this the brakes in the forward portion of the train require a longer time to fully release than those at the rear; this represents the "retarded release."

Now, the back of piston 4 is seating against the end of the slide-valve chamber bush, and, as these two surfaces are ground to an accurate fit the piston makes a tight "seal" on the end of the bush, except where a feed groove is cut in the back of the piston to permit air from the brake pipe to pass into chamber *R* and the auxiliary reservoir; this feed groove is so much smaller than the common feed groove, *i*, in the piston bush, that when the triple valve is in this position the recharge of the auxiliary reservoir takes place much more slowly than when it is in the full-release position. This feed groove is larger in the K-2 than in the K-1 triple valve, so as to maintain an equal rate of pressure recharge in their respective auxiliary reservoirs in this position; and this describes the function of "retarded recharge."

16. **Emergency Position.**—Fig. 150 represents the K Triple Valve in *emergency position*, but it does not differ in any respect, in this, from the common quick-action triple valve. A sudden and heavy reduction of brake-pipe pressure having been made, the difference in pressure on the two sides of piston 4 increased quickly, and by the time the piston had traveled to its full-service position there was a sufficiently higher pressure on the auxiliary-reservoir side of it to cause it to compress graduating spring 22 and force back the stem and spring, until the piston had seated against the cylinder-cap gasket—this, the *emergency position*, as shown. The accompanying movement of the slide valve opens port *t* in the slide-valve seat and allows air from

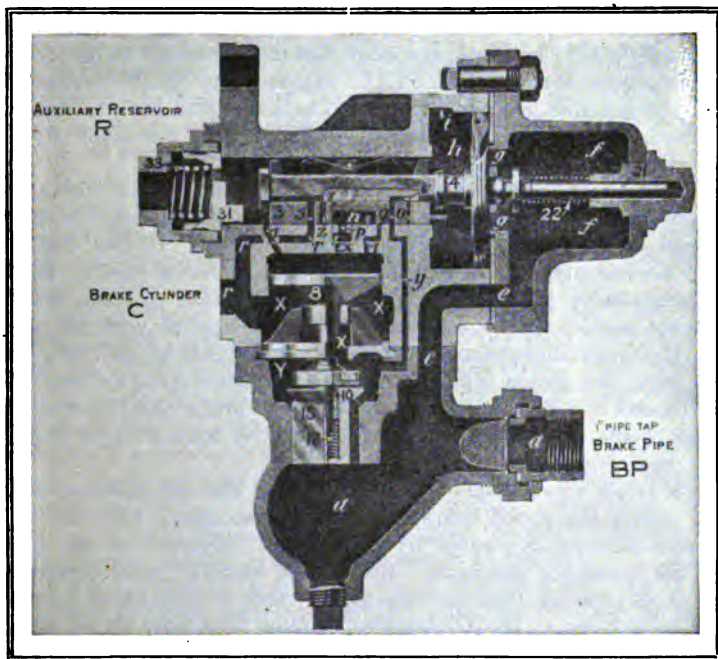


FIG. 150. THE K TRIPLE VALVE. EMERGENCY POSITION

the auxiliary reservoir to flow to the top of emergency piston 8, forcing the piston downward to open emergency valve 10; this instantly relieved the pressure in chamber Y, and permitted brake-pipe pressure to raise check valve 15 and rush past it through chambers Y and X to the brake cylinder, until brake-cylinder and brake-pipe pressures have about equalized, when the check valve will be forced to its seat by the check-valve spring, preventing the pressure in the brake cylinder from flowing back into the brake pipe; the emergency valve will be returned to its seat when the brake-cylinder and auxiliary-reservoir pressures have equalized, by the upward pressure of spring 12.

At the instant this position is taken auxiliary-reservoir air also begins to flow to the brake cylinder, through port *s* in the slide valve which now registers with port *r* in the seat; but the size of these ports is so restricted that not enough air can flow through them to interfere with the operation of the emergency feature (which is instantaneous), yet the ports are large

enough to provide quick equalization of pressures following the closing of the emergency valve. The sudden venting of brake-pipe air to the brake cylinder has the effect of quickly reducing brake-pipe pressure toward the following car and insuring the emergency action of its triple valve—it similarly affecting the following one, and so on through the train. The quickness of emergency action is such that only 3 seconds elapse between the application of the brakes on the first and fiftieth cars; also, the brake-cylinder pressure is increased about 10 pounds—approximately 20 per cent.

It takes longer to release the brakes after an emergency application, owing to the higher auxiliary-reservoir pressure resisting the release movement of the triple-valve piston, and the depleted state of the brake pipe after the application.

17. **Manipulation.**—The air brake manufacturers instruct as follows: No special instructions are required by the engineers to handle trains wholly or partially fitted with K triple valves. The automatic brake valve should be handled the same as good practice requires with the older style "H" triple valves.

In releasing an individual brake by means of the release valve on the auxiliary reservoir, the brake pipe being charged, the release valve should be held open only until the exhaust is heard to start. In this way, if the auxiliary-reservoir pressure is reduced only slightly below that in the brake pipe, the triple-valve piston will go only to full-release position, not to retarded-release position, and the release will be as rapid as with the old style of valve. If the auxiliary-reservoir pressure is reduced much below that in the brake pipe, the piston will go to retarded-release position and the release will be slower. Where there is no air in the brake pipe, the brake must be released in the usual way, viz., by holding the release valve open until all the air has escaped.

A Type K triple valve should not be cut out on account of the check valve "buzzing," unless the sound continues after the auxiliary reservoir is fully charged; this buzzing is caused by the normal operation of the parts in charging the auxiliary reservoir. But if the buzzing noise continues indefinitely, it is evidence that the emergency valve is leaking, in which case there will be a blow at the triple-valve exhaust port—or, at the retaining valve, if one is used.

Examination Questions and Answers.

THE WESTINGHOUSE AIR BRAKE.

(PART 3, SECTION 5a.)

10. Q.—(a) What are represented in Figs. 145 to 150, inclusive? (b) Are all valves, ports, etc., shown in those cuts as they actually are? (c) Are the positions and port connections true, corresponding with the actual functionings of the triple valve?

A.—(a) The operative positions of the K triple valve—Full Release and Charging, Quick Service, Full Service, Lap, Retarded Release and Charging, and Emergency positions. (b) No; in these illustrations they are arranged "diagrammatically," so they may be better understood. (c) Yes.

11. Q.—(a) What is shown in Fig. 145? (b) What service is had in this position?

A.—(a) The K triple valve in Full Release and Charging Position. (b) Brake-pipe air charges the auxiliary reservoir at the maximum rate of supply; brake-cylinder pressure is quickly discharged to the atmosphere.

12. Q.—(a) What is shown in Fig. 146? (b) What functions are performed in this position?

A.—(a) Quick Service Position of the K triple valve. (b) The brake is applied, the triple valve supplying air to the brake cylinder in graduated amounts, from the auxiliary reservoir and from the brake pipe.

13. Q.—(a) What is shown in Fig. 147? (b) What are the results in this position?

A.—(a) Full Service Position of the K triple valve. (b) The brake is applied, the triple valve supplying air to the brake cylinder from the auxiliary reservoir at the maximum rate for service application; no air is supplied from the brake pipe to the brake cylinder.

14. Q.—(a) What is represented in Fig. 148? (b) What office does the triple valve perform in this position?

A.—(a) Lap Position of the K triple valve. (b) When a graduated service reduction has ceased, the triple valve cuts off further feed of pressure to the brake cylinder by automatically moving to the position of *lap*, in which all ports are blanked.

15. Q.—(a) What is shown in Fig. 149? (b) What operation takes place in this position?

A.—(a) Retarded Release and Charging Position of the K triple valve. (b) Brake-cylinder pressure is very slowly discharged, and the auxiliary-reservoir recharge occurs at a restricted rate.

16. Q.—(a) What is represented in Fig. 150? (b) What function does the triple valve perform in this position? (c) How long does it take for the fiftieth brake to set at emergency application? (d) What is the increase in brake-cylinder pressure? (e) Why does it take longer to release the brakes after an emergency application?

A.—(a) Emergency Position of the K triple valve. (b) Brake-pipe air is vented suddenly into the brake cylinder, and auxiliary-reservoir air also, but more gradually. (c) About three seconds. (d) About 10 pounds, or 20 per cent. (e) Because there is a higher resisting pressure in the auxiliary reservoir, and the brake-pipe pressure is depleted.

17. Q.—(a) Should a train partly or wholly fitted with K triple valves be handled any differently from a train with the old style "H" triple valves? (b) In releasing a "stuck" brake having the K triple valve—brake pipe charged—how should the release valve be operated? (c) When there is no air in the brake pipe, how may the brakes be released? (d) Should a K triple valve be cut out on account of a "buzzing" noise within it? (e) What causes the buzzing sound? (f) If the noise continues indefinitely, and there is a blow from the exhaust port (or retaining valve), what is the cause?

A.—(a) No; the operation should be the same. (b) It should be held open only until the sound of the exhaust from the triple valve (or retainer) is heard, then be quickly closed. (c) In the usual manner, by holding each bleed cock open until all pressure is exhausted from the auxiliary reservoir. (d) No; unless the buzzing continues after the auxiliary reservoir has become charged equal to the brake pipe. (e) The temporary buzzing is natural, and is due to the chattering of the check valve while the auxiliary reservoir is charging. (f) A defective condition, the emergency valve is leaking.

Study Course in Electrical Railroading*

DYNAMOS AND THEIR CARE

Series and Multiple Circuits

1. The drawing reproduced as a part of this article, Fig. 1, is a diagrammatic representation of the field coils, armature and circuits of a compound wound dynamo. This form of a dynamo will give a reasonably close automatic regulation of voltage. In the figure N and S are the two field poles upon which are wound the series and the shunt coils *B*, known as the field coils. *A* are the brushes for collecting the current from the commutator, *D* is the armature and *E* a rheostat placed in series with the shunt field coils, by means of which the strength of magnetization of the field produced by the shunt coils can be changed. The series circuit is shown by heavy lines and a multiple circuit by dotted lines.

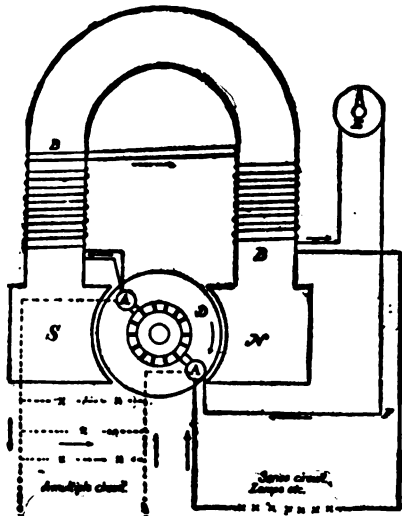


Fig. 1.

2. In the series circuit, such as street lights, any irregularity in one lamp would be evidenced in the others on the same line. In the multiple circuit system each lamp is an independent element, yet each lamp is virtually in series with the armature and the series field coils. The readers of this paper will find, however, that in practice, multiple circuits are run from compound wound dynamos.

3. The compound wound dynamo is virtually a combination of the series and the shunt forms of machines. Part of the main current passes through the shunt coils and rheostat, while all of the current generated passes through the series coils. The operation combines the features of the two machines mentioned. The shunt coils are made up of a large number of turns of small diameter wire, and the number of amperes flowing is almost constant after the machine has once acquired full voltage. The series coils have but few turns of heavy wire, which wire must be of sufficient size to carry the full current generated by the machine at any and all times.

4. To explain briefly the action of the compound wound dynamo, it might be well to refer to a part of the preceding paper, where it is to be noted that, with a multiple external circuit, the addition of a lamp across the external mains will reduce the resistance of the external circuit. Since an electrical current will divide itself proportionately to the resistance of the paths provided, more current will flow through the circuit whose resistance has been

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reduced. This would take some current from the shunt coils, whose resistance remains approximately constant. But the lamp which has been added is in series with the armature and the series field coils. The current passing through the lamp will therefore pass through the series field coils, but not through the shunt coils. It might be said that what has been diverted from the shunt coils has been added to the series coils.

5. A loss of current flowing in the shunt coils would cause a drop in the voltage at the terminals of the dynamo. Inasmuch as the series field coils have, however, had an increase in the strength of the current flowing in that circuit, they have strengthened the field by just that much, and instead of the voltage falling, it remains practically constant.

6. As a matter of fact, all compound wound dynamos are made to over-compound, that is, if the voltage at no load is, say, 500, then when running at full load the voltage of the machine may be over-compounded to say 550. This is brought about by the series field coils alone. Over-compounding is desirable for the reason that the resistance or losses in the external circuits may increase, and when they do, an increase in voltage or line pressure is necessary in order to compensate for such loss and give normal voltage at the point or points where the current is being used.

7. The percentage of compounding of such a dynamo considers the internal losses of the machine itself. As in the case of line losses increasing with an increase of load, so in the armature and coils of the dynamo. These losses vary throughout the range of load and in the case of well designed machines, the losses follow well defined curves.

8. The rotation of an armature of a dynamo in its magnetic field, when such an armature is carrying an electrical current for supplying the demands of an external circuit, tends to demagnetize the field in which it rotates. The armature when carrying a current is a magnet in itself and creates a cross-magnetizing effect. The series field coil windings assist in overcoming this armature cross-magnetization, also called *armature reaction*. There are several other similar actions manifest in the operation of a dynamo. They are more or less technical and can well be omitted. In the design of a dynamo, however, all such points are of importance, especially so when close regulation is necessary.

9. The greater number of street railway motors of this country are operated by a direct current of approximately 550 volts pressure. In recent years, however, special construction has permitted the use of motors for direct current service designed to operate at potentials of 1,000 to 1,500 volts, thus permitting a reduction in cost of line copper and improving distribution. Such current, with but an isolated exception or two, is furnished by compound wound dynamos, which may be either belt-driven or direct-connected to an engine or other prime mover.

10. In the setting up of a dynamo, care must be exercised in selecting a space that will remain dry at all times. The machine should be given a good length of belt, if belt driven, in order to insure smooth running. Belt driven dynamos are always provided with an adjustable base, whereby the belt tension can be altered from time to time. A belt always runs much better and gives less trouble if there is a heavy sag in it. The under side of the belt should be the taut side. Sometimes this can not be arranged. A dynamo should run without any vibration, as there are no reciprocating parts. If it is a machine of small capacity, it can be fastened to the floor, but large machines require a good foundation. The frame of the machine, except

in street railway practice, should be insulated from the foundation. This is important in all cases.

11. Many readers are, no doubt, familiar with the fact that a spark can be drawn oftentimes from a belt running at high speed. Sometimes on large belts carrying great power, the sparks are to be seen passing from belt to pulley and vice versa. These sparks are the result of the presence of static electricity—scarcely any current, but a high voltage. If permitted to continue, and no precautions are taken for prevention, the insulation of an armature or a field coil is almost sure to be damaged sooner or later and serious results follow. "An ounce of prevention is worth a pound of cure" is an old saying. There is no place where this is more appreciable than in the dynamo room. Static electricity can be kept away from a dynamo in a very simple manner. Place any kind of a bare electrical conductor at right angles and close to the belt. Connect it to a gas or water pipe, or anything else that leads to the ground. The static charge will gather upon the terminal of that conductor and be carried to the ground.

12. It is equally important to keep the machine clean in all respects—also dry. Moisture will do no harm; at the same time a wet dynamo is to be prevented. Oil about a dynamo has only one place, in the bearings; and since such are self-oiling upon all of the modern machines, there is no reason why oil should be seen around a dynamo. If a bearing throws oil, it must be remedied, because oil will deteriorate insulation on an armature or a field coil. In self-oiling machines the oil chambers should be kept well filled and the oil changed about once a month—new oil put in and the original oil after having been removed should be filtered for use again.

13. The commutator of a direct current dynamo is usually "the bone of contention." The best commutators are made of forged copper, the insulating material used between the segments being white mica, carefully selected, so as to give the same hardness as the commutator segments between which it is placed, thereby insuring uniform wear upon the surface. Modern construction undercuts the mica to give better wear. High voltage motors eliminate the mica and use an air space between adjacent commutator segments. Carbon brushes are used exclusively on the best makes of direct current generators. The carbon of the brushes should be reasonably hard, close grained and free from impurities. After a dynamo has been in use for some time, the commutator should wear to a deep brown gloss and run with very little noise. If a lubricant of any kind is used upon the commutator, it should be in very small quantities and not often applied. If the brushes are properly fitted and the commutator begins to wear as it should, lubrication other than what the carbon affords is seldom necessary. Of course, with dynamos whose commutators have an abnormal peripheral speed, conditions will change. With such machines sparking at the commutator is very likely to occur unless the commutator is very carefully made, running absolutely true and the very best carbon brushes are used.

14. Sparking at the brushes of a dynamo is always injurious. It may be due to any one of a great many causes. An examination may show that the brushes do not make a good contact with the commutator. They may not move easily and quickly in the carbon holder. The pressure of the carbon brush upon the surface of the commutator should be just enough to insure that it will always be in contact with the commutator as the segments of the latter pass beneath it. The carbon must move freely up and down in the holder provided for it, so as to accommodate itself readily and rapidly to

any inequalities of the commutator surface. It is a rare thing to find a commutator so true in running that there will be no up or down movement of the carbon brushes in contact with it. It is readily seen that if there were a portion of the commutator a little higher than another part, when the carbon left it for the next segment, if it did not do so regularly and remain in electrical contact, the commutation would be momentarily interrupted at that point and a spark would result. Another frequent source of trouble comes from a dirty commutator—one upon which there has been placed too much of some form of lubricant, which has become sticky, collected dust, and caused the commutator to become covered with minute non-conducting particles. The remedy is to clean the commutator, which can be done by sandpaper in the hand, or placing some of the same upon a small block of wood which has been cut to conform to the shape of the commutator.

15. If a dynamo has been started properly when new, and the brushes never allowed to show injurious sparking, the chances are that no trouble will ever be experienced with that commutator. On the other hand, if sparking has ensued every day or so, it will soon be found that the commutator segments are being worn away in spots, making the surface irregular, when sandpapering, adjustment of the brushes, lubrication, etc., no longer avail toward keeping the machine in good operative condition. It then becomes necessary to remove the armature from the machine, where such is possible, place it in a lathe and turn off enough of the commutator surface to make it smooth and true. After using a sharp tool for this work and removing the necessary cuts, apply sandpaper freely so as to acquire the smoothest possible surface. In placing an armature in a lathe, care must be exercised to the end that the armature is well centered, else the commutator will be out of true when the work is finished. In the case of larger machines, the turning can be effected without removing the armature from the machine. In this case the brushes are lifted and such removed as are in the way for work at the commutator. A turning tool can be obtained from the manufacturer of the generator which can be fastened to the frame of the machine. Then by running the engine or other source of power at a reduced speed, the commutator can be turned up as well as if done upon a lathe.

16. Too much stress can not be laid upon the care which the brushes and commutator of a generator should have. They must be kept perfectly clean and the brushes given a perfect freedom of motion with light but firm pressure upon the commutator. As long as the commutator runs quietly, smoothly and with a good gloss, avoid lubricants of any kind. It is always of value to keep any machine clean in every respect, and this is particularly so of the dynamo. Great care should be exercised that the windings of a dynamo never become wet or receive mechanical injuries from external causes.

17. After a dynamo has once been set in operation and doing regular service, accidents may happen unbeknown, and heavy flashing occur at the commutator, regularly or periodically. This flashing is a serious condition and may often extend all the way around a commutator. It is possible that it may be due to an open circuit in the armature winding. If an open circuit is present the flash will appear green in color and seem as though it extended all the way around. An open circuit in the armature winding will be shown by the scarring of the commutator at two points diametrically opposite in some windings and forty-five degrees apart in others. The scarring referred to has been caused by the sparking. If allowed to continue the bars at which the scarring has begun will wear down rapidly and the insulation between

be partially destroyed. The spots on the commutator locate the coil which is open. The temporary method of remedying the defect is to place a "jumper" around the bad coil. To do this, connect the adjacent commutator segments which have been scarred. The connecting can be done with copper wire or the commutator segments may even be soldered together. This procedure will cut out the defective coil and the machine will run as though the defective coil were not in the armature. As soon as a new coil can be put in it should be done. It is unnecessary to put more than one "jumper" on an armature showing but one open circuit.

18. Another cause of a steady flare is a weak magnetic field. This may come from a field coil having become grounded and some of its turns of wire short-circuited, thereby lessening the number of ampere turns of such field coil. To satisfy one's self regarding the field coils it is necessary to revert to Ohm's law, shown in an earlier paper, and with the aid of the formula for resistance calculate the resistance of each field coil. To do this it is necessary to place a low reading ammeter in the shunt field circuit, measuring the current strength, and then with a voltmeter measure successively the voltage on the outside of each field coil. With the known current flowing and the voltage across each coil, the resistance of the coil is readily calculated at once. If there is a material discrepancy in the resistance of any one of the field coils compared with others, showing a much lower reading, that coil is undoubtedly out of line, should be marked, removed at the first opportunity and repaired. When machines are erected after having been dismantled, a field coil might be placed wrong, producing a north pole where it should have been a south and vice versa. Many machines will evidence such an error by a failure to give full or normal voltage, while others which may have a wide margin in field magnetization may show full voltage, but the moment full load is placed upon the machine heavy flashing will occur. Under such circumstances it will be found necessary to shut down and remedy the defect before attempting to proceed further.

19. A troublesome occurrence in many railway stations is so-called "bucking" of a generator. This is virtually a short-circuiting of the armature. A heavy flash extends from one brush to another, a loud report, and, unless the protective device operates efficiently, off goes a belt, the engine slows down or something gives way. Such an occurrence is usually due to a heavy and sudden overload on the machine. It may also be due to the brushes not having the best position with reference to the field poles. Some machines will stand very hard usage without "bucking," while others will buck with the slightest provocation. "Bucking" is always severe. The commutator is blackened and the brush holders are blistered with the flash. The remedy is to be sure that the brushes are set properly, keeping the circuit breaker (protective device) clean and in such a condition that it will open up under such service as would tend to make the machine buck.

Motors

20. It has been the aim to explain the dynamo, how a current was generated by it and the care such apparatus should receive. In the dynamo, energy in the form of mechanical power is converted into electrical energy. The electric motor represents the converse of that operation. As a matter of fact, any dynamo that will generate a current can, by suitable arrangements be made a motor. This is true, no matter whether the dynamo be capable of furnishing a direct or an alternating current.

21. The north pole of any magnet will attract the south pole of any other magnet. If one magnet be fixed and the other free to move, the latter will be moved toward the former in proportion to their relative strengths and the distance they may be apart from one another. The tendency will be to set themselves in such a way that their respective lines of force will join one another and move in the same direction. What happens, therefore, in an electric motor, is that there are a number of magnets on the armature of the motor whose lines of force are endeavoring to work into and in the same direction with the lines of force of the stationary magnetic field, and this interaction causes the armature to revolve about its axis.

22. If the simplest form of dynamo, illustrated in a previous paper, is recalled, it will be remembered that it consisted of two field poles and a single coil of wire fastened to a two-part commutator. If a current of electricity were sent through such a coil, the passage of the current through the wire would produce lines of force circulating about it, and would make of that coil a form of magnet as long as the current of electricity was passing through it. There being lines of force passing through the coil from the north to the south pole of the field magnets, those lines of the armature coil would endeavor to set themselves parallel and in the same direction with the other magnetic lines; and if the coil were free to move about an axis, it would move until those lines coincided and acted in the same direction. A part of a revolution of the armature coil would therefore be made, and if at this juncture, by means of a commutator, the direction of travel of the current in the armature coil were to be reversed, the direction of the lines of force would be reversed, and the armature coil would therefore be caused to move into a new position. This movement will continue as long as current is supplied.

23. In a commercial motor, the number of armature and field coils are multiplied just the same as in a dynamo. What really makes a motor go is the attraction of one magnet for another, the fixed magnets of the motor field constituting one magnet and the ever-changing magnets on the armature forming the others. The function of the field magnets on a motor is the same as on a dynamo, that is, they form the stationary magnetic field. The commutator receives current through the brushes from the source of supply, and automatically changes the direction of the current through the armature coils. The armature of a motor is of the same type as that of a generator—rotates on an axis and carries the active electrical conductors. A motor and a generator will look alike and weigh about the same for an equal output at the same speed of the armature shaft. When in operation, however, there is some difference in the relative strengths of the magnetic fields, as between armature and fixed field. The elements of design are the same all the way through. In the design of a dynamo, the first point to be attained is uniform voltage; in the motor, uniform speed when receiving current at a uniform pressure. Both are analogous in electrical operation.

24. There are as many forms of motors as there are forms of dynamos. In an earlier paper, drawings were shown outlining the windings of different forms of dynamos. Those drawings will suffice to illustrate the different styles of motors. The first class to be considered is termed a *shunt wound motor*, the armature and field of which can be understood by referring to Fig. 10 of the January number of the Magazine.

25. The shunt motor is so called because its field circuit is in shunt relation to the main circuit, from which main circuit the motor derives its supply of current. The shunt winding on the fields consists of a large number of turns of small diameter insulated copper wire. It may or may not have a field rheostat in series with it. Usually, on motors of ten-horsepower capacity and under, no field rheostat is used, but motors of larger sizes should be so equipped. The function of a field rheostat in such a motor is to regulate or change the speed; as with a dynamo, inserting a resistance in the field circuit will weaken the field. When the field of a motor is weakened from any cause whatever, the armature will rotate more rapidly irrespective of the load. Therefore, by using a rheostat in the motor field, the speed of a motor can be changed by hand regulation. Any variation in the voltage of the circuit supplying power to a motor will cause a corresponding variation in the speed of the motor. This variation of speed is almost directly proportional to the variation in voltage delivered—that is, if the voltage varies up or down 10 per cent, the speed of the motor will vary through about the same range, except in the case of alternating current motors of the two and three-phase type, whose speed is independent of voltage regulation.

26. Direct current shunt motors are used for all general power purposes, such as are found in machine shops and other industrial enterprises where may be found general manufacturing. They are always used where uniform speed is required. The latter feature is very important, and is possessed by the shunt motor in distinction to all other forms of direct current motors made. Throughout the range of load of such a motor, the variation in speed from no load to full load should not exceed a few per cent of normal speed. Such a motor is safe to handle and easily controlled. It will run just as well at no load as at full load, and whatever may be the load upon it, the power taken from the supply circuit is only that necessary to do the work at the pulley plus the internal losses in the machine. The reason that the motor runs at practically uniform speed at all times is because the field is independently excited. If the pressure of supply is constant, the strength of the field current will be constant and consequently the strength of the field magnetism will remain nearly constant. There will be some irregularity in the strength of the permanent magnetic field, which is caused by armature reaction or the demagnetizing effect which the armature current creates. In well designed motors the field is so designed or proportioned as to overcome the armature reaction, thus reducing speed variation to a minimum.

27. Motors should have the same care as dynamos. They should be installed with the same general precautions. When starting a motor it is necessary to know that the voltage of the supply circuit is of the proper pressure. A 110 or a 220-volt motor can not be run on a circuit the voltage of which is 500, and vice versa.

28. The wiring to a motor should lead first to a two-pole switch which is equipped with fuses or other safety device. From the switch the wires should be carried to the shunt field winding. A second set of wires should then be carried from the switch to the armature, one wire going directly to one of the brushes on the commutator and the other wire passing to the starting rheostat, and from the last-named piece of apparatus to the other brush. The starting rheostat is known as an automatic starting and stopping rheostat, with an underload release and in some cases with an over-

load release. It is constructed very similarly to a field rheostat, but is of lower resistance and able to carry a much heavier current. Such a rheostat is built up in different forms. Sometimes the resistance element consists of iron wire, in others German silver is used, and in still others cast metal grids are employed. The resistance is made up of elements in the form of spirals, coils, grids or other forms, and connected together at the top or side of the rheostat case by means of copper contact segments or buttons. These segments may be mounted in the form of a circle or an arc of a circle. Over these segments a blade is mounted which can be caused to traverse them in rotation by means of a handle. When the handle of the rheostat is in the off position no current can pass through the rheostat, and consequently no current can reach the armature.

29. When the apparatus is set up and wired in, observe whether or not the blade of the starting rheostat is at the off position. If it is, the main switch can be closed. If the wiring is correctly done the motor fields will now be excited but no current will flow into the armature. Make certain that the motor fields are excited by approaching them with a small piece of iron or steel. If the fields are excited as they should be the small piece of iron or steel will be attracted to the poles. If the fields are not excited and it is known that there is current on the line, then the wiring must be traced to find where the mistake has been made. If the fields are excited, it is then safe to start the motor by letting current into the armature gradually. This is done by turning the handle of the starting rheostat so that the blade covers the first segment, and then as the motor starts and begins to get under speed, revolve the handle from one segment of the rheostat to another successively until the blade has passed to the last of the segments, where it should remain. To stop the motor, open the main switch quickly, when the handle of the starting rheostat will return automatically to its off position.

30. To reverse the direction of rotation of such a motor change the armature lead wires from one side of the armature to the other at the brush terminals or reverse the terminals at the shunt field connections, which will accomplish the same purpose. When making such changes in the connections to a motor, it is of course necessary to have main switch open, so that no current is on any part of the motor.

31. The starting device of any motor should be kept perfectly clean. It corresponds to the throttle of a steam engine and is equally important. In general, motors can not be started unless a resistance element is placed in series with the armature.

32. Another form of motor, less in use, is illustrated diagrammatically in Fig. 11 of the January issue of the Magazine. It is known as the *compound-wound motor*, by virtue of its having a shunt and a series winding on the field poles. In this motor the speed will drop off as the load increases, provided the series and the shunt field windings are working in the same direction. If they are working in opposite directions—differentially—the motor will increase in speed as the load is increased. The speed drops in the first case because the main current is passing through the series field and therefore makes the main field stronger, causing a lower speed of the armature. In the second case the main current again passes through the main field winding, but in an opposite direction to that of the current in the shunt winding, and therefore the magnetic field will be weakened in proportion to the load put upon the motor, and the armature will be caused

to revolve more rapidly. A field rheostat can also be used with a motor of this type, and a starting device is a necessity. Wiring and connecting it should be arranged for the same as in the case of shunt motor just described. Compound wound motors have a narrow field of service. Their present use is almost limited to some classes of elevator service, although there was a time when they were advocated for street car service. Compound wound motors have a higher starting effort than shunt wound motors. In this respect they compare with series wound motors.

33. Another class of motors is known as the *series-wound* motor and is shown in Fig. 9 of the January number of the Magazine. This is the most interesting, perhaps, because it is the type in use almost exclusively on all direct current equipped electric cars in existence, and for many other classes of service. As in the dynamo, all current passing through the armature passes through the field windings. The field strength therefore will vary with the amount of current flowing through the armature, which latter depends upon the amount of work the motor may be doing at the time. With every change of current strength in the armature there will be a corresponding change of the current strength in the field, and this will produce a corresponding change in the speed of the armature. Such variation of armature speed will therefore cover a very wide range.

34. We have all been on a street car and noted how much slower it ran when overloaded. A shunt motor would have drawn the car at almost uniform speed. The question is asked, perhaps, why use the series motor? It has other advantages which are paramount. Chief among them is its starting torque, or starting effort. It is capable of developing much more power at the start than is the shunt motor. It will do its heavy work with less fuss, is less liable to get out of order and will attain its full running speed more quickly.

35. With a series motor, a starting device is also employed, and this starting device is at once a combination of starting rheostat and field rheostat, for the reason that the current which passes through the armature also passes through the rheostat and the field.

36. The series motor for street car service is an enclosed motor and practically water-tight. The speed of the armature, except in special cases of construction, is entirely too high to make it a part of the car axle, so it is necessary to reduce the speed through the medium of gearing. Upon the end of the armature shaft a pinion is mounted, which plays into a split steel gear fitted to the car axle. Both gears are best cut gears, and are enclosed in a cast steel gear case which is water and dust tight. This gear case must always contain enough heavy grease so that the larger gear wheel revolves in it and keeps the teeth of both wheels thoroughly lubricated, thereby minimizing wear and noise. Rawhide pinions are used to a very limited extent. It is an open question, perhaps, which is the better, but practice seems to have settled upon the all-metal types. All motors now used are of the single reduction, four-pole field type. Older types had two-pole fields and a double reduction, necessitating two sets of gears.

37. The street car motor is suspended from the truck of the car, and has one side of the frame fitted with bearings in which an axle of the truck revolves. The other side of the frame may or may not have a projection, or nose, which has a coil steel spring above or below it. These springs rest upon an angle iron extending across the truck. Such suspension is called a *nose-suspension*—the springs permitting a limited motion up or

down, when starting or stopping the motor, and also giving some protection to the motor when a car passes over a rough section of track. If a nose suspension is not in use it may be what is termed a cradle suspension, in which case parallel bars support the motor from each of its ends, running at right angles to the shaft, these bars resting at each of their ends upon short coiled springs, which springs are supported by the truck proper.

38. Ordinarily, street car equipments consist of the following apparatus: Two motors of equal size, two gears, two pinions, two controllers (one for each end of the car), one diverter (rheostat or resistance box), one lightning arrester, one choke coil, two canopy switches, one fuse box and one circuit breaker, one trolley hose containing the wires which pass from controller to motors, diverters, etc., and car lighting circuits with snap switches. Most of the modern cars now also have a motor-driven air compressor outfit for the purpose of operating the air brake system.

39. Two controllers are used because it has been found in practice that a single controller mechanism to be operated from either end of the car was not a practical device. A controller is of as much importance as the motors themselves. It corresponds to the steam engine throttle—is a starting device. Controllers are of different design, depending upon whether they are to operate one or more motors and what capacity. Controllers in use upon the two motor equipments are known as the series-multiple type. These permit of the motors starting in series with one another and the rheostat, and gradually increasing in speed and power until they are in multiple with each other and the line—all resistance in the rheostat having been cut out.

40. The controller, in general, consists of a rectangular metal case, three feet or more in height, eighteen inches in width and about eight inches in depth. The front of the controller case can always be removed. Within the case there is a cylinder which stands vertically. The shaft of this cylinder rests in a conical bearing at the bottom, and projecting through the case at the top terminates in a short brass handle. Upon this cylinder are mounted copper segments, carefully insulated from one another and from the cylinder. These segments are so placed that when the cylinder is turned the part of a revolution corresponding to a step of the controller handle some one or more of the segments will make contact with spring fingers ranged beside the controller cylinder and thus complete connections between the motor and rheostat circuits. The function of the cylinder and fingers is virtually that of a large number of switches. Different controllers have different numbers of starting notches, such as five, seven and nine, depending upon the class of service, capacity of motors, etc. The greater the number of notches, generally speaking, the more gradually the car may be started. In the stopping of a car the controller handle must move backward over the same course that it took in the beginning. This movement is, of course, executed more rapidly than when starting the motor from rest. In the early forms of controllers vicious sparking often took place at the controller contacts and caused much trouble. Subsequently it was discovered that the electric arc could not maintain itself in a magnetic field. The magnetic blowout principle was then incorporated in motor controllers and a great source of trouble removed.

Technical Contributions

ELECTRIC TRACTION BRAKE EQUIPMENT

By F. B. FARMER

Westinghouse A. M. M. Brake Equipment

EMERGENCY APPLICATION.

We will now consider the emergency application with the Westinghouse AMM equipment, first in single-car service (straight-air feature cut in) and then in train service, with straight-air cut out. Emergency application gives the quickest and heaviest brake application; hence, should be used only when life or property is in danger, actual emergencies, as it is more liable to cause a rough stop, slide wheels, and result in some delay in releasing than is a service application.

We will assume an emergency application is required, in which case the handle of the operative brake valve should be moved quickly to emergency position, illustrated by the valve at the left of Fig. 10, which illustration shows the various parts in the emergency position with straight-air cut in. The latter is cut in when the three-way cocks in the straight-air pipes under both brake valves are in non-venting position, as shown. The passage straight through each is then open and the one to the atmosphere is closed. This is the condition for single-car operation. Referring to the operative brake valve, by passage *c*, *d* in the rotary valve having connected *g* and *e* the brake pipe is opened to the atmosphere and its pressure is quickly reduced. This has caused the triple valve main piston \dagger to move slide valve *3* and graduating valve *7* to their extreme positions at the left, as shown.

Air is now being admitted to the brake cylinder in three ways. Port *s* in slide valve *3* is connected with port *f*. As each of the three passages in the body bearing corresponding letters above and below the slide valve chamber is to be understood as connected around this chamber, auxiliary reservoir air is now admitted by passage *f* against the left face of by-pass piston *13*. This has moved the piston to the right and unseated its valve *16*. Through the control pipe branch to the triple valve and passage *x* control pipe pressure, supplied from the main reservoir through the feed valve, now flows past valve *16* and through passage *r*. Below the slide valve *2* auxiliary reser-

voir air joins it through port *l* in this slide valve. Entering the double check valve through passage *m* the combined flow lifts check valve *15* to the position shown and flows through *o*, *p*, *g*, *h* and the pipe to the brake cylinder. From chamber *A* in the operative brake valve control pipe air is flowing through *b*, *r* and *f* and the straight-air application and release pipe to chamber *a* above piston \dagger in the double check valve. Having forced piston \dagger downward it is flowing past it through grooves *i* and, check valve *5* having been unseated by piston \dagger , on through passage *e* and the pipe to the auxiliary reservoir, then, as described for auxiliary reservoir air, on to the brake cylinder.

However, this action and the position of valve *15* in the double check valve are temporary; for as soon as piston \dagger in the double check valve moves downward control pipe air commences to flow also through passage *c* to the top of check valve *15*. This pressure and that of spring *16* quickly overcomes that of the air only below valve *15* and cause it to descend to its lower seat. This allows the air from passage *c* to flow through *f*, *p*, *g*, *h* and the pipe to the brake cylinder. The brake cylinder and auxiliary reservoir now being in communication with the straight-air application and release pipe their pressures will build up nearly to its pressure, when spring *8* under valve *5* in the double check valve will close the valve and force piston \dagger to its upper position. However, should there be brake cylinder leakage the parts just described will open and restore the pressure as soon as it has dropped a trifle.

As stated above, during an emergency application air is admitted through the double check valve to the auxiliary reservoir, building up its pressure approximately to that carried in the control pipe. In order to release under such a condition it is necessary to reduce the pressure on the auxiliary reservoir side of the triple valve piston \dagger below that required to move the piston and slide valve to release position.

By referring to Fig. 11 (which is Fig. 3 of the August, 1915, number, shown again to make this clear), and assuming

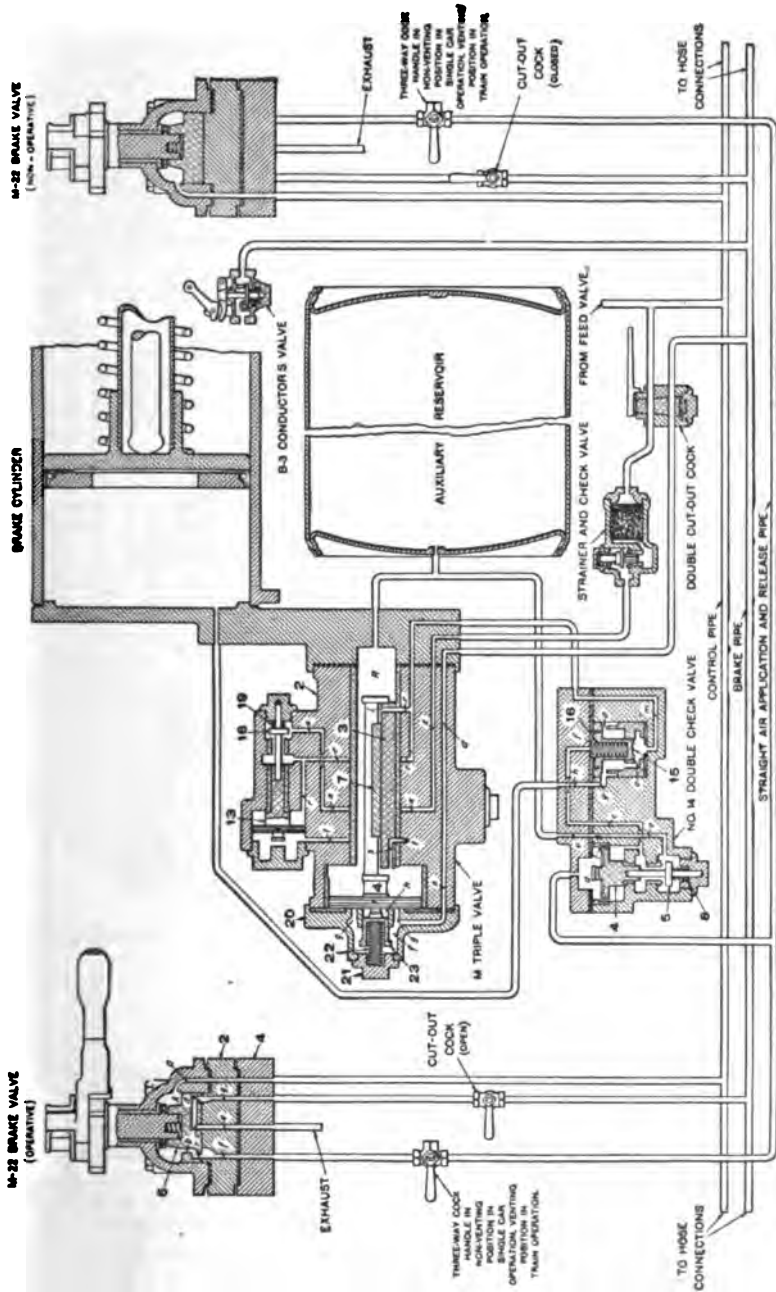


Fig. 10. AMM Brake Equipment—Emergency with Straight Air Cut In

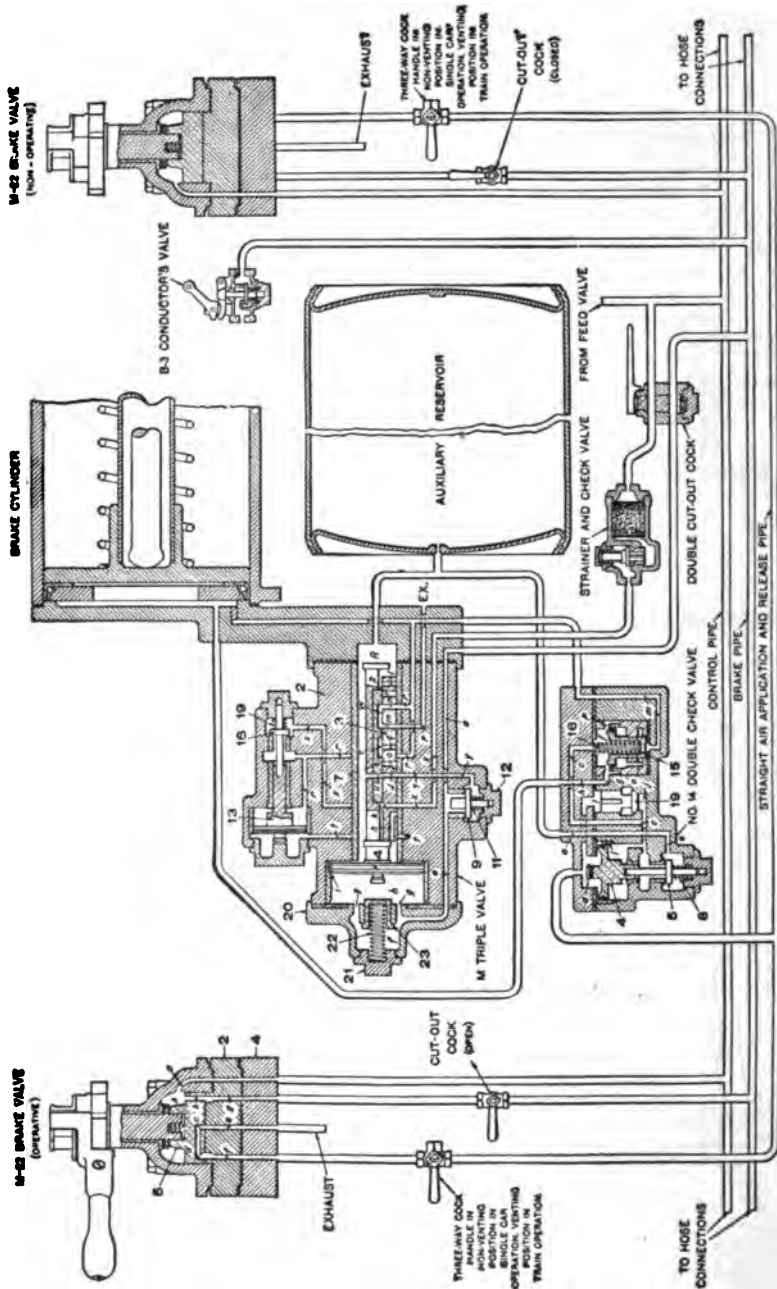


Fig. 11. AMM Brake Equipment—Release

valve 10 in the double check valve is unseated, the position of the double check valve parts and the connection made by the brake valve will be seen at the instant of commencement of release after this emergency application. All other parts are as illustrated by Fig. 10. Auxiliary reservoir air being connected with the brake cylinder (Fig. 10), air from both will flow through the brake cylinder pipe passage *h, g* in the double check valve (Fig. 11), cavity *f*, passages *c, j, l* (assuming check valve 10 is now open), chamber *a*, the straight-air application and release pipe, and passages *f, d, c, e* in the brake valve to the atmosphere.

Spring 16 of the No. 14 double check valve will hold check valve 15 in its lower position until the brake cylinder pressure has been reduced approximately 20 pounds below that in the auxiliary reservoir, at which pressure the check valve 15 will reverse to its upper seat. This will permit the air in the auxiliary reservoir to expand into the brake cylinder, which is at a lower pressure, thus reducing the auxiliary reservoir pressure sufficiently to insure the triple valve piston and slide valve returning to *Release* position and thereby releasing the brakes.

In "train service," more than one car, the straight-air feature is cut out by turning the three-way cock under the operative brake valve to venting position. The portion of the straight-air application and release pipe above this cock is then closed, while that below is opened to the atmosphere. Emergency position of the brake valve operates as before de-

scribed except that the straight-air feature is now cut out. The triple valve and the double check valve also operates the same as described for the beginning of the application, but valve 15 in the double check valve remains in its upper position because its upper face is now open to the atmosphere at the three-way cock. Those desiring to follow this connection should refer to Fig. 11, which shows that through passage *c*, check valve 10 and the chamber above piston 4 the top of valve 15 is now connected with the straight-air application and release pipe.

The action of the triple valve in emergency applications permits the *brake cylinder pressure* to rise within a few pounds of that normally carried in the control pipe. The emergency port *l* in the slide valve is made smaller (see Fig. 11) than the service port *s* for the purpose of restricting the flow of air from the auxiliary reservoir to the brake cylinder. This is done to allow the brake cylinder to take as much air as possible from the control pipe and to prevent the auxiliary reservoir pressure from falling as rapidly as would be the case with a full port opening. When a brake pipe pressure of 70 pounds is carried the cylinder pressure obtained in emergency applications (with the straight-air feature cut out) is approximately 65 pounds, whereas, in ordinary service applications, 50 pounds is the maximum cylinder pressure obtainable. This means a gain of 15 pounds or 30 per cent in braking power for emergency as compared with service applications.

(To be continued.)

AIR PRESSURE CALCULATIONS*

By JOHN HAMILTON

The following additional examples on the compression of air will be given:

If 10 cubic feet of air at 35 pounds pressure be compressed until it exerts a pressure of 85 pounds, what will be its volume?

The unknown quantity in the problem, which is the volume after compression,

can be designated by *v* and the proportion then written to conform to the law governing the compression of air, or the

formula $d = \frac{a \times c}{b}$ can be used. If the

former method is used, the proportion will be written as follows; first remembering that gauge pressures are used in the problem, which requires that 15 pounds must be added to each in order

*Continued from January, 1916, Magazine.

that the pressures may be absolute before the laws governing the compression of air can be used:

$$\begin{aligned} 50 : 100 &= s : 10 \\ 100 \times s &= 50 \times 10 \\ \frac{50 \times 10}{100} &= 5 \text{ cu. ft.} \end{aligned}$$

If the formula is used, d equals $\frac{a \times c}{b}$, the known quantities must be substituted, or

$$d = \frac{50 \times 10}{100} = 5 \text{ cu. ft.}$$

If 20 cubic feet of air is at a pressure of 100 pounds, and after being compressed its volume is reduced to 5 cubic feet, what is the pressure after compression?

One hundred pounds gauge pressure will equal 115 pounds absolute pressure. If s be used to designate the unknown quantity, which is the pressure after compression, the proportion will be written as follows:

$$\begin{aligned} 115 : s &= 5 : 20 \\ s \times 5 &= 20 \times 115 \\ \frac{20 \times 115}{5} &= 460 \text{ pounds absolute} \end{aligned}$$

pressure. The gauge pressure will be equal to 460 pounds less 15 pounds, or 445 pounds.

If it is desired, the formula $b = \frac{a \times c}{d}$ could be used and the same result obtained.

Forty-five cubic feet of air is at a pressure of 185 pounds. Its pressure was formerly 135 pounds. What was the original volume?

Reducing gauge pressure to absolute pressure will give pressures of 200 and 150 pounds respectively. Writing the proportion

$$\begin{aligned} 150 : 200 &= 45 : s \\ 150 \times s &= 200 \times 45 \\ \frac{200 \times 45}{150} &= 60 \text{ cu. in.} \end{aligned}$$

The formula that would be used in this case would be

$$c = \frac{b \times d}{a}$$

Forty cubic feet of air is at a pressure of 100 pounds. Before being compressed the volume was 50 cubic feet, what was the original pressure?

100 pounds gauge pressure is equal to 115 pounds absolute pressure. Writing the proportion to conform to the law governing the compression of air, and letting s equal the unknown quantity, the pressure before compression:

$$\begin{aligned} s : 115 &= 40 : 50 \\ 50 \times s &= 115 \times 40 \\ \frac{115 \times 40}{50} &= 92 \text{ pounds absolute} \end{aligned}$$

pressure, or 77 pounds gauge pressure.

The formula $a = \frac{b \times d}{c}$ could also be used, if desired.

Next consider how the formulas are derived for solving problems involving the expansion of air that is under pressure. As in the former case when considering the compression of air, letters will be used to indicate the four different factors involved; the proportion will then be properly written and the value of each letter found. Examples will also be solved by using s to indicate the unknown quantity. When air is expanded four conditions are to be considered, the pressure before expansion, the pressure after expansion, the volume before expansion, and the volume after expansion. The law governing the expansion of air states that the ratio of the pressure before expansion to the pressure after expansion equals the inverse ratio of the volume before expansion to the volume after expansion, which is stated as follows:

$$\begin{aligned} \text{Press. before Exp.} : \text{Press. after Exp.} \\ = \text{Vol. after Exp.} : \text{Vol. before Exp.} \end{aligned}$$

Let a equal pressure before expansion.
Let b equal pressure after expansion.
Let c equal volume before expansion.
Let d equal volume after expansion.

$$\text{Then } a : b = c : d$$

The pressure before expansion, or a will equal $\frac{b \times d}{c}$.

The pressure after expansion, or b , will equal $\frac{a \times c}{d}$.

The volume before expansion, or c , will equal $\frac{b \times d}{a}$.

The volume after expansion, or d , will equal $\frac{a \times c}{b}$.

The value of a will then equal the pressure after expansion multiplied by the volume after expansion divided by the volume before expansion. Having the last three terms given, the value of a , or the pressure before expansion, can be found.

The value of b , or the pressure after expansion, can be found providing the other three conditions are given, in which case the pressure before expansion multiplied by the volume before expansion and divided by the volume after expansion will give the correct solution.

The value of *c*, or the volume before expansion, equals the pressure after expansion multiplied by the volume after expansion, divided by the pressure before expansion. The three latter conditions being given, the value of *c* can be found.

The volume after expansion, or *d*, can be found by multiplying the pressure before expansion by the volume before expansion and dividing by the pressure after expansion.

Assume, considering the mercury tube, that sufficient mercury was removed to decrease the pressure in the short tube to 45 pounds. The volume increased from 1/4 to 1/3. What was the pressure before expansion?

Using the formula $a = \frac{b \times d}{c}$ and writing in the known values, we have:
 $a = \frac{45 \times \frac{1}{3}}{\frac{1}{4}} = 60$ pounds absolute pressure. The gauge pressure would be 45 pounds.

It was found under four atmospheres that the volume of air was 1/4 of the original volume. The unknown quantity in this problem could also be indicated by *a*. In such a case the proportion will be written as follows:

$$a : 45 = 1/3 : 1/4$$

Assume that 50 cubic feet of air was increased by expansion to 100 cubic feet. The final pressure was 85 pounds. What was the original pressure?

Using the same formula as before and using absolute pressure,
 $a = \frac{100 \times 100}{50} = 200$ pounds absolute pressure, or 185 pounds gauge pressure.

A reservoir with a capacity of 1620 cubic inches and charged to 70 pounds pressure is connected to a reservoir with a capacity of 450 cubic inches, a vacuum existing in this latter reservoir. What will be the pressure in the reservoirs when they are connected?

The formula $b = \frac{a \times c}{d}$ will give the pressure after air is expanded. The volume before expansion is 1620 cubic inches; the volume after expansion will be 1620 + 450, or 2070 cubic inches, and the absolute pressure 85 pounds.

Writing these values in the above formula,

$$b = \frac{85 \times 1620}{2070} = 66 \text{ pounds absolute pressure, or 51 pounds gauge pressure.}$$

The unknown quantity can be indicated

if desired by *a* and the proportion written to conform to the law of air pressures, as follows:

$$\begin{aligned} 85 : a &= 2070 : 1620 \\ 2070 \times a &= 1620 \times 85 \\ \frac{1620 \times 85}{2070} &= 51 \text{ pounds gauge pressure.} \end{aligned}$$

In the above example, assume the air in the 450 cubic inch reservoir is at atmospheric pressure. What will be the pressure in the reservoirs after expansion?

It will first be necessary to add together the volume of air in both reservoirs, and before this can be done the pressure in each must be reduced to an equal pressure or to a pressure of 1 pound per square inch. The volume the air will occupy if expanded until the pressure is 1 pound per square inch can be found by using the formula:

$$d = \frac{a \times c}{b} = \frac{85 \times 1620}{1} = 137,700 \text{ cu. in.}$$

The brake cylinder volume will be found to equal, by using the same formula:

$$\frac{15 \times 450}{1} = 6,750 \text{ cu. in.}$$

137,700 cu. in. + 6,750 cu. in. = 144,450 cu. in. of air at 1 pound pressure.

The problem is now to find the pressure that 144,450 cubic inches of air at 1 pound pressure will develop if compressed into a reservoir having a capacity of 450 + 1,620 cubic inches, or 2,070 cubic inches. Use formula

$$b = \frac{a \times c}{d} = \frac{1 \times 144,450}{2,070} = 54 \text{ pounds gauge pressure.}$$

If *a* be used to designate the unknown quantities in this problem the proportion will be written as follows, the unknown quantity being volume after expansion:

$$\begin{aligned} 85 : 1 &= a : 1,620 \\ a &= 1,620 \times 85 = 137,700 \text{ cu. in.} \\ 15 : 1 &= a : 450 \\ a &= 450 \times 15 = 6,750 \text{ cu. in.} \end{aligned}$$

Let *a* equal the pressure after compression.

1 pound : *a* = 2,070 cu. in. : 144,450 cu. in.

$$a = \frac{144,450}{2,070} = 69 \text{ pounds absolute pressure, or 54 pounds gauge pressure.}$$

The pressure before the expansion of a volume of air was 85 pounds. The pressure after expansion is 35 pounds and the volume 100 cubic inches. What was the volume before expansion? Use the formula

$$c = \frac{b \times d}{a} = \frac{50 \times 100}{100} = 50 \text{ cu. in.}$$

200 cubic inches of air at 185 pounds pressure was reduced by expansion to 85 pounds; what was the volume after expansion?

Use the formula

$$d = \frac{a \times c}{b} = \frac{200 \times 200}{100} = 400 \text{ cu. in.}$$

Too much importance cannot be at-

tached to the proper writing of the proportion whether letters are used and a formula derived, after which the unknown quantities can be found, or when a is used to designate the unknown quantity. When the proportions can be written correctly in accordance with the laws governing air pressures, all problems involving pressures can easily be solved.

(To be continued.)

ELEMENTS OF LOCOMOTIVE ENGINEERING

(Copyright, 1916)

By FREDERICK J. PRIOR, M. E.

Author's Note.—Review questions at the end of this article have numbers that correspond to the numbered paragraphs of the text, wherein answers will be found embodied.

1. An efficient locomotive engineer must be possessed of a wide range of knowledge. There are a great many things he must know how to do in order to get over the road safely and on time. Also there are a great many things he must know how *not* to do. Emergencies may suddenly arise that tax his knowledge and skill to the utmost. In such events he dare not hesitate, and neither will he, when he thoroughly understands the locomotive he is operating.

2. The chief essentials an engineer must thoroughly understand are: Fuel, combustion, water, thermal requirements, details of the valves, gears, injectors, lubricators, and front end arrangement of the locomotive. Not only must he know how all these things work, but also he must know the correct purpose of every part. And he must know all the things necessary for him to work in complete harmony with the entire system of which he is one part. He is concerned, too, with various factors that are not a part of the intricate mechanism he controls and sets in operation. These other things are his limitations. They hedge him about and limit him,—things quite outside his domain, many of them implying ever-present danger of contingencies, or accidents; and if the engineer understands these other things, and in what way they affect him and his train, he can act with wonderful presence of mind and swiftness in safeguarding himself and

his train against many of the trying obstacles with which he is confronted from time to time.

3. Some of these other things with which he is concerned may be summed up as follows: Possibility of error by a dispatcher; condition of right of way, and employes' work on same, affecting rail efficiency beyond any knowledge the engineer could possibly possess. Duties imposed on locomotive due to traffic requirements, sometimes heavier than it can stand. Conditions arising from climate and weather; flaws in materials of train or track, suddenly manifested, and without warning. The manner in which the other members of the train crew cooperate. Kind of fuel and its steaming value; condition of water; the kind of air-brake equipment and its condition. These are some of the things he has to know in order to get a train over the road safely and on time.

4. Knowing a locomotive consists of understanding locomotives generally and one class of locomotives in particular. He must know the anatomy of a locomotive; its frame, boiler, and engines. He should know its threefold functions of, a vehicle, a steam generator, a steam engine. In addition, he should know all about its various appliances and their construction, the way they operate, and in what manner they might be deranged. If each and every part is not doing its proper work he must know what to do, and to the extent of his possibilities must know how to quickly make needed repairs.

5. Theory is valuable only in so far

as it is supplemented with a practical working knowledge gained by experience. Only the ear trained by long experience can catch the first sound of a noise out of the normal, and it takes the eyes of an experienced man to instantly detect something wrong as the train is rushing along at tremendous speed, perhaps in the dead of night. Avoiding an accident is always better than seeking for a remedy after one has occurred. If the engineer has presence of mind, due to what he has thoroughly learned by study, observation and experience, he will automatically do the right thing at the right time. "Second nature." it is sometimes called. But it is born of knowledge and experience. It is a nervous impulse within him.

6. By way of illustration, let us suppose a very likely emergency happens, and let us see how the engineer acts. Imagine a train running along at night; all has gone finely, and he is running on time, so that his mind is fairly free from extra tension. Far ahead of the locomotive the headlight gleams along the track. Suddenly a light appears where no light should be; at first it is dim. The rays of the headlight now show it to be some object on the track, and by now the train is close upon it;—there's no time to stop and think or reason things out. Instantly every nerve in the engineer's body is in quivering-operation. Every move is rapid and in quickest succession, and everything is correctly done and at the right instant and in proper sequence; the train is stopped and danger has been averted. Yet it may be that one moment's hesitation would have caused a wreck. The engineer instinctively measured the distance, calculated the amount of force the air-brake pressure had to exert to dissipate the force of the train—all these things he did "instinctively" for the reason he knew them so well that they were indeed "second nature" to him.

7. Then there is the element of fitness. To be successful in any calling, and it is as true of locomotive engineering as of any other line of work, one must be "fit." Fitness implies many things besides technical knowledge. There is temperamental fitness as well as mental and physical fitness. He must at all times be absolute master of himself, of his mental, moral and physical makeup and education. He owes a definite duty to the system of which he is a part. Every employe of the company is, in some measure, dependent upon the way in which he does his work. Therefore he should so live that he is always fit and right to perform his part efficiently.

8. Sometimes engineers have mystifying experiences. Their train sticks on a hill, yet it has the same tonnage, same engine and same fireman that other engineers who made the hill in fine shape had. Sometimes engineers have been unable to make time despite their utmost endeavors, on the same division, same engine, fuel, water and fireman that another engineer had who made it with ease. Why? That is the puzzling question they have asked themselves. Let us see why. And we shall find it is the "little things" most often.

9. Let us suppose a division with ruling grades. Suppose a train with all the tonnage the locomotive is supposed to pull over these particular grades. Naturally this means that unless "filling" is done at intermediate points, the train will be handled with utmost ease on other parts of the division, but allowing for some "filling" there will be some easy sections of track. And these are the places where it is necessary to get ready for the hard pull ahead. We will suppose the engine is intended to carry a certain gauge pressure. Then it is very necessary to have that full amount of pressure when the locomotive hits the beginning of the hard pull up the hill. If this pressure is not available, the train is almost certain to stall, unless the motive power men have been liberal in their rating calculations.

10. Let us suppose an engine with a piston of twenty inches diameter, giving us an area of 314 square inches, with the pressure five pounds less than it should be, there would be a loss of $314 \times 5 = 1,570$ pounds pressure against the piston in each cylinder, making a total loss of 3,140 pounds pressure. This is one of the apparently "little things" that affect locomotive operation, and at a time, too, when it would mean the difference between making the grade and stalling on it. Hence the necessity of watching the pressure and keeping it up to the limit.

11. Loss of power due to friction losses is another of the little things that affect the operation of a machine of such great weight as a locomotive. In order to get the greatest possible net power from the engines of a locomotive it is highly important to see that every part subject to any degree of friction is thoroughly lubricated. This is something that should have attention at the stop made just before the grade is to be approached. The valves should have particular attention in that respect at this time. In giving attention to this "little thing" addi-

tional load due to excessive friction is avoided.

12. Another thing is to note how the water is carried. If dry steam is delivered to the cylinders at high water level it will be found helpful on a long, hard pull. When this is the case the hill should be approached easily, particularly if it be a long grade. Always have in mind all the things that can help in getting over the grade. Making a run at a short grade is well enough, as the momentum helps get over the hill, but not so on a long hill. The hard spot on a long grade is always nearly at the top, so that if a run is made at a long hill the effect of the momentum is lost long before reaching the hard place. Besides, it overtaxes the fireman, who, because of exhaustion, is not in fit condition to do the work so essential at the critical moment. It is well to avoid "dropping her" too soon or too much at a time, as it results, nine cases out of ten, in tearing the fire all to pieces, no matter how good the fireman may be. It is best to "let her down" a little at a time proportionate to the way she slows down in speed as she ascends the grade, but only just enough to maintain a safe speed. If the train is a heavy freight, it is poor practice to race with time while making the grade. The time to do that is after the hill is passed.

13. A cause of slipping while ascending a grade is due to "dropping her" when the engine begins to slow down. It increases the cut-off, and so the mean pressure on the pistons is increased to the full boiler pressure at mid stroke, minus the trifling loss in pipes and ports, this force being exerted in an almost straight line. On a long, hard pull this is a serious matter, stalling being almost sure to result if slipping occurs a few times in succession. Using sand in small quantities before slipping begins is good practice when it appears likely. But too much sand on the rail is as bad if not worse than slipping.

14. In short, the efficient engineer has not only to learn a great deal, making his mind a great storehouse of knowledge to be applied in practice, but he has also to watch hundreds of little things, small in themselves, yet having a more or less important bearing upon him and his work. Every mile of track traversed, every grade, every curve, every pound of coal consumed, the action of different kinds of water, and all else that enters into the operation of a locomotive means something to the progressive locomotive engineer.

Questions.

Note.—Answers to these questions will be found embodied in the preceding text under corresponding paragraph numbers.

1. What must an efficient engineer know besides knowing what to do?
2. Is an engineer limited in his operation of the locomotive?
3. What causes an engineer's limitations of operation?
4. What are the three-fold functions of a locomotive?
5. What gives an engineer presence of mind?
6. Why does an engineer do the right thing in an emergency?
7. What does fitness imply?
8. What sort of experiences do engineers sometimes have?
9. What should be done with regard to the steam pressure when a grade is to be ascended with a full tonnage train?
10. What is the difference between a loss of steam gauge pressure just before ascending a grade and having the full given amount required?
11. What besides loss of steam power causes a loss in power when a long, hard hill is to be climbed with a heavy train?
12. Does the water level affect the way an engine acts on a grade?
13. What causes slipping on a grade?
14. What must an efficient engineer watch in addition to putting his skilled knowledge into practice in operating a locomotive?

MOVEMENT OF TRAINS

By G. E. COLLINGWOOD

Enduring Efficiency.

Much is being said these days about efficiency; much that is good; but also much which is not good. For this reason it seems timely to call attention to a kind of efficiency which stands one hundred per cent pure.

In the mechanical field efficiency represents the ratio of useful work performed to the amount of energy expended. But in the mechanical field it is entirely possible to increase the output without the quality of the work being depreciated. In the personal development of efficiency the quality of the work is usually depreciated in about the same ratio at which the output is increased, and it is for this reason that in personal efficiency the quality of the work should be given first consideration, after which quantity may properly be considered. This is especially true in work where great responsibility is attached.

In this article it is not necessary to speak of the physical development of the road, because a competent engineer can determine what should be done to make a road permanently efficient, as there are no intangible things to be handled when we are dealing with steel, concrete and wood. But when we undertake to develop the personnel of a railroad up to efficient standards, a very serious problem is confronted. We have to deal with the intangible things; personal ambition, selfish interests, lack of initiative, lack of ambition, all of which are forces for good or evil, and all unreachable except by well-directed efforts. Without ambition or enthusiasm efficient development is very slow, and, on the other hand, when there is misdirected ambition enduring efficiency is impossible of attainment. This is especially true when the official personnel of a road have an eye solely to their own advancement.

More than 2,000 years ago the great Chinese wall was builded. Its builders had no selfish interests to serve, the wall was for the general good, and the manner in which it withstands the onslaught of the ages is silent and mighty testimony to the personal efficiency of its builders. This great wall is 1,460 miles long, about 22 feet high and 20 feet in thickness. There are towers along the entire length of the wall at intervals of about 300 or 400 feet. These towers are about 40 feet in height. The top of the

wall is paved with great blocks of granite, which are as smooth and closely fitted as when they were first placed in position. The bricks of the parapets are still firm, having withstood the test of years with scarcely a break. This wall represents the right kind of efficiency—the enduring kind. And this is the kind of efficiency which is worth while, and which is needed on our roads at the present time. Not alone is this efficiency needed in the development of the mechanical and physical part of the railroad, but it is needed also in the personal development of every man in the transportation department.

In this day there are many unseen forces which are at work in the development of the transportation industry. We have spoken of selfish interests retarding the work here and there, but, in the main, there is steady progress, for it is apparent that there is something more potent and beyond the mere physical which is making for enduring efficiency, making for new methods of discipline, for higher ideals in commercial transactions. There is a something which the eye cannot see, but which the spirit discerns, which inspires men here and there for a general uplift. There are many of these unseen forces, and it is impossible to round them all up, but we have captured one of them and we call it "enthusiasm." Enthusiasm (with its many co-workers) is one of the greatest agencies for efficiency in personal development. Those who have to do with the control of men should mark that fact well, for any method which tends to kill or dull enthusiasm strikes a death blow at efficiency in all of its forms.

Efficiency flourishes best where men are so handled that they can maintain their self-respect and can work in harmony. Every man in the transportation department should examine himself to see if there is any falling off in personal efficiency. If he finds any falling off in this valuable asset he should immediately set about to train himself in efficiency, not only for the good of the service, but for the good of his fellow man, his family and himself.

To build up efficiency a man must be earnest and calm, no matter how trying the situation may be, for, by this method, we conserve our energies and then we are able to draw upon them at will with-

out undue fatigue. In this connection it must be remembered that it is not our work that tires us most, but the friction of emotional wear, the nervous tension, the unnecessary muscular action which we allow to creep into our work which fatigues us most and makes us less efficient than we should be. By building a calm, earnest attitude we are forging an enduring efficiency, which alone is worth while, both to ourselves and the transportation department.

Permit me to point out that engine-men and firemen assume a great responsibility when they begin their trip over the road, or when they begin their day's work in the yard. And good judgment, which is son of calm, unruffled earnestness, will go a long way towards preventing accident, and will, in the end, save dollars for the company in many ways and possibly dollars for you. Let calm earnestness make you too strong and enduring to be tempted to make unreasonable runs in dangerous places; let

it make you too efficient and clear-sighted to take chances in any case. The chance-taker is not the efficient, enduring man. He may shine for a time, but sooner or later his seeming efficiency explodes and leaves him crushed. His efficiency has been weighed in the balance and found wanting—he lacked enduring qualities.

After all, efficiency, in one sense of the word, resolves itself into self-preservation. For everywhere the efficient man is the one who is being sought, and, for this reason, every man owes it to himself to strive for personal efficiency—not the kind which gets the thing done instantly without regard to safety, for that kind of efficiency is too often the kind which some selfish individuals, with their personal advancement in view, are trying to get out of those who are unfortunate enough to be under them. Let us strive for that personal efficiency which may be likened to the enduring qualities of the great Chinese wall.

Questions and Answers

Locomotive Running and Repairs

Answers by F. P. Roesch.

2560. Georgia Railroad Mikado.—"If not too much trouble, please give an illustration and description, in the Magazine, of one of the three Mikado type locomotives built for the Georgia Railroad by the Lima Locomotive Corporation."—*E. R.*

Answer.—Herewith illustration, together with principal dimensions and data of this type of engine:

Tractive effort, 53,200 lbs.

Weight, in working order, 280,800 lbs.; on drivers, 213,000 lbs.; on leading truck, 23,200 lbs.; on trailing truck, 44,600 lbs.; engine and tender in working order, 454,800 lbs.

Wheel base, driving, 16 ft. 6 in.; total of engine, 35 ft. 2 in.; total of engine and tender, 66 ft. 11½ in.

Cylinders, simple; diameter and stroke, 27 in. x 30 in.

Valves, piston type; diameter, 16 in.; greatest travel, 6 in.; steam lap, 1 in.; exhaust clearance, line and line; lead, 3/16 in.

Valve gear, type, Southern.

Wheels, diameter, driving, 63 in.; engine truck, 30 in.; trailing truck, 42 in.; tender, 33 in.

Journals, main driving, 11 in. x 22 in.; other driving, 10 in. x 12 in.; engine truck, 6 in. x 12 in.; trailing truck, 8 in. x 14 in.; tender, 6 in. x 11 in.

Boiler, style, straight top, radial stayed; pressure, 180 lbs.; outside diameter, first ring, 82 in.

Firebox, length and width, 120½ in. x 84 in.; water space, 5 in. all around.

Tubes, number and diameter, 275 2-in.; length, 20 ft. 6 in.

Fues, number and diameter, 36 5½ in.; length, 20 ft. 6 in.

Heating surface, tubes and fues, 3,974 sq. ft.; firebox and arch tubes, 262 sq. ft.; total evaporative, 4,236 sq. ft. Superheating surface, 865 sq. ft. Equivalent heating surface, 5,533 sq. ft.

Smokestack, diameter, 19 in. at choke; height above rail, 15 ft. 5 in.

Tender, capacity, water, 9,000 gal.; fuel, 15 tons.

As will be noticed by the general data,

these locomotives embody what are recognized as the most up-to-date features and best practice in locomotive design. The engines are therefore equipped with su-

perheaters, brick arches, pneumatic fire-doors, power reverse gear, graphite cylinder lubricators, Economy type front engine truck, Austin type radial trailing truck, Economy type tender trucks, Chamber's throttle valves with outside connection and vertical lever; and auxiliary dome just back of the main dome, applied for the purpose of permitting inspection of the interior of the boiler without taking down the throttle stand-pipe and other appliances. The frames are heavily braced at the main pedestals, and the main wheels are equipped with a Cole patent driving box, having journals 22 inches long. The engines are also equipped with two 11-inch Westinghouse air pumps, and main reservoirs of 75,000 cubic inches capacity. Steel pilot beams are used at the front end, heavily reinforced by a cast steel filling piece, which also acts as a guide for the engine truck center pin. All axles are of heat-treated steel. The water supply is furnished by two Edna injectors, discharging into a double check located on the top of the boiler. Cab and running boards are of sheet steel, and the rear engine deck is equipped with the Economy radial buffer connection to the tender. The engines are also equipped with a cold water coal-wetting device built by the Edna Brass Manufacturing Company. They are intended to haul from 2,400 to 2,600 tons over the heaviest grades on the Georgia Railroad.

MIKADO LOCOMOTIVE, GEORGIA RAILROAD



2561. Disconnecting with Stephenson Gear.—"If an eccentric strap on Stephenson gear having indirect motion is broken, and by taking down both eccentric straps and rods, covering the ports and clamping the valve stem, would it be necessary to disconnect the valve rod from top rocker arm? If not disconnected, would the moving of the reverse lever have any effect on that side?"—O. W.

Answer.—It would not be necessary in a case of this kind to disconnect the valve rod from the rocker arm, as with both eccentric straps disconnected there would be nothing to impart motion to the valve on that side; neither would the valve be affected by moving the reverse lever. The only possible effect that the movement of the reverse lever might produce would be if the lever was placed in back motion, the link might have a tendency to turn over. However, when the reverse lever was placed at forward motion again, it would have the effect of straightening up the link.

2562. Piston Valves.—"Are there any piston valves of the outside admission type used on locomotives?"—Member.

Answer.—Yes, piston valves of the outside admission type have been used on the older type of saturated steam locomotives, but are largely being discontinued, owing to the advantages that the inside admission type possess over the outside admission type, in that with the outside admission type it is necessary to have a stronger valve chamber head, with better joints, owing to the valve chamber heads being subjected to full boiler pressure. This does not obtain with the inside admission piston valves, as in the latter case the valve chamber heads are only subjected to the exhaust pressure. Again, with piston valves of the outside admission type it is harder to maintain valve stem packing, owing to the difference in pressure. The only real advantage that can be claimed for the outside admission type of piston valve is a slight decrease in cylinder clearance, as with this type of valve a shorter steam port can be used. In all modern locomotives, however, especially those of the superheater type, the inside admission valve is used as it enables the steam pipe connection to be made through the smoke-arch and the center of the valve chamber, thereby not only taking the greater portion of the steam pipe out of the front end, but also removing from the front end the most troublesome steam pipe joint, namely, the bottom joint. Again, where outside admission valves are used, it is necessary to core out the cylinder saddle so that the live steam passages are formed in the shape of a "Y," each leg of the Y communicating with the steam ports in each end of the valve chamber. This makes a more difficult casting to pour than the present type of cylinder saddle, where only the exhaust passages are cored through the saddle, the steam passage, as stated above, being a direct connection from the steam pipe to the top of the valve chamber.

2563. Voltage and Brilliancy of Pyle National Electric Headlights.—"Will you please tell me the voltage carried and the capacity of brilliancy of the Pyle National Electric Headlights in candle powers?"—*Member.*

Answer.—The voltage will average about 26 volts, and never exceeds 30 volts. The candle power of the arc light, using a copper electrode and a $\frac{1}{8}$ -inch carbon, measured without the aid of a reflector, is equal to about 1,300 candle power. The use of the reflector, however, increases the power of this light, as it reflects back all the light rays that fall on the reflector. Therefore, measured in apparent beam candle power, the light

can develop from 150,000 to 350,000 apparent beam candle powers.

2564. Beam Candle Power.—"What do we understand by 'beam candle power' used by a man evidently familiar with the electric headlights?"—*Member.*

Answer.—The apparent beam candle power of any light is the amount of illumination thrown upon a surface from a source of light by virtue of its being so projected by means of a reflector. To make this plainer, you must understand that the candle power of any light is the quantity of light emitted from any source which is equal to the amount of light emitted in one second by a sperm candle burning 120 grains per hour. This, measured in lumines per square foot; that is, a surface one square foot in area, one foot from the source of the illumination, of one candle power, would receive an illumination of one foot-candle upon every point within that area. If a candle, or other source of light, is set out in the open, it is evident that its illumination is diffused in all directions; consequently, any object one foot square placed within one foot from the source of the light at any point around the candle or light source will naturally receive an illumination of one foot-candle upon every point in that area. Now, if a reflector is placed around the source of light in such a manner that all the light thrown off from the source of light in all directions, except toward the opening of the reflector, is reflected back by means of the reflector, it is evident that this light is gathered up by the reflector and concentrated upon a point whose area is much less than the area previously illumined by the light before the reflector was placed behind it. The amount of light so gathered and reflected, together with the amount of concentration, depends altogether upon the proper focusing of the source of light in relation to the reflector. Consequently, the beam candle power of any light, due to the concentration of light from the source of light by means of a reflector, will be far greater than the actual candle power of the light itself. Apparent beam candle power, therefore, means the total amount of light gathered up from any source and concentrated within a definite space.

2565. Copper Electrode.—"Why is copper used instead of carbon for an electrode?"—*Member.*

Answer.—Copper is used because, first, it is a good conductor of electricity, and, second, because if carbon were used the bottom electrode would not last long enough so that the light would burn all

night without the necessity of changing the electrodes. In other words, if carbon were used for the bottom electrode, it would burn away so fast that you would be under the necessity of changing electrodes about every four hours. In case of emergency, however, a carbon, or even an iron bolt, can be used for the bottom electrode as well as copper.

2566. **Tonnage Rating on Five Per Cent Grade.**—"How many tons in empty cars should an engine take up a 5 per cent grade, engine 18 x 24, 49 tons ready for road, 2-G-2 type, 43-inch wheel, 170 pounds steam, Roger engine?"—*F. H. S.*

Answer.—In order to calculate the number of tons that an engine of the dimensions given would take up a 5 per cent grade, it is necessary to first calculate the tractive power of the engine in question; this is done by the usual formula:

$$T. P. = \frac{d^2 \times S \times 85\% B. P.}{D}$$

in which

T. P. = tractive power.

d = diameter of cylinders in inches.

S = stroke in inches.

B. P. = boiler pressure.

D = diameter of drivers in inches.

Using this formula, we find the tractive power of the engine in question is equal to 26,000 pounds.

We must next find the resistance in pounds offered by one ton on a 5 per cent grade. As no curves are mentioned, it is assumed that there are no curves on this grade. The power required to lift one ton is equal to the per cent of grade multiplied by 20, which, in this instance, would be 100 pounds of tractive power to lift one ton up a 5 per cent grade. The resistance due to friction of the journals, wheel flanges, etc., is calculated at 6 pounds per ton; consequently, the total resistance per ton to be overcome would be 100 pounds due to grade, plus 6 pounds due to friction, or a total of 106 pounds per ton. This divided into the tractive power of the engine would equal the total number of tons that the engine could handle up this grade: $26,000 \div 106 = 245$. As the engine must propel itself up the grade, also, we must take from this the weight of the engine and tender to arrive at the total tonnage that can be hauled behind the tender. The weight of the engine and tender ready for the road, is given as 49 tons; therefore, 245 minus 49, equals 196 tons, which would be the maximum tonnage that the engine could take up a 5 per cent grade, provided there are no un-

If, however, there are uncompensated curves on this grade, to be overcome in addition to the resistance due to the grade alone, it would be necessary to add about one pound for each degree of curvature to the resistance factor previously found; as, for instance, if there is a 5 degree curve uncompensated located on any point of this 5 per cent grade, the total resistance would be 111 pounds per ton instead of 106 pounds per ton; and the tractive power divided by this resistance would equal the tonnage the engine could take up the grade and around the curve, including of course, the engine and tender.

2567. **Repairs on Shay Locomotive.**—"Is there any more work or repairs to keep up on a Shay engine than there is on a rod engine, in the same class of service, and how many miles per hour can you run a Shay engine with safety?"—*F. H. S.*

Answer.—All things considered there is no more work or repairs required on the average Shay locomotive than on a rod locomotive; in fact, if a Shay locomotive is properly cared for, so far as lubrication, etc., is concerned, and is not run at a speed above that for which it is designed, the Shay engine has a little the best of it so far as repairs, etc., are concerned.

Replying to the second part of your question as to what speed a Shay engine can be run with safety, would advise that this depends altogether upon the speed the engine was designed for. Shay engines, as a rule, are not designed for high speed service but simply for slow, drag work. The average standard gauge Shay engine should not be run to exceed fifteen miles per hour, although some Shay engines are designed for and can safely be run at 25 miles per hour, the difference in speed being due to the difference in the size of the drivers.

2568. **Extension Piston.**—"What is the advantage or purpose of using an auxiliary piston; or, in other words, a piston in the front end of the cylinder, as on the Li class of engines used by the Pennsylvania Company?"—*E. C.*

Answer.—We presume that this question refers to the extended piston rod projecting through the front cylinder head and not to an auxiliary piston, as we have never seen a locomotive, aside from a tandem compound, equipped with auxiliary piston.

If the question refers to the auxiliary or extended piston rod, will advise that the purpose of this rod is to support the piston and keep the piston head from rid-

ing on the bottom of the cylinder. In other words, keep the piston head floating in the cylinder instead of dragging on the bottom, as is the case where no extended piston rods are used, as soon as the crosshead becomes slightly worn in the guides. So far as the advantage is concerned, this question is open to argument, as while theoretically the extended piston rod should support the piston head and prevent it from riding on the bottom of the cylinder, yet in practice it is questionable if the extended piston rod really performs this function, especially when the ordinary type of extension rod bearer is used; that is, a shoe or bearing which is supposed to support the extended piston rod, as in our experience this bearer soon becomes worn to such an extent that instead of the extended piston rod supporting the piston, the piston must support the extended rod. In other words, there is a greater weight dragging on the bottom of the cylinder than if the extended rod were not used. Of course, where the extended rod is supported by means of a roller bearing or a crosshead with large bearing surfaces, this condition would not obtain. There is, however, a certain amount of spring or deflection in the two piston rods, due to the weight of the piston head, so that in nearly all cases the piston head actually comes in contact with the bottom of the cylinder. In the opinion of the writer, decreasing the weight of the piston head would be more economical, and equally as advantageous as trying to support the piston head by means of an extended piston rod.



The Westinghouse Air Brake.

Answers by F. B. Farmer.

1190. Brake-Pipe Pressure for Steep Grade.—"What pressure would you advise one to carry in the train pipe on a 5.2 per cent grade, with 6-inch to 7-inch piston travel, grade being 10 miles long and train consisting of 15 loads?"—*F. H. S.*

Answer.—One can advise only generally and conditionally without more detailed knowledge of local conditions. This grade, 274 feet per mile, is very steep, but how difficult it will be to control 15 "loads" down it depends largely on the amount of curvature it has, how this is distributed, main reservoir volume and maximum pressure, compressor capacity, and what the cars are braking at *when loaded*.

Regarding the latter, the writer knows of special or ore train service where on

one road the 50-ton capacity cars when loaded have twice the braking power as do the similar cars on the other road, each based on the same brake-pipe pressure being carried. It is evident that on a similar grade one road would need a much higher brake-pipe pressure than the other.

Higher brake-pipe pressure increases the safety of a train down a grade so long as the amount carried would not be liable to damage the brake rigging if an emergency application were made. To determine this limit would require detailed information on the car brake equipment, so as to determine braking power and strength of brake rigging.

Speaking generally and with only the information given, the writer would not advise carrying over 90 pounds brake-pipe pressure. The only right way to settle this is for the proper railway official to call in the local representative of the manufacturer who is supplying the brakes to the road, as the latter will be an expert in this matter, and will advise after personally obtaining all needed information.

1191. Brake Valve Equalizing Discharge Action Defective.—"Please explain the following action: The engine is equipped with a G-6 automatic brake valve and an S-3-A straight-air brake valve. If a 15-pound service reduction is made with a train of about 50 cars the gauge shows that this amount has been drawn off, but by the time the train pipe service exhaust has ended the train pipe gauge hand has gone up 5 to 7 pounds. This occasionally causes the engine and tender brakes to release; not every time, but it will three or four times, then they will work properly for a few times and again this peculiar action will occur. With the light engine or with a few cars the engine and tender brakes do not release and the gauge shows an increase of only about three pounds. This engine has just been overhauled, and the brake valve appears to have spent its time in the scrap pile."—*J. S. U.*

Answer.—There is a leak into the space above the equalizing piston of the automatic brake valve, probably of brake-pipe pressure, and past the equalizing piston. The black hand of the duplex air gauge is connected directly to the equalizing reservoir pressure, the air above the equalizing piston. The brake-pipe pressure is beneath this piston. In release and running positions these two pressures are connected and equal. When a service application is wanted the engineer draws the desired number of pounds from *above* the equalizing piston (equalizing reservoir pressure), as indicated by

the black gauge hand. The two pressures are separated in lap and application positions. The then higher brake-pipe pressure under the equalizing piston lifts the latter. This opens its valve (the lower end of its stem) and thereby allows the brake-pipe pressure to discharge to the atmosphere. With less than about seven freight cars the brake-pipe pressure reduces as fast as the equalizing reservoir pressure, and the piston therefore stops the discharge as soon as the handle is returned to lap. With longer trains the brake-pipe pressure cannot reduce as fast as the equalizing reservoir pressure, and the discharge continues, after the handle is returned to lap, until the brake-pipe pressure is finally reduced an equal amount.

With long trains this discharge continues a considerable time, in proportion to the length of train, and during this time the brake-pipe pressure is higher than the equalizing reservoir pressure (above the piston). The single packing ring of the piston is not alone sufficient to prevent brake-pipe pressure from leaking into the equalizing reservoir at such a time, particularly so after becoming somewhat worn. As a farther precaution against such leakage the piston is then made to act as a valve, seating upward at this time against the projecting face of the leather gasket. If it does not make a good joint and the ring and the piston cylinder are worn, the brake-pipe pressure will leak into the equalizing reservoir and raise its pressure, as shown by the black gauge hand. This will make the brake-pipe reduction less than the amount that was originally drawn from the equalizing reservoir.

A requisite in service reductions with long trains is to have the brake-pipe discharge close gradually. While it is blowing strong the brake-pipe pressure at the engine is as much as five pounds lower than 50 cars away. If it were stopped suddenly at this time the brake-pipe pressure would rise enough at the head end, by equalizing with the rear, to release more or less forward brakes. The leakage past the piston, previously mentioned, will cause the equalizing piston to close quicker than it should. This alone could explain the release of the engine and tender brake. If the piston does not work freely, this tendency will be increased.

Another possible cause of the two actions described in the question is leakage of main reservoir pressure into the equalizing reservoir. It is less probable, but possible. Where the main reservoir air passes up to the rotary valve it is separated from the space above the equalizing

piston by a narrow bridge, which the leather gasket should make a tight joint. If this joint is faulty the same results will follow as with leakage of brake-pipe air past the piston, and for the same reasons. To test for this note the pressure on the black gauge hand with the handle in running position, then move the handle to lap and watch the gauge hand closely. If it at once rises a few pounds main reservoir air is leaking past the gasket joint described. If it does not the leakage is past the equalizing piston.

1192. Short Service Exhaust.—"We have at our terminal an engine fitted with the old air-brake equipment. When coupled to a train of 50 to 75 cars if a 10-pound reduction is made there will be a discharge at the service exhaust for 8 to 10 seconds, then it will stop. All of the brakes will go on, but not in emergency. The gauge shows the 10-pound reduction. Where does the air go? There are no train pipe leaks to amount to anything."—*J. S. U.*

Answer.—If the service exhaust fitting is missing from a Westinghouse automatic brake valve the length of the discharge for any given number of car brakes in use will be appreciably shortened. The liability of damage from increased train slack action will also be greater.

K triple valves will shorten the time necessary to complete a 10-pound service reduction to about half of that for an equal number of the earlier designs of triple valve, Westinghouse or New York.

Unless either of the foregoing explains any difference from the length of exhaust that it was presumed should have occurred it is probable that such difference was only apparent and not actual. This is suggested from the fact that there would be a very considerable difference between a train of 50 cars in one case and 75 cars in another, yet the time given is the same for both. This time, like the rate of brake-pipe leakage, is something that should be measured accurately, not estimated. With considerable brake-pipe leakage in a very long train, the loss of air being twice as great as with a train half as long where the leakage in pounds per minute is the same, the pressure at the head end would be a few pounds higher than at the rear while it was being supplied. When a service application was begun the flow would temporarily continue toward the rear. This and the brake-pipe leakage would shorten the time to make any given reduction, as compared with a train having less leakage.

If the foregoing do not afford a satisfactory explanation, please designate the type of automatic brake valve definitely and supply accurate times of discharge for a specified reduction and number of cars, with similar data for a like train with another engine.

1193. Undesired Quick Action.—"In my work as air-brake repairman I have found a New York style F triple valve that has a defect which I cannot locate. When making a light application while testing this valve it will go into emergency and then release. I have placed new parts in the valve and faced all seats, but still obtain the same results. If you can give me any information as to the cause of the trouble, please publish in the next issue of the Magazine."—W. G.

Answer.—There is no open port in the vent-valve piston, or the port is almost closed and the reduction is a little fast for service application. At one time this small port was drilled through the face of the piston, but the present standard is a port drilled from the center of the piston part way down the stem and opening at the side of the stem near the inner face of the vent-valve seat. It connects the brake-pipe air with that in the small chamber formed by the cylindrical portion of the main triple piston and the inner side of the vent-valve piston. Its duty in brake applications is to allow the air in this chamber to reduce about as fast as that in the brake pipe when a service reduction is made, but to so retard the fall of pressure in this chamber in emergency applications as to enable the main piston, by moving the vent-valve piston, to open the vent valve. When the triple valve is in release position and a service reduction is begun if this port is closed or almost so the main piston will not be able to start toward application position until the brake-pipe pressure is enough below that in the auxiliary reservoir to enable the main piston to push the vent valve from its seat. Brake-pipe air, thus allowed to pass the vent valve, will then move the quick-action valve piston and thereby open its valve. This will allow the auxiliary reservoir pressure, by flow past the quick-action valve into the brake cylinder, to reduce faster than the brake-pipe pressure, which will cause the triple valve to release immediately after it begins to apply quick action.

The foregoing is the more probable explanation of the action described. Possibly some one has changed the vent-valve piston port from the former to the present standard and has so located the side opening in the stem that, when the

parts are in release position, the port is practically closed by the wall of the passage that the stem extends through to reach the vent valve. The side opening in the stem should stand just outside of the passage at this time.

1194. Air-Signal Operation and Defect.—"Will you kindly explain, through the columns of the Magazine, the operation of the air-signal equipment on the engine? Also, please state what will cause the whistle to blow when releasing the brakes? The whistle also blows while the engine is in motion."—T. A. K.

Answer.—The air signal equipment on the locomotive consists of a line of pipe from the pilot to the rear of the tender, with hose connections and cut-out cocks. On the engine a branch pipe leads to the signal valve. The supply of air comes directly from the main reservoir, and the pressure is regulated at 45 pounds by a reducing valve. With the older brake equipments the reducing valve is for this purpose only, and has a cut-out cock and a choked opening, the latter to prevent a too rapid flow into the signal pipe. With ET locomotive brake equipment the reducing valve for the independent brake valve also supplies the air signal equipment. From the pipe between the reducing valve and the independent brake valve a branch leads through the combined strainer and check valve. In this device the air passes through curled hair, to remove dirt, past a check valve having a light spring, then through a choked port into the air signal line.

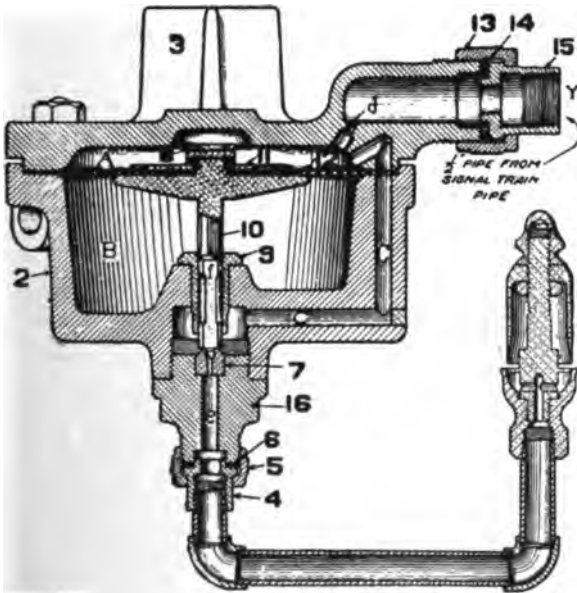
Each car has a similar main signal pipe, with hose and cut-out cocks. A branch from the main pipe leads out of a strainer tee to the car discharge valve. Near the latter is a cut-out cock that can be closed if the car discharge valve is leaking. Some cars have each two discharge valves, one at either end so as to avoid running the signal cord through the body of the car. For each blast of the whistle the discharge valve should be held open one second. There should be an interval of three seconds between discharges, and five seconds for long trains, so that the signal system pressures may equalize.

The accompanying illustration shows the air signal valve and whistle. The preferable location is in the upper, back corner of the cab on the engineer's side, with a short pipe between the signal valve and whistle, similar to the illustration except a single bent pipe should be used instead of that with the two elbows. The whistle should be back of the signal valve, to avoid strong draughts. The location described prevents freezing. It

also avoids a long pipe and sharp turns between the signal valve and the whistle, both objectionable.

Air enters at *Y*, passes through the restricted port *d* into chamber *A* above the rubber diaphragm *12*. From chamber *A* the air flows down through passage *C* to the small chamber where the lower end of diaphragm valve *10* rests on its seat *7* and thereby closes the passage *e* and pipe to the whistle. As the stem of diaphragm valve *10* is triangular up to the groove around it, just above *f*, the air from passage *C* has free access to this point, but

B to flow past the stem, contribute some air to blowing the whistle, and to equalize with the pressure in chamber *A*, thus causing the diaphragm to descend and, by seating its valve, stop the discharge. This closing is aided by the flow that at once commences from the pipe into chamber *A*, due to the reducing valve opening. As the pressures quickly equalize another blast of the whistle can soon be made. A strong but short discharge from the signal line is best as it does not greatly reduce the pressure, thereby permitting of more successive blasts with-



The Air-Signal Valve and Whistle

as the fit of the stem above the groove is rather neat in bush *9* the air flows somewhat slowly into chamber *B* below diaphragm *12*, yet soon equalizes with the pressure above, 45 pounds.

Any sudden reduction in the signal pipe pressure, as by opening a car discharge valve, quickly reduces the pressure in chamber *A*, above the diaphragm *12*. It cannot reduce as quickly in chamber *B*, below the diaphragm, because of the rather close fit where the stem *10* enters bush *9*. Therefore, the then higher pressure under the diaphragm deflects it upward, lifts the diaphragm valve *10* from its seat *7* and allows air to discharge through the whistle, causing a blast. At the same time this raises the groove in the stem of valve *10* above the bush *7*, thereby allowing the pressure in chamber

out failure of the signal valve to respond properly.

The commonest defect of the air signal system is serious leakage from the main pipe and its branches. This keeps the pressure low and thereby prevents proper operation. If this leakage is irregular it will cause the signal whistle to blow occasionally.

If the whistle blows when the brakes are released it indicates that the reducing valve, through some defect or wrong adjustment, has allowed the signal pipe pressure to increase to that in the main reservoir. When the brakes are released the main reservoir pressure falls. The then higher pressure in the signal pipe reduces by flowing back into the main reservoir and by reason of temporarily unapplied leakage, thus causing the sig-

nal valve to operate. The cause of the air signal blowing at other times is either variation in main reservoir pressure, due to the governor not controlling accurately, or to variation in signal pipe leakage, much more probable with very high pressure.



Train Rules and Train Practice.

Answers by G. E. Collingwood.

904. Work Extra Must Protect.—“The following order was issued: ‘Engine 219 work extra 7 a. m. until 7 p. m. between A and D.’ A is a terminal station. During the working hours the dispatcher wished to run an extra from A to H and he gave them the following order: ‘Engine 256 run extra A to H.’

“The extra also gets a copy of the work train’s working order. Did the extra have the right to go through the work extra’s limits without an order to the effect that the work extra would protect?”

—*Member 290.*

Answer.—Extra 256 had full right to go through the work extra’s limits, and it was the duty of the work extra to protect against extra trains.

The rules state that when an engine receives an order to work extra between certain points and times it must, whether standing or moving, protect itself against extras within the working limits in both directions as prescribed by rule. The time of regular trains must be cleared. If it is desired that the work extra need not protect, the words, “not protecting against extras” may be added to the work train’s working order. When extra trains are run over the working limits the rules require that such extra trains must receive a copy of the order which was sent to the work extra, and should the working order instruct a work extra to not protect against extra trains in one or both directions, extra trains must protect, as prescribed by Rule 99, against the work extra; if the order indicates that the work extra is protecting itself against extras, other extra trains entering the limits will run expecting to find the work extra protecting itself.

905. Cannot Arrive Ahead of Arriving Time.—“No. 690 is a second-class train, east bound, and it leaves Y, the first station west of its terminal station, on time. Can No. 690 arrive at Z, its terminal station, ahead of time when only one time is shown on the time-table?”—*Member 295.*

Answer.—Rule 5 of the Standard Code states that but two times are shown for a train at any station; where one time is given it is, unless otherwise indicated.

the leaving time; where two times are given they are the arriving and leaving time. It follows that if the time shown at Z is not marked as the arriving time, it is the leaving time and No. 690 may arrive ahead of the leaving time, but if the time at Z is indicated as the arriving time, then No. 690 cannot arrive ahead of that time. Rule 92 governs this and reads as follows: “A train must not arrive at a station in advance of its schedule arriving time. A train must not leave a station in advance of its schedule leaving time.”

906. Clearance Card Imperfectly Filled In.—“When No. 3 arrives at B it finds the train order signal displayed for an order which is held at that station for extra 552, which is moving in the same direction as No. 3. No. 3 is given a clearance card reading as follows: ‘I have no orders for your train, signal is displayed for 31 order No. 10.’ Please advise if the clearance card is sufficient to clear No. 3.”—*H. G. M.*

Answer.—The blank spaces in a clearance card are to be so filled in that the train receiving the clearance may know what train the signal is displayed for as well as imparting the information that the operator has no orders for that train. The clearance card received by No. 3 states that the operator holds no orders for No. 3, which is a clear statement in itself and sufficient to clear No. 3, but for the fact that it further states that the signal is displayed for order No. 10. This later statement is indefinite and certainly would create a doubt in the minds of the crew of No. 3 as to what train order No. 10 was intended for. It is supposed that order No. 10 was not for No. 3, but the clearance card is an official notice so constructed that it gives to the train receiving it information with respect to the display of the train order signal which the train crew should be able to check and know for themselves that the signal is not displayed for their train. If order No. 10 was for extra 552 the clearance card should have read, “I have no orders for your train, signal is displayed for extra 552 south.” This would have removed any doubt as to the contents of order No. 10 affecting No. 3, but to simply state that the signal was displayed for order No. 10 is of no value to No. 3 as it does not give that train any information which can be used. If the clearance had stated that signal was displayed for extra 552 south, No. 3 would have in its possession information of a positive character which would leave no chance for doubt.

907. Safety in Emergency of First Consideration.—"No. 2 is a first class train, east bound, running from A to Z. Double track over entire division. Standard rules in effect. First No. 2 broke down midway between B and C. Second No. 2 arriving at B was stopped and given the following order: "To C. & E. 1st and 2nd No. 2. Engine No. 321 is withdrawn as 1st No. 2 from C." Also the following: "To C. & E. 2nd No. 2. Second No. 2 engine No. 168 will run as No. 2 B to Z and has right of track over opposing trains on westward No. 1 track B to D."

"There is an east bound siding at C, but the telegraph office is located thirty car lengths east of the outgoing switch; trains laying on siding cannot be seen by operator from telegraph office. When 2nd No. 2 passed 1st No. 2 on the west bound track it stopped and showed its orders to the crew on 1st No. 2, which was broken down. Second No. 2 also stopped at C and showed its orders to telegraph operator and explained that they had not put out signals—that 1st No. 2 was broken down midway between B and C on east bound track. Was this action regular, or was any mistake made on the part of the crew on 2nd No. 2 in this instance?"—*Member*.

Answer.—No. 2 would be required to stop at the point where 1st No. 2 was disabled, to deliver the order about engine 321 being withdrawn as 1st No. 2 from C, after which No. 2 would proceed to D and return to its own track, but No. 2 would not be required to stop at C to notify the operator or the freight train on the siding with respect to 1st No. 2, or to its own movements. The rules governing the case, and those which might be considered as governing the case, are mentioned and explained below.

Rule D-94 refers to a train which overtakes a superior train which is so disabled that it cannot proceed and the rule does not, therefore, apply to this case as 1st No. 2 is not superior to 2nd No. 2 or to a train which is running as No. 2.

Rule 217 governs the delivery of train orders to a train at a point which is not a telegraph office. The sending of the two orders to 2nd No. 2 at B was somewhat irregular, as the orders created a No. 2 from B to C and permitted 1st No. 2 to still retain its orders as 1st No. 2 until it reached C, but as the case was not covered by the rules, and as the Standard Code provides no train order form for such an emergency, there is probably very little cause for criticism, especially as the movement was made entirely safe, and safety in the case of an emergency is of first consideration. We may, however, criticise the address of the order to 1st and 2nd No. 2 at B.

First No. 2 having passed B, the order should have been placed at C for 1st No. 2, or if for some condition of the tracks at C it was desired to deliver the order to 1st No. 2 at the point where it was disabled, it should have been addressed to 1st No. 2 at such point care of the conductor of No. 2. If such order was given in "19" form the conductor would simply have to deliver the order to 1st No. 2 at the point where it was disabled and then proceed, but if given on a "31" form the conductor would have to obtain the signatures of the engineer and conductor of 1st No. 2 to the order and then hand the copy containing their signatures to the first operator accessible. In any event, it was the duty of the dispatcher who created the condition between B and C to protect it by issuing such orders as might be necessary to other trains concerned.

Double track rules do not require a train which takes down signals under the conditions as named in single track Rule 96 to take any action at such point, the rule requiring the conductor to protect in such cases being peculiar to single track.

D—Form R states that a train must not be moved against the current of traffic until the track on which it is to run has been cleared of opposing trains. An inferior train between the points named, moving with the current of traffic, in the same direction as the designated train, must receive a copy of the order and can then proceed on its own schedule or right.

It will be noted that there is nothing in the rules mentioned which can be construed as requiring No. 2 to stop at C and notify the operator of its arrival or to notify the freight train at that point. It may be that the road in question has some special rule which would require No. 2 to stop at C, but if so our correspondent has failed to state it, and standard rules do not contain any such provision.

908. Meet Order With Leading Section Holds Following Sections.—"Please give your ruling on the following orders: Order No. 211. 'First No. 978 late, second No. 978 engine 775 run four (4) hours and thirty (30) minutes late H to Z.' Order No. 213, 'Extra 623 meet first No. 978 at X.'

"When extra 623 arrived at Y it did not have time enough on second No. 978 to make X. Please advise if it is safe for extra 623 west to go to X for first No. 978 on the order to meet first No. 978 at X; or should the extra have more time on second No. 978 before it could properly proceed to X"—*Member 354*.

Answer.—The first part of order No. 211 is improper under standard rules, because it is unnecessary and does not confer any right or give the extra any essential information. Rule 201 provides that train orders must contain neither information nor instructions not essential to the movements which are being made. An order stating that first No. 978 is late does not confer any right to run against that section, and, therefore, it is not essential to the movement against the second section of No. 978.

An order for extra 623 to meet first No. 978 at X gives extra 623 the right to run to X for first No. 978 without regard to second No. 978. This for the reason that the rules guarantee the sequence of sections, because they require the first section to display the signals which authorize the second section, and require the second section to display the signals which authorize the third section, and so on. It follows that the second section is not authorized until the first section has proceeded with the signals which authorize the second section, and, while it is a fact that each section has equal time-table authority, following sections have no authority ahead of a leading section, so that extra 623 would be entirely within its rights to go to X for first No. 978 on order No. 213.

The second paragraph of Rule 94 should not, in any case, be operated so as to deny this right. And it is for this reason that the writer has urged the modification of the second paragraph of Rule 94 to conform to the principle of operation as expressed by other standard rules.

909. Rule 4, the Middle Order and Form J.—“The following question on Rule 4 has been asked in an examination here and I would like to have the rule explained. The question is, ‘How will trains proceed and be controlled after the new time-table has superseded the old time-table?’”

“Rule 208A reads as follows: ‘When a meeting point is made at a telegraph office where no form of block signals is in operation, the order should also be addressed to the operator at such meeting point. The full purpose of the order is accomplished when all trains included in such order have arrived from one direction and receive a copy thereof.’”

“I do not understand why the operator should be given a copy of the order.

“In regard to Form J, I do not understand the use of the order. Suppose the dispatcher should issue an order to hold all trains at a certain station and then let one go at a time, but did not want to annul the order, what kind of an order should be given?”—*A Member.*

Answer.—Rule 4 covers every situation which may arise because of a change of time-tables. When the new time-table takes effect, the old time-table is superseded and trains on the road are thereafter controlled by the new time-table. A train of the old time-table, which has not a corresponding number on the new time-table, cannot proceed after the new time-table takes effect, except by train order. That is, it must be given authority to run as an extra, or on some regular schedule which is in effect on the new time-table.

When a schedule of the old time-table corresponds as to number, class, day of leaving, direction and initial and terminal stations with a schedule of the new time-table, a train authorized by the old time-table may retain its train orders and assume the schedule of the new time-table and proceed. But if a schedule of the old time-table fails to correspond, as above indicated, with a schedule of the new time-table, the schedule of the new time-table is not in effect, unless it is due to leave its initial station after the new time-table takes effect, and it will not be in effect in such a case if the old time-table has authorized a schedule of that number on the same date on which the new schedule is due to leave its initial station.

A schedule which has no corresponding number on the old time-table takes effect after it is due to leave its initial station, on the new time-table after the time the new time-table takes effect. For example, if a schedule of the new time-table was due to leave its initial station at 12:05 a. m. and the new time-table took effect at 12:01 a. m., the schedule of the new time-table would be in effect at 12:05 a. m. on the date on which the new time-table took effect. But if the schedule of the new time-table was due to leave its initial station at 12:05 a. m. and the new time-table took effect at 12:10 a. m., the new schedule would not become effective until the day after the new time-table took effect.

Schedules on each division date from their initial station on such division. That is, a schedule which is due to leave its initial station at 12:05 a. m. on December 5th is a schedule of December 5th, and a train using such schedule is a train of December 5th. A train due to leave its initial station on a schedule due out at 11:58 p. m., December 4th, is a train of December 4th, notwithstanding the fact that the schedule would only be in effect for two minutes on December 4th.

Not more than one schedule of the same number and day shall be in effect

on any division. That is, if a schedule of December 5th has been in effect on a division and there is a change of time-table on that day, there cannot be another schedule of the same number and day of leaving authorized for that division; but nothing in such arrangement is intended to operate so as to forbid a schedule of the new time-table which corresponds, as required with a schedule of the old time-table, from authorizing movement for a train which was authorized by the old time-table on a schedule of the same number.

In regard to Rule 208A: The operator at the meeting point is given a copy of the order as an additional safeguard. When the operator receives such an order he will immediately display his train order signal for trains in both directions, and will deliver copies of the order to the train first arriving, or, if more than one train in the same direction is included in the order, it will be delivered to all trains until all have arrived from one direction.

The purpose of the order is to prevent an accident from occurring by reason of a train overlooking its meeting orders, or by reason of an operator failing to deliver orders to one of the trains at some other point.

Form J is to be used to hold trains in cases of emergency until they can proceed, or until proper orders can be given. The order is addressed to the operator and he will deliver a copy of the order to all trains. When it is desired to let one train proceed, an order is given to the operator reading, "No. 1 may go." Copies of that order will be delivered to the conductor and engineer of No. 1, and, after a regular clearance on the signal has been received, or the signal has been placed at proceed, No. 1 may go. The order cannot be used to advance opposing trains against those trains which are being held.

910. Trains Should Not Pass Between Passenger Train and Platform.—"We have a rule in our book that reads as follows: 'While a passenger train is receiving or discharging passengers at a station, other trains or engines must not pass it either on main or other tracks.'

"I take it that this rule means exactly what it says, and that it is promulgated and put in the Standard Code for the protection of passengers who might be received or discharged from passenger trains at stations. It is, nevertheless, the basis of a very important question, and I would be pleased to know if there is any reason why the rule was placed in the book other than for the protection of passengers."—*T. H. I.*

Answer.—The rule referred to was put in the Standard Code for the purpose of protecting passengers when entering or leaving a passenger train at a station. The rule as given in the Standard Code is intended for double track, and is worded differently than the rule submitted by our correspondent. The standard rule reads as follows:

"D-153. Trains must use caution in passing a train receiving or discharging passengers at a station, and must not pass between it and the platform at which the passengers are being received or discharged."

A strict interpretation of the rule quoted by our correspondent will not permit a train to pass a passenger train at a station receiving or discharging passengers, even though such train passes on a track which is not between the passenger train and the platform. It will be noticed that the Standard Code only requires caution in such cases, but prohibits a train from passing between the platform and the passenger train.

There is no other reason for establishing the rule than the protection of passengers, and, if accident to equipment or other accident occurs from violation of the rule, such accident would not be considered as being caused by violating that rule but by reason of violating the rule relating to the movement which was actually being made. For example, if a train passing a passenger train receiving or discharging passengers in violation of the rule mentioned should, by reason of the presence of the passenger train, run by a signal which the passenger train obscured from its view, the result of such violation would not be covered by Rule D-153, but would come directly under a violation of signal rules.

911. Form of Order Not Regular.—"Please advise regarding the following order: Order No. 5, 'No. 230 meet extra 2429 north at G and hold at D.'

"This order is used often here and I do not think that it is correct. Some of the men have been laid off for failing to hold."—*W. E. F.*

Answer.—The order is not in correct form, although it is permissible on lines which wish to use it, as the Standard Code does not provide for a hold at a certain station being addressed to a train. If any of the crews have failed to "hold at D," as instructed, then they are at fault, as improvised forms of train orders are permitted when the regular forms do not meet the situation, as in this case.

912. Train Order Signal at Night.—“Under the Standard Code, at a train order office where a red light is displayed by night and a red flag by day when the operator has train orders to be delivered, what signal must be displayed by night and what signal by day when the operator has no train orders to be delivered? An important question is involved in this case and I would like a full explanation of the rules governing.”—*M. G. H.*

Answer.—Under the Standard Code of train rules, a question with respect to the signal which will be displayed at a train order office when the operator has no train orders to be delivered, is answered by Standard Rule 221, which requires that a fixed signal must be used at each train order office, and that said signal will indicate “stop” when trains are to be stopped for orders, and that when there are no orders the signal must indicate “proceed.”

From this it is evident that the Standard Code requires a fixed signal at each train order office, so arranged as to indicate “stop” and “proceed.” The use of a red flag by day and a red light by night as a hand indication does not fulfill this requirement. On roads which furnish only hand signals at a train order office, a white light and a white flag should also be furnished for use, so that the spirit of the Standard Code may govern the operation. This would, in a measure, preserve the intent of standard practice, which is to the effect that the absence of a signal where one is usually shown (Rule 27), must be regarded as a stop signal, and the fact reported to the superintendent. That is to say, a method of showing a white signal (or other color when white is not used for “proceed”) when there are no train orders to be delivered, instead of no signal

at all, would require a train to stop when, for one cause or another, the red signal should become misplaced or extinguished at a time when train orders were held for delivery. This would act as a check against accident in such cases.

For example, if there is no signal used at a train order office except at a time when the operator holds orders for delivery, an approaching train would proceed if it saw no signal, even though a train order might at that time be held by the operator for delivery to that train and the red flag or light be misplaced or extinguished by the wind or by other agency.

The Standard Code of rules shows two rules for signals at telegraph offices. One of the rules is known as the “normal clear” rule. This rule provides that “stop” shall be indicated only when trains are to be stopped for orders, and that trains will not proceed while “stop” is indicated without a clearance card. The other rule is known as the “normal stop” rule. It provides that a fixed signal must be used at each train order office, which shall indicate “stop” when there is an operator on duty, except when changed to “proceed” to allow a train to pass after getting orders, or for which there are no orders. A train must not pass the signal while stop is indicated. The signal must be returned to “stop” as soon as a train has passed. It must be fastened at proceed only when there is no operator on duty. In this rule it will be noticed that the clearance card is not used.

Some roads use one rule and some the other. But the “normal stop” rule seems to be the favorite rule. Where manual block is in use, the “normal stop” rule is necessary.



Miscellany

Some of Galveston's Experiences With Tropical Storms.

Three times in a period of fifteen years, Galveston, Texas, has experienced a tropical storm of a nature so terrible and devastating as would entirely discourage a less determined and enterprising people.

On September 8, 1900, just two days prior to the opening of our Seventh Biennial Convention at Des Moines, Iowa, a storm which devastated Galveston raged

causeway was constructed connecting the city, which is on an island, with the mainland. This causeway took the place of pile trestles which went out in the storm, and in addition to railroad tracks, it provides facilities for vehicle traffic, foot passengers, water mains, etc. The sea wall and causeway were both great engineering feats, and it was believed that Galveston had fully protected herself against future encroachments of the sea.

The second great storm within the



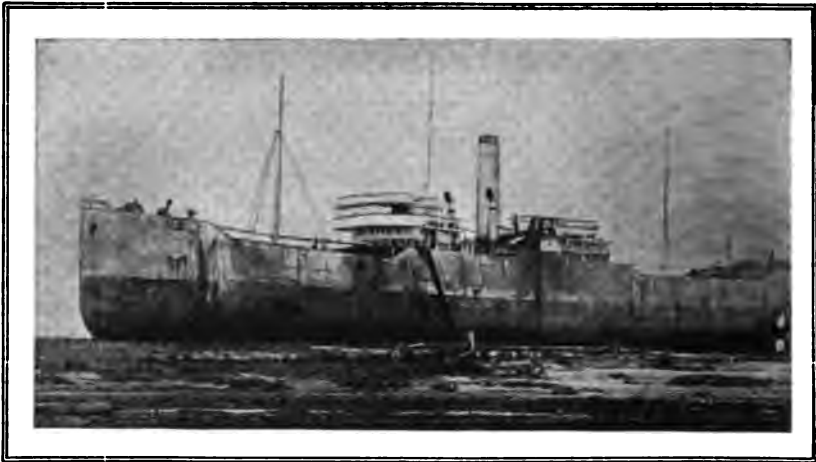
THE SEA WALL

The piling seen in the distance shows where Murdock's and the Breaker bath house stood. The hotel building to the right was slightly damaged. Note the filling back of sea wall gone.

for twelve hours, piling the waters from the Gulf of Mexico on to the city, wrecking a large number of buildings and drowning something like eight thousand persons. Following this storm the citizens, actuated by an abiding faith in the future of Galveston, displayed remarkable courage and energy in rebuilding the city. As a precaution against the flooding of the city by future storms, a great sea wall was built which it was believed would prove an ample safeguard against the recurrence of disasters of this kind. In addition to the sea wall an immense

fifteen year period was on July 19, 1909. During this storm the wind reached a velocity of more than eighty miles, the wind and waves beating fully on the sea wall, which withstood the assault and saved the city and its populace.

The most recent storm occurred on August 16th last, during which time it is reported the velocity of the wind ranged from thirty-four to between sixty-five and seventy miles an hour, with occasional gusts attaining ninety miles an hour. Before the storm had reached its height many people had left the city for Hous-



THE STEAMER "RIBSTON" HIGH AND DRY

This large English vessel was washed one-half mile from channel and placed high and dry near an oil tank in railroad yards.

ton and other interior points. Water confined to a comparatively small area on the gulf front, and latest reports placed the casualties at one hundred and sixteen known dead and over one hundred



THE MOSQUITO FLEET

On the bay front at the foot of 20th street where small vessels unload vegetables, produce, oysters and other cargoes.



THE BOULEVARD AND EIGHTH STREET

Showing one of the wrecked residences

missing. Sewers were choked and the gas and electric lighting systems, telegraph and telephone systems were put out of commission. One of the most serious conditions with which the people had to contend was the lack of drinking water, as the washing away of the approaches to the causeway resulted in the breaking of



THE CAUSEWAY

Showing a large part of the fill washed away. Note the broken water mains, which shut off the supply of fresh water and was a most serious feature.

the water mains which supplied the city with fresh water from the mainland, and until temporary repairs were made it was difficult to obtain fresh water for any purpose. The food supply ran low, and for a time, it is said, the people subsisted principally on canned goods.

Bro. P. A. Reagan, Recording Secretary of Lodge 115, Galveston, to whom we are indebted for the views shown herewith, writes that Brothers McNamara and Hawley, Vice President and General Secretary and Treasurer, respectively, visited the city and brought cheer to some of the flood sufferers in the form of financial aid, which he says came in good time.



Some Good Advice, Swat the Winter Fly.

The Merchants' Association of New York has issued posters urging the battle on the fly in winter, and these posters have been distributed generally throughout the country. The medical men who signed these posters declared that now is the time to begin the next summer campaign against the fly. The poster says:

"Most of last season's flies, having completed their life cycle, are dead; but those hatched late have laid their eggs in favorable places for incubation in the early spring and will survive the winter unless disposed of. These eggs will hatch out during the winter in an even temperature.

"At the first approach of cold weather the flies seek warmth and protection in houses and stables. From cellar to garret, they hide in nooks and corners. Keep them out. If any succeed in getting in, kill them. Swat every one that shows itself and be sure and burn their bodies.

"Don't trust the cold to kill them. Don't assume that they are dead when you find them lying on floors or window sills in unused rooms. They are playing possum and will revive when the temperature rises."

The poster further states that "the reduction in the number of house flies last year has been noticed by almost all observers," which it is believed is due to the industrious fight against these winter flies and to the great care and watchfulness of the tidy housewife in destroying the "hold-over" in the spring.



Book Review.

Railway Regulation.—This book is an analysis of the underlying problems in

railway economics from the standpoint of government regulation, by I. Leo Sharfman, A. B., LL. B., professor of political economy, University of Michigan. One of the most striking factors in the economic history of the United States has been the tremendous development of its railroads, same contributing incalculably to our industrial growth but bringing with it, and which are still in the process of solution, many problems of management and public control. The needs of the situation which have produced an elaborate system of control by government commissions, the fact that in the early days no detailed supervision was attempted by either national or state governments, and the reasons for this, as well as the nature and purpose of the resulting legislation, are ably treated by the author, who says in his preface that:

" . . . an attempt is made to present an analysis of the leading problems in railway economics from the standpoint of government regulation in the United States. While it has been my purpose to vitalize the discussion by the liberal use of concrete illustrative material, the emphasis throughout has been placed upon the discovery of underlying causes and the consideration of fundamental principles.

"The historical development of railway transportation has been traced only in so far as early conditions and past events have been shown to throw light upon the meaning and significance of current practices and present-day problems. The various stages in the growth of the American system of public control, state and national, have been given careful and detailed consideration because the principles and methods of railway regulation, as applied in the United States today, are the result of a gradual development. Both legislative enactment and judicial decision have slowly accommodated themselves to the irresistible pressure of our changing social and political ideals and our expanding commercial and industrial needs.

"The vital and inseparable relationship, in railway transportation, between legal rules and business welfare, between railway economics and railway regulation, has served as the source and foundation of the entire analysis and discussion."

It is a book that should prove of considerable interest to students of economics, attorneys, railroad men and shippers. It contains 236 pages, size 5½x8½ inches, bound in limp leather. Price \$2 postpaid. Orders should be addressed to LaSalle Extension University, 2550 Michigan Avenue, Chicago, Ill.



DISCUSSION OF CURRENT TOPICS

REPORT OF UNITED STATES COMMISSION ON INDUSTRIAL RELATIONS*

Press Abstract of Commission's Report on Colorado Mine Strike

By GEORGE P. WEST

Hypocrisy of Rockefeller's Plan of Benevolent Despotism. Perversion of and Contempt for Government, Disregard of Public Welfare and Defiance of Public Opinion but one Manifestation of his Autocratic and Anti-Social Spirit. Machinery of Law Used for Purposes of Oppression and Murder in the Interest of "Big Business."

The responsibility for the strike of coal miners in Colorado in 1913 and 1914 and for the disorder and suffering that followed is in this report placed squarely on the shoulders of the operators.

The Colorado Fuel and Iron Company, controlled by John D. Rockefeller, is declared to have been the leader in formulating and carrying out strike policies. Mr. Rockefeller and his son, John D. Rockefeller, Jr., are charged, first, with the selection of incompetent and reactionary agents to serve as executive officials in this company, and, second, with giving their heartiest endorsement and support to these officials after they had taken action that precipitated the worst of the troubles.

Mr. Rockefeller, Jr., is charged with having approved measures to coerce the state government of Colorado and with having flouted the will of the president of the United States.

The report says:

"During all the seven tragic and bitter months that preceded Ludlow, Mr. Rockefeller wrote letter after letter in enthusiastic praise of men whose acts

* Continued from January, 1916, Magazine.

during this period had precipitated a reign of terror and bloodshed. It was only when the Ludlow massacre filled the press of the nation with editorial denunciation, when mourners in black silently paraded in front of his New York office, when cartoons in the conservative press pilloried him and his father before an angry public, that at last complacency gives way to concern in his letters and telegrams to Denver."

Rockefeller's Responsibility.

Of Mr. Rockefeller's responsibility the report says:

"Mr. Rockefeller's responsibility has a significance beyond even the sinister results of his policy in Colorado. The perversion of and contempt for government, the disregard of public welfare, and the defiance of public opinion during the Colorado strike, must be considered as only one manifestation of the autocratic and anti-social spirit of a man whose enormous wealth gives him infinite opportunity to act in similar fashion in broader fields. Mr. Rockefeller writes to Mr. Bowers: 'You are fighting a good fight, which is not only in the interests of your own company, but of the other companies of Colorado and of the business interests of the entire country.'

"And Mr. Bowers, with whom Mr. Rockefeller obviously is in full sympathy and agreement, writes letter after letter picturing the growth of trade unionism as a national menace against which the business men of the nation must combine. 'Now for the campaign of 1916' and beyond, is the slogan with which one of these letters closes, and Mr. Bowers is unsparing in criticism of a President who would tolerate a former official of a labor union in his cabinet.

"The nation-wide significance and importance of the Colorado conflict and the company's ruthless policy of suppression are emphasized again and again. By June, 1914, Mr. Rockefeller has formulated something like a definite plan for a nation-wide campaign. The most highly paid publicity expert in the country has been borrowed from a great eastern railway, to be taken over later as a permanent member of Mr. Rockefeller's staff. A 'union educational campaign' is to be conducted, and the country is to be flooded with articles by college professors and others bitterly denouncing trade unions. And at the very time when he prepares to circulate Prof. Stevenson's intemperate and amazing defense of industrial absolutism and tirade against trades unions, Mr. Rockefeller enlists the aid of Mr. W. L. Mackenzie King, expert on industrial relations, to devise specious substitutes for trade unions that will deceive, mollify and sooth public opinion while bulwarking the employers' arbitrary control.

A Menace to Freedom and Democracy.

"Yet it is important to remember that Mr. Rockefeller's character and policies are important only as showing the possibilities inherent in an economic and industrial situation that permits one man or a group of men to wield such enormous economic power, and through that power not only to control the destinies and dictate the circumstances of life for millions of wage earners and for entire communities, but to subsidize and control to a large degree those agencies that mold the public opinion of a nation. Even should Mr. Rockefeller change over night, those possibilities of evil would remain inherent in our economic and industrial situation, as a menace to freedom and democracy."

Statement of Facts Incontrovertible.

Every important statement of fact contained in the report, it is said, is established by quotations from the correspondence or testimony of responsible executive officials of the Colorado Fuel and Iron Company or of Mr. Rockefeller and members of his personal staff. The report contains copious extracts from the testimony and correspondence of Mr. Rockefeller, Jr., and Starr J. Murphy, his personal attorney in New York, J. F. Welborn, President of the Colorado Fuel and Iron Company; L. M. Bowers, Chairman of the Executive Department of the Colorado Fuel and Iron Company; the Rev. Eugene S. Gaddis, Superintendent of the company's Sociological Department, during the strike and until February, 1915, and others.

Rockefeller Rebuffs President of U. S. and Deceives Public.

The report in discussing the company's rejection of President Wilson's plan for a settlement of the strike, says:

"Mr. Rockefeller not only rebuffed the President by denying his earnest request, but, if the letters of his agents may be relied upon, he apparently deceived the President and the public by means of the Company's letter of rejection. This letter was written by President Welborn in collaboration with Mr. Ivy L. Lee, a member of Mr. Rockefeller's personal staff, whom he had sent to Colorado for the purpose. Mr. Rockefeller's personal staff in New York had become impressed with the strong public sentiment supporting the President's proposal, and in drafting their letter of rejection to the President, Messrs. Welborn and Lee inserted the following:

"A plan to secure harmonious relations in some industries or sections of the country would not necessarily apply to our peculiar conditions. We are now developing an even more comprehensive plan, embodying the results of our practical experience, which will, we feel confident, result in a closer understanding between ourselves and our men. This plan contemplates not only provision for the redress of grievances, but for a continuous effort to promote the welfare and the good will of our employes."

"This letter was signed by Mr. Welborn and was dispatched on September 18, 1914. On the following day, September 19, Mr. Welborn wrote to Mr. Murphy, Mr. Rockefeller's personal attorney in New York:

"I appreciate your very thoughtful letter of the 16th inst., with suggestions for consideration in the event of its being necessary to propose some plan to take the place of that presented to us by the President."

Tremendous Political Power of Rockefeller and Associates.

The political influence of the Rockefeller company and its associates is declared to be greater today than ever before, as a result of the failure of the strike. The report says:

"The Commission is told by Mr. W. L. Mackenzie King, expert on industrial relations for Mr. Rockefeller, Jr., that Mr. Rockefellers will and conscience are today the most potent factor to be considered in any effort to bring about an improvement of conditions. While physical and material conditions in the coal camps may be improved to some extent as a result of the publicity given to existing abuses, these improvements, if they come, will be granted as a charity, and there is as yet no indication that the inhabitants of the coal camps are nearer the achievement of industrial and political democracy than they were when the strike began. On the other hand, the arrest, persecution and conviction of union officials and strikers, with the aid of attorneys and detectives in the employ of the Colorado Fuel & Iron Company, and by direction of public officials placed in office largely through the company's influence, indicate plainly that the reverse is true. How the Colorado Fuel & Iron Company obtained the new lease of political power by which it procured these prosecutions is well shown by the following extract from the testimony of Mr. L. M. Bowers, chairman of the executive department of the company, given before the Commission in Washington on May 24, 1915. Mr. Bowers had testified that the Company turned 150 men out of its offices on election day to work for prohibition, which was bound up with the candidacies of Mr. Carlson for governor and Mr. Farrar for attorney general. Both these candidates were successful.

Coal Companies' Candidates for Governor and Attorney General Elected.

"Mr. Bowers: Let me explain. I don't mean we turned them out to carry the election. It was on election day, but we were out on the campaign and had a fight on and had practically no funds to carry on the campaign, and they wanted men to do the work, to do the ward work and distribute literature and all that sort of thing; and the coal operators, not only the coal operators but everybody that was interested in the question of prohibition at the election turned out their office men, and I had been—by the way I had nothing to do with picking out that one hundred and fifty men, and I did not know it until the next day after they had been out.

"Chairman Walsh: Didn't you use the prohibition sentiment that

was strong in the state to get support for what you called the law and order platform, that was, for the Colorado Fuel & Iron Company and the others to aid in the ruthless prosecution of the strikers and the union officers, and a relentless policy of suppressing those men?

"Mr. Bowers: It was all interlinking and locked together."

The company's deep interest in prohibition quite slips President Welborn's mind when he writes to Mr. Rockefeller the following exultant letter, dated Nov. 6, 1914:

"My Dear Mr. Rockefeller:

"According to the figures received today, which are practically complete, the plurality of Carlson, Republican candidate for governor, over Patterson, is approximately 33,000. The plurality of Farrar, Democratic candidate for attorney general, over his next opponent, the Republican, is almost 38,000.

"Farrar is the present incumbent in the office to which he has just been elected, and has been about the only reliable force for law and order in the State House. His re-election serves to emphasize the sentiment in favor of law and order, expressed in the election of the main part of the Republican ticket.

"Mr. Farrar has been very actively engaged for several months in connection with the work of grand juries in various coal counties, where indictments have been brought against those who participated in the rioting.

Very truly yours,

(Signed) J. F. WELBORN."

"Mr. Rockefeller also forgets the prohibition cause, on account of which Mr. Bowers says 150 men were turned out of the Company's office as election workers. He writes:

"Dear Mr. Welborn:

"I have just returned to the city, after an absence of several weeks in the South with my wife, and find your letter of Nov. 26th regarding the gratifying plurality for Carlson for Governor and Farrar for Attorney General. It would seem that the election of this Republican Governor and the re-election of this Democratic Attorney General, both of whom have established clear records as to their strong stand for law and order, would indicate that the sentiment of the people of Colorado is for law and order, quite irrespective of party lines.

Very cordially,

(Signed) JOHN D. ROCKEFELLER, JR."

The Rockefeller "Law and Order" Policy.

"In pursuance of the 'law and order' policy on which they were elected, Governor Carlson and Attorney General Farrar have proceeded vigorously with the prosecution of union officials and strikers. Their most conspicuous success came with the conviction on a charge of murder in the first degree of Mr. John R. Lawson, member of the executive board of the United Mine Workers of America and the most conspicuous Colorado official of that organization. Mr. Lawson is an old resident of Colorado. He had worked his way from breaker boy to a position where he commands the respect and friendship of large numbers of the state's best citizens. He has appeared twice before the Commission, and members of the Commission and its agents have investigated carefully his record and character. As a consequence, he is believed to be a man of exceptionally high character and a good citizen in every sense of the term. The judge before whom he was tried was appointed by Governor Carlson after serving the Colorado Fuel & Iron Company as attorney and assisting in the preparation of cases against strikers. The panel from which the jury was drawn was selected by the Sheriff of Las Animas County, an official whose sympathies have been with the mine owners from the beginning. Much of the evidence on which he was convicted came from men in the employ of a detective agency retained by the coal companies. The killing of John Nimmo, a mine guard, by the strikers during one of the many skirmishes between them and the deputies was the crime for which Mr. Lawson was convicted. No effort was made to prove that he fired the fatal shot. He was held responsible for the death of Nimmo because he was

leading the strike and was at the Ludlow tent colony on the day of the battle. Nimmo was one of a small army of deputy sheriffs, employed and paid by the coal companies and deputized by subservient sheriffs who made little or no effort to investigate their records. Thus Sheriff Jefferson Farr of Huerfano County testified before this Commission that the men to whom he gave deputies' commissions might have been, so far as he knew, red-handed murderers fresh from the scene of their crimes. That many guards deputized in this illegal fashion and paid by the Colorado Fuel & Iron Company were men of the lowest and most vicious character has been clearly established. That their function was to intimidate and harass the strikers had been demonstrated in the strike of 1903, 1904, and had been made apparent early in the present strike by the shooting to death of Gerald Lippiatt, a union organizer, in the streets of Trinidad immediately after the calling of the strike, by a Baldwin-Felts detective employed by the Colorado Fuel & Iron Company and its associates and deputized by the sheriff of Las Animas County. In fact it was to these deputies, then masquerading as national guardsmen, that national guard officers attempted to attribute the murder, looting and pillage that accompanied the destruction of the Ludlow tent colony of strikers later in the strike.

Lowest Depths of Prostitution of Colorado Government.

"On August 17 the Supreme Court of Colorado issued an order prohibiting Judge Granby Hillyer, who presided at Mr. Lawson's trial, from presiding at other trials of strikers or strike leaders, on the ground that he had been, just prior to his appointment, an attorney for the Colorado Fuel & Iron Company and the other operators. The Court also issued a writ of super-sedas permitting the Lawson case to come before it on its merits.

"The prosecution and conviction of Mr. Lawson under these circumstances, and his sentence to life imprisonment at hard labor, marked the lowest depths of the prostitution of Colorado's government to the will of the Colorado Fuel & Iron Company and its associates. It is the crowning infamy of all the infamous record in Colorado of American institutions perverted and debauched by selfish private interests. It is anarchism stripped of every pretense of even that chimerical idealism that fires the unbalanced mind of the bomb thrower. It is anarchism for profits and revenge, and it menaces the security and integrity of American institutions as they seldom have been menaced before.

Something About Farrar's "Fairness" (?)

"Attorney General Farrar's bias in favor of the owners and his conception of fairness is well shown by his comment on the grand jury which met at Trinidad in August, 1914, and which under his direction returned indictments against 124 strikers and strike leaders. Of this jury Mr. Farrar testified before the Commission in Denver:

"I desire to say here that regardless of the reports which have been made, I have never seen a more fair-minded body of men gathered together under conditions such as prevailed there than were the twelve men who constituted that grand jury, and the charges which were made that they were absolutely one-sided and partisan are absolutely without foundation whatever.

"Following is the composition of this grand jury as reported by Mr. John A. Fitch of the staff of The Survey, an investigator of established reliability and fairness:

J. S. Caldwell, proprietor of a shoe store. Formerly with the Colorado Supply Company, the company store department of the Colorado Fuel and Iron Company.

James Roberts, public trustee. Secretary to F. R. Wood, president of the Temple Fuel Company.

Charles Rapp, assistant cashier Trinidad National Bank, of which W. J. Murray, general manager of the Victor-American Fuel Company is stockholder and director. Formerly with Colorado Supply Company.

Henry C. Cossam, rancher. Deputy sheriff since April 25, 1914. Participated in one of the so-called battles.

J. H. Wilson, real estate and insurance agent. Deputy sheriff since

September 30, 1909. In charge of the deputies who attacked the Forbes tent colony October 17, 1913.

William C. Riggs, rancher, whose son, W. E. Riggs, has been a deputy sheriff since January 20, 1911, and was in some of the battles in the fall of 1913.

J. W. Davis, a Trinidad barber.

D. J. Herron, life insurance agent in Trinidad.

E. E. Phillips, rancher, Hoehne, Colo.

John Webber, a Trinidad merchant.

Frank Godden, proprietor Hotel St. Elmo, Trinidad.

David West, justice of the peace, Aguilar, Colo.

"Mr. Farrar's bias is further indicated by these additional extracts from his testimony at Denver:

Chairman Walsh: What steps, if any, did you take to ascertain whether or not the military authorities and other authorities of the strike down there were acting in conformity with the constitution and statutes of the State, and whether or not the civil authorities were being deprived in any way of their powers?

General Farrar: Very little. During the time the militia was there, I was not in touch with the situation in an official capacity, except as it came to me through the Governor with the exception of one or two instances. General Chase and I did not have any conference. He was at Trinidad, and during the time the militia was in the field I was not at Trinidad although on two occasions I sent my deputy down to Trinidad, in order to be able to assist along certain lines which were then under discussion. And I therefore say that my relationship with the military authorities was largely indirectly through the Governor. I did, of course, know in a general way what was being done down there, and what lines were being followed; but it was not a definite daily report or information coming to me. I will say further in that respect that there were a number of attorneys in the National Guard, and that some of these were advising General Chase as to the local situation. My advice was, of course, of a more general nature and was always to the Governor with the exception of the two occasions when General Chase and I met in conference here.

Chairman Walsh: Do you know whether or not the testimony taken before the Military Commission, of which Major Boughton was the head, was preserved?

General Farrar: No, I know nothing of it. I have never seen the testimony and can not answer your questions.

Chairman Walsh: Did your office make any effort to ascertain whether or not the civil rights of any person had been violated or abused?

General Farrar: You mean by this Military Commission?

Chairman Walsh: Yes, by the Military Commission.

General Farrar: Yes.

Chairman Walsh: Was there any such abuse or violation?

General Farrar: Not that I was able to learn. Now I must qualify that by saying that I have not seen the testimony and my information concerning it is of a general nature.

Asked by Chairman Walsh: 'Have you ever gone over the list (of National Guardsmen) to ascertain whether or not the law had been violated in reference to the enrollment of the men in the mine?' he replied: 'Only through consulting the officers in charge of that matter.'

Nothing Done About Ludlow Massacre.

Chairman Walsh: What steps, if any, have been taken by your office to investigate the occurrence at Ludlow of April 20, 1914?

General Farrar: I have taken every opportunity or every step which opportunity afforded me. As stated before I did not have and have not seen the testimony—the evidence taken by the Military Court Martial, relative to that question.

Chairman Walsh: I am asked to inquire of you if you know about the looting of saloons and the destruction and confiscating of liquors in

the Snodgrass store at Ludlow, also the complete destruction of bakeries, rooming houses and private residences at Ludlow by the militia?

"General Farrar: I know nothing of it."

"General Farrar did give his attention to the question of whether or not the State troops acted legally under Governor Ammon's original orders, prohibiting them from acting as escorts for imported strike breakers. He testified before this Commission that he went to Governor Ammons and advised him that such a policy was not justified by law and should be abandoned.

"The same authorities who conducted this and other successful prosecutions of strikers have taken no steps to prosecute Lieutenant K. E. Linderfelt of the Colorado National Guard, or other members of the guard who took part in the wanton slaughter of three unarmed strikers held prisoners at Ludlow, and in the burning of the Ludlow tent colony which resulted in the death by suffocation and burning of thirteen women and children. Yet at the coroner's inquest a doctor who examined the body of Louis Tikas, one of the slain strikers, testified that a blow on the head, dealt by Lieut. Linderfelt with the stock of his rifle, was so severe that it might have caused death even had Tikas not been shot three times through the body as he lay prostrate on the ground by men under Linderfelt's command. It is true that Lieut. Linderfelt and other members of the guard were tried by a court martial composed of their fellow officers, and that trifling demotions in rank were assessed as punishment. Nor have the same authorities taken steps to prosecute officials and directors of the Colorado Fuel and Iron Company, in spite of evidence gathered by the Commission, and which has become common knowledge, that these officials through their agents and subordinates created a private army of armed guards and later procured the enlistment of these gunmen in the militia, and of well-substantiated charges that these disreputable agents of the company in the guise of militiamen committed various crimes from robbery, burglary and arson to murder.

"The prosecution of Mr. Lawson and many other strikers and union officials was undertaken and conducted in compliance with the stand taken by the present Governor and the present Attorney General during their campaign for election in favor of 'law and order.' Their conduct since taking office must be considered a confirmation of the charge made by their political opponents during the campaign that in standing for 'law and order' they were in reality standing for the coal operators against the strikers, for industrial absolutism against industrial democracy, and that their conception of maintaining law and order was the ruthless suppression of the strike and imprisonment or execution of the men who dared to lead it, this to serve as an object lesson to others who might attempt to lead a similar revolt in the future."

Causes of the Strike.

Discussing the causes of the strike the report says:

"The Colorado strike was a revolt by whole communities against arbitrary economic, political and social domination by the Colorado Fuel & Iron Company and the smaller coal mining companies that followed its lead. This domination has been carried to such an extreme that two entire counties of southern Colorado for years have been deprived of popular government, while large groups of their citizens have been stripped of their liberties, robbed of portions of their earnings, subjected to ruthless persecution and abuse, and reduced to a state of economic and political serfdom. Not only the government of these counties, but of the State, has been brought under this domination and forced or induced to do the companies' bidding, and the same companies have even flouted the will of the people of the nation as expressed by the President of the United States.

"Economic domination was achieved by the Colorado Fuel & Iron Co. and its followers through the ruthless suppression of unionism, accomplished by the use of the power of summary discharge, the black list, armed guards, and spies, and by the active aid of venal state, county and town officials, who placed the entire machinery of the law at the disposal of the companies in their persecution of organizers and union members.

"This economic domination was maintained by the companies in order that they might be free to obey or disregard state laws governing coal mining as

they pleased; arbitrarily determine wages and working conditions; and retain arbitrary power to discharge without stated cause. The power to discharge was in turn used as a club to force employes and their families to submit to company control of every activity in the mining communities, from the selling of liquor and groceries to the choice of teachers, ministers of the gospel, election judges, and town and county officials. In the cases of several companies, the suppression of unionism was used also to deny check-weighmen to the men in order that the miners might be cheated of part of their earnings.

"Political domination was achieved by the companies by the use of their monopoly of employment to suppress free speech, free press and free assembly, by the appointment of company officials as election judges, by the formation of a political partnership with the liquor interests, and, in the case of the Colorado Fuel & Iron Company, also by the expenditure of large sums of money to influence votes during campaigns, and by resort to other forms of fraud and corruption. Where a public official refused to do their bidding, he was whipped into line through pressure from interests that responded to the economic power of the Colorado Fuel and Iron Company and its followers.

Purposes of Mine Company's Political Domination.

"This political domination was maintained by the companies in order that they might ignore or defy state laws enacted to safeguard the interests of their employes, prevent legislation by state or county unfavorable to their interests and obtain such legislation as they wished, control coroners and judges and thus prevent injured employes from collecting damages; and flagrantly disregard the constitutional and statutory guarantees that otherwise would have prevented them from procuring the imprisonment, deportation or killing of union organizers and strikers.

Policies of Oppression Heartily Approved by The Rockefeller's.

"The policies and acts of the executive officials of the Colorado Fuel & Iron Company, and of the other companies that acted with them, had the hearty support and endorsement of the greatest and most powerful financial interest in America, that of John D. Rockefeller, and his son, John D. Rockefeller, Jr., who controlled the company through ownership of approximately 40 per cent of its stocks and bonds. Letters from Mr. Rockefeller,* Jr., heartily approving of his company's refusal to meet representatives of the strikers, of the measures taken to suppress the strike, and of the coercion of the governor that resulted in throwing the state troops on the side of the owners, were shown not only to executive officers of his company, but to other operators who followed its lead, and his support contributed largely to the unyielding and lawless policy that finally resulted in the horrors of the Ludlow massacre and the intervention of the federal government.

"After the system of political and economic absolutism outlined above had driven the miners to revolt, the owners not only obstinately refused to admit the possibility of any grievance, but at a time when they could have prevented a strike by merely granting a conference to the union officials, they chose instead to refuse the conference and in doing so made themselves responsible for the disasters and tragedy that followed. Letters from the president and chairman of the executive board of the Colorado Fuel & Iron Company to Mr. Rockefeller's office show that these officers fully realized the gravity of the situation before the strike, and also that they believed a strike could have been averted by the mere granting of a conference. Yet their refusal even to meet representatives of the union had from the beginning the warm approval and endorsement of Mr. John D. Rockefeller, Jr.

Rockefeller Sustains Defiance of President and Public.

"The refusal of the operators to accede to any plan for settlement involving a personal meeting between themselves and the strike leaders or any slightest recession from their original attitude continued throughout the strike, and eventually took the form of a rejection, amounting to rebuffal, of a plan that was urged upon them by the President of the United States and that was supported by the public opinion of the nation. This continued and persistent defiance of the public interest, as that interest was urged upon them by the highest representative of the people, continued to have the support and endorsement of Mr. Rockefeller, without which there is doubt that it could have been sustained."

The Situation Today.

Discussing the situation in Colorado today, the report says:

"The defeat of the strike by the methods that have been described left the Colorado operators free to operate their properties exactly as they saw fit. The United Mine Workers have, at least temporarily, abandoned their effort to organize the miners, and the large operators other than the Colorado Fuel & Iron Company are as determined as ever that there shall be no democratic organization of the industry which they control.

"At the mines of the Colorado Fuel & Iron Company a plan purporting to provide the miners with easy access to company officials, and with other advantages of collective bargaining, has been announced by Mr. Rockefeller and his subordinates, and has been widely heralded by them as evidence that, the strike having been defeated, they are now willing to grant of their own free will and accord what they stubbornly refused to give under the duress of the strike. Before considering the merits of this plan it must be pointed out that the spirit actuating those who conceived and executed it was the spirit of men who give as a charity or a favor that which they had denied when demanded as a right. Even if we grant that the concession has substantial value, it must still be characterized not as a concession to democratic principles, but as an instance of that handing down of favors in which autocrats and despots always have delighted.

Rockefeller "Plan" Hypocritical Pretense.

"But after a study of the plan as disclosed in the testimony of Mr. Rockefeller and Reverend Mr. Gaddis, and in the public announcements of President Welborn, it is found that it embodies none of the principles of effectual collective bargaining and instead is a hypocritical pretense of granting what is in reality withheld.

"The testimony and correspondence not only prove this, but they contain indisputable evidence that the plan was conceived and carried out, not for the purpose of aiding the company's employes in Colorado, but for the purpose of ameliorating or removing the unfavorable criticism of Mr. Rockefeller which had arisen throughout the country following his rejection of President Wilson's plan of settlement, and which had found utterance even in those conservative circles and newspapers in Eastern cities where Mr. Rockefeller's self-esteem could not escape injury by such criticism.

"In considering the correspondence and testimony that will here be quoted, it must be borne in mind that Mr. Welborn is still the president of the company and the dominating executive official on the ground in Colorado. If it appears that Mr. Welborn's spirit and attitude toward the new plan, as disclosed in his correspondence while this plan was being formulated, were such as to convince the recipient of his letters that he was temperamentally and by conviction unfitted for the carrying out of any plan for real collective bargaining, then Mr. Rockefeller's retention and continued support of Mr. Welborn must be taken as a measure of his own sincerity regarding the plan.

How the "Plan" Safeguards Interest of Wage Earners.

"Mr. Welborn's conception of collective bargaining and of an ideal arrangement for safeguarding the wage earner's interests is expressed in the following sentence in his letter of October 9, 1914:

"I am impressed with the importance of so composing whatever committees are found advisable as to make it appear that they all represent one interest; in other words, that there is but one interest which is in every sense of the word common, yet having it understood that the committee is as free to consider any complaints or grievances of the men as though it were one actually of their own selection."

"This notion that the interests of the employer and employe are common when applied to distribution of product is a fallacy that can hardly be advanced with sincerity by a man of intelligence. Yet it apparently animates Mr. Rockefeller's attitude, and he even considers it consistent with the existence of a system of collective bargaining. It need scarcely be pointed out, first, that the plan outlined by the letters and testimony here quoted does not provide an effective organization of the company's own employes, and, second, that if it did these employes would still be unable to maintain bargaining equality without the support of a nation-wide organization such as only the United Mine Workers can give.

"The correspondence and statements already quoted show that so far from

being a plan that provides for collective bargaining. it is a plan conceived and executed by men who were determined that no element of real collective bargaining should enter into it.

"The effectiveness of such a plan lies wholly in its tendency to deceive the public and lull criticism, while permitting the company to maintain its absolute power.

Reverend Gaddis' Testimony.

"Reverend Mr. Gaddis continued to serve the company as superintendent of its Sociological Department until February, 1915, or several weeks after the date on which the new plan became operative. Testifying before this Commission at Washington, he said:

"Of the much advertised welfare agent, 'as a mediator between the company and its employes,' we believe his work will only tend to intensify the despicable oppressiveness of the past few years. One super at least has already been informed, sub rosa, that there need be no undue concern about this new officer limiting their suzerainty. He had been in the field but a few weeks when he effected the discharge of a man with a family to support, on the word of a woman of questionable character. The evicted employe was given no opportunity to present his side of the case.

"It is almost farce to presume that a pet appointee would fearlessly and impartially bring things to the surface, that would disturb the imperturbable equanimity of the one who must O. K. his monthly salary account.

"The assembling of camp delegates in Bower's old office on January 19th, in which complaints were solicited; and a generally bumptious good time with free auto rides, banquet and theater party as a part of the program; in addition all expenses being paid to and from their respective camps, was a decided hit.

"A good square kick could hardly be expected from such sources.

"Again the remembrance of so many of their former comrades being 'canned' for squealing would not be forgotten amidst the grandeur and informality of their temporary environment.

"A few weeks after this meeting a representative from headquarters inquired of a super if 'the men thought we were trying to put one over on them'? There is room for suspicion that 'one is being put over' on the public and that the various investigating committees are having dust thrown into their eyes; for Presto, the lion has been changed into the lamb.

"If the investigating committees can be kept out of Colorado for the next six months or a year the old shackles of oppression will have received so many new rivets, that it will take the hellish fires of another strike to loosen them."

The report charges that no plan of any sort for hearing grievances and giving the men even a pretense of representation was favorably considered by the company until, in rejecting President Wilson's plan of settlement it became necessary to propose some counter plan in order to appease public criticism.

Rockefeller Inspired Mine Owners' Defiance of Public Opinion.

The report charges that Mr. Rockefeller made no effort to disclaim full responsibility as the controlling influence behind the operators until after the Ludlow massacre. Discussing this point the report says:

"The evidence shows that the Colorado Fuel & Iron Company played a master hand in determining the policy of the operators, and in maintaining that policy after it was announced. This Company mined from thirty-five to forty per cent of the coal produced in Colorado and employed nearly three times as many miners as the second largest company. For more than ten years its largest stockholder and dominating director had been John D. Rockefeller, and since 1907 a personal representative of Mr. Rockefeller had been in active charge of its management as chairman of the board of directors, vice president and treasurer. This official was Mr. L. M. Bowers, a man sixty-nine years of age, who had been employed by Mr. Rockefeller to manage various industries for twenty years and whose deep seated opposi-

tion and animosity toward labor unions and the practice of collective bargaining must have been well known to his employer when he was sent to Colorado to represent the Rockefeller interests.

(To be Continued)

“NATIONAL PREPAREDNESS”

Who's Behind the Scheme?

Some Pertinent Questions Plain People Would Like to Have Answered

The agitation for national “preparedness” goes on apace. Some there are who, not desiring to be regarded as entertaining views on the subject antagonistic to the interests of our democracy, are willing to compromise on a “citizen soldiery” to be trained in the profession of wholesale human slaughter and property destruction and to consist of a force of about two million men in addition to a regular standing army of a couple of hundred thousand or so. The idea of a “citizen soldiery” is, however, frankly rejected by the more influential and active advocates of a mammoth army and navy. These advocates are numerous and amongst them are the most powerful financial and industrial interests in America. Hence militarism, imperialism, and aristocratic supremacy are the three foes of democracy that are now threatening the common citizenship of the United States.

Notwithstanding that the curse of military “preparedness” which has so long afflicted Europe is the direct cause of the present horrible war that is devastating that continent, our “Big Business” press is working overtime to make that very war a pretext for the United States to afflict itself with the same curse, and abandon the simple democratic non-militaristic traditions to which it has adhered since the founding of the republic. Of the proposed “citizen soldiery” compromise Secretary of War, L. M. Garrison said recently:

“The idea of employing state troops to build up a national military system is illusory and not real, is a sham and not substantial, is a mockery and not honest. There must be a regular standing army and organized Federal troops subject to instant call.”

Evidently, Mr. Garrison is not at all concerned as to where the money shall come from with which to support an immense standing army. The expense of it does not seem to be a consideration worthy of serious thought by any of its advocates nor do they appear to be mindful of what it means to withdraw so many men from useful occupations and maintain them in idleness. The supreme idea of as nearly as possible having a soldier on the back of every working man blinds them, we believe, to vitally paramount considerations in this connection.

Then Mr. Daniels, our Secretary of the Navy, says that the strength of a modern navy can be estimated only on the number of dreadnaughts, that the United States before the European war had only 14 while Britain had 46, Germany 28, and France 13, that the older United States dreadnaughts have only half the range of modern 12-inch rifles, that many of the United States dreadnaughts can not make 19 knots as against 20 for the older German dreadnaughts and that the United States predreadnaughts with guns of 13-inch bore are only of .35 calibre and have a limited range.

Thus has our navy gone a glimmering (for apparently this declaration

of the Secretary of the Navy puts it out of business) and to get a navy quickly we could never wait to construct government ship-building plants. Oh no, that would be "suicidal" and what is necessary and *must be done* is to use all the facilities at our command (which, of course, means the steel trust plants and all other resources of "Big Business") to supply the nation with "adequate naval defense."

Then there are those who advocate a navy equal to the largest maintained by any other nation and this, of course, would mean a contest in building dreadnaughts and other maritime implements of destruction in an effort to maintain naval supremacy over some nation that would be equally determined to maintain naval supremacy over us. Of course, the steel trust and kindred concerns would shed no tears over such a contest. The prospect



WHERE "PREPAREDNESS" COST WOULD COME FROM.

of such a contest is in fact, as we see it, the main incentive for the clamor for the biggest navy on earth. "Big Business" feels no doubt that its press by its tactics of false alarm and appeals to blind patriotism, aided and abetted by the personal efforts of "national preparedness" supporters in and out of Congress, having once worked the scheme through, the matter of having this navy built in its own plants would be a detail which, through its "influence" in legislative quarters, it could easily work out. Thus would the financial and industrial kings reap fabulous profits. We used to think we had quite a formidable navy but since the "preparedness" agitation has begun it seems to have faded into insignificance.

Now regarding this "preparedness" agitation there are some questions being asked by thinking, plain, everyday, cool-headed citizens, which run about as follows:

Who is paying the printing bills and the postage bills, for all this litera-

ture and its circulation that is being sent out in this vigorous "preparedness" campaign?

Why is it that certain "prominent" civilians are such interested members of the Navy League and Army League?

Is it not more than a coincidence that certain gentlemen prominently identified with the "preparedness" campaign are also connected with large industrial concerns that would profit hugely should Congress adopt the "preparedness" program and who incidentally have been very active in organizing "security leagues?"

What enemies does the United States as a nation fear that it is necessary to thus load the people down with excessive taxation to maintain a vast army and navy in direct violation of the most cherished traditions of the republic?

Is it not a fact that the European nations now at war would not be at war were it not for this very evil of "preparedness" and that their military systems are responsible for the professional militarists who, dominating their more pacific councils, have plunged them into this ghastly horror?

Who are the Americans and what has been their training and environment who are now so anxious to forsake our traditional policy of having a small naval and military establishment maintained in accordance with the ideals of the forefathers of the republic and to adopt a naval and military system sure to operate as an incentive to war and sure to bring all of war's horrors, griefs and untold hardships and sufferings to the people of the United States?

Do not trained professional soldiers represent a dead economic loss and is it not a menace to the simple standards upon which the republic is established to thus so vastly increase their number—to swell the ranks of army and navy officers, *inoculated* as they are with the idea of social caste and taught to hold in contempt all who cannot measure up to the social standards of aristocratic society to which, by virtue of their profession—their exemption from engaging in useful occupations—they are freely admitted?

It is argued that there is a great difference between the army of a kingdom and the army of a republic. Our answer is that with such an army—with such a naval and military establishment the United States of America would not very long remain a republic. It behooves every citizen who desires to enjoy life, liberty and the pursuit of happiness unrestricted by aristocratic ascendancy, pretensions, oppressions and impositions to exert his every effort with that national body in which the voice of the people is still heard, namely, the Congress of the United States, with a view to having this "preparedness" scheme defeated in its entirety.

Every common citizen, every person who stands for democracy, for government of, for and by the people, should write his United States Congressman and Senators vigorously protesting against the scheme. Much of this work has been done already and it is bearing excellent fruit.

Industrial Accidents—Child Victims Comparatively Most Numerous.

The enactment of laws in various states on workmen's compensation for injuries has aroused increased interest in the statistics and physical and psychic conditions of industrial accidents. The total number of these accidents is almost appalling. The lowest estimate places the

fatal accidents to adult workers in the United States at 35,000 a year, with an additional 1,250,000 non-fatal accidents. The Massachusetts Industrial Accident Board, on the other hand, placed the number of workers killed by accident yearly at 75,000, which apparently includes not only adults, but also workers of all ages, while the number of injured of the same classes was placed by this

Massachusetts authority at 3,000,000 or over. An earthquake in a foreign country that kills half this number of persons and maims one-fiftieth of those injured in our United States industries is spoken of as catastrophic.

A greater proportion of accidents occur on Monday than on any other day of the week. Accidents are said to be due often to fatigue. . . .

By far the larger number of accidents occur at about 10 a. m. and 3 p. m. This fact is confirmed by the reports of two state boards, Washington and Massachusetts. The tendency to speed up employment has been incriminated, as the predisposing condition for the occurrence of accidents. This desire comes over the workman when he is not yet fatigued, but has been employed for several hours. He starts the morning's work "cold," and as he warms to his work, the danger of mischance because of haste becomes greater. Just when the speeding up reaches a climax in the morning hours, most acci-

dents happen. The same thing is true in the afternoon. Workmen feel sluggish after their lunch, but after an hour of work warm up again, and by about 3 o'clock they are doing their most rapid work, and are at the same time more subject to accident.

With regard to accidents among children, however, there is no hour of maximum. Accidents occur at all times, and they are comparatively much more frequent among children than adults. The United States Bureau of Labor reported that "there is clear evidence of great liability to accident on the part of children. Though employed in the less hazardous work, their rates steadily exceed those of the older co-workers, even when in that group in which are included occupations of relatively high liability." This was said with regard to the Southern cotton mills, but the same thing is true of practically all industries in which children are employed.—Journal of the American Medical Association.

ROCKEFELLERISM AND ITS REMEDY

Vast Private Fortunes Greatest Menace to Popular Liberties

Big Military System All That Is Needed to Make Rule of Moneyed Aristocracy Supreme in United States

Elsewhere in this issue we publish the press abstract of George P. West's Report of the United States Commission on Industrial Relations on the Colorado mine strike and it is doubtful that a more deplorable and at the same time a more well founded commentary on our boasted rights of citizenship could appear in print—that there could be a more conclusive, a more ghastly refutation of our widely heralded claims as to conserving human liberty. Mr. West's report depicts conditions prevailing in Colorado that constituted a complete perversion of the principles of freedom enunciated in the Declaration of Independence and the Constitution of the United States, and unfortunately these conditions are characteristic of our great industries generally wherein the workers are not protected by labor organizations.

In last month's issue we told of young Rockefeller's visit to the Rockefeller Colorado mining properties. We told of the industrial plan controlled by himself which he foisted on the employes of these properties and which his publicity agencies, the corporation press, etc., heralded to the public as a beneficent—a philanthropic arrangement that would prove as efficient or more so in conserving and promoting the economic and industrial interests of the employes as a regular bona fide labor union—a union entirely free from domination by employing interests. The light in which this plan was presented to the public by the daily press, magazines, etc., etc., has led hundreds of thousands of people to believe that in its preparation and es-

tablishment Rockefeller was concerned primarily with the welfare of the workers in and about his mines and incidentally that he was not a party to or even aware of the conditions of gross injustice and ruthless oppression and murder that characterized the rule of the Rockefeller interests in Colorado prior to the arrival of the Federal troops in that State soon after the Ludlow Massacre.

Fortunately, however, for the workers of the country, through the United States Commission on Industrial Relations composed for the most part of men imbued with an inherent sense of fairness—men whom Rockefeller's millions could neither cow nor dazzle, not only the Rockefeller methods of injustice and oppression in dealing with the workers in Rockefeller industries have been revealed to the public view but as well those of the entire class of industrial despots and financial autocrats to which he belongs.

Rockefeller's Guilty Knowledge Clearly Proven.

Notwithstanding all of Rockefeller's professions of altruism—of interest in the welfare of the employes in the Colorado mining properties in which he and his father are interested—of his claims to ignorance of the conditions in Colorado which led up to the Ludlow Massacre, the fact that he was fully aware of the perpetration of all these outrages against the workers is made clear by the George P. West press abstract of the Report of the Commission which appears in this issue. His guilt was clearly established by letter after letter the existence of which the Commission disclosed and in which he praised the tactics of his reactionary representatives and endorsed their policy, and it was not until this ruthless rule of oppression and bloodshed had filled the nation with horror and created a situation of great danger to himself that he appeared in Colorado to establish his plan of "benevolent despotism."

Those who may imagine that this plausible play on the part of young Rockefeller indicates that Rockefeller greed has diminished one iota, that Rockefeller determination to exploit the workers and the public to the last cent possible is any less firm or that Rockefellerism whether manifested in the slavery of the steel trust mills, in its destruction of the liberties of the lake seamen, in the operations of the Standard Oil Company or in any of its numerous and varied industries has experienced the slightest change of heart are indeed sadly misled as they would themselves realize should they read George P. West's report on the Colorado mine strike trouble and get a correct understanding of the "Industrial Plan" young Rockefeller foisted on the workers in the Rockefeller mines in Colorado.

Great Public Service of Industrial Commission.

The United States Commission on Industrial Relations in exposing so clearly and with such emphasis the evils of Rockefellerism not only in industries controlled by the Rockefellers but in all industries to which the existence of feudalistic conditions and oppression of the workers makes the term properly applicable; that Commission in so clearly depicting the horrors of the unrestricted development of this evil, in so frankly warning the people of the dangers to their liberties that is inherent therein has well, fearlessly and with a spirit of true patriotism performed its duty to all common citizens, and well merited their gratitude. It is now, however, for the people themselves to do their part—to grapple with this monster before it becomes so powerful as to entirely destroy the liberties of our common citizenship,—to divert the nation from its original purpose of guaranteeing to its citizens the free enjoyment of life, liberty and the pursuit of happiness.

Contempt in Which Rockefellerism Holds Government.

The West report makes plain the contempt in which Rockefellerism holds government, its absolute disregard of public welfare and its defiance of public opinion and it warns us that its operation along those lines in Colorado is but one manifestation of the infinite opportunity which the power of vast wealth gives men actuated by an autocratic and anti-social spirit to act similarly in broader fields. And let us here suggest that the logical sequence of the unrestricted development of Rockefellerism means the destruction of the Republic and the annihilation of all that the principles upon which the Republic was established stand for.

The operations of Rockefellerism are devious and subtle. It has the wherewith to employ men of brains to aid it in deceiving the public and in advancing its purposes generally. Men of high intellectual capabilities worship at its shrine and do its bidding, and judges, members of legislative bodies and other public officials are gathered into its fold by the directing genius of political bossism. With skillfully worded platitudes its literary hirelings lull the people into a false sense of security while it insidiously enriches itself at the expense of their most vital economic interests just as the vampire with its horrid wings fans the sleeping victim whose lifeblood it absorbs.

How Long Will Rockefellerism Be Tolerated?

That any individual or small group of persons should wield such enormous economic and political power, should have such extensive control of the destinies of millions of citizens as Rockefellerism in its collective sense exercises is diametrically in conflict with the primary principles, purposes and motives that actuated the founders of the Republic in its establishment, and yet it was only through an extreme exercise of this power that the nation became aware of the appalling extent to which it has been operating in violation of the American Constitution and of American ethics and traditions. Now, therefore, the question is—the great question—the question that most vitally concerns the workers of the United States: how long will Rockefellerism be tolerated in its less virulent form? In other words how long will it be permitted to maintain its rule in a form in which it tramples upon the constitutional rights of workers without also taking their lives or subjecting them to great bodily injury and how long will it be permitted to exploit the ultimate consumer—to wring from the public tribute in the form of extortionate profits for life's necessities?

One of the most dangerous features of Rockefellerism is its control of the agencies that mold public opinion—its domination of the press of the nation—for the big daily papers of the country with now and then a rare exception and a large proportion of magazines and other periodicals are controlled by Rockefellerism and chiefly through this agency is "Big Business" (a synonym for Rockefellerism) enabled to keep the people in oblivion of their danger while ruthlessly exploiting them and undermining their liberties.

Big Army Would be an Adjunct to Rockefellerism.

And now Rockefellerism wants a big army, that instrumentality with which aristocracy has throughout the ages maintained in other lands its ascendancy over the useful classes and so national military and naval "preparedness" for the peace loving American Republic is being blatantly advocated. Literature paid for from some thus far unrevealed source pleading for a vast army and mammoth navy is being sent broadcast throughout the nation and the "Big Business" press is working overtime in its effort to scare the people into the belief that they need this "preparedness." Rockefeller's indus-

trial expert, Mackenzie L. King, declared on the witness stand before the United States Commission on Industrial Relations that "his will and conscience is more powerful than all the people of Colorado." Now if Rockefeller and the Colorado militia were more powerful than all the people of Colorado a question that is not hard to answer is how powerful will Rockefellerism collectively be with a vast army behind it in comparison with the people of the nation and once in control of such an army with what alacrity would Rockefellerism suppress popular revolts and stifle popular outcries against its rule when that rule becomes as intolerant generally as the rule of the Rockefeller-mine-guard-militia system did in Colorado, and with what brutal and servile exactitude would such an army enforce the edicts of the courts of Rockefellerism and slaughter people in its name just as men, women and children were slaughtered by the agencies of the Rockefeller interests in that state.

When one man or a group of men possessing great wealth could wield such enormous economic and political power in one state what would be the result of the power possessed by the combined forces of Rockefellerism with this army of a million or two that they are now clamoring for?

How Can Rule of Rockefellerism Be Overthrown.

But what must the people do to emancipate themselves from the rule of Rockefellerism? They must get back to the simple—the primary standards of the Republic. They must take determined steps to prevent the accumulation of vast wealth in private hands and to reduce to a reasonable maximum the swollen fortunes already possessed by private individuals—mostly wealth of which the public has been defrauded by grossly illegal and corrupt methods.

An inheritance tax and a properly graduated income tax are the legal instrumentalities for the accomplishment of this latter purpose. Then the great—the fundamental remedy to prevent the accumulation of these vast private fortunes is general public ownership of public utilities, mines, etc. That any individual or any small group of individuals should own the coal, the oil, etc., that God Almighty placed in the earth for the use of His people and that enormous tribute must be paid in the form of profit to these persons before these necessities can become available for the people's use is utterly preposterous. Some people, in no sense beneficiaries of these conditions, do not so regard it because they have become inured to these impositions and yet some of these same people who would protest against public acquirement of the mines as "confiscation" will in the same breath freely assert that war with all of its invasions of human rights is entirely legitimate. Apparently, under the present order, so accustomed have unthinking people become to bow to the rule of the privileged wealthy that any radical reform that makes for the betterment of the masses is opposed as "revolutionary," "dangerous," etc., etc., by an element that would be directly benefitted thereby but which is easily controlled by the "Big Business" press while this same element deems it entirely proper on "business" grounds that the whims of the ruling class be gratified even to the extent of wholesale human slaughter. To such people war with all its anarchy is not "radical" but public ownership of mines, telegraphs, telephones, etc., would be a dangerously radical departure from the established order.

Public Ownership Essential to Liberty.

The conservation not only of the economic well-being but of the liberties of the people demand the public ownership we herein advocate for no greater

menace to their liberties exists than that power inherent in the possession of vast private wealth,—the swollen fortunes acquired through the private ownership of public utilities, the sources of certain of life's necessities, etc. Hence, as a political expedient if for no other reason, it is doubtful that anything is more important to the people or more essential to their freedom than this public ownership. Yet we will hear reactionaries and pessimists exclaim that such a reform is out of the question—impossible of attainment.

Some Reforms That Have Been Won.

We have heard precisely the same objection raised against the election of United States Senators by a direct vote of the people, against postal savings banks and against a parcel post, and it is the self same interests that today so vigorously protest against public ownership of public utilities, mines, etc., that protested twenty-five years ago against these reforms that have at last been realized.

The "Big Business" press kept up a howl against the people having a right to vote direct for members of the United States Senate, and it really was, we must admit, easier to buy election in the legislatures than at the polls.

The reactionaries howled loud and long about the government going into the banking business and into the express business and all because the establishment of government savings banks and of a parcel post would be injurious to the interests of the bankers and express companies but the fight was kept up and that element in our citizenship that prizes human liberty above wealth and regards the preservation of its inheritance of the freedom of its citizens as the most precious possession of the nation—that element kept hammering away for these reforms and the fight was at last won. True the parcel post and the postal savings banks have not developed to their highest standard of efficiency and usefulness but it will come before long.

Billions for War, But Not A Cent for Public Ownership.

As against public ownership generally we hear the clamor about "paternalism," the government going into business, etc. That was the cry through which reactionary Rockefelleristic members of the United State Senate defeated the Government Ship Purchase bill recently. That is the cry which, were the public highways, the postoffice and the public schools privately owned today, we would hear against any effort for their public ownership. Were the postoffice privately owned we would be paying not less than ten cents postage on letters that we now send for two cents and we would have a graduated scale just as the telegraph companies maintain, and to some points in the United States it would cost twenty-five cents or more to send a letter. Thus would we be paying millions and millions of dollars of extortionate profit in tribute to the private owners of such a postoffice system just as we are today paying millions and millions of dollars in excessive profit to the private owners of our telegraph and other utilities. The cost of building such utilities or buying them at a fair valuation is incessantly urged as an argument against their public ownership and yet were it possible for Rockefellerism to drag the country into a war billions and billions of dollars would be raised for the prosecution of that war—enough money to many times over purchase all of the public utilities in the United States—and no word of protest would go up from the servile corporation press and the people would have to submit meekly. But let it come to raising but a fraction of the sum to give the people some advantages through the public ownership of public utilities and reasonable service rates and the idea is denounced by the "Big Business" newspapers as visionary, impracticable, pre-

posterous, etc., etc. This all comes from the evil of Rockefellerism—the control of public officials, particularly legislative bodies by the money power. The real influence, the dominating force that combats this sadly needed reform is that which Wanamaker aptly described in the years gone by as the most potent “argument” that existed against the parcel post, viz., the then three largest express companies. Thus we might say that all of the power that operates against the ownership of public utilities, mines, etc., and the happiness and well-being of the people embodied therein, could be summed up in the one word, “Rockefellerism,” which embraces, amongst other evils, industrial feudalism, economic despotism and perversion of government.



IMPORTANT SAFETY APPLIANCE DECISION BY UNITED STATES CIRCUIT COURT, FOURTH DISTRICT

**Railroad Companies Cannot Order Use of Hand Brakes as a
Substitute for Power Brakes Just for the Sake of Operating
Excessively Long Trains.**

**Decision Says That if Trains are Too Long to be Operated with Safety by
Power Brakes the Remedy is to Run Shorter Trains**

The fact that trains of excessive length and tonnage cannot be controlled with safety down long grades at slow speed by the use of power brakes, as required by the Safety Appliance Acts, where trains of reasonable length and tonnage can be so controlled, does not and cannot excuse a railroad company for setting aside that provision of the law and resorting to the use of hand brakes for its own convenience or economy, is clearly established by a recent decision of the United States Circuit Court of Appeals, Fourth District. The Virginian Railway Company, in May, 1912, promulgated an order requiring the use of hand brakes for the control of 100-car trains on a certain grade; and this decision, which affirms the decision of the lower court, makes clear that such an order is in violation of the safety appliance laws. The case was tried before Circuit Judges Knapp and Woods and District Judge Waddill.

The decision, which was prepared by Circuit Judge Knapp, is in part as follows:

KNAPP, Circuit Judge: The writ of error in this case seeks to reverse a judgment obtained by the United States in an action, tried by the court without a jury, to recover penalties for alleged violations of the safety-appliance laws, so-called. The violations in question are predicated upon the use of hand brakes, which is claimed to be forbidden, in the operation of certain trains on a section of defendant's road, and it is conceded that hand brakes were used in the manner and to the extent hereinafter described on the occasions specified in the Government's declaration. The undisputed facts which are deemed material may be summarized as follows:

The Virginian Railway was constructed primarily for the transportation of coal at low cost from the mining districts of West Virginia to a tidewater terminal near the city of Norfolk, Va., and unusual expense was incurred to secure favorable grades and other conditions which would permit the hauling of this traffic in trains of great length. It appears to be a common practice to operate trains of 100 cars, each carrying approximately 54 tons.

These trains are said to exceed in tonnage, if not in number of cars, the trains in ordinary use on any other road in the country.

The section of track on which the alleged violations occurred in July, 1912, extends from Goodview to Huddleston, in the State of Virginia, a distance of about 13 miles. It has throughout a descending grade to the east, which is the direction of the loaded movement, varying from nearly level to a maximum of 31.68 feet per mile, with heavy cuts and fills and numerous curves. At the time mentioned the roadbed was not firmly settled, and more or less trouble was experienced from the unstable condition of the fills and the sliding of earth and rocks in the cuts. On this account trains were limited by order to a speed of 5 miles an hour at one point and 10 miles an hour at other points. It was found, however, that these very long trains could not be operated safely at the slow rate of speed required on this grade when air brakes only were used for their control. This was because air brakes could not be applied with needed effect, if at all, without exerting a pressure which would stop the train, or, if released before the train came to a standstill, would cause such a jerking and surging of the train as to break the cars apart, and accidents of this kind were of frequent occurrence. To avoid this danger the company decided upon the use of hand brakes, and accordingly, in May, 1912, promulgated the following order:

In order to avoid breaking knuckles, pins and couplers in eastbound 100-car trains coming down the six-tenths grade between Goodview tunnel and Huddleston, these trains will be held with hand brakes and the independent engine brake.

As a general proposition hand brakes should be set about as follows: Goodview tunnel to Westgate, 15 brakes; Westgate to Moneta, about 5 brakes; Moneta to Huddleston, about 20 brakes.

If these brakes do not hold the train sufficiently, additional hand brakes will be set up or the independent engine brake used.

The automatic air brakes will be used if it is seen that the hand brakes are not holding properly, to make a quick stop on account of being flagged or in other cases of emergency.

Referring to the two trains described in the declaration, it is sufficient to say, without specifying when hand brakes were applied or released, or how many were used, that they were operated under this order and substantially according to its requirements.

.....

It appears to be conceded by defendant, and the fact is clearly established by the testimony, that trains of a smaller number of cars could be safely operated on this section of road, even at the slow rate of speed stated, by using only the air brakes and the locomotive power brake. Just how many cars could be handled without the use of hand brakes is not altogether certain, but apparently there was no difficulty with trains of 50 cars or even more than that number. In short, the alleged necessity for requiring hand brakes to be used resulted wholly from the extreme length of the trains, coupled with the low rate of speed at which they were moved. Shorter trains could be operated with entire safety, as respects control of speed and otherwise, without the aid of hand brakes. The situation, then, was this. All the appliances contemplated by the statute were fully provided, were of proper construction, and in good working order; trains of, say, 50 cars, probably more, could be safely operated without the aid of hand brakes, but for trains of greater length, certainly for those of 80 to 100 cars, it was necessary, in order to avoid the risk of accident, to make use of hand brakes as provided in the quoted order. Was the use of hand brakes, under such circumstances, a violation of the Federal statute?

.....

The question asked above must be answered in the affirmative. In our judgment the legislation here considered manifests the plain intention of Congress to require the control of trains in ordinary line movement by the train brakes prescribed and to make unlawful the use of hand brakes for that purpose. True, the use of hand brakes is not in express terms prohibited, but this is the necessary implication of the language used, and it admits of no other reasonable construction. It was the evident purpose of the train-brake provision to prevent the danger resulting from the operation of hand brakes on the tops of cars in moving trains. Just as the object of

the automatic coupler is to keep employes from going between cars, so the object of the train brake is to keep employes from going on top of cars to set and release the hand brakes. The purpose of the law is the guide to its interpretation, as the courts have repeatedly said.

The whole argument of plaintiff in error rests upon the proposition that, since the statute requires that all cars be equipped with hand brakes and does not expressly forbid their use for controlling the speed of trains, there is left to "the judgment or discretion of the men operating the trains the decision as to when and under what circumstances the power brake should be used, and as to when and under what circumstances the hand brake should be used." The proposition is also stated in this form:

The object of Congress was evidently that the automatic power brakes should be used to control the speed of the train at all times when good railroad practice would require the use of such brakes, and to permit the use of hand brakes under such circumstances as, in the judgment of the people in charge of the operation of the trains, would promote the safety of the operation.

It is obvious that such a construction would practically nullify the train-brake requirement and take all effective meaning from the provision which makes it unlawful to run "any train" unless the locomotive and cars are so equipped that the engineer can control its speed "without requiring the brakeman to use the common hand brake for that purpose." The contention must be rejected as clearly unsound. It is impossible to believe that the Congress compelled the equipment of locomotives and cars with the appliances specified in the act, for the declared purpose of doing away with the dangerous operation of hand brakes, and then left it to the carriers themselves to decide when and under what circumstances those appliances should be used.

On the contrary, we deem it beyond doubt that the duty imposed by the provision here considered is mandatory and absolute. There is no express or implied qualification which in any way related to the question at issue, and it is not for the courts to introduce an exception which the Congress did not see fit to make. The peculiar and unusual conditions which existed on this section of defendant's road cannot be permitted to excuse an avoidance of the positive requirements of the act. Moreover, those conditions disclose no emergency or extraordinary difficulty. They simply show that the defendant, for the sake of convenience or economy, deliberately ordered the use of hand brakes in the daily and customary operation of its trains. The justification set up is that trains of 100 cars cannot be moved on this stretch of track at the slow speed of 10 miles an hour or less and kept under safe control with the use only of the prescribed power brake. But those operating conditions which occasioned the need of hand brakes are evidently of defendant's own creation. All it has to do to comply with the law is to make up trains of such smaller number of cars as can be safely and properly handled without resorting to the use of hand brakes. In short, the mandate of the Congress is disregarded in this instance, not because compliance involves any physical difficulty which is inherent or practically serious, but merely because it involves some increase of expense. It is too plain for argument that no such reason can serve to condone disobedience to the command of the statute.

It is sufficient to add that the views herein briefly expressed are supported by numerous decisions construing the analogous language of other sections of the safety appliance law.

We are of opinion that the case was correctly decided in the court below, and the judgment will, therefore, be affirmed.

Attorneys in the case were:

H. T. Hall and G. A. Winfield for plaintiff in error.

Philip J. Doherty, special assistant United States attorney (R. E. Byrd, United States attorney, on brief), for defendant in error.

*Labor Affairs in the United Kingdom.**

Practically nothing is happening here in the way of labor disputes. The shortage of labor still persists and unemployment is down to a minimum.

Large numbers of girls and women in particular who never before went out to work are now feeling impelled to try and do something to help industry. They are therefore putting their names down in response to a Government request at the various local labor employment bureaus, such as the Labor Exchanges. The increased numbers therefore registered are not workers who have become unemployed but people who have never been workers but who now desire to become so in this time of stress. Already the country is being covered with a network of war workshops of one kind and another. These have been a long time starting, but now they are in full operation and their numbers are being added to every day.

One feature of these war workshops is the part played by women. The full utilization of the resources already in sight depends on female labor, and the revelation of women's capacity is a point of capital significance for the future of the war. The point is not that women and girls are employed in great numbers on munitions. There is nothing new in much of the work they are doing. In fact, they have been doing it for years, and the general tendency is for modern machine work on metals to pass more and more into the hands of women. The point is that they have been tried on work of which they have never before been thought capable—work requiring both strength and skill—and they have demonstrated their good services in this direction.

The present development of woman's work raises various problems for the future, which would be beyond the scope of this article to discuss; but it has stimulated one improvement of immediate interest. The new factories are provided with canteens or dining rooms and other arrangements for the comfort and well-being of the female workers. Some have casualty hospitals for accident cases, with a nurse in constant attendance, also rest-rooms. The general provision of canteens has been stimulated and developed with beneficial results, and a new standard of "welfare" work has been set.

Practically all these war workshops and similar businesses, in so far as they are controlled by the Government either directly or through controlled employers, work under the Munitions of War Act. At times very strong views have been expressed with regard to the operations of this measure. For example, men working in controlled establishments cannot leave their job and take employment elsewhere without permission of the controlled employer. This clause was probably put in originally to prevent the poaching by one employer from another in order to add to his own profits. This has practically seemed to work out only to the detriment of the workman who has been compelled to remain at work in one shop at a certain wage when he could have gone elsewhere and earned more money. The question is, however, too complicated to discuss here. Of course the great grievance is the refusal of certificates of discharge to workmen who wish to leave, and this is certainly enough to make amendment urgent. The power placed in the hands of employers in this direction under the act is very great and some of them have proved to be unworthy to be entrusted with it. Organized labor desires this matter and a few more of a similar sort to be transferred to the local munitions' tribunals. A workman desiring to change his job would make his application, not to his employer, but to the tribunal, and the employer would then have to bring up evidence to prove ground for refusing.

On December 1st last the Government called a conference in London between itself and about 1,000 delegates representing four million workers. This was styled the Thrift Conference. Prime Minister Asquith, Chancellor of the Exchequer McKenna and President of the Board of Trade Runciman attended on behalf of the Government and each delivered a long address to the assembled industrial delegates. Boiling the Premier's speech down it came to a request to the leaders of the wage earning classes in this country to use their influence to prevent anything of the nature of a general demand for further advances in wages. The Chancellor of the Exchequer declared it was contrary to the interests of the State and of the organized working men's poorer neighbors, and in a considerable measure contrary to their own interests, to put forward further demands for higher wages in particular trades at the present time. McKenna further went on to make the extraordinary statement that before asking for higher wages now the workers of these

* Exclusive Correspondence to the Locomotive Fireman and Enginemen's Magazine.

special trades must show that they can save their increased earnings in the interest of the State, of their neighbors, and themselves by investing at least half their present increased wages in war loan, on which of course they would get interest and which would be redeemable after the war. When Asquith spoke the delegates gave him a quiet undisturbed hearing but McKenna had to face a sudden storm of interruptions and challenging questions. He was, however, apparently able to carry the conference with him when he sat down. In the discussion that followed many of the delegates, however, showed a proper inclination to resent what they regarded as the lecturing of themselves by the Cabinet Ministers who failed to practice themselves what they preached.

It is impossible to discuss in anything like a short space this so-called thrift conference. Probably the Cabinet Ministers who spoke are not quite so stupid as some of their remarks led the labor delegates to believe. At the same time these members of the Government showed the usual tactlessness of the politician when dealing with things he does not properly understand. This present war is pre-eminently manned by working men. Nine-tenths of the soldiers come from the working classes as do nine-tenths of the support, at a reasonable estimate. The trouble appears to be that many men belonging to the richer classes, which will include Cabinet Ministers with salaries of \$25,000 a year, do not regard with anything like pleasure, apparently, the fact that instead of having been reduced to depression and want by the war the British working classes were never so prosperous. They forget that this prosperity has not resulted from higher wages for the usual number of hours but rather from very slightly increased wages coupled with the working of very much overtime and frequently a seven-day week. The Premier pointed out that 4,500,000 working people had obtained since the war began a raise on the average of about 84 cents a week. This means a raise of that amount for the old hour's work before the war. At the same time this raise has been entirely wiped out by the increased cost of living so that the only way in which British working people are better off now than before the war is because they are in more regular employment and work more numerous hours per day and, as I have said before, frequently Sundays as well.

There is no doubt that our trade unions will endeavor to meet the Gov-

ernment's request as far as possible because that is the note of the day, but after the war there will be a big reckoning.



Book Reviews.

"*Learning to Earn*," a book by John A. Lapp and Carl H. Mote recently published by the Bobbs-Merrill Company stands well in the front rank of the most important economic and industrial literature of today. The work defines, emphasizes and elaborates in a way that has never been done before the deplorable short comings of our present educational system, making clear its lamentable lack of efficiency in qualifying the children of our common citizenship for the duties of earning a livelihood. The introduction to the book, written by Hon. William C. Redfield, Secretary of Commerce, aptly expresses this thought in the following words:

"The difficulty is that the fruitful work of the educator reaches at its best far too small a minority among us while it is essential, deeply essential that its influence should be vastly extended. . . .

"We are just beginning to realize that by the failure of some phases of our educational system to meet the living needs of living boys and girls, we are permitting them to enter a sort of death in life which is having most hurtful effects on our country. Our complacency over the value of the common school to our people is being rudely disturbed, for many if not most of our young people emerge from that same common school quite without adjustment to the daily life they must hereafter lead, and almost if not altogether without the training fitting them for the workaday world in which they must live. . . .

"The life in industry, in trades, in the home, on the farm, needs and does not yet receive the corresponding training in principle and practice that is given to the lawyer, the physician and the engineer. It is not the same education that is needed for all these either in kind or in degree, but it is similar in spirit and in purpose and has for its outlook that the student shall be prepared for the environment which is normal to him."

The keynote of the book is "make education real and pass it around." The work presents a definite plan of education for all the people adjusted to their actual conditions, qualifying them for their life work, fitting them for a complete life. Keeping alive and well, earning a living, caring for the home, rearing children, doing the duties of a citizen, and enjoying a reasonable leisure are the activities that fill life full and a

scheme of universal education which takes all these things into account is unfolded in "Learning to Earn." It seeks the elimination of waste, promotes thrift, aims at more efficient production exchange and consumption in the great fields in which men labor. The book is without question the best expression thus far published of the need of a system of education that will effectively adjust itself to the requirements of the mass of our workaday citizens and promote their efficiency in making their way through the world. It is a solution of one of the greatest civic problems that today confronts the people and from a literary viewpoint it is a classic as we would naturally expect from the fact that one of its authors is Mr. Carl H. Mote whom the Editor personally knows to be a deep thinker, a highly capable and philosophical writer and an able and fair-minded newspaper man. "Learning to Earn" will prove a most valuable acquisition to the library of any citizen irrespective of his position in life and it is to be hoped that the book will have the widest possible circulation, for the lesson it teaches is one that the country badly needs to learn and which, once learned, will yield an hundredfold in the advancement of the well being of our common citizenship. The other author of the work, Mr. John A. Lapp, is a member of the Federal Commission on Vocational Education and the author of the Vocational Educational Law of Indiana.

The different phases of the all-important subject of which the work treats are presented in its various chapters under the following chapter heads: "What are the Purposes of Education?", "Passing Education Around", "Wherein the Present System Fails", "Industry and Its Educational Needs", "Agriculture and Its Educational Needs", "Business and Its Educational Needs", "Training for the Home," "Vocational Education and Conservation", "Prevocational Training", "The Place of the Vocational School", "Part-Time Education", "Extension and Correspondence Work", "The Library and the Worker", "Vocational Guidance", "Training of Teachers", "How Shall the Obligation be Met", "Work and Culture", "Training for Citizenship" and "The Ideal School."

Besides the introduction, table of contents, index, etc., the book contains 378 pages. It is 5 by 7½ inches, bound in cloth, and sells for \$1.50 net. Published

by the Bobbs-Merrill Company, Indianapolis, Ind.

Ten cent vest pocket edition of Facts in Report of U. S. Industrial Relations Commission—a vest pocket edition of a digest of the facts contained in the Report of the United States Commission on Industrial Relations published by the People's College, Fort Scott, Kansas—is now on the market at ten cents per copy postpaid to any address in the United States or Canada. The digest has been compiled by Fred D. Warren with a foreword by Frank P. Walsh, who served as Chairman of the United States Commission on Industrial Relations. The vital facts contained in the Commission's Report are to be found in this little book, the language of the Report in which these facts are presented remaining unchanged. By an index arrangement the reader can quickly find any of the facts contained therein to which he may particularly desire to refer. The "facts" bear on a great variety of subjects of which the following are a few: "Concentration of Wealth and Influence", "Deplorable Condition of Workers", "Children are Underfed", "Children of the Poor not Educated", "Contrast Between the Exploited and the Exploiter", "Inherited Power of Wealth", "Rapid Growth of Tenancy", "Exorbitant Interest Charges," "Horror of Unemployment", "Injustice Cause of Disorder", "Public Utilities' Graft Under Private Ownership," "The Telegraphs," "Telephones," "Railroads," "Irresponsible Corporations are Tyrants," "Legislatures Obey the Capitalists", "Courts are Controlled by Capitalists", "Value of the Union", "Spies in the Union", "Carnegie, Rockefeller and Other Foundations", "Militia in Colorado", "The Massacre of Ludlow", etc., etc.

Never in the history of the labor movement has there been such widespread interest in a government investigation as is now being evinced in the report and conclusions of the United States Commission on Industrial Relations. The first edition of this report is exhausted and Congress is being besieged with thousands of requests to appropriate sufficient money to have enough copies of the report published to meet the demand for it. This little vest pocket edition will prove most valuable and it is only ten cents. It contains 64 pages. For sale by The Peoples' College, Fort Scott, Kansas.

Contributed

A Plea for Equal Suffrage.

Notwithstanding that the cause of Equal Suffrage has met with defeat at the election of November last in the eastern states, it must not be inferred that the cause is dead, nor its supporters in the least discouraged. The liquor interests and the machine politicians and the forces of immorality generally made their combined influence felt in the fight, but they cannot always be victorious and their power is gradually waning and the good fight for Equal Suffrage and its resultant benefits to society will be kept up until every woman has a vote.

It seems a great pity to me that we women must expend so much energy in trying to get that which is our inalienable right, the right to say how we shall be governed and the right to have a voice in the laws which govern us. The men have secured a great deal of legislation in the past for their protection which they could not have had, had their demands not been backed by the ballot, so if the men need the ballot to protect their interests, we women need the ballot to protect our interests.

The life of every nation depends upon the welfare of its children, thus a great responsibility rests upon the woman. She is the supervisor of the home and all things concerning it, she is responsible for the moral, educational and health conditions of her children and she cannot efficiently discharge these obligations without concerning herself as to the laws which regulate these affairs. For instance, with the ballot she could follow the child into the school room, she would see that proper conditions prevailed there, she would also see that the child was properly fed and clothed, a state of affairs that is sadly in need of attention today.

We have about twenty-five million school children throughout this country and investigation shows there are five million of these little ones who go to school and do not get enough to eat. On the other hand, according to the U. S. Census, October 22, 1914, there are two million little children toiling as bread winners in this land of the free and home of the brave. In the State of Pennsylvania alone there are over 64,000 little boys between the ages of ten and fifteen, and over

32,000 little girls—in all we have over 97,000 children between the ages of ten and fifteen—toiling in sweatshops and factories in the State of Pennsylvania. This in itself is ninety-seven thousand reasons why the women should have the ballot.

We cannot keep clean homes while streets are filthy and neighborhoods are menaced with foul-smelling odors from shops and smoke-belching chimneys. These conditions are all politically controlled and constitute another reason why women should have the ballot. All contagious diseases, such as diphtheria, tuberculosis and spinal meningitis, are due to street dust; typhoid epidemics are due to polluted water supplies; the large death rate among infants is due to inadequate milk inspection; we all know men have charge of the health boards, and they are not able to eliminate these evils, and they never will be without the help of the woman.

We hear the worn-out phrase so much these days that woman's place is in the home. Our anti-sisters tell us this. One of them said this from a platform recently, but she neglected to think, for at that time she was 150 miles away from her home. Now, let us see,—I wish you would give this point some serious consideration. There are eight million women who are employed out of the home today. In nearly all the trades you will find women. Now suppose on some given day, let us say March first next, all the women of Pennsylvania who are employed would stay at home. Without the women telegraph operators, think how your railroads would be crippled; next, think how it would be without your telephone operators, stenographers and bookkeepers; next, your school teachers, then your nurses; think how your poor undertakers would be called upon to work overtime, then consider the saleswomen, and laundry and factory girls, do you think you could keep this vast army at home and support them? Why, you would be glad early on the morning of March second to hand them the ballot on a silver platter to get them back to work again. So you see the "woman's sphere" is not within the four walls of any home, the sphere of the mother heart of the womanhood of the country is the country and is bounded by that which bounds the coun-

try. She is mother of a world home, where her children are there her interests lie. Take our hospitals for instance, great public institutions; there you find her nursing maimed, deformed and stricken children, wounded from the battlefield of industry, disease victims from shambles of poverty, etc., etc. Who is responsible for the evils that cause this suffering? Not the woman, for had she a voice in the laws these evils would be largely eliminated.

Had the woman had the ballot it would not have taken Congress 50 years to have passed a bill creating a federal bureau for the protection of little children. It took 86 years of indirect influence on the part of the women to have the Pennsylvania Legislature pass a bill for the protection of children—86 years for us to secure that which the women of the West got in one and two years.

My brothers, if women are compelled to compete in these factories and work shops it is because of conditions that are due to economic forces over which woman has no control simply because she has no vote. This handicap is unbearable, her health is ruined, hence puny children and an alarmingly large death rate, and we cannot expect to have healthy, hearty citizens when mothers and little children are ground beneath the wheels of ignorance and greed. The woman is the final standard of the race from which there can be no departure for any distance, for any length of time, in any direction; as her brain weakens, weakens also the man she bears, as her muscle softens, softens his, as she decays, decays the people, and the greatest problem that confronts humanity today is the conservation of the human race.

So, brothers, we want you to help us make this world a better place for the rearing of our babes, together let us study the conditions that create social, physical and political disorder, and together we will lend our efforts in an endeavor to eliminate the cause, for an ounce of prevention is better than a pound of cure.

In speaking of the children, I want to say this, every year we are pouring into American citizenship two hundred thousand little boys and girls who are stunted in mind, body and soul, living engines of hatred toward society; in time they marry and become the parents of other degenerates. Brothers, think of these little ones whose bodies and souls are being coined into gold and all the army of ill-treated, toiling, defenseless women. And did you ever stop to think, men, that if the women who are disfranchised were to move to the Western states, in a period

of time they would vote? I often wonder if politics is a question of geography.

You know in the olden times we women were not supposed to possess a soul, so they balloted on it and we won by a majority of three. (Bless the three.)

Of course, some women will tell you they do not want the ballot. There is no justice in depriving hundreds of thousands of that which is essential to their welfare because a handful of unthinking women don't want it. I must confess some women are very foolish, but as Mrs. Royser said, "God Almighty made them to match men."

And here I wish to state it is not the man who is doing his best for the family and society that we fear, not at all. It is the man who makes it impossible for us when we send our little girl to school or on an errand to know she will come home safely. It is the man who plays on the destitution and poverty of the girl—the girl who is making a more magnificent fight than any army of soldiers ever made for honesty and justice—the working girl. It is the men and women who play for these conditions that we fear, and we do not fear that little band of professional anti-women going about the country advocating home, Heaven, and mother. The forces of destruction, the white slave traffic, the gamblers, the exploiters of women and children, the liquor traffic beneficiaries, are fighting woman suffrage tooth and nail, and the propaganda of the anti-women is a splendid screen behind which to carry on their antagonism to our movement. So, brothers, for the sake of a true democracy and for the sake of the millions of little children and women who are the victims of an unjust economic and industrial system, I appeal to you to do as your brothers in the West have done, add justice to chivalry and vote for and support in every way **Woman Suffrage**.

MRS. GEORGE F. YOUNG,
4932 Hatfield Street, Pittsburgh, Pa.



Labor's Political Power Should be Used for Labor's Welfare.

"The American people must acquire the habit of looking into the evidence," said President Arthur T. Hadley of Yale in his matriculation sermon at Woolsey Hall.

"We must stop buying the newspapers that tell us what we wish was true, and buy one that tells us what really is. We must refuse to repeat unproved gossip or scandal because we like it. We should learn to hate the unconscious lie

as well as the intentional one. There may sometimes be a question whether we should tell the truth to others who cannot see it or understand it; there should be no question at all that we should tell it to ourselves. And when a man has learned to tell the truth to himself the problem of telling it to others becomes comparatively easy. The whole fabric of American society rests on the assumption that we are going to be honest in our dealings."

Labor might well take heed and quit buying capitalist papers and patronize those that recognize the class struggle, and in particular railroad men should look into the question more, who is going to frame the laws of the future?

In our legislative efforts we resemble somewhat the beggar on the street. Our National Legislative Representative at Washington is the spokesman of about 85,000 toil-burdened men scattered over the country, and he is supplicating for what is already theirs by right. And then when any law is passed that may improve their condition to some extent, "the courts"—some wheezy, bald-headed, sour-faced corporation judge—will declare it unconstitutional, and what are the 85,000 going to do about it? What can they do? We know what they have done in the past. They have listened to the cry, "No politics in the unions."

The time has come when all our craft unions should unite in one great political movement that will have for its slogan "The Workers First and Last."

Let us cut out being beggars for what by right is our just dues. We have the means to demand and secure those economic and industrial conditions which will give the working class the place that belongs to it in the social structure and surely the leisure non-producing class has ruled us long enough.

Discuss the political means in our Magazine and lodge rooms—that is the first step. See to it that the next convention makes it possible.

MEMBER, Lodge 657.



Commercial Imperialists Responsible for War—Colorado Women State Plain Facts to Young John D.

The people of America will have nothing to say if the country goes into war. You think you govern your own affairs, but what do you know or what does any other private citizen of America know what your government at Washington and the diplomats are planning? From time to time announcements are made of what has been done along lines of for-

eign policy. Your diplomats could throw your country into war and make you fight the battles just as easily as the European diplomats and statesmen can throw their respective countries into wars that the people do not want.

The present European war is not a war of workers. It is a war of commercial imperialists. Now the United States is reaching out and building up a foreign trade, and is getting the trade of countries that are engaged in the European conflict. When the war is over and the European nations begin to recover, America will be strong abroad commercially. Then there will be a struggle by those nations to regain the commerce they have lost, and some of them may be willing to fight if necessary to regain it.

That would be a commercial war arranged by the diplomats. After the war is started, the correspondence between diplomats will be made public in green books, red books, blue books and yellow books, but not until then will you know how the war was brought on.

The people of Europe are tired of the war—on both sides. When they finally stop fighting, from exhaustion, they will be where they were just before the war started. They will arm for a second conflict. As a worker in the proletarian army of the social revolution, I am striving to prevent another horror like this. I am here to work for international solidarity of the working class. America is the only real neutral country left. Here I find men who are interested in peace and are not concerned who wins. In every European country, whether neutral or not, everybody is either pro-Ally or pro-German. If we can start a movement for international brotherhood anew in this country it will spread to other countries. The fight for possession of all the governments on a peace basis and the overthrow of the present system must then be carried on in each country.

Colorado Women Tell John D.

John D. Rockefeller, Jr., listened for three hours while in Colorado recently to the tragic story of the Ludlow massacre from the miners' side.

Eleven children and two women lost their lives in this tent colony during the fighting between the militia and strikers.

Mrs. Lee Champion and Mrs. Sarah L. Scanlan, president and secretary respectively of the Colorado Justice League, presented the union side. They also charged to Rockefeller's face that his Colorado Fuel and Iron Company was behind these murders, and that

funds of the Colorado Fuel and Iron Company were paid to members of the militia at the time they were shooting at the miners.

They also told Mr. Rockefeller that if John R. Lawson, the mine leader now on a life sentence, is guilty of murder, then he, Rockefeller, is equally guilty of the killing of men, women and children during this long civil war. Rockefeller with some heat denied all the charges. He told Mrs. Champion, according to her version of the conference, that if any money of the Rockefeller interests was used to pay State militia he didn't know it. He disclaimed all responsibility for any acts of the militia and insisted that the Colorado Fuel and Iron Company in no way is responsible for any of the terrible acts, according to information he had. Mrs. Champion then offered to submit to him documentary evidence in proof of the charge, but Rockefeller refused to accept the documents Mrs. Champion tendered. He did, however, listen to her portrayal of horrors as charged by the union men.

Thank the Lord that in the midst of all the mush and gush and rotten drivel that has been slopped over young Rockefeller in Colorado, there are two women, at least, that had backbone enough to tell him face to face the brutal truth. Another evidence that little Johnny wasn't so far wrong in his version of the Adam and Eve episode. The story runs that little Johnny had been to Sunday school and learned all about the first man and woman and he told his little brother that God made Adam and then found out something was wrong with him, so he took Adam's backbone and made Eve out of it and that fixed things up all right. Sure thing, Johnny! and women have had the monopoly on backbone ever since.

W. W. MURPHY,
Secretary Lodge 594.



High Salaried President Advocates Economy and Wrecks Road.— Have Railroads a Blacklist?

I personally know a railroad president who, for a series of years, until recently, had been receiving \$60,000 a year. During his incumbency, his road became a complete bankrupt, failed financially, was wrecked physically; and went into the hands of receivers, himself one of them. The court, however, discharged him, because he was not fit even for a receiver. That is going some, isn't it?

This president was all the while preaching economics, and one of his hob-

bies was, "Save a nickel a day." Sixty thousand dollars a year is \$5,000 a month, or about \$200 a working day! How's that?

I also know that the same erstwhile railroad president had no intellectual training, vocational education, practical experience, physical dexterity, or common sense whereby he could earn \$100 a month at any work, trade, profession, calling, business, or administration. Pretty tough, isn't it?

With such a man as this drawing \$200 a day, which is worse than thrown away, because he is wrecking the road, Mr. Employe, drawing one-hundredth as much or less, is asked to "Save a nickel a day," to make good his waste, repair his wreckage, suffer for his extravagance, be hungry for his surfeiting, be poor that he may be unjustly rich, be a slave that he may loot! How do you like it?

Some railroad presidents get considerably more than this amount; but, as to you, be good, loyal and industrious, the company will stand by you! If you are not loyal, your company can not earn the money to pay this \$200 or \$300 a day to their official wreckers! And then they need you so badly later to earn the money to rehabilitate the road!

Have Railroads a Blacklist?

"I was discharged by the ——— railroad about four years ago for the violation of one of the operating rules. No damage of any kind was done. Since then I have been all over the United States working wherever I could pick up a job, but never thirty days at any one place. I have made out numerous applications for employment, but just as soon as the road discharging me reports to my new employer I am out. I have just about completed the rounds. I am worn out. My chance to live in the world has been taken away. I have a wife and five children I can not support. I never did anything but railroad, and I can not succeed at anything else. I see nothing ahead. I am desperate."

This is the story told me recently. I had often heard it before in almost the same words. Every railroad man has heard it. Many railroad men have experienced it.

"What can I do?" is the question he asked me. I could not answer it. I repeat this question to every railroad man to answer. Tell me!

This man never got even a reprimand before. He never cost his company a cent. He was an exemplary employe. He failed once, just once, like air brakes sometimes. For this all railroads have outlawed him on information furnished by his first employer. And yet they say they have no black list!

He, his wife and five children are suffering in want, but prayers for forgiveness, for mercy, for bread fall on deaf ears and stony hearts.

BY A. A. GRAHAM, TOPEKA, KAN.



Blacklisted Man Gets Damages.

Joseph Schraub, a member of the Brotherhood of Railroad Trainmen, and a former freight conductor on the Inter-Urban Railway (Des Moines, Iowa), was discharged on July 9, 1914, it being claimed by the company that he had carried a passenger on the caboose of his train, although he was able to prove his innocence of the charge. He shortly afterward obtained employment on the Waterloo, Cedar Falls and Northern, where, after working a few days, he was dismissed from the service of this company, it was alleged, upon the strength of a letter written by C. T. Baker, Superintendent of the Perry Inter-Urban.

As a test case, and through the efforts of Bros. P. S. Billings and Jas. Stedman, General Chairmen of the Legislative Boards of the B. of R. T. and the B. of L. F. and E., respectively, of the State of Iowa, suit was brought against the Inter-Urban Company for \$10,000 damages for blacklisting. The case was on trial for five days and was bitterly contested, nearly every official of the Inter-Urban Company being present at the trial. An effort was made to show that Brother Schraub was not discharged on account of the blacklisting letter, but Brother Schraub was fortunate enough to be able to introduce it in court. The jury, after being out nine hours, rendered a verdict in favor of Brother Schraub, awarding him \$500. In commenting on this case, The Register and Leader (Perry, Iowa,) had the following to say:

"The question involved was whether or not blacklisting an employe was grounds for a damage suit against a railroad company. The verdict of the jury leaves the matter open for more legal controversy, the plaintiff contending that if he had any claim at all it was for more than the amount given

him. It will doubtless be carried to the Supreme Court."

While the award was small, the verdict of the jury sustained the principle contended for. It is to be hoped that this case will be carried to the higher courts and that the result may be a damage award so large as to be commensurate with the character of the terrible wrong that is done a man by blacklisting him—by hounding him from place to place and keeping him out of employment essential to provide the necessities of life for his family and himself.

S. J.



Getting Money by Improper Methods.

Recently a man giving his name as Emil Miller, and claiming that he belonged to Local No. 1379, of the United Mine Workers of America, visited our lodge and stated that he was hard up and in need of assistance, and that any money we might advance to him would be returned to us within a few days. We gave him fare from Hoboken, N. J., to Scranton, Penna., for himself and wife, amounting to \$7.35, and a donation of \$5.00. Not hearing from him we wrote to the local of the Miners Union of which he claimed to be a member. In reply we received a letter from the Secretary-Treasurer of District 24, U. M. W. of A., in which he stated that the local to which this party had belonged had been abandoned since April 1, 1911, and that he had taken a book of cards with him when he left; that he had worked the same scheme through Ohio, Pennsylvania, Illinois and other states, taking every precaution not to get too close to where there were any miners. The District Secretary-Treasurer also said that he had done everything within his power to let all organizations know of the improper practices of this party by publishing his name in journals and sending out letters etc., and suggested that if the matter was published in our Magazine it might help in bringing him to justice.

F. E. PETERSON,

Recording Secretary, Lodge 354.



AMONG THE HILLS

By ADELBERT CLARK

I live among the quiet hills,
The purple hills of song,
Where love is bound and ever found
To make the spirit strong.
My flowers are the wildwood rose,
The violets by the rills,
And evergreens that greet the morn
Along the ranging hills.

I live among the quiet hills,
The sun-kissed hills of song,
I sing God's praise through all the days—
It makes me wond'rous strong.
And when the sunset spreads its gems
Along the babbling rills,
I still rejoice for Love is near
Among the sun-kissed hills.

I live among the quiet hills,
The purple hills of song,
Where love and I 'neith starry skies
Are kept from all that's wrong.
The little cares that come each day,
Go singing with the rills,
And so I praise God for His gift—
The everlasting hills.



Communications intended for publication should reach this office not later than the 10th of the month to insure their appearance in the following issue. Write on one side of the paper only. All typewritten matter should be double spaced. Sign name and address in all instances, not necessarily for publication, but as evidence of good faith. Correspondents may, if they desire, use a nom de plume, but no attention will be paid to anonymous communications. The Editor and Manager reserves the right to revise or reject any communication if he deems it to the best interests of the Brotherhood to do so.

Obituary notices and resolutions and detailed accounts of events of a purely local nature can not be published. Pictures are published only when same are of general interest.

All orders for subscriptions should be sent to the Editor and Manager.

Members when changing their address should immediately notify the Magazine office. All changes for the Directory should reach this office previous to the 10th day of the second month of the quarter in which it is desired that such changes should take effect.

Inquiries for the address of or any information concerning another, should be made through the secretary of the lodge nearest the residence of the person making such inquiry.

CLEARANCE BILL IN CONGRESS

Measure to Prevent Death and Injury by Side and Overhead Obstructions

**Engines and Cars Grow Bigger, Clearance Space Gets Smaller, Men Continue to
Get Killed and Injured and Railroad Companies Do Nothing
to Remove This Danger**

**Railroads Get Time Extension in Which to Make Freight Cars Conform to Equipment
Standards Prescribed by Interstate Commerce Commission**

FROM THE NATIONAL LEGISLATIVE REPRESENTATIVES*

The circular letter from the Grand Offices of the four organizations to the chairmen and secretaries of the legislative boards and to all divisions and lodges in the United States, setting forth the action taken by the chief executives at the meeting held in Washington to consider a legislative program, contains the following:

"It was unanimously agreed that the four legislative representatives be authorized to remodel the La Follette Clearance and Obstruction Bill or draft a new bill on the subject and have it introduced at the next session of Congress."

*H. E. Wills, A. G. C. E., B. of L. E.; P. J. McNamara, Vice President, B. of L. F. and E.; W. M. Clark, Vice President, O. R. C.; Val Fitzpatrick, Vice President, B. of R. T.

In accordance with this action, a bill was drafted which differed materially from the measure formerly before Congress. It was introduced by Senator Thompson of Kansas on January 6, and was read twice and referred to the Committee on Interstate Commerce, of which Senator Thompson is a prominent member on the majority side.

The purpose of the bill (S. 3194), as stated in the title, is "To promote the safety of employees and travelers on railroads by requiring common carriers engaged in interstate commerce by railroad to afford a safe and sufficient clearance between structures located on their roadways and locomotives and cars passing over their lines, and for other purposes." The necessity for such legislation is well known and has been felt and appreciated by the engine and train men who have long been exposed to the risk of being killed or maimed on account of the dangerous clearance conditions which exist on many lines.

Clearance Space Grows Smaller and Employes Get Killed and Injured.

The size of locomotives and cars has been constantly increasing, while tunnels have not been enlarged and structures have not been set back from the track, thus squeezing the free space beyond the limits of safety and increasing the hazard of operation. It has, in many instances, been the old case of Dollars First instead of Safety First. Numerous casualties have occurred, and although the dangers which exist on many roads have been called to the attention of the managements time and time again, directly and through the introduction of bills, such accidents continue to occur in appalling numbers. During the year 1910, when the La Follette bill was presented to the Senate, 1,471 employees on steam roads alone were killed or injured by coming in contact with overhead and side obstructions. In 1913 these cases had increased to 1,940. During the year ending June 30, 1915, 45 employees were killed and 1,093 injured due to these close structures, overhead wires, etc.

The companies themselves having failed to take action which the situation imperatively demands, the employees turn to Congress for relief.

What the Bill Requires.

Section 2 of the bill which has been introduced states that it shall be unlawful for any common carrier by railroad, its officers or agents, subject to the Act to move or haul, or permit to be moved or hauled, any locomotive, engine, car, vehicle used in commerce to which the Act applies or to which the regulative power of Congress extends, unless there is at all times during such movement or hauling a safe and sufficient side and overhead clearance or free space between such engine, car, or vehicle, or any part thereof, and any obstruction located or maintained on, by, or over its line. The provisions of the bill apply also to the loaded contents of such engines, cars, or vehicles.

Section 3 would require thirty-six inches clearance on each side and six feet overhead, and states that "no less dimensions than those aforesaid shall be deemed safe and sufficient." The overhead provision does not apply to tunnels, and freight-house platforms less than four feet high are also excepted.

Section 4 would require the companies to report to the Interstate Commerce Commission before six months from the passage of the Act the number of tunnels, warehouses, coal bins, stock chutes, poles, mail cranes, embankments of earth or natural rock, or any other fixed structures or obstruction,

"with respect to which the minimum clearance spaces specified in section three of this Act are not commonly afforded," giving the exact location and kind of such structures and the material used in their construction and stating the reasons, if any, why the minimum clearance spaces should not be afforded.

Provision For Time Extension.

The section then provides that the Commission may thereafter and from time to time upon full hearing and for good cause extend the period within which any carrier shall comply with the provisions of section three with respect to obstructions commenced prior to that time. The Commission is given no power to extend the time as to new structures, and the bill provides that such extensions of time as may be granted as to old structures shall be at the sole risk of the carrier and any employee who may be injured or killed by reason of the failure to afford the clearance specified shall not be deemed to have assumed the risk thereof or to have been guilty of contributory negligence.

Section 5 protects yardmen and other employees working in and around stations, and provides that the space between the tracks and between the rails in yards must be kept in such condition as to permit the employees to pass safely over or between the tracks or to use them by day or night and under all weather conditions without unnecessary hazard.

A penalty of \$500 is fixed for violations, and the duty of enforcing the law is conferred upon the Interstate Commerce Commission.

Section 8 deprives the company of the defense of assumed risk or contributory negligence when a violation of any provision of the law caused the injury.

Railroads Get Time Extension.

The Interstate Commerce Commission has handed down a decision in the matter of the application of certain railroad companies for further extension of time within which to make their freight cars conform to the standards of equipment prescribed by the Commission under the safety appliance acts. The matter was submitted at a hearing before the Commission September 28, and the order was issued by the Commission November 2, 1915.

The Chief Executives of the four Brotherhoods made strong protest on behalf of the employes against any extension of time, on the ground that the companies had already had ample time in which to meet the standards and that their failure to do so should not now be used as an excuse for further leniency. The carriers asked for two years, and in handing down their decision the Commission allowed them a period of twelve months from July 1, 1916. The plea of the railroads was that they had acted in good faith and made an earnest effort to comply with the Commission's requirements, but because of the financial and, to a certain extent, the physical difficulties involved, they would not be able to fully meet the requirements within the prescribed time, and therefore should be given an extension.

It was estimated that out of a total of 2,025,254 cars in service on July 1, 1911, on roads having a total mileage of about 232,000 miles, 1,669,064 cars, or about 82 per cent will be either equipped in accordance with the former order of Commission or removed from the service by July 1, 1916, leaving about 356,000 cars still unequipped on that date. The Commission found that as a whole there has been a gradual increase in the number of cars equipped during each successive year since 1911 and that the greatest

number of cars was equipped in 1914 and 1915. The decision of the Commission takes into consideration the fact that some time was consumed in making the necessary preparations and preliminary plans for an undertaking of such magnitude as bringing the equipment of all cars up to the standard, which involved, it was said, an expenditure of about \$45,000,000.

It was pointed out at the hearing and in the decision of the Commission that a number of roads, including the Atchison, Topeka and Santa Fe and the Chicago Great Western, will not require any extension so far as their own equipment is concerned, but that they are interested to a certain extent because of the fact that the statute penalizes the carrier using an unequipped car and they would be liable for interchange cars used on their lines which were not equipped according to the law. It was also asserted that unless a further extension was granted over a third of a million freight cars would have to be withdrawn from service until they could be equipped and that this would result in a congestion on storage and repair tracks and in hardship and inconvenience to the shipping public as well as to the railroads.

The Commission was not convinced upon the showing made that many of those roads which will still have a large percentage of unequipped cars on July 1, 1916, could not, by the exercise of somewhat more diligent effort and without undue hardship, have made considerably greater progress.

In summing up the reasons against the requested extension, the Commission, in their decision, said:

"Another and most important consideration which must be borne in mind is that the purpose of the Congress in enacting this statute was the conservation of human life and limb. While we cannot entirely ignore the necessities of the carriers, yet, when we consider that any extension, however short, may result in the death or injury of an employe by reason of the fact that a safety appliance is insecurely applied, or is missing or beyond his reach owing to lack of uniformity in equipment, it is manifest that too great weight should not be given to arguments of hardship and inconvenience to the exclusion of the interests of the employes and of the public."

Annual Report of Chief Inspector of Locomotive Boilers Shows Important Results.

The Chief Inspector of Locomotive Boilers is sending a copy of his annual report for the fiscal year ended June 30, 1915, to each subordinate division and lodge of the B. of L. E. and B. of L. F. and E.

The report gives evidence of further beneficial results of the Boiler Inspection Law and its efficient administration, showing that the number of men killed by defective boilers and locomotive equipment has decreased from 91 in 1912 to 13 in 1915. It is worthy of a careful reading and is sure to give our members a feeling of satisfaction and gratification.

A limited number of copies are available and can be obtained from the Nat-

ional Legislative and Information Bureau, 101 B Street, S. E., Washington, D. C., upon request.



Indiana Legislative Representative Candidate for State Legislature.

Bro. W. E. Trippeer of Peru, Ind., is a candidate for member of the Indiana State Legislature. Brother Trippeer served as legislative representative of our Brotherhood in the State of Indiana before the last five sessions of the legislature of that state and has done splendid work in that capacity. It is to be hoped that our members and all workers in his county will bend every effort towards his nomination and election for his experience as legislative representative specially qualifies him if elected to the legislature to serve the working class with great efficiency.

Sparks.

We have for sale a new series of air-brake charts in colors. The set consists of fifteen charts on the P-C Passenger Car Brake Equipment of the Westinghouse Air Brake Company, and shows diagrammatically the No. 3-E Control Valve in its various operative positions. Price per set of fifteen charts, including printed descriptive matter, 35 cents, prepaid to any address. Send orders to John F. McNamee, Editor and Manager, Traction Terminal Building, Indianapolis, Ind.

The next Pittsburg, Penn., "Get Together" meeting will be held in that city on the 6th of the present month (February). Announcement of same appears elsewhere in this issue.

When preparing communications for publication in the Magazine, contributors are requested to write on one side of the paper only, and if matter is typewritten it should be written double space.

A copy of "A Plea," a beautiful sacred song by Adelbert Clark, whose poems appear monthly in our Magazine, and who is composer of "The White Star of Heaven," can be secured for 25 cents. Music by Canadian composer, W. Francis Firth. Send orders direct to Francis Firth Music Co., 23-25 Farmer Street, Detroit, Mich.

A copy of the Catechism of the Electric Headlight, containing supplement on the Pyle National Equipment "E" with folders, can be secured for 50 cents. Remit to John F. McNamee, Editor and Manager, Traction Terminal Building, Indianapolis, Ind.

Texas Members: Read elsewhere in this issue article entitled, "Anti-Pass Injunction Suit of Texas," by Brother O. L. Kinsley, Chairman of the Texas State Legislative Board.

Henry H. Klein, author of "Standard Oil or The People" and "Bankrupting a Great City," which books have been reviewed in past issues of the Magazine, advises that he will make the following rates to our readers: "Standard Oil or The People," in paper cover, 18 cents; in cloth, 35 cents. "Bankrupting a Great City," in paper cover, 30 cents; in cloth, 60 cents. The prices named include

postage. Orders should be addressed to Henry H. Klein, Tribune Building, New York, N. Y.

The committee of arrangements for the Fourth Annual Colorado State Meeting extends a warm invitation to all members of the Brotherhood and of the Ladies' Society to come and participate in the pleasures of that occasion. Meeting to be held March 21, 22 and 23 next. Announcement of meeting appears elsewhere in this issue.

Send orders to John F. McNamee, Editor and Manager, Traction Terminal Building, Indianapolis, Ind., for bound volumes of the Locomotive Firemen and Enginemen's Magazine for 1914. Same can be secured for \$3.50 each, prepaid to any point in the United States, and to any point in Canada or Mexico for \$4.50 subject to duty.

Bro. W. S. Parham, of Lodge 201, advises that he has complete files of the Magazine for the years 1907 and 1910 and broken files from September, 1903, to December, 1915, which he desires to dispose of. Interested parties communicate with W. S. Parham, R. F. D. No. 3, Hickman, Ky.

A set of twelve colored charts of the No. 6 ET Locomotive Brake Equipment in its different operative positions, together with descriptive matter and a piping diagram of the LT Automatic Control Equipment may be obtained for 35 cents. Send orders to John F. McNamee, Editor and Manager, Traction Terminal Building, Indianapolis, Ind.

The second section of the first edition of "Sparks and Cinders," a book of poems by Bro. J. Alex Killingsworth, is now on sale. This edition while an exact duplicate of the first edition will sell at 75 cents a copy. This is a price to meet the times. "Sparks and Cinders" will prove a valuable acquisition to the library of any Brotherhood man. Orders should be sent to J. Alex Killingsworth, 21 Myrtle Street, St. Thomas, Ont., Canada.

All brothers who can possibly do so should arrange to be present at the next Pittsburg, Penn., "Get Together" meeting, to be held in that city on the 6th of the current month (February). Announcement of meeting appears elsewhere in this issue.

Immediately upon changing your address drop a postal card to the Magazine office advising of same as in this way you will be sure to receive each month's issue as published and keep your file complete.

A decision of the United States Circuit Court of Appeals of the Fourth District, which we publish elsewhere in this issue, makes it clear that railroad companies cannot order hand brakes to be used in controlling speed of trains that are too long to be handled with power brakes. The decision, we are sure, will prove interesting to our members.

All notifications of changes of address, etc., to appear in the Directory should be in the hands of the General Secretary and Treasurer not later than the first of February, May, August and November,

as the Directory is corrected up to the 10th of the months named.

A piping diagram of the LT Automatic Control Equipment may be secured for ten cents. Send orders to John F. McNamee, Editor and Manager, Traction Terminal Building, Indianapolis, Ind.

Write John F. McNamee, Editor and Manager, Traction Terminal Building, Indianapolis, Ind., for full particulars as to soliciting subscriptions for the Magazine.

Always keep some application blanks in your pocket so you will be sure to have them when talking with eligible non-union firemen. It will be a great help in getting them enrolled in the ranks of the "Tried and True."

"TIED UP FOR REST"*

By CHRISTOPHER JAMES BYRNE.

It was just at the close of a long, busy day,
 An engine crew tied up for rest;
 The fireman was soon fast asleep in the hay,
 With the engineer sharing his nest.
 They had traveled together throughout the whole day,
 For they worked on the very same run;
 Still the work that they did was nothing but play
 And the railroad was built just for fun.

And oh! what a railroad—built right in the sand,
 With tracks running up to the lawn;
 Revealing impressions of each little hand
 That tied up the system at dawn.
 There were bridges and tunnels, that ran away back;
 A depot and roundhouse complete,
 With mountains surrounding a long passing track,
 Where fliers were ordered to meet.

As I studied the lay-out of each little track,
 It seemed I had been there before;
 Fond mem'ries I cherished were calling me back
 To bright golden hours of yore.
 Back to my childhood in that happy land,
 My heart overflowing with joy;
 Back among playmates again in the sand,
 A freckle-faced, barefooted boy.

Oh! could I but linger forever with you,
 And sleep in your snowy white bed;
 And then I could tell you of hills that I knew
 On the rough, rocky road ahead.
 But another will guide you on life's right-of-way
 From the cradle wherein you were blest
 To the end of the line, and the end of the day
 When you finally tie up for rest.



Annual Reports.

Has your lodge filed the Annual Report for the year 1915? If it has filed this report, have the books been examined by the trustees and have they been able to arrive at the proper figures, showing the exact receipts and expenditures during the year 1915? We are going to watch the annual reports very closely as they arrive at this office and we shall expect the reports to correspond with the records in this office, in so far as the collection of assessments, which are remitted to this office, are concerned.

These reports should have been in the office by January 20th, and if any lodge has failed to file its report by the time this issue of the Magazine is in the hands of our members, it should immediately get busy and see that the report is sent to this office at once. Do not forget that any lodge under suspension for failure to make remittance to this office, or any lodge whose Annual Report is not filed, will be denied representation at the Convention in June.

Elections.

Up to the time of writing this article—the early part of January—but a little more than five hundred lodges have filed with this office a report of the election held, or which should have been held, at the first meeting in the month of December, 1915. We ought to have reports, at least by the first of January, from every lodge, and yet over three hundred lodges have failed to advise this office of the result of the last election.

I am led to believe that some of our lodges have not held their election, but it behooves every lodge to advise this office at the earliest possible moment of the result of the election, in order that we can change our directory and in that way have communications go to the proper officers whether they be newly elected, or are continued from last year.

Membership.

During the years 1914 and 1915 our organization, like all other business institutions, suffered quite a considerable loss in membership on account of the depression in business. I am pleased to say,

however, that since the revival of business during the latter part of the year 1915, the influx of new members has materially increased, and we were able during the three months mentioned to show a net gain of a little over one thousand.

Now that the railroads are all working, practically to their full capacity, our local organizers, and members in general, should get busy and secure the application of every person who is eligible to membership in our Brotherhood. Let every brother put his shoulder to the wheel and see if we cannot put our membership by June first, 1916, up to where it was on the first of January, 1914, at which time we had a little over ninety thousand members.

Amendments to the Constitution.

Do not forget that the time has about arrived when proposed amendments to the Constitution, that our lodges desire to submit, should be forwarded to this office. Any lodge desiring to submit proposed amendments should be guided entirely by the provisions of the Constitution governing this matter, and should be sure that they are here at this office in ample time so that they can be included in the printed amendments going out to our subordinate lodges, prior to the opening of the Convention. Every proposed amendment will be printed and it will show the lodge that is responsible for offering it. It must be understood that these amendments should arrive here as early as possible so there will be no question but what they will be printed.

Filing Reports of Deaths.

It seems that some of our lodge officers do not recognize the importance of filing a report of the death of a member with this office as soon after the death of the member as is possible. Recording secretaries should forward a Form B-26 just as soon as they learn of the death of a member. In this way we can make record of the same, take the member off the books and immediately get into correspondence with those who are required to furnish papers, and in that way complete the file at the earliest possible moment.

The delay of one day in making a re-

port to this office may mean the delay of thirty days in the payment of the deceased member's beneficiary claim. In the case of all deaths the reports of which arrive here up to the fifteenth day of the month the beneficiary claims will be paid the fifteenth of the following month, providing the papers are completed, but if the report reaches this office on the sixteenth, then the payment is not due until the fifteenth day of the second month following. It will therefore be readily seen how important it is that we receive these reports of deaths at the earliest possible date.

Paying Assessments.

Are you starting the new year right by paying your assessments on or before the first day of the month? Every member should understand that the amount of his assessments is due on or before the first day of each month and they are not privileged to wait until the fourth or fifth or a later day in the month expecting the financial secretary will not report their expulsion. Many members have their names taken from the roll simply because they neglect to pay their assessments at the proper time. Many complications arise from the failure of members to pay on time, and I urge upon all of those members who have permitted themselves to drift into the habit of waiting until the pay day following the first of the month to pay their assessments, to begin at once and pay the assessments the pay day preceding the first day of the month when said assessments are due. If all members will do this, there is no reason for a financial secretary getting into difficulties by try-

ing to "carry" members, anticipating that they will pay within a day or two after the first of the month.

Help out the financial secretary by paying your assessments on or before the first day of the month and in this way assist yourself and everyone else who has anything to do with keeping track of the record of our members.

Twenty-nine Highest.

The following shows the twenty-nine (29) lodges that have initiated the largest number of members during the months of October, November and December, 1915:

Lodge No.	No. of Members.
485	36
512	34
284	29
138	18
143	18
220	18
10	17
166	17
378	17
398	15
518	15
434	14
91	13
182	13
302	13
405	13
485	13
661	13
86	12
231	12
265	12
275	12
24	11
33	11
47	11
236	11
287	11
521	11
743	11

THE LOCOMOTIVE FIREMAN

By MARY JONES NOACK

He's a locomotive fireman,
What a splendid fellow, too,
Ever ready, ever willing;
To his duty, ever true.

That the locomotive fireman
By the sweating of his brow
Earns a living that is honest
Ev'ry person must allow.

Always cheerful, always faithful,
Let the task be what it may
He will meet it with true courage
And his manliness display.

Notwithstanding that he's weary
From hard work and need of rest,
He must never show his feelings—
He must ever stand the test.

As the train speeds on its journey—
Yes, where're it makes its way,
There's an element of danger
Ever present, night and day.

He's a locomotive fireman
And the thought I would instil
Is, he holds a situation
It takes nerve and strength to fill.

But the thought of pending danger
Doesn't worry him at all;
It's the "pointer" on the steam gauge
That concerns him, lest it fall.

I'd be proud to be a fireman
For it's manly, noble work—
So here's to the faithful fellows
Who their duties never shirk.

Forum

PITTSBURGH GET TOGETHER MEETING, FEB. 6th

United Effort Essential to Success

Meeting of Special Interest Because of Eight-Hour and Time and One-Half for Overtime Movement. All Who Can Attend Should Be Present

The next Get Together Meeting will be held in the Kenyon Theatre, Pittsburgh, Pa., Sunday, February 6th, 1916, at 10 a. m., 2 p. m. and 8 p. m. Subjects for discussion, the 8-hour day, Time and One-half for overtime and Co-Operation.

The committee has submitted a plan to the lodges of this district, which if adopted will enable the committee to reduce the expense of the meetings and also to hold more meetings during the year. If 100 of the lodges out of the 250 in this district will accept the plan it can be done. There is no better way of keeping the members informed as to what is being done by the committees and what the other side is trying to do than by having meetings of this kind. It brings large numbers of the members together and creates good feeling between the brothers of the different orders. This is not what the "Large Interests" want, for the more we are separated, the harder it is for us to secure what we are entitled to, and, brothers, you can often see that they work one class of men against the other and in this manner gain their point. This is what we want to stop. We want to firmly establish the great principle that "an injury to one is the concern of all." The various train service organizations cannot adopt this principle too quickly for their own welfare, and more so, at the present time, for the railroad companies are not going to give the 8-hour day without a fight. One can read in the daily press already articles that have been written by their publicity agents, anticipating this coming struggle for emancipation—thinly veiled tactics to deceive and prejudice the public against us. These tactics we must meet if we are to prevent the poisoning of the public mind.

But what we will need most is that our members stand back of the committee in a solid body ready, if necessary, to leave the service and that there must be

no such thing as a failure, we are holding these meetings so that we can tell each man what is going on and what to expect the company to put up to him. Then another thing these meetings are doing. They are getting the public interested. When the public asks questions we want every man to be ready and able to give the desired information and in a way that will convince those seeking it that what we ask is due us and that we mean to get it.

The committee hopes that the lodges will adopt the plan sent to them, the financial expense is not large and it will do good work, in a manner that is needed at the present time, also that all members who can do so will attend the meeting and help in the work. Should letters fall into the hands of former secretaries kindly send them to the lodge as quickly as possible.

Boost the meeting, wherever and whenever you can. Remember the date, February 6th, the place, Pittsburgh, Pa., Kenyon Theatre, the time 10 a. m., 2 and 8 p. m.

A. V. CRAIG, Secy.



Colorado Fourth Annual State Meeting.

The Fourth Annual Colorado State Meeting of our Brotherhood and Ladies' Society will be held in Trinidad, Colo., March 21, 22, and 23, 1916, and we hope this meeting will be larger and better than any state meeting yet held. If it is not it will not be the fault of the brothers and sisters in Trinidad for they are not neglecting any detail in preparing for it and they are surely "live wires."

These meetings are held to advance the educational and social interests of the Brotherhood. Let us all get together once a year and get better acquainted—all work and no pleasure is no life at all. We stand a social invitation to all

brothers and sisters to be present on this occasion.

R. S. MCALPINE,
President, Union Meeting.



Suggestions to Reduce Convention Expenses Without Lessening Representation.

As a delegate from the North Star State who has attended two conventions and has been elected to represent his lodge at Denver, June, 1916, I want to state here frankly my honest opinion regarding the movement to reduce the number of delegates to Grand Lodge conventions. I am emphatically opposed to any such method of cutting down convention expenses. At the two conventions I have attended there were about 60 in all who monopolized the time of the convention until a large proportion of the delegates grew indifferent about attending and absented themselves from almost every session.

Much is being said in the columns of the Magazine and elsewhere about the necessity to reduce the number of delegates and the time of conventions in order to cut down their cost. Now let us face the facts and see if the following suggestions if carried out will not shorten the time and otherwise lower convention expenses:

First, let us elect our Grand Lodge officers the first week of the convention.

Second, let us leave our constitution as it is for the next six years.

Third, let us stop the discussion of matters in the convention that do not bear directly on the interests of the Brotherhood.

If our members at home could have been present at the last convention these and other means would, I am sure, be adopted by the next convention with the desired results as to cutting down convention expenses and that without reducing the number of delegates. Those brothers who advocate reducing the number of delegates will find on the part of a large proportion of experienced members vigorous opposition to such a plan, so it would be well to consider some substitute therefor as a means of reducing the cost of conventions.

I would like to learn the views on this question of some of the other brothers who have had experience as delegates to former conventions.

I also desire to register my protest against the time consumed by and the cost of our last Western Wage Movement.

J. J. McMANUS, Delegate Lodge 814.

Anti-Pass Injunction Suit of Texas.

The Anti-Pass Injunction sued out against the Texas railroads last spring by Attorney General B. F. Looney, came to trial on the 20th of December, last, and consumed two days. The Joint Legislative Board through its attorney, Hon. Chas. L. Brachfield, obtained an agreed statement of facts in which both sides to the controversy admitted the right of the bona-fide railway employes to have transportation for themselves and their dependents over their own line as well as exchange transportation over foreign lines, and which does not now disturb the present conditions. Not only was the custom acknowledged to be just, but the question that transportation had been long considered part and parcel of agreed wages, and while not written absolutely in the wage contract, had been nevertheless, an implied agreement between employer and employe, was admitted in open court.

After filing this suit much concern was shown by railway employes in Texas, and therefore, the Joint Legislative Board representing the train service brotherhoods, assisted by Bro. E. M. Ware, Chairman of the Railway Carmen in Texas, employed an attorney for the purpose of looking after the rights of the bona-fide employes, to the end that nothing should be left undone that could be done to establish their rights. There was never a moment that we were alarmed about the position of the Attorney General toward the bona-fide employes, but the public could not know just what his position would be until the time came for placing the case before the court for review.

The Joint Legislative Board desires to thank Mr. Looney, as well as the representatives of the railroads for their position towards the employes in this suit.

At this writing the court has not rendered a decision. That the case will go up to the higher courts we have no doubt.

O. L. KINSLEY,
Chairman Texas State Legislative Board,
B. of L. F. and E.



Highland Park Home.

A very interesting report of conditions at The Home for Aged and Disabled Railroad Employes of America, Highland Park, Ill., was made by H. Potter at a recent meeting. He said the best of care is taken of all the invalid brothers, the best food is procured for them and plenty of it; the beds are very clean, and, in general, the condition of

the Home is of the best in cleanliness and comfort, for cleanliness and comfort is its motto. He said that he saw men without eyes, men without arms, men without limbs, and men partly and completely paralyzed, all unable to care for themselves, but who are treated with the greatest kindness, the same as a loving mother would her child.

The Home is equipped with a billiard and pool room for the pastime of the brothers. There is also a large yard where they may fill their lungs with plenty of fresh air, and with permission, they may go anywhere outside

of the yard, or attend any Union Meeting or church services.

The brothers can have their beard trimmed and shave, as well as their hair cut, as often as they wish. Every one is supplied with good and clean clothing. A hospital with doctors and nurses in attendance is attached to the Home.

Any donation will be gladly accepted by the Manager, Bro. John O'Keefe, and all brothers wishing to visit the Home will be welcome.

H. REBORD,
Member Lodge 355.

GRAND LODGE CONVENTIONS

II. A Plan For District Conventions

By ROBERT F. COLE

I respectfully submit the following as my idea of a form of constitutional amendment providing for district conventions, in the hope that from this and ideas submitted by other brothers a plan may be evolved which will successfully solve the all important convention problem which at present confronts our beloved Brotherhood and a satisfactory solution of which the best interests of our order urgently demand:

DISTRICT CONVENTIONS.

SEC. 1. Ninety days prior to the opening of the Grand Lodge convention there shall be held ten district conventions. Each District Convention shall be composed of one duly elected delegate from each lodge in said district.

DISTRICTS DEFINED.

SEC. 2. The territory under the jurisdiction of the B. L. F. & E. shall be divided into the following geographical districts, for the purpose of holding District Conventions: viz.

- District 1. The provinces of Alberta, British Columbia, Manitoba, New Brunswick, Nova Scotia, Ontario, Prince Edward Island, Quebec and Saskatchewan.
- District 2. The States of Washington, Oregon, Idaho, Montana, California, Nevada, Wyoming, Utah, Arizona, and New Mexico.
- District 3. The States of North Dakota, South Dakota, Minnesota, Wisconsin, and Michigan.
- District 4. The States of Colorado, Nebraska, Kansas, and Missouri.
- District 5. The States of Texas, Oklahoma, Arkansas, and Louisiana.
- District 6. The States of Iowa, and Illinois.
- District 7. The States of Indiana, Ohio, and West Virginia.
- District 8. The States of Mississippi, Alabama, Georgia, Florida, Tennessee, Kentucky, North Carolina, South Carolina, Virginia, Maryland, Delaware and the District of Columbia.
- District 9. The States of Pennsylvania, and New Jersey.
- District 10. The States of New York, Connecticut, Rhode Island, Massachusetts, Vermont, New Hampshire, and Maine.

*This is the second of a series of articles on "Grand Lodge Conventions" by Robert F. Cole. The first, under the sub-title, "Evils of the Present System" appeared in the January, 1916, issue, and the next—the third—"Explanation of District Convention Plan," will be



R. F. Cole, Sec.-Treas., S. L. F. & E.	G. F. Irvine, Vice Chairman, S. L. F. & E.	O. Kearns, Vice Chairman, S. L. E.	W. D. Anderson, Sec.-Treas., S. L. E.
O. W. Kern, Gen'l. Chairman, S. L. F. & E.	A. Phillips, Vice President, S. L. F. & E.	W. S. Stone, G. C. E., S. L. E.	M. F. Montgomery, Asst. G. C. E., S. L. E.
			I. I. Sanford, Gen'l. Chairman, S. L. E.

OFFICERS OF JOINT COMMITTEE B. OF L. E. AND B. OF L. F. AND E., SOUTHERN PACIFIC (PACIFIC) SYSTEM.

CONVENTION CITY.

SEC. 3. The place for holding the first District Convention shall be determined by the International President and the General Secretary and Treasurer, and following conventions will be held at points designated by the respective District Conventions.

AUTHORITY DELEGATED TO A DISTRICT CONVENTION.

- SEC. 4. (a) Elect officers for their own convention.
 (b) Adopt by-laws for their own government.
 (c) Propose Amendments to the Grand Lodge Constitution.
 (d) Elect delegates to the Grand Lodge Convention.
 (e) Select a meeting place for their next convention.

OFFICERS OF A DISTRICT CONVENTION.

SEC. 5. The officers of a District Convention shall consist of a chairman and a secretary, who shall be elected by secret ballot at the opening session of a convention from among the members present, and shall hold office for the convention for which elected only.

BY-LAWS

SEC. 6. Each District Convention shall adopt by-laws suitable to their needs and not in conflict with the Constitution of the Grand Lodge. All questions which may arise not covered by their by-laws shall be decided upon the principles laid down in Cushings Manual of Parliamentary Practices.

AMENDMENTS TO GRAND LODGE CONSTITUTION.

SEC. 7. The General Secretary and Treasurer shall have all alterations and amendments submitted by the subordinate lodges printed and all articles pertaining to one subject grouped, and forward a copy to each subordinate lodge and 100 copies to each District Convention. Those furnished to the subordinate lodges to be sent thirty days prior to the District Convention and those furnished to the District Convention to be delivered at the opening session of such Convention.

Each District Convention shall consider the alterations and amendments and submit to the Grand Lodge Convention such recommendations as they may deem necessary.

DELEGATES TO THE GRAND LODGE CONVENTION.

SEC. 8. Each District Convention shall elect delegates to the Grand Lodge Convention from among the members present, or the members they represent. Representation to the Grand Lodge shall be apportioned in each district as follows: Each state or province with seven lodges or less shall be entitled to one delegate; and each state or province with seven lodges or more shall be entitled to one delegate for each full set of seven lodges.

CREDENTIALS OF GRAND LODGE DELEGATES.

SEC. 9. Each delegate elected to the Grand Lodge Convention by the District Convention shall be furnished with a credential prescribed and furnished by the General Secretary and Treasurer. Said credential shall be signed by the Chairman and Secretary of the District Convention and bear the personal signature of the delegate and shall entitle the said delegate to a seat in the Grand Lodge Convention.

PAY OF DELEGATES TO DISTRICT CONVENTIONS.

SEC. 10. Delegates attending District Conventions shall receive \$7.00 per day for each day in attendance at the Convention. Delegates shall be paid \$7.00 per day for each 400 miles, or fraction thereof, traveled in each direction to and from Convention.

No District Convention shall have the power to change the daily compensation of its delegates.

AUDITING COMMITTEE.

SEC. 11. There shall be in each District Convention an auditing committee of three members appointed on the opening day of the Convention by the Chairman. All bills for expenses of the District Convention must have the approval of the Auditing Committee before they can be paid by the District Treasurer.

EXPENSES OF DISTRICT CONVENTIONS.

SEC. 12. In order to defray the expenses of District Conventions the International President and the General Secretary and Treasurer shall have authority to appropriate from the General Fund of the Grand Lodge a sum of money not to exceed one hundred thousand dollars, such money to be

divided equally among the districts and deposited in a solvent bank in the city where the District Convention is to be held.

The expenses of a District Convention shall include pay of the delegates, including travel allowance, hall rent, stationery, printing, typewriting and telegrams.

DISTRICT TREASURER.

SEC. 13. The General Secretary and Treasurer, with the approval of the International President, shall have authority to appoint a District Treasurer in each district, who shall be required to give bond in a sum fixed by the General Secretary and Treasurer, premium on said bond to be paid from the General Fund of the Grand Lodge.

The District Treasurer shall pay all properly approved bills by checks signed by himself and countersigned by the Chairman of the District Convention. He shall keep a correct record of all money paid out by him and shall furnish the General Secretary and Treasurer at the close of the convention a statement showing the exact amount of money expended by the District Convention.

The salary of the District Treasurer shall be \$7.00 per day.

LIMIT OF EXPENSES FOR A DISTRICT CONVENTION.

SEC. 14. The limit of expenses of any one District Convention shall be ten thousand dollars, and no district convention shall be held in session, under pay, exceeding ten days.

REPORTS OF DISTRICT CONVENTIONS.

SEC. 15. At the close of each District Convention the Chairman and Secretary shall report to the International President and the General Secretary and Treasurer the name and lodge number of the delegates elected to represent such district at the Grand Lodge Convention, and shall furnish them with a copy of all proposed changes in the Grand Lodge Constitution which have been approved by the District Convention. A copy of the proceedings of the District Convention shall be sent to the Grand Lodge Officers and to each lodge within the jurisdiction of the respective districts.

Readjust Machinery of Joint Protective Boards.

I have followed with a great deal of interest the discussions to which so much space has been given in our Magazine in regard to representation in our Conventions.

The subject is indeed worthy of much consideration yet I feel that there are conditions which concern us much more closely that are in need of correction.

Our protective department, for instance, which has a direct bearing on our every day existence is, I feel, badly in need of reorganization. To any one familiar with the working of the machinery of our Joint Protective Boards and the different parts of that machinery it is plainly apparent how badly it needs readjustment.

It has always, and especially of late, been the inclination of the railroad managements to endeavor to test the individual members of the railroad orders as to strength of back bone and adherence to principle, by seeing how they would fight when their working agreement is abrogated.

Left alone to fight against their di-

rect superiors, the case at issue has been abandoned and the principle involved sacrificed.

If our Joint Protective Boards were what their names indicate they are intended to be—if they were organized on the plan of modern times for the purpose of quick "red tapeless" action no individual member would ever be required to fight a losing fight against far too great odds.

Now, the Joint Protective Board Chairman acts only when a condition has become so unbearable as to have been brought duly to his notice and then he does not act quickly enough. It seems that to act quickly is out of the question. The tape has to run its full length before any attempt is made to relieve the situation. But you will say, "we have our local boards—they are supposed to handle all cases of grievances that arise on the division." Yes, that is where the shoe pinches. They are supposed to but can they? By facing the situation squarely we will see that experience says "No." Under the circumstances it is not humanly possible to find men who will be so insensible to their own personal future as to in all cases prosecute

their comrade's issue to its proper conclusion. Bear in mind that they are dealing with the very men who hold their own destinies in their hands—that the case, if won by our men will be a discredit, a reflection on the ability of the official by whom it has been handled. Bear in mind that the local chairman and the men with him are also men of families—men who are directly dependent upon the men with whom they are dealing for the jobs they hold—for the bread they eat. Doesn't it then follow logically that we ought to have men who are salaried—not by the company but by the men whose work they are doing; men in the capacity of assistant general chairmen? Men! are we man enough to do the work? They would work on the evidence furnished by the local committee, the local committee to do nothing but prepare the case for the assistant general chairman. Don't expect any man to work for you and work well unless you pay him and pay him well. To exert our best efforts it is necessary that it is in our own interest to do so.

Let the next convention so modernize our constitution as to allow the J. P. B. of each railroad to hire men for the purpose mentioned above. As to the financial part of such an arrangement. The added expense would be the salary of the extra man or assistant general chairman, let us say \$2,500.00 per year. On a railroad system employing say 1,000 firemen and hostlers, the additional expense would be in round figures \$3.00 each per year.

Be sure that that man, if he be a man of action—and you can see to it that he is, will render service far in excess of the extra expense and he will also if he is what he should be arrange things locally so that you will be allowed to breathe freer than what you have been accustomed to in the past. Would like to have opinions on this subject. Let us also have the referendum for every office with the recall.

BROTHER.



Plan to Dispense with all Convention Expenses.

I have been reading with some interest the articles that have appeared in the Magazine recently relative to reducing the cost of our Grand Lodge conventions and will say that I am heartily in accord with views expressed therein.

In my opinion not only the cost of conventions but the conventions themselves can be dispensed with altogether

through the adoption of the Initiative, Referendum and Recall. This plan can be worked out as follows:

In case a member wished to initiate a new law in the constitution he would bring the same before the lodge of which he is a member and if approved the lodge would have a copy of same sent to say, fifteen different lodges over the country, and if approved by ten, or two-thirds of them, a copy would be sent the Grand Lodge and placed on file.

In the case of a law already in effect with which some member is dissatisfied, such member could bring same to the attention of his lodge and the same process gone through with as above outlined for initiating a new law and if approved be sent to the Grand Lodge and placed on file. Then once each year the proposed changes could be printed with a place to vote for or against each. The Grand Lodge would then mail a sufficient number of copies to each local for every member and the local or subordinate lodge would in turn send one to each member to be voted on and returned by him to subordinate lodges who would in turn mail them to the Grand Lodge and a majority vote on any question would be sufficient to cause it to become a law.

In case some Grand Lodge officer had proved himself to be incompetent or was unsatisfactory to the members the matter could be brought up at a meeting of a subordinate lodge and if approved a form communication setting out the entire matter in detail and stating the action taken by the lodge could be sent to say thirty different lodges and if the approval of twenty, or two-thirds thereof, was secured the same should be sent to the Grand Lodge. The accused official should have sixty days to file his side of the question. Then the accusation together with the statement of the accused in his own defense should be sent out to all subordinate lodges—a place being provided on each copy of statement to vote for or against the defendant—and if a majority of the votes are in favor of recalling said official then he shall be removed from office.

I suppose that the plan that I have here outlined would be a difficult one to put through at one of our conventions, therefore I advocate and I urge other brothers to advocate through the Magazine that the vote of every delegate on every question that arises at our next convention be recorded and that each subordinate lodge receive a copy of same showing how every delegate voted on all questions.



J. N. Jones, 651, B. L. E.
Local Chairman

F. C. Ross, B. L. E.
Sec. G. C. of A.

Wallace Donnelly, 451, B. L. E.
Chairman G. C. of A.

R. J. Allen, 124, B. L. E.
Chairman over yards

B. L. Summers, 823, B. L. F. & E.
Gen. Chmn. J. P. B., L. C. 83

E. Cary, 124, B. L. E.
Local Chairman

F. W. Darby, 583, B. L. F. & E.
Vice Chmn. J. P. B., L. C. 53

E. K. Ewing, 119, B. L. F. & E.
Sec. Treas. J. P. B., L. C. 119

JOINT COMMITTEE OF THE B. OF L. E. AND B. OF L. F. AND E., TOLEDO AND OHIO CENTRAL RAILWAY

Then every lodge could instruct their delegates how to vote on all questions and require them to vote as they were instructed. I would like to see an expression of opinion on this plan in the Magazine from every lodge.

C. C. MCKINLEY,
Recording Secretary, Lodge 207.



Joint Committee Work on the Toledo and Ohio Central Railway.

Through the untiring efforts of Bro. B. L. Summers, General Chairman of the Joint Protective Board of the Toledo and Ohio Central Railway, the General Committee of Adjustment of the B. of L. E., and our Joint Protective Board are now working together as a Joint Committee. Much credit is due Brother Summers for bringing this about, as previously discordant feeling had existed between the two committees, but now they are in perfect harmony. [Herewith is shown a group picture of the Joint Committee.]

MEMBER.



Convention Expenses too High for Order's Welfare.

The problem of excessive convention cost is a simple one and can be easily solved if handled in a loyal, unselfish and businesslike manner.

I believe there should be a delegate elected to represent a certain number of members of a lodge or a group of lodges. For instance, I do not believe five lodges with a total membership of a hundred members should have the same voting power as five lodges with a total membership of five hundred members. I do not believe in the so-called "State representation"—a delegate from each State. Pennsylvania with seventy-nine lodges well organized under such a plan would have no more voting power than say South Carolina with only four lodges.

I do not believe a general chairman should serve as delegate to a convention, as his duties and responsibilities should keep him at his post looking after the interests of the men battling the present-day sky-scraping locomotives over the road. Besides, at conventions he can exercise too much influence over the delegates from his lodges, thereby controlling too much power for one man.

The remedy, as I see it, would be for each lodge or group of lodges to elect their delegates according to their aggregate membership, say one delegate and one alternate delegate for every 300 mem-

bers, and an additional delegate and alternate for any over a final 100 members. For example, a membership of say 301 members, two delegates and alternates. This plan would give us about 400 delegates to a total membership of 80,000—not too many or too few to handle efficiently or economically. This plan would reduce our present convention expenses less than one-half. As to the pay of a delegate, I do not believe it should exceed \$8 per day. At that rate the pay of 400 delegates for thirty days would total \$72,000, plus mileage and incidental expenses such as hall rent (when necessary to pay same), extra printing, etc., etc., all of which would not total one-half of the \$250,000, or more, that our last convention cost. And the amount thus saved could be used for better purposes and with 400 delegates instead of 800 the business of the convention would be transacted in less than thirty days.

Then a register of attendance should be strictly kept and published. Last convention there were an average of about 250 delegates absent daily, which at \$7 per day for thirty days—\$52,500 paid out for no representation. A roll call vote on all important questions should be kept and printed, then a delegate would have the opportunity of explaining why he voted for a salary of \$9 per day or for or against any other question that his constituents would care to inform themselves on. While a majority of the delegates to our last convention evidently believed in a salary of \$9 per day for delegates, the writer has not yet found one who voted for it, although having inquired from a number regarding the matter.

I think all conventions should be held in the central part of the United States, as easily reached by the brother on the Atlantic Coast as the brother on the Pacific Coast, the brother in Canada as well as the brother in Mexico. This would greatly reduce the cost of a convention. I do not mean a central point—I mean a central territory comprising a number of States.

C. N. SMITH, 21, St. Louis, Mo.



Compulsory Promotion—The Closed Shop a Necessity.

I have of late been giving serious thought as to what the condition of engine-men will be a few years hence as the result of the decrease in the number of men employed due to reduction of grades, electrification of steam roads and the increase in the size and hauling capacity of



1—J. E. Hawkins, B. L. F. & E. 428. 2—C. J. Cragan, B. L. F. & E. 598. 3—J. C. Inwood, B. L. F. & E. 676. 4—E. Nettles, B. L. F. & E. 779.
 5—A. L. Toliver, B. L. F. & E. 45. 6—Jas. Shelton, B. L. E. 278. 7—H. W. Page, B. L. F. & E. 868. 8—J. I. Anderson, B. L. F. & E. 29. 9—
 Mattie, B. L. E. 42. 10—F. Biery, B. L. F. & E. 622. 11—H. Bump, B. L. F. & E. 31. 12—F. A. Remwick, B. L. F. & E. 349. 13—C. E. Gaines, B. L.
 F. & E. 667. 14—V. S. Coltrano, B. L. F. & E. 370. 15—H. W. Drury, B. L. E. 675. 16—V. C. Cover, B. L. F. & E. 109. 17—John Bub, B. L. E. 624.
 18—W. J. Kregar, B. L. F. & E. 58. 19—R. J. Mann, B. L. E. 178. 20—M. J. Foshan, B. L. E. 431. 21—C. J. Maddock, B. L. F. & E. 390.
 22—Geo. G. Bruce, B. L. E. 765. 23—S. L. Keith, B. L. E. 675. 24—T. F. Ovsley, B. L. F. & E. 804. 25—R. C. Daniels, B. L. F. & E. 812.
 26—C. F. Underwood, B. L. E. 129. 27—J. B. McIlwaine, B. L. E. 433. 28—Ed. Edwards, B. L. F. & E. 897. 29—F. B. Custerbordier, B. L. F. & E.
 E. 380. 30—W. A. Richardson, B. L. F. & E. 400. 31—J. E. Harrison, B. L. E. 701. 32—C. W. Teeter, B. L. E. 836. 33—C. M. Aylor, B. L. E.
 364. 34—W. T. Plummer, B. L. E. 48. 35—Chas. Snodgrass, B. L. E. 182. 36—E. Moon, B. L. F. & E. 61. 37—W. E. Diehl,
 B. L. F. & E. 371; Vice-Chairman J. P. B. 38—J. M. Brickhouse, B. L. F. & E. 461; Chairman J. P. B. 39—Miss Ethel Auestin, Stenographer; Chair-
 man G. C. of A. 40—J. E. Moran, B. L. E. 491; Chairman G. C. of A. 41—A. M. Machlin, B. L. E. 585; Vice-Chairman G. C. of A. 42—C. B. Ray-
 mond, B. L. E. 164; Sec. Treas. G. C. of A.

JOINT COMMITTEE OF THE B. OF L. E. AND B. OF L. F. AND E. MISSOURI PACIFIC-IRON MOUNTAIN SYSTEM
ST. LOUIS, MISSOURI, OCTOBER, 1915

locomotives requiring fewer men to keep the wheels of the country's transportation industry moving, a condition that has been further aggravated by the railroad managers when they cast the silver hook baited with forced promotion, which we have gobbled up without considering the consequences.

This promotion looked good to the fireman, but isn't it possible the general managers had an object in view? Of course immediate results were not looked for, but the day is not far distant when the country will be flooded with qualified enginemen produced by forced promotion unless we take effective steps to have it discontinued.

Ere long there will be another concerted movement and if it comes to an issue the managers would feel a sense of confidence and security in the fact that large numbers of former engineers and firemen are to be found working at anything and everything to earn a dollar. I personally know engineers who are working as longshoremen on the water front here in Galveston, also some who are employed in the corporation gang flagging crossings and others who are firing stationary boilers. This is in my immediate neighborhood, and I venture to say this condition exists all over the country. Furthermore, these men are not old men. Their ages range from 32 to 50 years, and what is the cause? Why the railroads are not hiring any more qualified engineers. They tell you they make their engineers. Some few roads have a clause in the contract providing that 50 per cent of the engineers will be hired, but they have made the physical examination so rigid that it would take an absolutely physically perfect man to become a permanent fixture.

I know of two instances wherein men worked five and six weeks respectively when they were notified that they had failed in the doctor's examination. This occurred on a small road, and they needed these men for the length of time they were in service. Just think of the position of men who have railroaded from 15 to 20 years now laboring in ditches and at other such occupations for \$1.50 to \$2.00 per day.

The managements will not agree to our demands—we strike—and the country being flooded with ex-railroad men, the railroad managements will offer them big inducements, probably a bonus, and as true as you are reading this there will be men to be found to man the engines vacated by us. Don't forget the negro who helps the hostler two weeks and is allowed to handle engines while a fireman

cannot be called to hostile unless he has written the examination. The conditions are bad now, but will be aggravated by a continuation of forced promotion.

In conjunction with the abolition of forced promotion we should adopt some closed shop plan. The non-union fireman and engineer are becoming quite numerous and we should adopt some method to force these men to become members. After giving them applications we should allow them a reasonable time to enter, and should they fail to do so we should demand of the management their dismissal. This would be nothing more than what the other labor unions are doing and it is the proper course for the protection of our own vital industrial and economic interests. We are away behind the times in this matter. The idea of riding and working side by side on the same engine with a human parasite who has his hands in your pocket continually—the idea of bearing his share of the expense of maintaining conditions and wages from which he benefits and which expense he will not himself pay is, to say the least, exasperating.

I believe that we should begin now to agitate these questions and be prepared to take some action on them at our next convention, and I feel that the Brotherhood of Locomotive Engineers would cooperate with us if asked. I believe that members who advocate compulsory promotion exert an influence that operates against us. I believe that through compulsory promotion the enemy is furnished with ammunition with which to combat us in their autocratic and despotic efforts to crush not only ours but all railroad labor organizations.

Let me ask why it is that our men are called upon to qualify at the expiration of three years, regardless of whether or not the company needs engineers, when there may be 90 per cent demoted engineers firing? What is the purpose? Can you see it? I can. Now, brothers, this matter needs our immediate attention and we should try to have something done at our next convention or, better still, let us have it handled in the next concerted movement. Abolish compulsory promotion and watch the rigid physical examinations disappear.

Brothers, would you believe that 41 out of the 103 members of my lodge are out of engine service and working on the wharf and for the city on the streets and some of them switching? This condition was caused mostly by compulsory promotion and rigid examinations, and I forgot to mention that there were 12 ex-members in this town who, after losing

their jobs, were unable to keep up their dues in our order. Isn't this flooding the country with qualified engineemen?

MEMBER, Lodge 115.



Blacklisting.

The beneficent results of the blacklisting laws now in force in a large number of states and the protection they afford to employes from personal malice and dislikes of officers of employing companies are strikingly exemplified in the recent case of Joseph Schraub vs. Inter-Urban Railway Co. and C. T. Baker. After a trial of five days the jury, deliberating for nine hours, brought in a verdict in favor of the plaintiff for \$500.00.

It appeared that the plaintiff, who is a member of the B. of R. T., was employed by the Inter-Urban Railway Company at Des Moines, Iowa, and on July 8th, 1914, was discharged by C. T. Baker, superintendent of that company, on the charge that he had carried a passenger in his caboose. The plaintiff thereupon demanded, and was granted a hearing in accordance with the contract between the company and the B. of R. T. and it was conclusively proved that Mr. Baker's charge was unfounded. Evidently satisfied with the proofs, Mr.

Baker dismissed the charge, but still refused to reinstate the plaintiff. When asked his reasons for this action, he floundered around like a drowning man grasping at a straw, and assigned various other trivial and doubtful charges. It was shown that the plaintiff had worked under two other superintendents preceding Mr. Baker for twenty-three months, both testifying that they were satisfied with his services during that time. Until Mr. Baker took charge, the plaintiff had never received a letter or call from the office and his record was absolutely clear.

The plaintiff found employment with the Waterloo Cedar Falls Northern Railway and as is the custom named his last employer, the Inter-Urban Railway, as a reference. The former company wrote to the latter company for the plaintiff's record and Mr. Baker replied, not with a complete and true record of the plaintiff's service, but simply cited that he had been discharged for carrying passengers on his caboose. It seemed to have been purely a case of personal malice and dislike.

Without proper legislation and organization practices of this nature would soon undermine the railroad employes' means of existence.

MEMBER B. OF R. T.

ROCKEFELLER'S PEACE OFFERING

By J. ALEX KILLINGSWORTH, Author of Sparks and Cinders

Rockefeller ruled in Colorado,
 Deputizing men to represent
 What he termed so haughtily "my interests"
 And the sort of managers he sent
 Were the kind most useful for his business—
 Heartless fellows, loyal to their chief.
 Faithfully those men performed their duties
 Stifling souls with sorrow, pain and grief.
 In the process of amassing millions
 From the sweat of honest workers, they
 Bullied, crushed, humiliated, murdered,
 Those who stood in Rockefeller's way.
 When the miners rose demanding justice—
 Justice as they understood the term,
 Gunmen were employed to teach them better—
 Still the men for liberty stood firm.
 But, alas! the Rockefeller "interests"
 Had influence great within the state
 And the law—the shame of it—was used to

Back up Rockefeller's great estate.
Finally the country sought a reason
For such needless slaughter and distress,
Congress then appointed a commission,
With results—we're sorry to confess—
That reflected sadly on a nation
Boastful of its laws for Freedom's right.
Here it was that Rockefeller wilted.
He denied all knowledge of the plight
That these men were in; he sought to sidestep
Questions he was asked upon the stand—
And he did his best to shield his agents,
That composed a heartless, ruthless band.
Quite unable to deceive the public
Wide awake to all his schemes and plans,
He decided he would see the miners,
And he paid a visit to his lands;
Told the men he sought to make them happy
And at once proceeded to confess
Ignorance of first-hand information,
Promising he surely would redress
Grievances the men brought to his notice,
And with brazen boldness started in.
All non-union men he then assembled,
Told them he intended to begin
Working with intent to make conditions
Such that they'd forget the gloomy past;
Asked about themselves and 'bout their parents,
And about their children—as he cast
Sympathetic (?) glances at his victims,
As a sort of bluff to make them feel
He was interested in their welfare,
And that his sham sympathy was real.
Yes, he even went below the surface,
Dug a little coal—imagine that!
Paid the school a visit; kissed the babies;
Slept within a miner's home and sat
With them as they ate their beans at dinner;
Danced with miners' wives and daughters, too,
Just to let them see how much he loved them,
Just to have them think his heart was true.
Used a humble miner's comb and hair brush
Romped with freedom ev'rywhere as though
Life was just one long, sweet dream of pleasure,
All this "gush" was "Rockefeller" show.
All was bluff to make an angry nation
Feel a great injustice had been done
To this man with millions, who had knowledge
Of the frightful crimes of torch and gun.
Lo! the crimes have been revealed, uncovered.
Let the nation now its freedom save,
And the rule of Rockefellerism

"FOR HE WAS A CAREFUL ENGINEER" *

The "Eagle eye" oiled 'round her as he waited for his train,
 (For he was a careful engineer!)
 And every time he spilled a drop, he wiped away the stain.
 (For he was a careful engineer!)
 He oiled the valve gear slowly and he wiped it very clean;
 And every rod and cup and guide around the big machine;
 And performed these evolutions where they plainly could be seen—
 (For he was a careful engineer!)

Now I wonder if he knew it, as he rubbed and scrubbed away,
 (For he was a careful engineer!)
 That the loco. superintendent was in town that very day?
 (For he was a careful engineer!)
 He climbed up on the boiler—where his form was very plain—
 And when he'd oiled the bell, he polished *that* with might and main;
 And then (quite accidentally) he rang the bell again—
 (For he was a careful engineer!)

Now the superintendent heard him when his elbow touched the bell,
 (For he was a careful engineer!)
 And he asked the foreman: "Who's the man whose engine looks so well?"
 (For he was a careful engineer!)
 Then they told the superintendent that that man's name was Wynd;
 And the super sized him up—of course—for one that never sinned;
 And for wiping up an engine he'd got everybody skinned—
 (For he was a careful engineer!)

And the superintendent loved him as he reveled in his task,
 (For he was a careful engineer!)
 And he told the staff to give that man whatever he should ask;
 (For he was a careful engineer!)
 Whether oil, repairs, or fittings—give him everything in sight:
 Or leave, or transportation—it would always be all right;
 And he'd make it his affair to see they used him very white—
 (For he was a careful engineer!)

In addition to the favors on that "Eagle eye" bestowed,
 (For he was a careful engineer!)
 The super sent a letter—"You're a credit to the road"—
 (For he was a careful engineer!)
 "Though you never once suspected I was watching you that day,
 I could see you loved your work, and thought of something else than pay"—
 And he smiled with satisfaction as he folded it away—
 (For he was a careful engineer!)

Not long ago I saw his train come steaming slowly in,
 (For he was a careful engineer!)
 And I noticed where he'd oiled around on guide-bar, crank, and pin,
 (For he was a careful engineer!)
 He'd spilled as much as any other eagle eye'd have done,
 But perhaps he hadn't time to do much wiping on the run;
 Or perhaps he knew the super wasn't traveling up on One—
 (For he was a careful engineer!)

T. H. E. BOOMER,
 Member 809.

*Dedicated to the remnant of that now almost extinct species of non-Brotherhood sycophant that seeks to rise in the estimation of railroad officials by evincing a willingness to perform certain kinds of slavish work from which the men of his craft have been exempted through the efforts of the Brotherhoods.

Correspondence

LODGE 408—(*H. M. Stublefeld, Springfield, Ill.*) This lodge held a special meeting at Taylorville, Ill., on November 7th last where we initiated a new member and enjoyed a banquet furnished by the members and their wives who live there. About twenty-five of the members from Springfield were present. A most enjoyable time was had and we hope to go back again some time when they have plenty of chickens to fry.

To Bro. Walter F. Baird is due the chief credit for the good number of brothers there. He acts as their guiding star and keeps them all together and they all like him very much. We, too, are very proud of him.

We are getting along fine here. Business is gradually improving and we have several applicants whom we hope to initiate soon, and are on the lookout for more.



LODGE 807—(*Member, Albany, N. Y.*) Auburn Lodge has not only been holding its own but gaining somewhat in membership of late. The business depression is gradually fading away from our part of the country and our members are beginning to feel the effects of returning prosperity. Many of our men have been

advanced from the positions to which they had been demoted during the hard times and we hope that ere long things will be booming, everybody working and making good time and our "goat" having about as much business as he can attend to.

By far the most important event of recent months transpired in our lodge on December 5th last, viz., the election of officers as a result of which the following brothers were chosen for the offices following their names:

James Fitch, president; E. B. Edwards, vice president; Seth D. Kirk, recording secretary; Guy P. Baker, financial secretary; Leo J. Hennessey, delegate; James Fitch, alternate delegate; Philip Healey, trustee for three years; James Fitch, legislative representative; Leo J. Hennessey, local chairman of grievance committee; H. F. Hess, chairman grievance committee for Elmira and Cortland Division; F. B. Kirk, chairman local protective board; Dr. S. W. Day, Auburn medical examiner; Dr. Charles Kelley, Cortland medical examiner; Philip Healey, local organizer.

The contest for delegate was lively, there being five candidates in the field and Brother Hennessey won by a plurality of 22.

We wish all our brothers the best of success and a New Year full of prosperity.



Official

Addresses Wanted.

Persons desiring to learn the address of or any information concerning a member or any other person, will please communicate with the secretary of the lodge nearest the residence of the person desiring such information. Upon receipt of a communication from the secretary of such lodge, requesting that a notice be published in the Magazine inquiring for such address or other information, same will be complied with. However, the Magazine cannot undertake to act as a

collection agency, and must decline to lend itself to such purpose. Information should be sent to the person specified in the notice. The following inquiries have reached this office since our last issue went to press:

Paul G. Crause.—A member of Lodge 19. When last heard of in February, 1915, he was in Minneapolis, Minn. Anyone having any information as to his whereabouts kindly communicate with J. S. Cottrell, Recording Secretary, Lodge 19, Sparks, Nevada.

Daniel J. McClafferty.—A member of Lodge 251. When last heard of about two years ago was in Los Angeles, Cal. He is about 5 feet, 8 inches tall, weighs about 150 lbs., and has dark hair, blue eyes and dark complexion. Anyone having any information as to his whereabouts kindly communicate with his parents, Mr. or Mrs. D. C. McClafferty, 99 W. Broadway, Mauch Chunk, Penn., or W. A. Tobias, Recording Secretary, Lodge 251, 90 North St., Mauch Chunk, Penn.



Lost Traveling Cards, Etc.

This office has been notified of the loss of the following traveling cards, receipts, etc., and the request is made that all members be on the lookout for them. Should they be discovered in the possession of persons not entitled to them they should be forwarded to the owners or to the secretaries of the lodges that issued them:

Bro. L. F. VanGorder, of Lodge 264, reports the loss in Chicago, Ill., on January 1st, last, of his card case, containing B. of L. F. and E. receipts to March 1st, withdrawal card from Lodge 614, B. of R. T., and service letters from the B. A. and P. and G. N. railroads. If found kindly return to Geo. W. Bowen, Recording Secretary, Lodge 264, South Butte Station, Butte, Montana, or to L. F. VanGorder, Box 619, Wadsworth, Ohio.

Bro. H. J. Conrad, of Lodge 16, reports the loss of his card case in Terre Haute, Ind., containing receipts issued by Lodge 16 for December, 1915, and January, 1916; B. of R. T. receipts for December, 1915, issued by F. E. Dupell, No. 231, annual passes for 1915 and 1916 over St. Louis Division of Vandalia and 1915 and 1916 passes over Eads Bridge, St. Louis, Mo., issued by the Terminal Railroad of St. Louis, Mo. If found kindly return to H. J. Conrad, 2320 First Ave., Terre Haute, Ind.



Acknowledgments.

Mrs. John M. Bryant desires to thank the Grand Lodge for the prompt payment of the claim of her late husband, John M. Bryant, also the members of Lodge 798 of which he was a member for their kindness shown and the good attendance of members at his funeral.

Mrs. Francis Carroll desires to thank the Grand Lodge for the prompt payment

of the death claim of her late husband, Tom Carroll, also the members of Lodge 515 of which he was formerly a member, and the Ladies' Society Lodge 174 for their kindness shown her at the time of his death, and for the beautiful floral tributes.



The Home Account.

The following donations were received at the Home for Aged and Disabled Railroad Employes for the month of December, 1915:

Grand Division B. of L. E.....	\$226.40
Grand Division O. R. C.....	80.00
Grand Lodge, B. of L. F. & E....	60.00
B. of R. T. Lodges.....	108.00
G. I. A. Divisions.....	5.80
L. A. to O. R. C. Divisions.....	14.00
From the Kekionga Society of Division 51, L. A. C.....	5.00
James Costello Division 270, O. R. C.	1.00
Alfred Lunt Lodge 877, B. of R. T.	1.00
C. S. McKay Division 119, B. of L. E.	1.00
From a member of Division 249, B. of L. E.....	1.00
	\$501.20

Miscellaneous.—Quilt from Sister Henrietta Ballou of Lodge 338 L. A. to B. of R. T.; Quilt from Lodge 338 L. A. to B. of R. T., Chicago, Illinois; Quilt from the Kensington Club of Lodge 94 L. A. to B. of R. T., Clinton, Iowa; Quilt from Division 540 G. I. A. to B. of L. E., Paducah, Kentucky; Quilt from Division 98 G. I. A. to B. of L. E., Topeka, Kansas; Quilt, 2 blankets, 2 pipes, 11 face towels, 5 bath towels, tobacco and 26 pair of socks from Divisions 500 B. of L. E. and 194 G. I. A., Cleburne, Texas; Box containing hats, caps, shoes, towels, socks and canned goods from Division 454 G. I. A. to B. of L. E., Orville, Ohio; 1 cake, box of cookies, 20 handkerchiefs, 9 pair of socks, 4 bath towels, and 2 hand towels from Division 309 G. I. A. to B. of L. E., Alliance, Nebraska; 12 turkeys, cranberries and celery from H. B. Clark, Hibernian Bank, Chicago, Ill.; Year's subscription to the Literary Digest from W. S. Carter, President B. of L. F. & E.; Massive clock from Webb C. Ball, Cleveland, Ohio; three and one-half dozen handkerchiefs from 272 G. I. A., Long Island, New York; 2 boxes of cigars from W. G. Lee, President Brotherhood of Railroad Trainmen; Box of cigars from H. H. Hitchcock, Highland Park, Illinois; 2 boxes of cigars from A. E. King, General Secretary and Treasurer B. of R. T.; 2 boxes of cigars from the members of Lodge 555 B. of R. T., Detroit, Michigan.

Respectfully submitted,

JOHN O'KEEFE,

Secretary-Treasurer and Manager.

Beneficiary Statement—Continued

Lodge No.	Amount	Lodge No.	Amount	Lodge No.	Amount	Lodge No.	Amount	Lodge No.	Amount	Lodge No.	Amount	Lodge No.	Amount	Lodge No.	Amount	Lodge No.	Amount
658	69 85	679	182 00	700	166 65	721	28 60	742	55 00	763	75 35	784	34 65	805	84 70	826	68 20
659	165 55	680	126 50	701	181 45	722	60 50	743	169 40	764	84 15	785	163 35	806	89 65	827	81 40
660	162 80	681	112 75	702	94 60	723	58 30	744	33 00	765	121 55	786	60 50	807	479 00	828	52 25
661	72 06	682	85 80	703	52 25	724	23 10	745	69 85	766	86 85	787	119 35	808	154 00	829	48 95
662	67 65	683	90 20	704	204 60	725	68 75	746	26 40	767	85 25	788	.....	809	75 36	830	78 65
663	146 30	684	120 45	705	80 30	726	61 05	747	83 60	768	301 40	789	40 15	810	39 60	831	19 25
664	71 50	685	219 45	706	48 95	727	31 35	748	24 75	769	34 10	790	63 80	811	70 95	832	26 95
665	88 05	686	61 05	707	83 60	728	107 25	749	86 90	770	144 10	791	40 15	812	198 55	833	50 65
666	232 10	687	90 75	708	354 20	729	33 55	750	67 65	771	72 60	792	91 30	813	30 30	834	56 10
667	165 00	688	88 60	709	92 40	730	113 85	751	20 90	772	167 20	793	64 35	814	100 10	835	99 55
668	110 00	689	81 35	710	65 45	731	88 05	752	129 80	773	90 75	794	49 60	815	129 25	836	136 95
669	72 60	690	116 05	711	110 55	732	.....	753	41 25	774	179 85	795	74 80	816	24 75	837	.....
670	255 20	691	37 95	712	42 35	733	118 25	754	45 10	775	28 05	796	116 05	817	81 40	838	105 05
671	74 25	692	62 70	713	133 65	734	89 10	755	86 35	776	151 25	797	92 40	818	52 80	839	48 40
672	85 80	693	13 20	714	74 25	735	99 55	756	28 05	777	69 85	798	35 75	819	121 55	840	195 80
673	642 95	694	75 90	715	39 05	736	50 05	757	90 20	778	68 75	799	199 10	820	99 00	841	173 80
674	22 55	695	60 60	716	101 75	737	24 75	758	34 65	779	136 40	800	32 45	821	83 05	842	44 00
675	287 10	696	55 55	717	46 75	738	80 80	759	120 45	780	47 80	801	120 45	822	.....	843	58 30
676	63 80	697	49 50	718	90 75	739	61 05	760	68 20	781	107 80	802	68 75	823	130 35	844	.....
677	127 60	698	180 40	719	140 80	740	119 90	761	102 80	782	270 60	803	110 00	824	101 75	845	.....
678	97 35	699	62 70	720	42 90	741	31 35	762	133 10	783	150 15	804	136 95	825	.....	.....	.....

Received during month of December.....\$124,951 55

Respectfully submitted, A. H. HAWLEY, G. S. and T.

Western Concerted Wage Movement

ASSESSMENT TO REIMBURSE PROTECTIVE FUND

ASSESSMENT No. 2, \$0.50.

PEORIA, ILL., February 1, 1916.

All Members in Engine Service on the Following Railroads:

Atchison, Topeka & Santa Fe (Proper); Terminal; Louisiana & Arkansas; Mineral Range; Minneapolis, St. Paul & Sault Ste. Marie; Missouri & North Arkansas; Missouri, Kansas & Texas; Missouri, Oklahoma & Gulf; Missouri Pacific; Northern Pacific; Oregon Short Line; Oregon-Washington R. R. & Navigation Co.; Panhandle & Santa Fe; San Antonio & Aransas Pass; Santa Fe, Prescott & Phoenix; San Pedro, Los Angeles & Salt Lake; Southern Pacific (Atlantic System); Southern Pacific (Pacific System); Spokane, Portland & Seattle; St. Louis, Brownsville & Mexico; St. Louis & San Francisco; St. Louis Southwestern; Terminal R. R. Ass'n and the St. Louis Merchants' Bridge Terminal R. R.; Texas & Pacific; Trinity & Brazos Valley; Union Pacific; Union Stock Yards; Union Railway of Memphis; Wabash; Western Pacific; Wichita Valley; Wiggins Ferry, Yazoo & Mississippi Valley.

SIRS AND BROTHERS:—In accordance with the provisions of Article 25, Section 16, of the Constitution, you are hereby notified of Assessment No. 2, in the sum of fifty (\$0.50) cents. This amount is payable to the Financial Secretary of your lodge on or before the first day of March, by all members whose names are on the rolls in engine service February 29th. Any member liable therefor, failing or declining to pay will stand expelled the same as for non-payment of monthly assessments. Yours fraternally,

W. S. CARTER,
President.

A. H. HAWLEY,
General Secretary and Treasurer.

Article 25, Section 16. (c) Upon the conclusion of such conference the President and General Secretary and Treasurer shall have authority to levy an assessment upon all members in engine service on the lines participating in the movement, of sufficient amount to cover the expenses so incurred, the same to be placed in the Protective Fund of the Brotherhood for the money originally advanced for the purpose.

Statement of Death and Disability Claims

PAID BY THE GENERAL SECRETARY AND TREASURER FROM NOVEMBER 30, 1915, TO DECEMBER 31, 1915

Claim No.	NAMES	Ledger No.	Death or Disability	DATE	Am't of Insur'ce	CAUSE
5214	John L. Cranford (a) . . .	578	Death	June 12, 1914	\$ 878.50	Consumption of lungs
5222	W. F. White	88	"	June 9, 1915	1,500.00	Abscess of liver
5227	James Hussey	266	Disability	Nov. 21, "	1,500.00	Locomotor ataxia
5224	Elmer C. Wilcox	298	"	Nov. 12, "	1,500.00	Paralysis
5784	R. Morrow	127	Death	Aug. 5, "	8,000.00	Killed in battle
5220	Paul H. Staples	95	"	Oct. 16, "	1,500.00	Collision
5221	Louis A. Nulsen	109	"	Oct. 16, "	1,500.00	Cancer
5222	John L. Cosgrove	578	"	Oct. 4, "	1,500.00	Gall stones
5225	Thos. Connors	44	Disability	Sept. 19, "	1,000.00	Amputation of hand
5212	Edward L. Kelly	581	"	Nov. 12, "	1,500.00	Blind one eye
5214	John Shearer	178	Death	Sept. 7, "	1,500.00	Falling from window
5215	Thomas E. Fox	329	"	Oct. 11, "	1,000.00	Consumption of lungs
5218	Geo. W. Ewing	372	"	Oct. 28, "	1,500.00	Bright's disease
5217	John M. Bryant	728	"	Oct. 20, "	2,000.00	Over heat
5218	Geo. D. Osburg	327	"	Aug. 17, "	1,000.00	Struck by train
5220	H. W. Frase	304	"	Oct. 19, "	1,500.00	Hemorrhage of stomach
5222	Thos. J. Chard, Jr.	269	Disability	Nov. 12, "	1,500.00	Paralysis
5228	Edward Allison (b)	308	Death	Oct. 17, "	1,500.00	Consumption of lungs
5230	Lawrence Weber	75	"	Oct. 15, "	1,000.00	Consumption of lungs
5232	Alvin D. Remaly	324	"	Oct. 20, "	1,500.00	Run over by cars
5233	Emmett Hotchkiss	589	"	Oct. 20, "	1,500.00	Boiler explosion
5235	Wm. E. Bancum	301	"	Oct. 21, "	1,500.00	Gun shot wound
5235	Ralph G. Skillen	97	"	Oct. 19, "	1,500.00	Diabetes
5235	Weston S. Cook	150	"	Oct. 28, "	1,500.00	Crushed between cars
5249	A. L. Parkinson	338	"	Oct. 26, "	1,500.00	Anerism of aorta
5241	Harry L. Baker	440	"	Nov. 2, "	1,500.00	Consumption of lungs
5243	Alvin S. McKinney	49	Disability	Sept. 8, "	1,500.00	Amputation of foot
5243	Oscar E. Farmer	372	"	Oct. 18, "	2,000.00	Amputation of foot
5243	John C. Ahlgrim	162	Death	Oct. 25, "	1,500.00	Ulcers of stomach & bowels
5248	Alonzo V. Haworth	477	"	Nov. 5, "	1,000.00	Collision
5250	Tom Carroll	515	"	Oct. 19, "	2,000.00	Collision
5251	Clarence G. Harrier	557	"	Oct. 17, "	1,500.00	Collision
5252	Jos. A. Boyd	60	"	Oct. 9, "	1,000.00	Appendicitis
5253	Harvey F. Pfeider	107	"	Oct. 22, "	1,500.00	Cirrhosis of liver
5257	George Davenport	375	Disability	Oct. 30, "	1,500.00	Amputation of foot
5251	B. H. DeFrohn	251	Death	Oct. 31, "	1,500.00	Angina pectoris
5222	Chas. Jeffs	341	"	Oct. 8, "	3,000.00	Meningitis
5223	Wm. Dorey, Jr.	323	"	Oct. 8, "	1,500.00	Pernicious anemia
5224	James E. Herbert	448	"	Nov. 2, "	1,500.00	Pneumonia
5229	James E. Cecil (c)	795	"	Oct. 21, "	1,500.00	Consumption of lungs
5227	John M. Heckel	340	"	Nov. 12, "	2,000.00	Run over by cars
5254	Wm. G. McDermott (d)	189	"	Oct. 26, "	1,500.00	Consumption of lungs
5222	D. J. Crimmins	141	"	Sept. 20, "	1,500.00	Stomach trouble
5722	Hay Robertson	15	"	May 2, "	2,000.00	Killed in battle
5229	Chas. H. Terrell	501	"	Sept. 17, "	1,500.00	Cerebral hemorrhage
5222	Cyrus Dent (e)	387	Disability	"	1,500.00	Blind one eye
5244	Russie V. Dye	744	Death	Aug. 27, "	1,500.00	Internal obstruction
5244	Henry A. Emerick	579	"	Oct. 8, "	1,000.00	Drowned
5239	Horace J. Forrell	91	Disability	Dec. 18, "	1,500.00	Blind one eye
5239	Edwin B. Smurr	304	Death	Sept. 29, "	1,500.00	Bright's disease
5725	Holmes L. Small	773	"	May 24, "	1,000.00	Killed in battle
5225	Brutus C. Arnold	515	"	Oct. 19, "	1,500.00	Collision
5225	Lewis Beckman	448	Disability	Dec. 18, "	1,000.00	Blind in left eye
5210	John Harris	75	"	Dec. 19, "	1,500.00	Heart disease
5212	Fred Sheldon	379	"	Dec. 20, "	1,500.00	Paralysis
5211	John Noble	746	Death	June 16, "	500.00	Peritonitis
5225	A. Poirier	146	"	Oct. 11, "	1,500.00	General debility
5237	Wm. L. Hicks	738	"	Oct. 6, "	1,500.00	Pneumonia
5222	Barton Tift	215	Disability	Dec. 21, "	1,500.00	Blind in right eye
5225	Oliver F. Chamberlin	276	"	Dec. 22, "	1,500.00	Bright's disease

- (a) Claim No. 5214. Class "C". Deduction of \$121.50 paid in May, 1915.
- (b) Claim No. 5223. Class "A". \$100.00 paid in Consumption Allowances.
- (c) Claim No. 5226. Class "A". \$50.00 paid in Consumption Allowances.
- (d) Claim No. 5254. Class "A". \$1000.00 paid in Consumption Allowances.
- (e) Claim of Cyrus Dent, Class "A", Expelled, Litigated and Compromised for \$750.00.

Summary for month of December, 1915.

Death Claims.		Disability Claims.		Total number of claims paid during month..... 60
No. Class	Amount	No. Class	Amount	
27-A	\$40,500.00	11-A	\$18,500.00	
7-B	7,000.00	2-B	2,000.00	Total amount paid during month.....\$57,975.00
1-C	500.00	0		
4-D	8,000.00	1-D		
2-E	6,000.00	1-E	3,000.00	
1-F	3,728.50	1-F	750.00	
45	\$55,728.50	15	\$22,250.00	

Pending Claims December 31, 1915.

70 death claims aggregating.....	\$ 21,178.00
25 disability claims aggregating.....	35,000.00
Total of 95 claims aggregating.....	\$56,178.00

Statement of Death and Disability Claims

FILED WITH THE GENERAL SECRETARY AND TREASURER DURING THE MONTH ENDING JANUARY 15, 1916.

No. of Claim	NAME OF MEMBER	No. of Lodge	Date of Filing	Character of Claim	Amount of Ben. Cert.	When Payable if Approved	Cause of Death	Cause of Disability
8042	Geo. Ainsworth.....	99	Dec. 17, '15	Death.	\$1500	Feb. 15, '16	Pneumonia	
8043	Francis E. Bair.....	507	Dec. 17, '15	Death.	1500	Feb. 15, '16	Gun shot wound	
8044	Oscar L. Hodge.....	6	Dec. 21, '15	Death.	1500	Feb. 15, '16	Derailment of engine	
8045	Glen Farrar.....	258	Dec. 21, '15	Death.	1500	Feb. 15, '16	Falling from bridge	
8046	Soloman Nixon.....	77	Dec. 21, '15	Disab.	1500	Feb. 15, '16	.....	Blind one eye
8048	Anson G. Francis.....	214	Dec. 21, '15	Disab.	1500	Feb. 15, '16	.....	Blind one eye
8049	W. H. Trout.....	244	Dec. 21, '15	Disab.	1500	Feb. 15, '16	.....	Blind one eye
8053	Wm. E. Feeney.....	265	Dec. 24, '15	Disab.	1000	Feb. 15, '16	.....	Paralysis
8054	Jos. C. Kirschner.....	75	Dec. 24, '15	Death.	500	Feb. 15, '16	Suicide	
8055	J. B. E. Good.....	180	Dec. 24, '15	Death.	500	Feb. 15, '16	Paralysis	
8056	Samuel E. Sowder.....	182	Dec. 24, '15	Death.	1500	Feb. 15, '16	Boiler explosion	
8057	Benj. Sutherland.....	305	Dec. 24, '15	Death.	2000	Feb. 15, '16	Killed in battle	
8058	John Conners.....	211	Dec. 28, '15	Death.	1500	Feb. 15, '16	Cancer	
8059	Thos. W. Shapley.....	216	Dec. 28, '15	Death.	1000	Feb. 15, '16	Typhoid fever	
8060	C. L. Harshbarger.....	452	Dec. 28, '15	Death.	500	Feb. 15, '16	Consumption of lungs	
8061	Michael E. Hannahan.....	538	Dec. 28, '15	Death.	1500	Feb. 15, '16	.....	.....
8062	Ellis T. McMackin.....	920	Dec. 28, '15	Death.	1000	Feb. 15, '16	Appendicitis	
8063	Clarence E. Snyder.....	939	Dec. 28, '15	Death.	1500	Feb. 15, '16	Typhoid fever	
8064	John E. Bowers.....	83	Dec. 28, '15	Disab.	1500	Feb. 15, '16	.....	Consumption of lungs
8066	Bufoed B. Gray.....	200	Dec. 28, '15	Disab.	1500	Feb. 15, '16	.....	Blind one eye
8067	E. E. White.....	240	Dec. 28, '15	Disab.	1500	Feb. 15, '16	.....	Bright's disease
8070	Chas. Johnson.....	1	Dec. 30, '15	Death.	1500	Feb. 15, '16	Cerebral apoplexy	
8071	Samuel Hamilton.....	362	Dec. 30, '15	Death.	2000	Feb. 15, '16	Shock, comp. fro't, leg	
8072	Carl B. Nyhus.....	501	Dec. 30, '15	Death.	1500	Feb. 15, '16	Suffocat'n-tunnel	
8073	David A. Loftin.....	877	Dec. 30, '15	Death.	1500	Feb. 15, '16	Boiler explosion	
8074	I. V. Stenstrom.....	80	Jan. 4, '16	Death.	3000	Feb. 15, '16	LaGrippe	
8075	E. F. Williams.....	138	Jan. 4, '16	Death.	1500	Feb. 15, '16	Heart disease	
8076	Wm. A. McCullum.....	162	Jan. 4, '16	Death.	1500	Feb. 15, '16	Collision	
8077	Wm. T. Bartholomew.....	221	Jan. 4, '16	Death.	1000	Feb. 15, '16	Killed in battle	
8078	P. L. Williamson.....	246	Jan. 4, '16	Death.	1500	Feb. 15, '16	Typhoid fever	
8079	Wm. L. Heeney.....	285	Jan. 4, '16	Death.	1500	Feb. 15, '16	Apoplexy	
8080	Lloyd M. Hammond.....	407	Jan. 4, '16	Death.	2000	Feb. 15, '16	Heart disease	
8081	Chas. R. Covington.....	435	Jan. 4, '16	Death.	1500	Feb. 15, '16	Collision	
8082	Elton P. Jones.....	473	Jan. 4, '16	Death.	1500	Feb. 15, '16	Typhoid fever	
8083	Frank H. Jenison.....	532	Jan. 4, '16	Death.	1000	Feb. 15, '16	Suicide	
8084	Wm. A. Wing.....	566	Jan. 4, '16	Death.	1500	Feb. 15, '16	Collision	
8085	John Buchan.....	735	Jan. 4, '16	Death.	1500	Feb. 15, '16	Killed in battle	
8088	Wm. S. Pettet.....	82	Jan. 4, '16	Disab.	1500	Feb. 15, '16	.....	Heart disease
8089	Frederick Helm.....	91	Jan. 4, '16	Disab.	1000	Feb. 15, '16	.....	Consumption of lungs
8091	Jas. S. Holmes.....	342	Jan. 4, '16	Disab.	1000	Feb. 15, '16	.....	Amputation of hand
8093	Levi A. Hunt.....	429	Jan. 7, '16	Disab.	1500	Feb. 15, '16	.....	.....
8094	Louis G. Burgess.....	502	Jan. 7, '16	Disab.	1500	Feb. 15, '16	.....	Loco. ataxia
8095	Albert E. Elsdon.....	78	Jan. 7, '16	Death.	1000	Feb. 15, '16	Collision	
8096	Henry L. Davis.....	522	Jan. 7, '16	Death.	1500	Feb. 15, '16	Fall'gbtwn.eng.&tank	
8097	Conrad Nelson.....	704	Jan. 7, '16	Death.	1000	Feb. 15, '16	Collision	
8098	Ollie D. Burgess.....	18	Jan. 10, '16	Death.	500	Feb. 15, '16	Locomotor ataxia	
8099	John J. Byrne.....	60	Jan. 11, '16	Death.	1500	Feb. 15, '16	Abscess of brain	
8100	Wm. C. Richardson.....	214	Jan. 11, '16	Death.	1500	Feb. 15, '16	Heart disease	
8101	Patrick Loftus.....	230	Jan. 11, '16	Death.	1500	Feb. 15, '16	Myocarditis, Nephritis	
8102	Wm. H. Fertig.....	251	Jan. 11, '16	Death.	1500	Feb. 15, '16	Heart disease	
8103	Emmett H. Risz.....	414	Jan. 11, '16	Death.	1500	Feb. 15, '16	Falling from engine	
8104	Frank Fish.....	528	Jan. 11, '16	Death.	1500	Feb. 15, '16	Derailing of engine	
8105	John West.....	666	Jan. 11, '16	Death.	1500	Feb. 15, '16	Strik'g Obs'c'n on car	
8106	Jos. A. Miller.....	2	Jan. 11, '16	Disab.	1000	Feb. 15, '16	.....	Paralysis
8108	Andrew Rae.....	15	Jan. 12, '16	Death.	500	Feb. 15, '16	Crushed by cars	
8109	Chas. J. Funk.....	57	Jan. 12, '16	Death.	1500	Feb. 15, '16	Cerebral hemorrhage	
8110	Wm. McCleary.....	635	Jan. 12, '16	Death.	1000	Feb. 15, '16	Killed in battle	
8112	H. G. Buckner.....	455	Jan. 12, '16	Disab.	8000	Feb. 15, '16	.....	Amputation of hand
8113	J. F. Anderson.....	197	Jan. 15, '16	Disab.	1500	Feb. 15, '16	.....	Bright's disease
8115	Jos. D. Skelton.....	8	Jan. 15, '16	Death.	2000	Feb. 15, '16	Bright's disease	
8116	W. S. Lindsley.....	27	Jan. 15, '16	Death.	1500	Feb. 15, '16	Struck by train	
8117	John W. Fox.....	68	Jan. 15, '16	Death.	1500	Feb. 15, '16	Sarcoma (abdominal)	
8118	Walter J. Weber.....	89	Jan. 15, '16	Death.	2000	Feb. 15, '16	Bright's disease	
8119	Jos. Bosse.....	119	Jan. 15, '16	Death.	1500	Feb. 15, '16	Peritonitis	
8120	Wm. Klattie.....	521	Jan. 15, '16	Death.	1500	Feb. 15, '16	Collision	
8121	Lawrence E. Lagrue.....	521	Jan. 15, '16	Death.	1000	Feb. 15, '16	Collision	

Statement of Funeral Benefit Claims

FILED WITH THE GENERAL SECRETARY AND TREASURER DURING THE MONTH ENDING JANUARY 15, 1916.

No. of Claim	NAME OF MEMBER	No. of Lodge	Date of Filing	Amount of Ben. Cert.	When Payable if Approved	Cause of Death
181	Herman F. Cooley	907	Dec. 30, '15	\$175	Feb. 15, '16	Paralysis
182	Rob't S. Hodge	137	Jan. 7, '16	175	Feb. 15, '16	Killed in battle
183	Jas. W. Hathaway	13	Jan. 11, '16	175	Feb. 15, '16	Consumption of lungs
184	W. C. Page	183	Jan. 15, '15	175	Feb. 15, '16	Heart disease

Statement of Funeral Benefit Claims

PAID BY THE GENERAL SECRETARY AND TREASURER FROM NOVEMBER 30, 1915, TO DECEMBER 31, 1915.

Claim No.	Lodge No.	NAME	Class	Amount	Cause of Death
84	110	Wm. M. Kinnear	N. B.	\$175 00	Apoplexy
85	199	Wm. C. Turrell	N. B.	175 00	Run over by cars
86	306	Thos. J. Holland	N. B.	175 00	Liver disease

3 claims, aggregating \$525.00

Statement of Benevolent Claims

PAID BY THE GENERAL SECRETARY AND TREASURER, FROM NOVEMBER 30, 1915, TO DECEMBER 31, 1915.

Claim No.	Lodge No.	NAME	Amount Carried	Amount Allowed
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No new claims.

Paid on claims previously published \$1,915.00

Statement of Consumption Allowances

PAID BY THE GENERAL SECRETARY AND TREASURER FROM NOVEMBER 30, 1915, TO DECEMBER 31, 1915, UNDER THE PROVISIONS OF PARAGRAPH (b), SECTION 12 OF ARTICLE 12, OF THE CONSTITUTION.

Claim No.	Lodge No.	NAME	Amount
5998	409	John D. Heiserman	\$ 50.00
5998	604	Wm. F. Childers	50.00
5821	204	John Nations	50.00
5844	191	James T. Harbin	50.00
5824	100	Robt. J. O'Leary	50.00
5878	178	James L. Smith	50.00

6 Claims paid, aggregating \$ 800.00

Paid on Claims previously published 8,250.00

Total \$8,650.00

Beneficiary, General, Protective, Funeral Benefit and Local Assessments for the Month of March, 1916.

OFFICE OF THE GRAND LODGE, B. OF L. F. AND E. }
PEORIA, ILL., February 1, 1916. }

To all Members of Subordinate Lodges:

SIRS AND BROTHERS—You are hereby notified that Beneficiary Assessment for the payment of death and disability claims, General Fund Assessment, Protective Fund Assessment, Funeral Benefit and Local Assessment, are now payable and must be paid to the Financial Secretary of your lodge on or before March 1, 1916, in the following amounts, viz.:

	Beneficiary Assessment.	General Fund Assessment.	Protective Fund Assessment.	Funeral Benefit
Class E Members.....	\$3 30	\$0 25	\$0 10	.....
Class F Members.....	2 75	25	10	.....
Class D Members.....	2 20	25	10	.....
Class A Members.....	1 65	25	10	.....
Class B Members.....	1 10	25	10	.....
Class C Members.....	55	25	10	.....
Non-Ben. Members		25	10	\$0 25
Honorary Members		25	10	25



Local Lodge Assessment in such an amount as may be determined by your lodge, but in no case to be less than twenty-five (\$0.25) cents.

Any member failing or declining to make payment, as above provided, will be subject to expulsion from the order as per Section 8, Article 19 of the Constitution, said expulsion taking effect March 2, 1916.

Yours fraternally,

W. S. CARTER,
President.

A. H. HAWLEY,
General Secretary and Treasurer.

Notice to Financial Secretaries.

OFFICE OF THE GRAND LODGE, B. OF L. F. AND E. }
PEORIA, ILL., February 1, 1916. }

To Financial Secretaries of Subordinate Lodges:

SIRS AND BROTHERS—You are hereby notified to collect Beneficiary, General Fund, Protective Fund and Local Assessments (now due and payable on or before March 1, 1916), from all beneficiary members on the rolls of your lodge February 29, 1916, and *Funeral Benefit Assessment from all Honorary and Non-Beneficiary Members*. General and Protective Fund Assessments from all members in the following amounts, viz.:

	Beneficiary Assessment.	General Fund Assessment.	Protective Fund Assessment.	Funeral Benefit
Class E Members.....	\$3 30	\$0 25	\$0 10	.....
Class F Members.....	2 75	25	10	.....
Class D Members.....	2 20	25	10	.....
Class A Members.....	1 65	25	10	.....
Class B Members.....	1 10	25	10	.....
Class C Members.....	55	25	10	.....
Non-Ben. Members		25	10	\$0 25
Honorary Members		25	10	25

You will collect from all members Local Lodge Assessment in such an amount as may be determined by your lodge—in no case to be less than twenty-five (\$0.25) cents. All Grand Lodge Assessments to be forwarded on the forms furnished by the Grand Lodge, same to reach the General Secretary and Treasurer not later than the 20th of March, 1916.



Every member whose application for Beneficiary Certificate is approved by the General Medical Examiner during the month of February will be liable for double the above amount for Beneficiary Assessment for the month of March, according to class of certificate.

Yours fraternally,

W. S. CARTER,
President.

A. H. HAWLEY,
General Secretary and Treasurer.



Notice.

Communications intended for publication in the Ladies' Department of the Magazine should, in all cases, be addressed to the Editress, Agnes G. Strong, 527 Greene Street, Boone, Iowa.

Matter for the Grand President should be addressed to Mrs. Maude E. Moore, 15 Market Place, Stratford, Ontario, Canada, and that for the Grand Secretary and Treasurer to Mrs. Mary E. DuBois, 711 Story Street, Boone, Iowa.

Correspondents are requested, when sending communications for publication in the Magazine, to kindly write on one side of the paper only, and if matter is typewritten it should be written double space.



My Captain.

JEAN DE ROSIN.

My little boat is sailing
 Over the quiet sea
 Of Time, with all its troubles
 And calms, that come to me.
 I fear not the storms assailing—
 I know my captain knows,
 He knows the course I'm taking—
 I'm sure, my captain knows!

My little boat is sailing
 And though the night is long,
 And the billows tower like mountains,
 I sing my sweetest song,
 For although the sea is maddening.
 I know my captain knows,
 He knows the course I'm taking—
 I'm sure, my captain knows!

Notes.

A charter application has been requested and sent to Arkansas City, Kans. The new lodge when organized will be No. 19.

An Indian who was a candidate for the ministry and was asked the important question, "What is original sin?" answered that he did not know what other people's might be, but he rather thought that his was laziness. Wonder what ours is? Be sure we have one. No one can answer that important question but ourselves. We all have our easily besetting sin, whether it is original with us or not.

Not long ago we saw a man fixing a water pipe so that when the rain came it would run into his neighbor's yard instead of his own. The rain came, the water descended and went into his neighbor's yard, but it came with such force onto higher land and was driven back into his own cellar, and the neighbor was uninjured. Isn't it always so when we seek to injure another? The force of our hate and the intensity of our desire to get even recoils and stings—not another, but ourself. We have heard of women insulting other women. The result was the woman for whom the insult was intended was vindicated—the one offering the insult receiving as her reward, as it should be, the contempt of all right-minded people. No true woman will ever knowingly, intentionally

injure another. A member of the Ladies' Society would not, of course?

It takes so little to make us glad. How often we prove the truth of that. The other morning our mail was unusually heavy. We opened letter after letter, and there seemed to be a spirit of complaint and fault-finding in nearly all of them. Everyone seemed to have gotten up wrong. We were almost heart-sick, when at the very bottom of the bunch we found two letters from sisters who had taken the trouble to tell us something in the December and January Magazines pleased them and they patted us on the back, as it were, and, lo! the burden was gone; the sky was blue again; the joy birds were singing in our heart, and we felt good all through and through. Oh, "it takes so little to make us glad." Let us stop once in a while to tell others we are interested in them and in what they are doing and bid them God-speed on their way.

Don't be afraid of a little fun at home. Don't shut your house lest the sun fade your rugs, and your hearts lest a hearty laugh shake down some of the musty old cobwebs there. If you want to ruin your children, let them think that all mirth, all good times, all social enjoyment must be left on the threshold without when they come home at night. When once a home is regarded as only a place to eat, drink and sleep in, the downfall of that home is assured.

When Baron Cuvier was eighteen years of age he became a private tutor in Normandy, near the sea. One day he found a stranded cuttle-fish on the shore. He took it home, dissected it, became interested in mollusks, and from that small start, faithfully followed up, he became one of the world's most famous naturalists. That cuttle-fish opened up to him his life's work, revealed to him his talent. Most of us go through life with our eyes closed, seeing nothing. Let us look about us on our familiar daily walks, and maybe we will find our cuttle-fish, the open sesame to our life's work.

Isn't it a comfort to meet people who find more pleasure in being pleasant than in everlasting talking about what is unpleasant?

Great people are not born with more gifts than others. They simply make something of their gifts, and others do

not—they learn how to use their gifts—we let ours lie dormant and drift along with circumstances—unhappy, discontented, envious, hoping that some day—without any effort—we will attain what we most want in life. Success comes only to those who do the common everyday things of life uncommonly well.

With many women authority in any work or along any line is a bad thing. They abuse it for the advantage of the few, rather than use it for the good of the many. When placed in a position of power there are women who become arrogant, dogmatic, self-assertive and disagreeable. One is not fit to lead who cannot follow without contention, and a desire to dictate when others lead. They are very apt to forget the other woman and fail to catch her viewpoint. It is barely possible that the woman on the opposite side may be right. Knowledge and wisdom are not limited to any one individual. There needs to be a greater spirit of tolerance in woman's work—that tolerance which makes room for the other woman who does not believe just as you do. She may be right, and you wrong, but you each are entitled to your opinion. You do not want her to dictate your thoughts, your actions, your course of conduct; she no doubt feels the same towards you. Isn't there plenty of room in the Ladies' Society for both of you? It is well to put yourself in the other woman's place, occasionally at least. Because you may have been clothed with a little brief authority does not signify that you are the whole law and the whole gospel in all things, or in anything. Let us think of the other woman with whom we are working and how our conduct is affecting her. Is she through us getting a better and higher opinion of womanhood? If not, who is to blame, and what is to be done about it?

There is a time for work and a time for play, but the time for play and visiting is not during the initiation or business of a lodge. True, the officers of a lodge conduct the business, but each individual member is responsible for the success of the lodge and there is a responsibility resting on even the least of these. The only duty devolving upon a member is not simply to attend lodge meeting, for in the obligation voluntarily assumed several other duties were accepted.

The office of secretary of a lodge is one of the most important offices within the gift of the lodge, and the work, if

correctly done, cannot be done any old way, but must be carefully done. Upon the accuracy of the reports of the secretaries of the subordinate lodges the correctness of the report of the Grand Secretary and Treasurer depends. Doubtless every secretary desires and intends to do her work in accordance with her obligation. She ought never to trust to memory in recording the transaction of the lodge nor when keeping the financial part of her work. When an officer accepts an office one of the first things she should do is to make herself familiar with the duties belonging to the office. If those who have preceded her have been remiss she should not follow their example, but find what is right and then do the right.

It was at a girl's summer school years ago. One of the girls rose and said to Alice Freeman Palmer, the honored and beloved first president of Wellesley College, who had been talking to them: "Mrs. Palmer, you are always so cheerful and happy. Will you tell us, please, how we can be happy?" "I will, dear," said this noble woman, "I will give you three very simple rules. The first is this: Commit something to memory every day—something good. It needn't be much. Three or four words will do—just a pretty bit of a poem or a Bible verse. The second rule is: Look for something pretty every day and don't skip a day, or it won't work. My third is (now, mind, don't skip a day), Do something for somebody every day. There is all there is to it, dear. You'd better try it." These rules are just as good as when they were spoken. They will work always and everywhere, in the country as well as in the city, for boys as well as for girls. They will make a farm house warm in the chill winter and a tenement cool in the blazing summer. They will help to make us masters of our lives. They are so plain that everybody can understand them and so practical that everybody can keep them. No matter how lowering and how gray the sky, these rules will make the sun shine through.

The following Ten Commandments seem to us to be good and worth a place in all our hearts and homes. A daily practice of them might not be a bad thing for any or all of us, at least they are good New Year resolutions:

"I will study the language of gentleness and refuse to use words that bite and tones that crush.

"I will practice patience at home, lest

my testy temper break through unexpectedly and disgrace me.

"I will remember that my neighbors have troubles enough to carry without loading mine on them.

"I will excuse others' faults and failures as often and fully as I expect others to be lenient with mine.

"I will cure criticism with commendation, close up against gossip and build healthy loves by service.

"I will be a friend under trying tests and wear everywhere a good-will face unchilled by aloofness.

"I will gloat over gains never, but amass only to enrich others and so gain a wealthy heart.

"I will love boys and girls, so that old age will not find me stiff and soured.

"I will gladden my nature by smiling out loud on every fair occasion and by outlooking optimistically.

"I will pray frequently, think good things, believe humanity, and do a full day's work without fear or favor."



The Big Ten.

Below is given the membership of the ten largest lodges of the Ladies' Society of the B. of L. F. and E., as reported January 1, 1916:

1. No. 3, Hazel, Peoria, Ill.....173
2. No. 125, Charity, Jackson, Mich..130
3. No. 81, E Pluribus Unum, Logansport, Ind.121
4. No. 33, Hyacinthe, Fort Wayne, Ind.120
5. No. 10, Helpmate, Elkhart, Ind..108
6. No. 60, Pride of 174, Harrisburg, Pa.107
7. No. 142, Empire, Buffalo, N. Y..104
8. No. 36, Autumn Leaf, Sayre, Pa. 98
9. No. 59, Eastern Lily, Pt. Jervis, N. Y. 91
10. No. 113, Fort Orange, Albany, N. Y. 86



New Lodge Organized.

Jewel City Lodge 310, Tracy, Calif., was organized December 18, 1915, with eleven charter members.

Organizer Sister Stena Ward, Mina, Nev.



The Great Guest Comes.

While the cobbler mused there passed his pane

A beggar drenched by the driving rain. He called him in from the stormy street And gave him shoes for his bruised feet, The beggar went, and there came a crone, Her face with wrinkles of sorrow sown. A bundle of faggots bowed her back, And she was spent with the wrench and

rack.

He gave her his loaf and steadied her
load

As she took her way on the weary road.
Then to the door came a little child,
Lost and afraid in a world so wild—
In the big, dark world. Catching it up,
He gave it drink in the waiting cup
And led it home to its mother's arms,
Out of the reach of the world's alarms.
The day went down in the crimson west
And with it the hope of the Blessed
Guest.

And Conrad sighed as the world turned
gray,

"Why is it, Lord, that Your feet delay?"
Did You forget that this was the day?"
Then soft in the silence a voice was
heard:

"Lift up your heart, for I keep My
word.

Three times I came to your friendly
door,

Three times My shadow was on your
floor.

I was the beggar with bruised feet;
I was the woman you gave to eat;
I was the child on the homeless street."

E. MARKHAM.



The Word Fitly Spoken.

"Back from your club?" observed
Auntie. "I suppose you voted not to
admit Fannie?"

Cora blushed and looked confused for
a minute, then she laughed. "Well," she
said, "Erma is the greatest girl. Of
course, Fannie's name came up, and we
all thought of admitting her. Where it
is such a serious club we have to con-
sider if applicants will be able to con-
tribute something useful. Louise is lit-
erary, Madge musical, Laura is going to
be a settlement worker, Marion is train-
ing for a missionary, Erma's a mathe-
matical wonder, and so on. It was kind
of funny, really. One after another told
that Fannie wasn't anything, and in
fact we had about decided that it was a
mistake to let her even live, when Erma
looked up through her spectacles, and
said, 'I know what Fannie is; she's
decorative.' At first we stared, it
sounded so frivolous, then we had to
laugh. 'Decorative,' mind you. 'Trust
Erma for finding some good in every-
body,' said Marion. So we looked at
Fannie from the other side and found
that she's not only 'decorative,' but she's
kind and obliging, and never the least
bit jealous of the talents of others, and
when we got through that view you'd
think the club would fall to pieces if
Fannie didn't get right into it. Queer,
when you come to think of it, what a
few words will do," mused Cora, as she
stood her picture on the mantel, and
walked off to get a "distance" on it.

"Yes," quoted Auntie, smiling. "A
breath can make them as a breath has
made."

Seriously, though, wouldn't it be fine
if more of us cultivated Erma's pecu-
liarity? Just supposing, for the moment,
that everyone of us said kind things
about people. They say, you know, that
there is some good in everybody, but
wouldn't you imagine often that there
is no good in anybody, to hear some peo-
ple talk? Not, by any means, are we to
trust everybody alike, or to shut our eyes
to defects of character. But, really, the
things we most discuss are little idiosyn-
crasies, mannerisms which offend our
critical tastes, errors in judgment which
we magnify into sins.

Then, right in this line is the thought
of giving encouragement where we can,
conscientiously. One time a young girl
went to read at a charitable affair. The
town was at a distance from her home,
so she was at some inconvenience, and
she was nervous, because it was her first
appearance among total strangers. Still,
as she hoped to be a public reader by and
by, she was glad of the little opportunity,
and tried to be brave. With much care
she prepared her "pieces" and started,
her heart all the while beating like a
trip hammer. Her reading was well re-
ceived, but at the close of the entertain-
ment she stood alone and unnoticed,
while others greeted their friends. She
thought: "The audience clapped because
they were polite and thought I was try-
ing to please them. But I really have
not done well, or somebody would say
so." So she went out that night to fold
her girlish ambition away out of sight,
forever. Months afterwards she hap-
pened to meet the lady who had invited
her to read. "Oh," exclaimed the lady,
warmly, "how glad I am to see you
again. I have always wanted to tell you
how beautifully you did at Westery. Our
order was delighted, and we have
often said we must have you again, when
we can afford to pay you—a little, at
least."

Oh, but the kind words were like
flowers on a grave, then. They brought
no cheer. Why could not the lady have
told her at the time? There are flowers
of a certain sort that grow up between
rocks in the sandy soil near the sea
shore, but they are more to be marveled
at for their hardihood than admired for
their beauty. So there are strong and
resolute natures who have their eye on
a goal and will win out in spite of in-
difference. But most people, like most
plants, thrive best in a kindly atmos-
phere. Laughed a minister one day,

"You would think our teachers were gods and goddesses, to hear our superintendent talk." Judicious praise is helpful and stimulating; let us give it when we can. Sometimes we think, "Oh, it is not my place to say anything. Let somebody else do it." There is never a time when an honest good word, sincerely spoken, is not acceptable. We know not the discouragements people have, for their heartaches are kept carefully out of sight. Let us give the good word, and give it at the time.

MINNA STANWOOD.



My Dream Girl.

My dear little, sweet little dream girl,
Is it true you were sent from above?
You're so like an angel from heaven,
Sure your smile is the essence of love.
Your bright, golden curls lend a quaintness

To a face that's as pure and as sweet
As dew that we find on the roses

When the first peep of morning we greet.

Your eyes are the blue of the ocean
And they seem just as deep as it, too:
There's character stamped on your visage,

And I know that your heart must be true.

I long, little girl, to embrace thee,
And to snuggle thee close to my heart,
But that isn't possible, dearie,

For you see you are nothing but art.
You're only the dream of an artist.

And you haven't a soul; but it's true
Your smile makes me cheerful and happy—

And what more could a real girlie do?
By J. ALEX. KILLINGSWORTH, St. Thomas, Ont., Can.

Author of "Sparks and Cinders."



The Past President.

So many letters have come to me from lodges asking information about the past president and her duties, that I decided with the permission of our Editress, Sister Strong, to make that the subject of my letter this month.

The office of past president is never with just one exception, an elective one. At the institution of a new lodge a past president is elected in the same manner as other officers, but always thereafter the retiring president becomes the past president.

The honor of past president can never be taken from a sister who has served the term or terms of office of president to which she was elected and her office cannot be declared vacant though she be from any cause unable to attend meetings of her lodge. Any other past presi-

dent may fill the chair. Should there be no other past, as is the case of a new lodge, then any member may hold the chair by appointment, but when the past president comes into the lodge room she is entitled to her chair.

In course of succession the past presidents may be designated as senior and junior past president, although we have no law that designates them as such. I have called them so, that you may not be confused.

The past president installs the officers at the yearly installation, when the retiring president becomes and is installed as past president. During the year, should there be an officer to be installed, then the duty of installing the sister belongs to the past president whom I have designated as the junior past president—the one who is holding the chair in regular succession. Should she be absent from the meeting, then any other past president may execute the work.

The past president is a member of the board of relief, while the president is the chairman; yet it would be a mark of courtesy if she were to ask the past president at each meeting if she knew of any calls for relief or sisters who are ill, etc. Our laws do not require this, but it helps to create a friendly feeling just the same wherever a president makes such inquiry.

Then, too, let me suggest that you ask her advice once in a while. She is supposed to have, with credit, discharged her duties as president and by the course of time reached the office of past president. Desire for the good of the lodge has been hers and the hopes she held out, whether they worked out as she anticipated or went amiss, are all past and only the memories remain. Do all in your power to make them pleasant ones. You may hold the office yourself some day and you will then appreciate the courtesies you are offering some other sister now. Next year—tomorrow, even—perhaps you may be following the very pathway that today you are certain you would not travel.

IMOGENE BATES.



A Soldier's Dream of Home.

I dreamt last night a happy dream
Of friends so dear to me,
Of those I loved in boyhood days
Now far across the sea.
The stars were shining clear and bright
When I laid me down to sleep,
And my spirit flew, on the wings of love,
Across the mighty deep.

And swifter still I seemed to fly
 O'er Canada's fair domain:
 "Till snow-capped mountains came in
 view
 I may never see again.
 Until I saw the shining spires
 Of a city by the sea;
 "Tis called "the gateway to the East";
 But it seemed like Heaven to me.

And I saw my gentle mother
 With her silvery shining hair;
 And her face was raised to the starry
 sky,
 While her sweet lips moved in prayer.
 She was praying to the God she loved
 For her boy so far away,
 Oh! keep him Father! in Thy love
 And guard him day by day.

Oh! noble hearted mother
 Who has giv'n her boy, her all;
 To fight for England's honor
 In answer to the call.
 The tears she shed, when father died
 And she fought on, alone,
 But made her widowed eyes clear
 To see her duty done.

And then I saw another face
 A face so young and fair;
 With sweet dark eyes, that knew no guile
 And wavy clustering hair.
 When last I kissed her trembling lips
 Her face was cold and white;
 But now her cheek was flushed with joy
 Her eyes were clear and bright.

My mother! kind and gentle,
 My sweetheart, good and true,
 No power on earth can measure
 All the love I have for you.
 My heart was full of pride and joy
 To be at home once more;
 Beyond the range of shot and shell,
 The sight, and sounds of war.

But hark! a crash, a blinding light,
 A whistling, screaming shell
 Burst close beside me, as I lay,
 Like demons loosed from hell.
 Was it a dream; or did I feel
 The touch of mother's hand,
 As up I sprang to fight and die
 For home and motherland.

They tell me I am dying,
 That life has nearly sped,
 And soon my name will swell the list
 Of brave and honored dead.
 But tell my gentle mother
 And the girl I loved so well,
 That I tried to do my duty,
 That I bravely fought, and well.

And tell them, when the boys come home,
 They must not grieve for me;
 I only tried to "do my bit"
 For England's victory.
 Now kiss me, won't you, mother dear?
 And sweetheart, come close by,
 I'm going to my Father's Home,
 My Canada, good-bye.

MRS. CHAS. L. E. POTTER,
 Kamloops, B. C.

*Russian Violets.**

BY ADELBERT CLARK.

Across the boundless ocean where
 The smoke of cannons rolled
 And drifting, filled the sultry air
 Of sunset's burning gold,
 From Russia's trampled blood-stained
 vale
 He sent the violets blue—
 The lad who played his violin
 Last year, to me and you.

Their dark blue petals breathed of love;
 A mother dear at home;
 And larks that sing in skies above
 Across the ocean's foam.
 And in his uniform of blue,
 With laughter in his eyes,
 A vision—of that spirit true,
 And sweet as summer skies.

I saw him gather violets blue
 And write a loving line,
 And seal it with a kiss that's true
 And free from guile and wine.
 I saw him mail the letter, dear,
 The soldier lad in blue—
 The lad who played his violin
 Last year, to me and you.

Then night came on, and holy stars
 Lit up the halls of God,
 A stream of fiery crimson bars
 Hung o'er the trampled sod.
 And far away the black smoke rolled,
 For war was on the wing;
 The black heart war—the fight for gold—
 The coffers of the king.

And when the crimson of the morn
 Had spread the quiet vale,
 And holy things once more were born,
 I saw him cold and pale.
 I saw his comrades dig his grave
 Among the violets blue—
 The lad who played his violin
 Last year, to me and you.



Bread Cast Upon the Waters.

"For I was hungered, and ye gave me
 meat; I was thirsty, and ye gave me
 drink; I was a stranger, and ye took
 me in."

It was a beautiful day in June, in the
 little town of Canton, when dear, mother-
 ly Mrs. Myers spied a shabbily dressed
 young man coming up her garden path.
 Under the grime which covered his face
 she could see he was very pale. She
 went to the door of her kitchen and as
 he stepped upon the little vine-covered
 porch she realized that he was really ill.
 He asked if he might rest there a mo-
 ment in the shade. She spread the cov-
 ering of the couch, which had only that

(*Written in memory of a Russian lad who
 sent some violets to a friend in New York;
 later the friend learned that the lad had
 been killed in the war.)

morning graduated to the back porch, more smoothly, and bade him lie there instead. Very thankfully he obeyed her and he closed his weary eyes with a sigh of relief. She slipped away into the kitchen and brewed a cup of her own special fragrant tea, and toasted a couple slices of her snowy bread to a golden brown, and brought them out to him. He seemed overwhelmed with gratitude, and, after eating a few bites, declared he felt much better. "I have been traveling all night and day and have had nothing to eat, for I have run out of money. I am on my way to Klondike, and, of course, haven't the best of accommodations on my car." He smiled cheerfully, however, and some of his color returned. Her eyes shown with motherly love and kindness, and, when, after half an hour, he bade her good-bye, he declared he was a new man. She wished him health and happiness and the best of luck; and when she added "God bless you" he turned and walked quickly away to hide the tears in his eyes. In a little while her husband came home—he was an engineer—and as she prepared his dinner she told him of the young man. From that the conversation drifted to their own children—now grown to manhood and womanhood—who were far away from home working for themselves or married. The happiest time of their lives was when they went to visit these "children," as they always called them, or when one of them would come home for a short vacation.

Time went on and the little mother kept up her many self-imposed duties of looking after the poor and unfortunate who came to her doors or whom she hunted up. Their home had been modernized and beautified as they were able financially, and they were beginning to save for a rainy day when a terrible accident on the railroad occurred.

Mrs. Myers was singing happily as she did her work, when three of her neighbors came in looking very grave. They broke the news gently by saying it was only a slight wreck and that Mr. Myers had received a shock, but that they were bringing him home. It was terrible for her when she saw him carried in unconscious. His hip had been broken and he had been badly bruised.

How silvery white her hair grew in such a short time, but her loving care of him was never given over to anyone excepting to a nurse which friends insisted on her having to relieve her a few hours at a time.

He grew better very slowly and it was

four months before he was able to be moved about in a wheeled chair.

The days began to shorten and fall was upon them before he was able to be wheeled out of the house. The doctor said his limb would never be like it was before, and might always be quite stiff—the break had been very severe.

If the children could only come home how happy they could be even with this trouble; but that was an impossibility, for they were all far away now. Still they had the letters every week or two. How they looked forward to those letters. Then, too, every little while would come pictures, and they could sit and look at them and build dream castles every day, their children and grandchildren occupying the center of them all.

Dear Mother Myers planned her Thanksgiving dinner for all of them and began baking two days ahead. Her pumpkin pies were all sitting in a row to cool, and in the back of her brain—way back behind the silvery dream clouds—hid little real tho't fairies who said, "This is one for Grandma Prime, whose dinner will be very slim; that one for Aunt Prue, the little dressmaker around the corner," etc., until only one was left for the dream dinner—when a tap at the door roused her and she hurried to open it. It was only one of the poorly dressed men to whom she often gave a sandwich and a cup of coffee and a kind word to cheer them along. But this man seemed so thinly clad and was shivering so she invited him into her warm kitchen. He sank into a chair, and as she hurriedly prepared a cup of hot coffee, he told her he was suffering with a severe headache. No one ever suffered like that near Mother Myers, man, woman, or beast, without her doing her best to relieve them, so it was only a short time before this "Knight of the Road" was being doctored with her home-remedies and cold bandage around his head. "Father" was taking his nap and did not hear the visitor until "Mother" had bidden him good-bye after he had declared his head was better and had eaten a generous piece of the one pumpkin pie with a second cup of coffee. Then she wheeled father out and the two laughed over the planned Thanksgiving dinner.

Just as they were eating their dinner the next day the postman brought them a letter and Father Myers opened it and read it through. Then his face became very white. "Why, Mother, surely we cannot owe the bank \$35,000—there must be some awful mistake." He read it again but could not make it out for sure.

It was in the banker's handwriting—a very fancy writing—and not easily read by one not accustomed to reading it. Mrs. Myers was trembling so she could not read it, so they decided to call in Mr. Barnett, who lived next door. He was a business man in town and would know what to make of it. He came over very much troubled at the tearful summons of Mother Myers and read the letter over hurriedly. Then his eyes opened very wide indeed, and he looked at the two worried faces before him, then he said: "Why, no, you don't owe that much at the bank; instead, Mr. Murray has written this:

"Mr. and Mrs. Myers:

"There has been \$35,000 deposited at the bank to your credit. Please call and tell us what disposition to make of it.

"Very respectfully,

"Mr. Geo. Murray."

"Why, I cannot understand; there must be some mistake."

They discussed it thoroughly and decided to go down to the bank right away, which they did.

But it was true. The banker wanted them to deposit \$25,000, on which he would give them 4 per cent interest, and keep the \$10,000 to check out. Still they could not be persuaded it was really theirs, and when they left the bank they only took \$5 of it with them to buy some things they wanted very badly. When they reached home a special delivery letter was awaiting them. It was in a strange handwriting and was addressed to Mrs. Myers. She opened it and read: "Dear Mrs. Myers:

"Do you remember a sick boy stopping at your house a number of years ago, to whom you gave your blessing as he started away to Klondike? Well, I am that boy, and when I returned to this country, I came back to look you up and see if you were still the same. I found you even more beautiful and kind, still willing to give a helping hand to even as poor a looking creature as I was. Please accept a few of the crumbs which return to you from the bread you cast upon the waters years ago, with the never-ending admiration of

"John Lawrence."

"P. S.—The bank will inform you of the deposit."

She finished the letter, and turning, threw her arms around her husband's neck as she whispered, "I knew if I wished hard enough, our children would get to come home at least for Christmas and we can send for them now.

"Oh! won't it be a glau Thanksgiving Day."

C. Mc. McCook.



Greetings from Commonwealth Lodge 260, Boston, Mass.

Our little band is still working hard for the "Good of the Order." We are beginning to talk about the annual meeting of the New England State Lodges. As yet, I have not had a request from any other lodge for the meeting. If no other lodge wishes it, Commonwealth Lodge would be very glad to take charge of the meeting.

Sister Reynolds, our instructor, has been with us recently and she has mentioned several topics for discussion.

It is quite necessary that we talk over these subjects before the convention. Our delegates should be properly instructed.

HELEN F. LOUGER.



Letters from Friends.

FROM L. S. 199—(*Violet Stover, Seattle, Wash.*) Another year has gone and Puget Sound sisters still stand. The members are doing good work and the officers are faithful to their several duties. We have started a series of card parties which are well attended.

We have added a few new names to our membership roll during the past year and hope to do even better this year.

Our tenth anniversary came in April and we had several of the Tacoma sisters as guests and we all had a most enjoyable time.

The brothers gave a banquet with its many unique phases. They sure are royal entertainers and the sisters appreciate their efforts.

May we all strive for peace and harmony in our work and be faithful to our obligation.



FROM L. S. 225—(*Sarah Dougherty, Sedalia, Mo.*) During the past year we have added one new member to our lodge and have two more to initiate.

We meet twice a month and usually have a fair attendance and always a good meeting. We have our penny drill at each meeting to replenish our flower fund and a sick sister is always remembered with a bouquet or a potted plant which is always appreciated.

In October we gave another one of our delightful Hallowe'en masque parties which was well attended. Lunch was served after which dancing was indulged in until quite late.

But, in the midst of the good times we do not forget the sick, for on the fifth of November we went in a body to the home of Sister Amos who has been an invalid for the past three years, taking with us well filled baskets with the best of edibles. Sister Amos has been a most patient sufferer, has a smile and word of cheer for every one. The afternoon was most pleasantly spent with conversation and music.

Pride of 78 sends greetings to each and all of our sister lodges and wishes them a bright and prosperous New Year.

the losing side will banquet the winning side. It was a very close race and just kept the members enthused enough to be very prompt, and we surely canvassed every prospective member. We gained nineteen members and feel that our work has not been in vain.

We had a picnic and boat excursion during the summer months, which were greatly enjoyed by those who were permitted to go.

The red letter day of the year was December 1, 1915, when we served dinner in the hall at noon and then had a social time until meeting and then initiated eight candidates into our lodge. It was a pleasant sight to see all the chairs around the hall filled with members, and some were almost as strange as our candidates.

We also had nomination and election of officers that day, and if all the lodges elected their officers with as little friction as Hazel Lodge had, there sure would be no need to hold second elections. Everybody was well pleased with selections made, there being opposition only in two offices, and now we are looking forward to joint installation with the brothers and a good social time and dancing after the work of the evening is over.

While we have had our good times, sorrow also has entered the homes of Sisters Robinson, Woodson and Crawford, as each was called upon to part with a loving sister and Hazel Lodge extends to them its deepest sympathy.

We will have a new Magazine correspondent this year. I hope she will be able to give a more complete account of the happenings of Hazel Lodge, and if she does not do as we think she ought to, don't censure her, but be kind and show her we appreciate what she does, as we always try to do the best we know how.

In closing, I wish the membership at large a happy and prosperous 1916.

FROM L. S. 33—(Kathe Kane, Binghampton, N. Y.) The last year was a good one for us and at the last meeting of the old year we had two initiations and one application for membership read. At the close of 1916 we hope to do even better. Sister Reneme was successful in getting the most new members, and thus won the prize—\$2.50 in gold. She is a very interested member.

Sister Kane donated a January stocking bag which the sisters sold, realizing

FROM L. S. 174—(Dekia Bledsoe, Chickasha, Okla.) At our last regular meeting Sister Alma Ramey, one of our El Reno, Okla., members, came down for a meeting. Our president, Sister Mary served a luncheon on the same day for the surprise we had given the nature of a handkerchief

ber Ada Campbell from Enid, Okla., been visiting in Chickasha for the past month. She was with us at two meetings, November 11th being her last day with us, we served a luncheon course of fried chicken. We only wish all of our out of town members could be with us every meeting day.

Our little lodge has had some very sad duties to perform since our last writing. On October 11th occurred the Agawan wreck, the most terrible wreck known in the history of our division, in which eight men lost their lives. The wreck was a head-on collision between No. 11 night passenger train from Chickasha, Okla., and No. 98, a fast meat train from Ft. Worth, Texas. Bros. Brutus Arnold of Chickasha and Talmage Carrol of El Reno were the firemen killed. Our lodge divided and part went to El Reno with Brother Carrol and the members left stayed in Chickasha with Brother Arnold's remains. Brakeman Virgil Southwood was killed on train No. 98, and Engineer Billy Powell on train No. 11. Brother Powell living until October 26th, when he too had to give up his life. The exact cause of the wreck has never been established.

I hope that 1916 will be the happiest year ever spent by the sisters of our society and the brothers as well.

FROM L. S. 3—(Minnie Watt, Peoria, Ill.) We have had a contest open since May for new members and better attendance at meetings. The membership was divided, with two leaders, and they have kept the record of attendance and

the neat little sum of \$7.00. Sister Cassy donated a sugar and creamer which was likewise sold for \$5.00. We intend to keep this up during the year as each sister has offered to give some article to sell which will be worth while.

Our warden, Sister Millaney, was recently bereaved of her mother. Our lodge extends its sincere sympathy.

● ● ●
FROM L. S. 262—(A Member, Proctor, Minn.) The past year has been a very successful one in many ways and our earnest wish is that the new officers will fulfill their duties as faithfully as the ones of the past year. Our president, Sister Allen, has not, I think, missed a meeting, during her two years of office, and Sister Seville as vice has been just about as faithful. Our treasury is and has been in fine condition, due to the various dances and good times given during the year. Among our good times and by no means the least was a trip to Sister Inga Stevens' home at Hibbing last fall. She invited us to spend the day with her and some thirteen or fourteen members responded nobly, not only to the invitation, but the delightful dinner as well. After satisfying our inner selves, we were entertained by Brother Stevens with an auto ride around the city for a couple of hours.

With our good times sorrow has come to some of us. Sister Haar lost a dear mother and Sister Ives a father. The sympathy of the lodge goes out to these bereft ones in their time of sorrow.

We want to extend our most sincere wishes to all lodges for a most prosperous and happy 1916.

● ● ●
**Quarterly Insurance Assessment—
 Second Series Numbers—Notice
 No. 53, for the Quarter Ending
 March 31, 1916.**

GRAND LODGE

LADIES' SOCIETY OF THE BROTHERHOOD
 OF LOCOMOTIVE FIREMEN AND
 ENGINEMEN.

Office of

GRAND SECRETARY AND TREASURER.

BOONE, IOWA, March 1, 1916.

To all Treasurers of Subordinate Lodges:

SISTERS—Assessment No. 53, for the quarter ending March 31, 1916, is hereby levied upon all members holding member-

ship in the Insurance Department of the Society on or before February 1, 1916. You will forward to this office so as to reach here on or before the 10th day of March, 1916, the sum of sixty (60) cents from each member carrying a \$200 policy, one dollar and twenty (\$1.20) cents from each member carrying a \$400 policy and one dollar and fifty (\$1.50) cents from each member carrying a \$500 policy, using the two printed blanks which accompany this notice.

All remittances to be made by draft, postoffice or express money order, payable to Grand Secretary and Treasurer, Ladies' Society, B. of L. F. and E.

Members initiated on and after February 1, 1916, will not be liable for this assessment.

MARY E. DU BOIS,

Grand Secretary and Treasurer.

Approved:

MAUDE E. MOORE,

Grand President.

NOTE.—We enclose two printed blanks upon which treasurers will make returns to the Grand Lodge for the above assessments. Both statements will be filled out exactly alike and sent with returns. If all names do not appear in the printed list, they will be added. If any corrections are necessary they can be made by the Treasurer. One of the printed statements, with receipt, will be returned to the Treasurer.

For the names, lodge number, cause of death, etc., of deceased sisters in the payment of whose claim this Assessment is levied, see issue of the Brotherhood of Locomotive Firemen and Enginemen's Magazine, whose detailed statement of the same will be given in department devoted to the Society.

● ● ●
Death Report.

Mary Lewis, Lodge 180, Carbondale, Pa.; died November 13, 1915. Cause of death, acute apoplexy. Amount of insurance, \$200.

Anna Walker, Lodge 252, Avon, N. Y.; died November 20, 1915. Cause of death, acute peritonitis. Amount of insurance, \$500.

Mary Morgan, Lodge 228, Roseburg, Ore.; died November 2, 1915. Cause of death, uraemia poisoning. Amount of insurance, \$200.

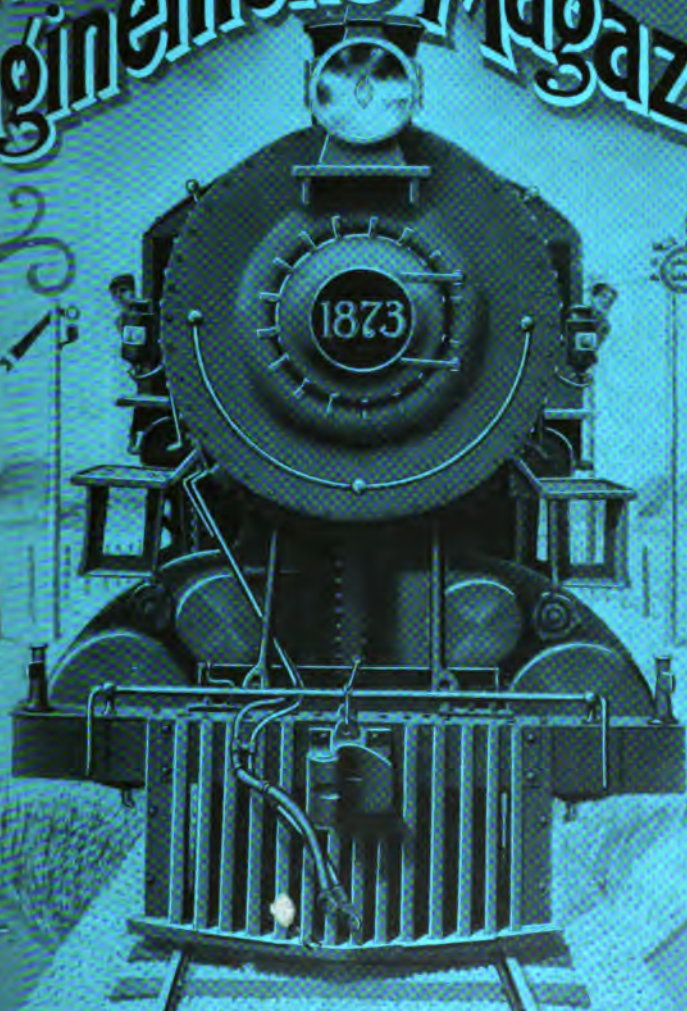
Lettie Peterson, Lodge 151, St. Louis, Mo.; died December 15, 1915. Cause of death, bladder trouble and pneumonia. Amount of insurance, \$400.

MARCH 1916

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MAR 9 1916

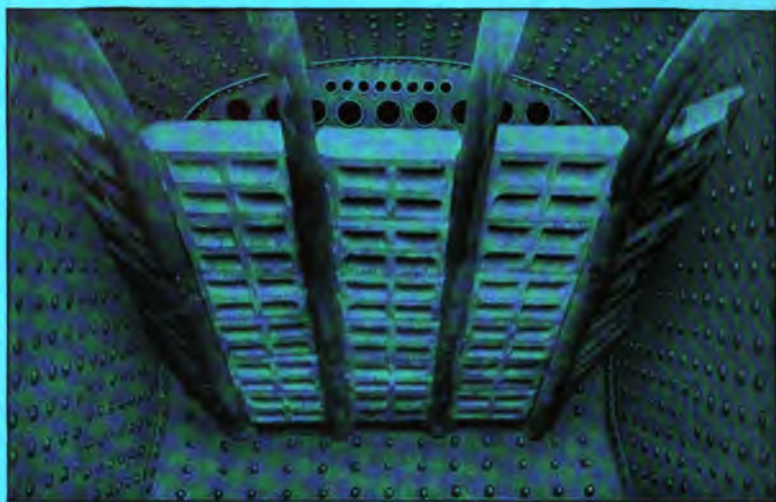
Locomotive Firemen and Enginemen's Magazine



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PRESSURES

ATMOSPHERIC

LOAD RESERVOIR

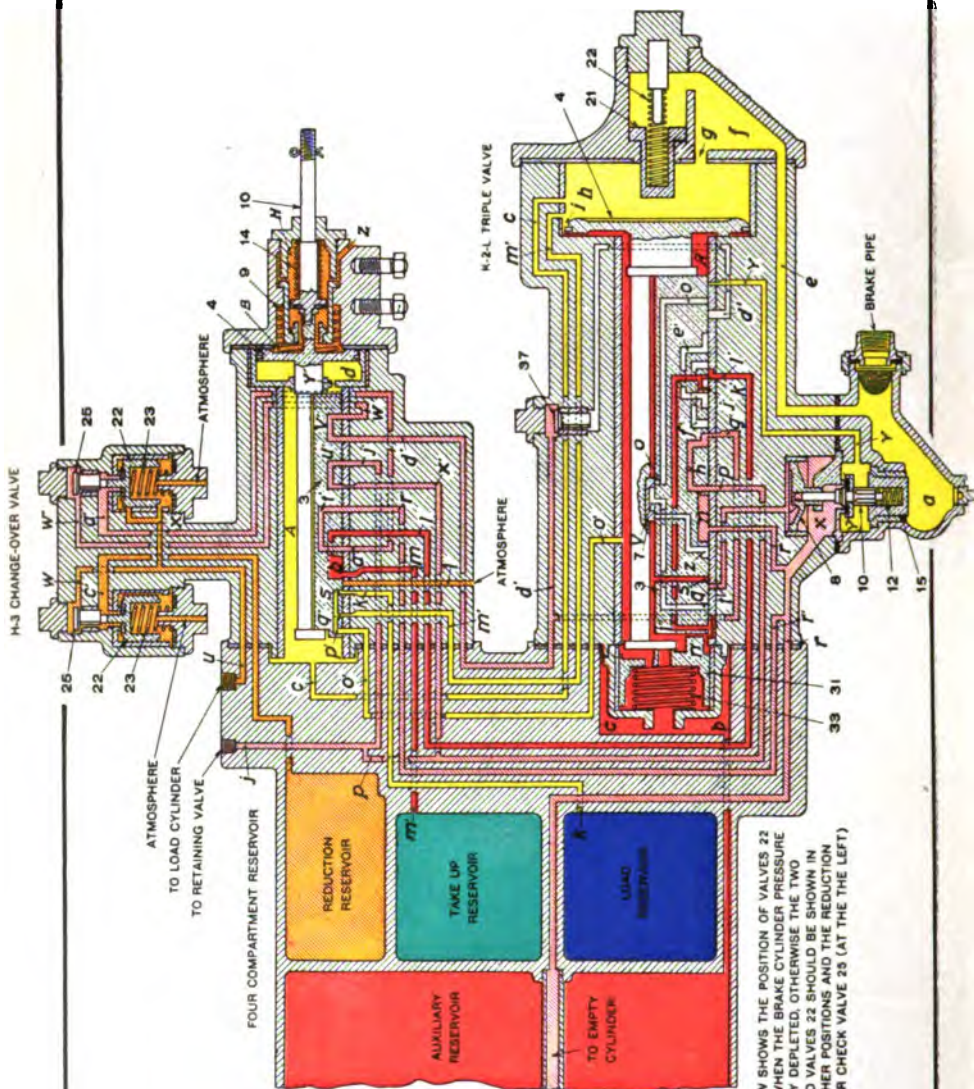
ISOLATED PORTS

AUXILIARY RESERVOIR

EMPTY BRAKE CYLINDER

TAKE UP RESERVOIR

BRAKE PIPE



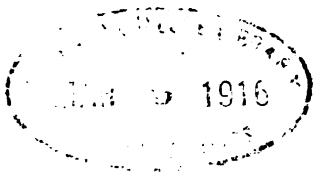
THIS VIEW SHOWS THE POSITION OF VALVES 22 AND 25 WHEN THE BRAKE CYLINDER PRESSURE IS NEARLY DEPLETED. OTHERWISE THE TWO WEIGHTED VALVES 22 SHOULD BE SHOWN IN THEIR OTHER POSITIONS AND THE REDUCTION RESERVOIR CHECK VALVE 23 (AT THE LEFT) CLOSED.

Locomotive Firemen and Enginemen's Magazine Educational Charts

WESTINGHOUSE AIR BRAKE SERIES

PLATE 105—EMPTY AND LOAD BRAKE

View Showing Triple Valve in Retarded Release and Charging Position;



PUBLISHED MONTHLY BY THE BROTHERHOOD OF LOCOMOTIVE FIREMEN AND ENGINEMEN

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VOL. 66 No. 3

COLUMBUS, OHIO,

MARCH, 1916

PLATE 105—EMPTY AND LOAD BRAKE

View Showing Triple Valve in Retarded Release and Charging Position; Change-over Valve in Load Position, Diagrammatic

Plate 105 of the Westinghouse Air Brake Series of the Locomotive Firemen and Enginemen's Magazine Educational Charts represents the *KL* Triple Valve and *H-3* Change-over Valve, with a portion of the Four-Compartment Reservoir, of the freight-car *Empty and Load Brake*, in a sectional view arranged diagrammatically so that all of the parts are shown at once in a single plane. The Triple Valve is in **RETARDED RELEASE AND CHARGING POSITION**, and the Change-over Valve is in **LOAD POSITION**.

The Triple Valve: It is assumed that this triple valve is on one of the cars in the forward portion of the train where the rate of pressure recharge in the brake pipe is rapid enough to move the parts of the triple valve to the "retarding" position — in other words, the brake-pipe pressure is increasing at least three pounds higher than the rate of auxiliary reservoir recharge, as explained in connection with *Plate 98* in the Magazine for August, 1915.

Brake-pipe air entering at the point indicated, flows into chamber *a* and

through passage *e*, chamber *f* and port *g*, to the triple-valve-piston cylinder, *h*, in which its pressure has been exerted to force the piston, *4*, to the farthest traverse of its releasing movement, and the end of the piston stem has moved retarding stem *31* to the left and further compressing retarding spring *33*; at the same time, brake-pipe air momentarily unseated check valve *15* and flowed past it to fill chamber *Y* and port *y*, the terminal of which is blanked in this position, after which the check valve was resealed.

Exhaust cavity *n* in the slide valve now connects port *r* leading to the "empty" brake-cylinder, with port *p* leading to the atmosphere through the retaining valve, and the brake will release if the retaining valve handle is turned down, and will partially release if the handle is turned up; but as the small "tail port" extension of cavity *n* is now in connection with exhaust port *p*, the flow of air from the "empty" brake-cylinder is quite slow; in this way the brakes on the front end of the train require a longer time to release than those on the rear. At the same time the back of the piston, *4*, is in contact with the end of the slide-valve bush, and, as these two surfaces are ground to an accurate fit, the piston makes a tight "seal" on the end of the bush, except at one point where a feed groove is cut in the piston to allow air to pass around the end of the slide-valve bush into chamber *R* and to the auxiliary reservoir; this feed groove is much smaller than the standard feed-groove, *i*, in the piston bush, so that when the triple-valve piston is in *Retarded Release and Charging Position* the recharge of the auxiliary reservoir takes place much more slowly than when it is in *Full Release Position*.

The Change-over Feature, and Load Brake Cylinder: With the rise of the auxiliary-reservoir pressure, when the pressures on the two sides of triple-valve piston *4* become nearly equal, retarding spring *33* forces the retarding stem, piston, slide valve and graduating valve back to the right, to the Full Release and Charging Position, when the remainder of the release and recharging is accomplished more rapidly.

Meanwhile the air from the "load" brake-cylinder escapes through passages *u* and *x* to the top of valve *22* (at the right) whence it is free to flow in two directions:

1. Through passage *a'*, cavity *t'* in change-over slide valve *3*, port *r'* in the seat to port *r* in the triple valve slide valve seat, which is open through cavity *n* and its tail-port extension in the triple-valve slide valve, *3*, to passage *p* leading to passage *j* and the retaining valve.

2. Past check valve *25*, through passage *w'*, cavity *v'* in the change-over slide valve, port *d'*, passage *g'*, and cavities *h'* and the tail-port extension of cavity *n* in the triple-valve slide valve, to passage *p*.

It will be noted that port *x'*, connecting with passage *p* is open through cavity *u'* in the change-over slide valve, to port *j* leading to the retaining valve; thus, the brake-cylinder air in passage *p* is free to exhaust to the retaining valve (and the atmosphere) in two directions: (1) from passage *p* into passage *j*, and (2) from passage *p* through the ports above mentioned, to passage *j*; this is the extra exhaust feature which permits the brakes to release in the same length of time, whether in "load" or "empty" position.

The reduction-reservoir air flows through passage *c'* and raises check valve *25* and passes thence into passages *w* and *x*, whence it flows through the channels previously mentioned, to the retaining valve; when the pressure

retaining-valve handle is down, spring 23 will force the valve upward, holding valve 25 unseated (if the retaining-valve handle is turned up, however, valve 22 at the left, remains sealed against its lower seat and prevents the exhaust of reduction-reservoir air).

When the pressure above valve 22 (at the right) has been reduced about 5 pounds, spring 23 will force the valve to its proper seal, as shown in the plate, and permit the remainder of the "load" brake-cylinder air to escape to the atmosphere through the drilled port in the cap nut (this exhaust of brake-cylinder air does not, of course, occur when the retaining valve handle is turned up; in which case, valve 22 remains sealed against its lower seat).

The various reservoirs are then recharged as explained in connection with *Plate 100* in the October, 1915, issue of the Magazine.—*Full Release and Charging Position.*

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(*Railroad Gazette*, v. 11:323; June 13, 1879.)

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(*Engineering News*, v. 47:102-05; Feb. 6, 1902.)

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REPORT OF THE CHIEF OF THE DIVISION OF SAFETY TO THE INTERSTATE COMMERCE COMMISSION

Appreciable Reduction in Proportion of Number of Defects Reported to Number of Cars Inspected

Below we give extracts from the report of the Chief of the Division of Safety to the Interstate Commerce Commission for the fiscal year ended June 30, 1915. "An appreciable reduction in the proportion of the number of defects reported to the number of cars inspected as compared with previous year is," says the report, "partly explainable from the fact that the greater number of inspectors has made it possible to have each inspection point visited more frequently, thus insuring greater diligence in proper inspection and repairing, and partly from having new and heavier equipment placed in service and old and lighter equipment discontinued."

Table No. 1 of the report shows the number of freight and passenger cars and locomotives inspected and defective, the percentage defective, the number of defects under the various classifications, and the number of defects per thousand cars for each of these classifications. The following is a comparison of some of the principal figures of Tables No. 1 for the fiscal years ending June 30, 1914 and 1915:

Freight cars inspected	1914 790,822	1915 1,000,210
Per cent defective	5.79	4.77
Passenger cars inspected.....	26,746	33,427
Per cent defective	1.04	2.85
Locomotives inspected	32,761	38,784
Per cent defective	4.98	4.06
Number of defects per 1,000 inspected.....	67.48	57.23

"The decrease of 1.02 in the percentage of defective freight cars is most gratifying," says the report, "especially in view of the fact that in addition to maintaining appliances in operative condition carriers have been charged with the duty of standardizing their old equipment. The increase in the percentage of defective passenger cars was occasioned by the fact that on July 1, 1914, the extension of time granted by the Commission for bringing this class of equipment to the standard prescribed expired. A considerable number of appliances, the condition of which formerly was not reported by our inspectors, were thus brought under the regulation of the statute. The decrease of almost 1 in the percentage of defective locomotives is indicative of the steady improvement in safety appliance conditions on this class of equipment."

Coupling and Uncoupling Mechanism.

"The number of defects reported in coupling and uncoupling mechanism directs attention to the necessity of a system of rigid inspection if these parts are at all times to be kept in proper condition. The Master Car Builders' Association is continuing its efforts to develop and secure the adoption of a standard coupler. The report of the committee on couplers of the association is an interesting commentary on the results secured in tests of the present types of couplers and the two experimental ones that are being tried out. The use of many different kinds of couplers, some of doubtful efficiency, and the consequent difficulty in securing their proper maintenance and repair is a prolific cause of injury to employes, as well as one of the principal causes of prosecution for violation of the safety appliance acts. The adoption of a thoroughly tested coupler, which will combine the qualities of efficiency, simplicity, and strength, can not be too strongly commended both in the interest of securing greater safety for employes and in reducing the cost of maintaining and repairing couplers and parts.

"Experience has shown that a material percentage of defective and inoperative couplers is now caused by using wrong parts in making repairs. It is apparent that repairmen are not familiar with the different parts of the various couplers or else have not been provided with the proper material with which to replace defective parts when repairs are necessary. The result is that after a short period these improper repairs become defective and the coupling mechanism becomes inoperative. Repairs of this character when made are almost impossible to detect unless the cars are separated and the couplers carefully examined.

"The general lack of efficiency of many of the designs of uncoupling mechanism is cause for grave concern, for while there has been a large decrease in the number of broken and kinked chains, these defects, which render the mechanism totally imperative, constitute 50 per cent of all the defects under the heading 'uncoupling mechanism.' Defects of this character could be corrected by the use of any device having rigid connection of the lever and the lock or lock lift, thus eliminating the troublesome chains and doing away with the chief cause for prosecution under the safety appliance acts. It is no more necessary that cars have automatic couplers than it is that these couplers when applied should at all times be maintained in operative condition, and the importance of eliminating many of the defects inherent in certain of the uncoupling mechanisms now in use can not be too strongly urged.

Trains Must Be Controlled by the Power Brakes Prescribed by Law.

"The opinion recently rendered in the case of the Virginian Railway Co. vs. The United States of America is most important and its effect will be far-reaching. The decision in this case was to the effect that trains must be controlled by the power brakes prescribed by law, and that even though there be 100 per cent of the power brakes in the train in operative condition, the use of the hand brakes for the purpose of controlling the speed of the train is unlawful. It was further held that just as the object of the automatic coupler is to keep employees from going between the cars, so the object of the train brake is to keep employees from going on top of trains to set and release hand brakes. The hand brake is an important feature of the equipment of every car, as it is necessary in controlling the speed of cars being set onto sidings and made up into trains. Another recent hand-brake decision of importance defines the word 'efficient,' as used in the statute as comprehending the efficiency of the hand brake for the purpose of holding a car or train, as well as its efficiency as a matter of safety to employees engaged in work requiring the use of hand brakes.

"During the past year there have been fewer causes for criticism with regard to the manner of applying running boards to saddle blocks than have been noted in former years, which evinces a better understanding of the Commission's order, in that there are now found comparatively few cases where running boards have been applied with fluted nails or drive screws. There exists, however, a tendency to drive the screws with which the order prescribes the boards may be fastened into the blocks. Screws forced into the wood in this manner tear the wood fibre and do not furnish the maximum holding power and quite frequently work loose. A few cars now being put in service have their running boards secured with bolts, which represents the ideal secure fastening required by the law.

"The maintenance of the power brake on each car in proper condition is the only hope for alleviating the power-brake troubles in the operation of trains. Many of the railroads are now insistent in their demands for 100 per cent efficiency in the operation of train brakes leaving terminals, and seem to be experiencing no particular difficulty in securing it. However, by far the greater majority of the roads operate their trains under the assumption that in having 85 per cent of the cars in such trains with power brakes in operative condition they are meeting all the requirements of the law on this point. It is clearly manifest that the intention of the Commission as set forth in its order of June 6, 1910, was plainly that all power-braked cars in trains should have their brakes used and operated from the locomotive drawing the train, and several suits have been instituted in order that this part of the law may be tested in the courts and its true intent defined.

"Only by a careful system of inspection and thorough test at terminals

can 100 per cent efficiency of brakes be secured, and it is not unreasonable to demand that such careful test and inspection be made. Each brake should be tested so as to know if the piston moves forward enough to close the leakage groove, and not more than 10 inches when a full service brake application is made from at least a 70-pound brake pipe pressure, and remain so until the usual inspection is made, releasing properly by the ordinary method in making terminal tests. Working toward this end, it is gratifying to note that the carriers are educating their inspectors in the more efficient discharge of their duties and are securing men who have a better knowledge of the complicated brake systems and the problems in maintaining them. However, the proper means of making tests of brakes must be provided, so that cars may be tested before they go forward, and if yards are equipped with air compressors and yard air lines for this purpose cars with brakes cut out may be tested to ascertain what is wrong, and afterwards to see if the defect has been properly repaired.

"The need of efficiently operated brakes continually becomes more pressing, owing to the constantly increasing length of trains on level roads and the ever increasing tonnage handled on railroads with heavy grades. As the length of trains increases the difficulty of maintaining power brakes in an efficiently operative condition increases.

"Owing to defective connection, leaky train pipes, and train pipe friction, with trains the length of many now handled daily on some railroads, it is extremely difficult to maintain adequate brake pipe pressure on the rear of the train. This condition is a source of danger, as smooth, uniform, and safe handling of the air brake system is not possible where there is such variation in train line pressure as has been found to exist.

"An air brake gauge in the caboose together with a conductor's valve that is readily available in case of emergency is important for the proper handling of long trains. Without this gauge to indicate the train-line pressure, the trainmen on the rear of the train are in ignorance of the air pressure available for use and have no means of knowing with certainty whether their trains have sufficient air in reserve properly to control them.

"Disregard for the law or misunderstanding of the proviso of section 6 of the act of 1893, as amended, is still shown by cases reported of the indiscriminate handling of logging cars having drawbars of various heights in connection with other equipment. The language of this proviso is so plain that further amplification is unnecessary, and there appears to be no justification for any violation of it.

"The handing of chained up cars in revenue trains or in connection with cars commercially used is less prevalent now than heretofore, but occasional instances are still reported. The proviso in the act of 1910 does not permit the hauling of defective cars by means of chains instead of drawbars in revenue trains or in association with other cars commercially used unless such defective cars contain live stock or perishable freight, and any violations of this nature that are discovered are presented for prosecution.

"Quite a number of cars have been found equipped with handholds less than 16 inches in clear length, there being nothing to prevent the application of 16 inch handholds if the carrier desired to use them. The order permits the use of 14-inch handholds only where it is impossible to apply those 16 inches in length.

Interchange of Equipment.

"Owing to the lack of familiarity on the part of many employees with the requirements of the safety appliance laws, the matter of interchange of equipment continues to produce much controversy and misunderstanding. Under the decisions of the courts any movement of a car with defective safety appliances subjects the carrier to the statutory penalty unless it is such a movement as comes within the proviso of section 4 of the act of April 14, 1910. This proviso permits a carrier to make a movement for the purpose of repair only where a car becomes defective while being used on its line of railroad, and then only from the point where it is first discovered to be defective to the nearest available point where it can be repaired, provided further that such movement is necessary to make such repairs and that such repairs can not be made except at such repair point. Notwithstanding the

purpose of repair is limited to the carrier upon whose line of railway the car becomes defective, cars are delivered and received in interchange and subsequently moved for the purpose of repair. The mere fact that the movement of traffic will be facilitated and congestion prevented does not warrant the movement under such circumstances of cars not in the condition required by law. A railroad company is under no obligation to receive defective cars from connecting lines; but if it does so, it can not thereafter lawfully move such cars even for the purpose of repair. In order to escape the statutory penalty they must be repaired where they stand and can not be otherwise used or switched about in its yards. Many defects are of such a nature that they can be readily repaired on the interchange track and no real necessity exists for their further movement in defective condition. Some complaint is heard of the alleged hardship occasioned by the receiving line's refusing to accept cars with defects which can not be repaired on the interchange track and by so doing requiring the delivering line to return the car to its own repair track. Such deliveries are often made regardless of the condition of the safety appliances and for the sole purpose of expediting the movement of the freight. Where the carrier knows, or upon a proper inspection should know, the condition of the car, and is so unmindful of the duty imposed upon it by the statute, it can not be heard to complain. It is believed, however, that in a majority of instances defects of this character would be discovered by a careful inspection of the cars before they are moved to the interchange track. Often too little attention is paid to apparently unimportant defects with the result that minor defects on cars leaving the yards often lead to more serious defects by the time they reach the interchange track.

"A better understanding on the part of railroad employees of the requirements of the law and the methods of making proper repairs will go far toward minimizing many of the present difficulties. Several of the railroads have general traveling inspectors who go from one inspection point to another, consulting with the inspectors and repairmen, and giving instructions and advice on the many technical questions that so frequently arise. The results of this educational method have been most gratifying, and it is to be hoped that such methods of improving safety appliance conditions will be more generally adopted.

"Prosecutions for the movement of defective cars are not instituted with the idea of imposing undue hardship upon the carriers, but because experience has demonstrated that prosecutions are often necessary to secure compliance with the statute. It is believed that a better understanding of the methods employed in the inspection of safety appliances would lead to more co-operation on part of the carriers. Under the policy followed from the inception of our inspection force, by far the greater portion of our inspectors' time has been devoted to inspecting equipment in the yards, accompanied by representatives of the carriers. During these inspections all safety appliance defects are brought to the attention of the representative of the carrier and an explanation is made of the requirements of the law as set forth in the printed pamphlets distributed by the Commission for the purpose of furnishing railroad employees who inspect and repair cars with such information as will enable them intelligently to carry out the beneficent purpose of the legislation. Monthly reports of these inspections are sent to the presidents of the various railroad companies, directing their attention to any defects that may have been found in their equipment. Where conditions indicate a continuing disregard of the law or a lack of vigilance in inspecting and repairing equipment, inspectors secure evidence for prosecution and in obtaining this evidence do not make themselves known to the representatives of the railroad companies, for, as pointed out in the decisions of the courts, if inspectors were required to notify the carrier of the defective condition of a car before it was moved it would be impossible to secure effective enforcement of the statute.

"Inspectors enter upon every investigation with a desire to perform their duty as officials directed to aid in the execution and enforcement of the law, and the prosecutions instituted by no means represent isolated instances of failure to comply with the requirements of the statute. A suit to recover the statutory penalty is filed only in a case of manifest dereliction of duty

"Much of the improvement in the direction of proper compliance with the provisions of the safety appliance laws has been accomplished through the spirit of hearty co-operation manifested on part of the carriers. In most instances our inspectors are shown every courtesy, and their suggestions as to the proper application and maintenance of safety appliances receive careful attention. Employees engaged in the work of car maintenance take considerable pride in having satisfactory reports made on the conditions found to exist in their yards and this laudable spirit accounts in a great measure for the betterment in conditions.

Hours of Service.

"During the year ending June 30, 1915, hours of service reports were filed by 1,238 roads. Of the roads that rendered reports, 419 reported a total of 78,940 instances of all classes of excess service, a reduction of 86,365 compared with the previous year. The remaining 819 roads filed reports showing that no excess service was performed by their employees.

"At the close of the fiscal year ending June 30, 1913, a comparative statement was compiled by this division from the monthly hours-of-service reports rendered under oath by common carriers, showing the number of instances of excess service occurring on each road and a classification of the causes to which the excess was attributed. It was believed that by placing before railroad managers a statement which would graphically represent the number of instances of excess service on each road and the most common causes therefor, a substantial reduction in the number of instances of such service would result. This statement has been compiled and published each year since 1913, and at the close of the present year it is possible to secure a definite comparison.

"The following table is a comparative analysis of the primary and contributing causes of instances in which employees in train service were on duty longer than 16 consecutive hours for the years ending June 30, 1913, 1914, and 1915:

	1913	1914	1915
Collisions	9,910	5,099	1,703
Deraillments	88,317	53,481	25,209
Track defects and obstructions.....	10,620	5,712	2,567
Landslides, high water, fire.....	17,985	2,852	2,407
Adverse weather conditions.....	6,243	15,155	2,929
Congestion of traffic.....	13,812	3,992	1,059
Station work, waiting for orders and meeting trains	8,279	4,353	2,256
Coupler and drawbar defects.....	33,360	10,252	5,117
Miscellaneous car defects.....	17,753	10,914	7,509
Hot boxes	3,869	895	296
Air troubles	5,834	1,476	884
Taking or running for water.....	2,953	1,085	608
Cleaning fires	519	138	40
Low steam:			
Poor coal	485	269	95
Bad water	423	105	49
Leaking	5,585	1,818	882
Miscellaneous locomotive mechanical defects.....	15,507	6,810	3,779
Wire troubles	2,072	689	119
Sickness, death, personal injury.....	923	381	156
Miscellaneous	16,883	5,879	1,709
Total.....	261,332	131,332	59,373

"The above analysis indicates that there has been a substantial reduction in the number of instances of excess service attributed to drawbar failures, locomotive defects, hot boxes, and delays of a like character which are likely to occur in the operation of any train.

"However, it is believed that increased vigilance on the part of the railroads will result in a still further reduction in the number of such instances. Without doubt a large part of this excess service is due to the varied construction placed by the courts upon the exceptions contained in the proviso of section 3 of the act. Conditions that are ordinarily to be expected as

so clarified that the causes which will relieve common carriers from the penalty provided for by the act may be made more certain and specific in order to terminate the divergence of judicial opinion in its interpretation and to end any possible justification for excessive periods of service based upon happenings which are of frequent and ordinary occurrence on every railroad.

"The carriers' monthly reports are carefully scrutinized for the purpose of determining the amount of excess service attributable to preventable causes, and the successful enforcement of the act depends in a large degree upon the completeness and accuracy of such reports. Investigation has developed many cases in which carriers have omitted instances of excess service from their reports and suits have been instituted because of such failure. In some cases the courts have held that the unintentional omission of such instances is not subject to any penalty. In one instance a carrier defended its omission of all instances of excess service in a given month on the ground of an honest mistake as to the law on the part of the official charged with the duty of preparing the report. In compiling these reports nothing more is required of the carrier than accuracy in transmitting what appears in its own records, and reports that are not full, accurate, and complete, fail entirely in their purpose. A penalty should be provided for each omission by a carrier from its monthly report of instances of excess service performed by its employees.

"There still prevails a diversity of opinion among the courts as to the proper penalty to be assessed for violation of the hours of service act, and during the past year penalties as low as \$2.50 have been assessed. The purpose of the penalty in this act is to insure the observance of its provisions, but if inadequate penalties are to be assessed it may be economy for the carriers to violate the law and pay the penalties rather than to comply with its requirements. The minimum penalty for the violation of an act of Congress intended for the safety of the traveling public should be sufficiently large to prevent any such policy, and a penalty of not less than \$100 should be prescribed for the violation of this statute.

"On June 10, 1912, the Commission entered an order requiring all common carriers subject to the hours of service act to keep a record known as the 'Train-delay report,' showing the length and nature of delays to trains responsible for service in excess of that provided in the hours of service act. These delay reports have greatly facilitated the work of this division in investigating instances of excess service. In some cases, investigation has developed that the carrier failed to comply with the requirements of this order. However, when the matter was called to their attention they immediately corrected the situation. It is gratifying to note that a spirit of hearty co-operation on the part of the carriers has been shown in furnishing all the information desired by our inspectors.

Investigation of Safety Devices.

"During the past fiscal year the investigation of appliances intended to promote the safety of railroad operation, as directed by the act of October 22, 1913, has been continued and experimental tests of two automatic train control devices have been completed.

"The devices tested were the Gray-Thurber automatic train stop, presented by the Automatic Train Control & Signal Co., of Pittsburgh, Pa., and the Jones automatic train stop, presented by the American Train Control Co., of Baltimore, Md. The former is an automatic stop of the type employing short insulated track sections and an insulated portion of the train. It was installed for test purposes on the Pennsylvania Lines West and was tested by this division from April 13 to July 14, 1914. A report, dated October 1, 1914, was submitted to Congress under date of January 9, 1915, and was published as House Document No. 1482. As a result of this test, the conclusion was reached that, notwithstanding certain defects and deficiencies, the system in its present state of development, if properly installed and maintained as an adjunct to a block-signal system would increase the safety of train operation.

"The device of the American Train Control Co. is of the intermittent electric contact type, employing a normally closed engine circuit, which is mechanically broken when the locomotive contact shoe strikes a contact rail or ramp, and an air brake valve is operated, because it is established

Provision is also made for operating a cab signal and to allow a train to pass de-energized ramps at low speed. This device, as installed on the Maryland & Pennsylvania Railroad, was tested by this division from August 15 to August 22, and from November 19 to December 19, 1914. A report, dated January 18, 1915, was transmitted to Congress under date of January 27, 1915, and was published as House Document No. 1541. It is believed that the train-stop and cab-signal system of this device is designed upon correct principles and that apparatus based upon it is capable of development to meet the requirements of practical service. From the standpoint of safety it is believed that the speed control system is not properly designed for the purpose intended.

"An automatic train stop, presented by B. F. Wooding, of Denver, Colo., has been approved for test. This device is of the intermittent electric contact type, employing a normally closed engine circuit which is mechanically broken when the locomotive contact arm strikes a contact ramp, and the locomotive apparatus is operated unless a circuit is established from an external battery, current passing through the ramp and contact arm. Provision is also made for operating cab signals and for allowing a train to pass a de-energized ramp at low speed. An experimental installation of this device has been made on the Delaware, Lackawanna & Western Railroad for test purposes, and tests of it were commenced by this division on May 24, 1915, but were not completed before the end of the fiscal year.

"An automatic train control system, presented by the Gollos International Automatic Train Control & Recording Co., of Chicago, Ill., has been examined and approved for test. As noted in the report for last year, this is an intermittent electric contact device. It has been installed for experimental test purposes on the Chicago, Burlington & Quincy Railroad near Aurora, Ill. Preliminary inspections of this installation have been made and arrangements for conducting the tests have been completed.

"An automatic straight air brake system, presented by the California Valve & Air Brake Co., of Los Angeles, Cal., has been examined and approved for test. Arrangements have been made for testing it on the Atchison, Topeka & Santa Fe Railway. This system employs an additional reservoir on each car, a triple valve operated by diaphragms, and a valve on the locomotive to compensate for train line leaks; it is designed to provide greater efficiency and flexibility in the operation of train brakes, and to provide a "straight air" feature by supplying air directly from the main reservoir to the brake cylinder when the train line pressure has been reduced below the point of equalization.

"On June 30, 1915, plans of 418 devices had been presented for consideration. Of this number, 342 had been examined and opinions regarding the devices transmitted to the proprietors. Of the number examined, 251 of the devices were so impracticable or crude that they were considered practically worthless; 25 possessed meritorious features, but as a whole required further development before being entitled to serious consideration; 31 were devices which were not intended primarily to increase safety and which would not affect the safety of railway operation sufficiently to warrant further consideration being given them in these investigations; and 35 were considered to possess merit from the standpoint of safety, experimental tests of certain of these latter devices being desirable to determine their practical utility.

"Of the devices deemed to possess merit and to warrant commendation or further consideration, the following may be mentioned in addition to certain ones briefly described in the report for last year:

"An automatic train stop, presented by E. C. Stafford, of the Railway Automatic Safety Appliance Co., Philadelphia, Pa. This device is of the intermittent electric contact type. The roadside apparatus consists of an underrunning third rail and a battery at each signal location. The engine apparatus consists of a contact shoe adapted to make electrical contact with the third rail and to be mechanically depressed thereby; there is also an electromagnet, one terminal being electrically connected to the contact shoe and the other grounded, and an air brake valve, which is normally locked mechanically in its closed position and which at every contact rail is mechanically unlocked and is adapted to be electrically locked in its closed position. Device approved for test.

"An electric signal device for trolley lines, presented by G. E. Dunbar, of

Kalamazoo, Mich., comprises an electric switch, operated by the trolley wheel, for controlling signal lights or apparatus. An inspection will be made of an installation of this device.

"A car coupler, presented by the Stark Car Coupler Corporation, of Strasburg, Va. This device is a vertical plane coupler conforming to standard contour lines. It is provided with a movable guard arm, the objects being to provide a coupler with which a coupling can be made when either or both knuckles are closed, and to permit a coupling to be made at angles which are not practicable with couplers of present standard construction. Demonstrations of the operation of this coupler were witnessed. It possesses meritorious features, and information regarding results attained in practical service on long trains and on heavy grades is desired.

"A car brake, presented by the Klasing Car Brake Co., of Denver, Colo. This device is a hand brake employing a bell crank lever and ratchet. If properly installed and maintained it is believed that it will prove a safe and efficient hand brake.

"A reinforced concrete railroad tie, presented by H. J. Corell, of Mount Jewett, Pa. This tie consists of two reinforced concrete blocks, joined together by a tie bar, and the fastening consists of rail clips, secured by U bolts extending through the concrete blocks. It is considered suitable for low speed light traffic on straight track.

"A brake slack adjuster, presented by D. Stevenson, of Murphysboro, Ill. The object of this device is to provide uniform piston travel at all times. Commended as a useful adjunct to existing air brake equipment.

"A switch lock, presented by William Anderson, of Memphis, Tenn. Commended as a safe and efficient device.

"A locomotive adjustable hub plate, presented by A. J. Sams, of Pittsburg, Kans. This device is a lubricated hub plate for the driving wheels of a locomotive. If properly applied and maintained, it will maintain standard lateral, and to that extent prevent excessive side thrust, thereby reducing the probability of derailments from that cause.

"A gauge cock, presented by Griffin & Rathers, of Monett, Mo., designed to prevent the escape of steam on account of broken gauge cocks. Commended as suitable for the purposes intended.

"A combination fusible plug and safety valve, presented by the Kilkenny Automatic Safety Appliance Co., of Walla Walla, Wash., designed to exhaust the boiler pressure when the water reaches a level below the crown sheet. Commended as suitable for the purposes intended.

"A sprinkler for locomotives, presented by Fred H. Nye, of Williamson, W. Va. The purpose of this device is to provide a locomotive squirt hose which will deliver water at the ordinary temperature of the water in the engine tender and at moderate velocity. Commended as suitable for the purposes intended.

"A safety fountain for locomotive boilers, presented by J. H. Jackson, of St. Louis, Mo., designed to cut off the supply of steam from the steam fountain in case of accident or when necessary to make repairs. Commended.

"A continuous rail switch, presented by the Standard Safety Switch Co., of New York, N. Y. This is a stub switch, intended to eliminate the use of frogs in the running rails of main line tracks. Possesses merit.

"A lock nut, presented by Schum Bros., of New York, N. Y. Commended.

"An antirail-creeping device, presented by F. B. Byers, of New York, N. Y., a metal car ladder, presented by W. A. Mitchell, of Sedalia, Mo., and a foot guard, presented by S. K. Dunkle, of Nelsonville, Ohio, possess merit, but are not considered better than similar devices now in use.

"An air brake system, presented by the Arizona Automatic Air Association, of Baltimore, Md., was installed on the Maryland & Pennsylvania Railroad and partially tested by this division. It is doubtful whether this device possesses sufficient merit and promise of successful development to work in synchronism with brakes of other types to warrant further test.

"Plans have been presented showing numerous forms of rail joints, braces, fastenings, and other track appliances, and the list of derailments in the accident records discloses instances of the need of better track. But this condition has been brought about largely by lack of proper maintenance and failure properly to employ track devices now commercially available rather than by lack of suitable devices necessary for proper track construction and

maintenance. While a few of the new track devices examined were considered suitable for the purposes intended, none have been found which possess any conspicuous merit as compared with those now available.

"One marked development in the use of safety devices upon railroads is the extensive use of highway crossing signals, intended to be seen or heeded at a distance. This has resulted largely from automobile traffic, and undoubtedly many accidents, with resulting injuries and fatalities, have been prevented by the increased highway crossing protection thereby provided.

"Many persons who have submitted automatic train control devices for consideration apparently have the erroneous idea that there are no devices of this character available, and that it is for that reason alone that railroad companies generally do not use them. Furthermore, devices have been submitted for use upon the railroads by persons who apparently have no conception of the conditions to be met in modern railway operation. Such persons would avoid useless expenditures of time, money, and energy if, before entering this field, they would inform themselves regarding the results of past experience and experiments, as well as the present state of development of such devices. Many automatic train control systems have been devised and several of them have attained a comparatively high state of practical development. If railroad companies desired to use equipment of that character, any one of several of the devices heretofore tested could be employed. As was stated in the report last year, 'a number of train control devices are now available which if installed and used for the purpose intended would increase the safety of railroad operation and which possess sufficient promise of further development to warrant railroad companies in according them serious consideration.'

"In some instances the proprietors of train control devices, after having received tentative approval for tests under actual service conditions, have evinced unwise and unnecessary haste in making installations and preparing for the tests. Either the apparatus itself has been crudely built and not properly installed or after the installation has been completed it has not been thoroughly tested by the proprietors before turning it over to this division. It is not reasonable to expect that under such circumstances results entirely favorable to the device or system tested will be attained.

"Modern signal apparatus and interlocking plants, as well as other devices with which railroad operatives are familiar, are substantial and rugged, and unless new devices intended to be employed in connection with such apparatus possess the same qualities of strength, durability, and adequate mechanical construction, they are not likely to be looked upon with favor. Furthermore, tests can only be made of the apparatus actually built and presented for that purpose, and while a device may be properly designed from a theoretical standpoint, the design must be properly worked out in the mechanical construction to insure its proper operation. Many prospective inventors of automatic train stops obviously are not familiar with signal devices and equipment. Knowledge regarding apparatus and practices now in use in this field is absolutely essential to avoid futile expenditure of time, money, and energy.

"In some systems presented, use has been made of parts of apparatus which have been developed in signal and other railroad work instead of attempting to construct special apparatus to accomplish the same function. Where suitable and adequate parts of apparatus are commercially available, it is believed that the best course to pursue is to make use of them as far as possible. In a few cases, also, the proprietors of different devices are conducting development tests under service conditions before submitting them to the Commission for test. It is believed that this course will result in ultimate advantage to them.

"In some cases the inventors or proprietors of train control devices have apparently devoted a great deal of effort to the development of speed control apparatus without first giving proper consideration to the reliability of the train stop apparatus employed. The foundation of any automatic train control system must be an automatic train stopping device, and it is vital first to develop the train stopping device itself in all essential features to a high state of reliability and efficiency. When this foundation has been established, speed control features can be added, or such other refinements as may be desirable or necessary to provide for special operating conditions and requirements.

"Regarding the necessity for the use of automatic train control systems, it is to be noted that during the past fiscal year no serious accident was investigated by the Commission which was due directly to failure of an engine-man to observe and obey signals. But this record should not be construed as indicating immunity from accidents of that nature; increased traffic, with the consequent speeding up of railroad operating organizations, or a prolonged period of stormy or foggy weather in congested railroad territory, may bring another series of such lamentable accidents. The possibility of accidents occurring can undoubtedly be materially reduced by proper use of the block system, which should be extended and utilized to the fullest possible extent. In certain accident investigation reports, special emphasis has been placed upon the necessity for rigid enforcement of all operating rules used in connection with the block system, and particularly those requiring a reduction in speed of trains in foggy or stormy weather, when signals can not readily be seen.

The Block System.

"While there has been an increase from year to year in the miles of road operated under the block system, this increase has not kept pace with operating conditions created by increased traffic.

"A tabulation of statistics, of January 1, 1915, pertaining to block signals, interlocking plants, and the telegraph and telephone for transmission of train orders, as used on the railroads in the United States, was compiled by this division and published by the Commission. As shown by this tabulation, the total length of railroads in the United States operated under the block system on January 1, 1915, was 96,608.6 miles. Of this total, 29,863.5 miles were automatic and 66,745.1 miles were nonautomatic. Comparing these figures with the corresponding figures contained in the bulletin of January 1, 1914, there was an increase of 3,294.2 miles in the length of road operated by the automatic block system, and an increase of 6,577.5 miles of road operated by the nonautomatic block system. The net increase during the year in mileage of road operated by the block system was 9,871.7 miles.

"The block system is in use on the entire passenger mileage of a considerable proportion of the important railroads of the country, and the activities of these roads in signal work now consist principally of substituting modern for antiquated equipment and improving operating conditions and practices. But many roads have been negligent and backward in adopting or extending the use of the block system, their annual reports showing either no block signals in use or only slight additions from year to year.

"The superiority of the block system as compared with all other methods of railroad operation is no longer debatable; it is now in use on nearly a hundred thousand miles of railroad line, including the busiest roads in the country.

"It is true that serious accidents do occur on lines where the block system is in use; but such accidents are due either to the fact that the prescribed rules and practices are not strictly observed and adhered to, or to the fact that the apparatus and methods employed are not adequate for the particular traffic requirements, rather than to any deficiency inherent in the block system itself.

"Regardless of the apparatus employed, any means for maintaining an interval of space between trains at all times, as distinguished from an interval of time between trains at certain points, constitutes a block system. The amount of apparatus required and the rules and practices necessary to be followed to render the block system adequate for any railroad depend upon traffic and operating conditions. On many lines where traffic is light, a simple form of manual block system, with proper rules, is adequate; on busy lines, controlled manual or automatic block signal apparatus, together with the enforcement of proper rules and practices, is necessary to provide adequate protection. And if in any situations the use of automatic train control apparatus is required to insure the safety of train operation, the fact should not be lost sight of that such apparatus does not constitute a substitute for the block system, but is an additional safeguard.

"Many railroads need no spur to induce them to extend the use of the block system on their lines or to correct undesirable practices which may be disclosed from time to time. Other roads, however, are less diligent in this

respect. Under existing law the Commission is without authority to compel the adoption of the block system on lines which are not at present so operated, or to require the correction of dangerous conditions or practices which may be found to exist in connection with the operation of the block system on any line."

New Publications—Department of the Interior, Bureau of Mines.

A limited supply of the following publications is available for free distribution and may be had upon application to the Director of the Bureau of Mines, Washington, D. C. Applicants are asked to co-operate in insuring an equitable distribution by selecting publications that are of especial interest. The bureau advises that requests for all papers can not be granted, and that publications should be ordered by number and title:

Fifth Annual Report of the Director of the Bureau of Mines, for the fiscal year ended June 30, 1915. 1915. 103 pp., 1 pl., 1 fig.

Bulletin 74. Gasoline mine locomotives in relation to safety and health, by O. P. Hood and R. H. Kudlich, with a chapter on methods of analyzing exhaust gases, by G. A. Burrell. 1915. 83 pp., 3 pls., 27 figs.

Describes tests of a gasoline locomotive and its bearing on the possible vitiation of mine air by fumes from the exhaust.

Bulletin 97. Sampling and analyzing flue gases, by Henry Kreisinger and F. K. Ovitz. 1915. 67 pp., 1 pl., 34 figs.

Points out the value of analyzing flue gases and describes a simple apparatus and the method of using it. Of interest to all persons in charge of boiler plants.

Bulletin 99. Mine ventilation stoppings, with especial reference to coal mines in Illinois, by R. Y. Williams. 1915. 30 pp., 5 pls., 4 figs.

Discusses different types of stoppings, their effectiveness, and cost, and the loss of air by leakage through them.

Bulletin 100. Manufacture and uses of alloy steels, by H. D. Hibbard. 1915. 77 pp.

Characteristics of nickel steel, tungsten steel, and other special steels are described, and the properties that make these steels suitable for certain uses are

Bulletin 104. Extraction and recovery of radium, uranium, and vanadium from carnotite, by C. L. Parsons, R. B. Moore, S. C. Lind, and O. C. Schaefer, 124 pp., 14 pls., 9 figs.

A technical description of methods and apparatus used in the co-operative work conducted by the Bureau of Mines and the National Radium Institute. Of interest chiefly to chemists working on the metals named.

Technical Paper 108. Shot firing in coal mines by electricity controlled from the surface, by H. H. Clark, N. V. Breth, and C. M. Means. 1915. 36 pp. Describes an approved system of shot firing.

Technical Paper 114. Heat transmission through boiler tubes, by Henry Kreisinger and J. F. Barkley. 1915. 36 pp., 23 figs.

A plain and simple description of the manner in which the heat of a furnace fire reaches the water in the boiler. Of interest to all persons who design boilers or have charge of boiler plants.

Technical Paper 119. The limits of inflammability of mixtures of methane and air, by G. A. Burr II and G. G. Oberfell. 1915. 30 pp., 4 figs.

Discusses findings of previous investigators and results of experiments made by the authors.

Technical Paper 124. Accidents at metallurgical works in the United States during the calendar years 1913 and 1914, compiled by A. H. Fay. 1915. 12 pp.

Summarizes reports made to the Bureau of Mines by operators of stamp mills, smelters, and cyanide plants. Does not cover accidents at blast furnaces and steel works.

Technical Paper 127. Hazards in handling gasoline, by G. A. Burrell. 1915. 12 pp.

Treats of the inflammability of gasoline vapor and the precaution to be observed in using gasoline. Of general in-

Technical Paper 128. Quarry accidents in the United States during the calendar year 1914, compiled by A. H. Fay. 1915. 45 pp.

Summarizes the reports made to the Bureau of Mines by operators of quarries.



Book Reviews.

Locomotive Operation and Train Control.—This is the title of a new book by Arthur Julius Wood, M. E., associate professor, in charge railroad mechanical engineering, The Pennsylvania State College; member American Society Mechanical Engineers, etc. The author, in his prefatory remarks, says: "The absence of a text-book presenting the recent developments in locomotive performance and including a study of air brakes, has led the author to prepare this elementary treatise. While written primarily for use in technical schools, the engineer may here review the theory on which are based certain problems in design and construction. The author has presented the principles, beyond which lies the field for extended study."

Starting with First Principles, following chapters treat on Classification of Locomotives and Essential Features of Principal Types; Tractive Effort; Acceleration of Trains; Train Resistance; New Graphical Methods Applied to Locomotive Performance; Dynamometer Car Tests and Tonnage Rating; Air Brakes; Combustion and Fuel Economy; Steam: Its Formation and Action; Superheated Steam: Theory and Practice; Locomotive Ratios; Locomotive Testing; Counterbalancing; Electrification of Steam Railways; Materials of Construction. A large number of tables and formulas are given, together with questions and review problems. The book is well illustrated with line drawings and half-tone engravings and is printed in large readable type on an excellent quality of paper. While some of the formulas may be difficult for the average locomotive engineman or trainman to understand, the book is, as a whole, written in a very comprehensive manner and should prove a valuable text-book on the subjects treated. It contains over 270 pages, size 6 x 9 inches, nicely bound in cloth with gilt title. Price, \$3 net. Published by McGraw-Hill Book Company, Inc., 239 West 39th Street, New York, N. Y.

tomobile Engineers, author of "The Modern Gasoline Automobile," etc. It gives the most comprehensive, practical exposition of modern automobile repairing practice that has come to our attention, the information given being founded on practical experience and explained in such simple language that motorists and students should be able to easily acquire a full working knowledge of automobile repairing. Contained in the book are many tables, short cuts in figuring and rules of practice for the mechanic, besides a large number of line drawings and half-tone illustrations. A condensed synopsis of the contents of the book may be had from the following:

CHAPTER 1. The Automobile Repair Shop. Buildings for Repair Work. Machinery and Power. Arrangement of Departments. Bench and Floor Equipment. CHAPTER 2. Small Tool Equipment for Repair Shops. Tools for Adjusting and Erecting. Precision Measuring Tools and Their Use. Special Tools. Complete List of Tools and Supplies Needed. CHAPTER 3. Overhauling the Gasoline Engine. How to Dismantle Motor. Defects in all Motor Parts. Repairing Scored and Cracked Cylinders. Valve Repairs. Fitting Bearings. Valve Timing. Eight Cylinder V Motors. Sleeve Valve Motors. CHAPTER 4. Cooling. Carburetion and Lubrication System Faults. Overheating. Radiator Repairs. Water Pump Repairs. Fuel Feed Methods. Adjusting Carburetors. Oiling Systems. Where to Look for Lubrication Trouble. CHAPTER 5. Location and Remedy of Ignition Faults. Battery Ignition System. Magneto Systems. How to Find All Ignition Troubles. Magneto Care and Adjustment. Modern Ignition Timing. CHAPTER 6. Motor Starting and Car Lighting Systems. Leading Systems Described in Detail. Wiring Diagrams. Tracing Faults. CHAPTER 7. Clutch and Gearbox Faults. Principal Clutch Troubles Outlined. Clutch Repair. Planetary Gearsets. Friction Drives. Sliding Gear Transmissions. CHAPTER 8. Faults in Chassis Components. Overhauling the Chassis. Spring Repairs. Steering Gears. CHAPTER 9. The Rear Axle and Driving System. Semi, Three-quarter and Full Floating Axles. Care of Drive and Differential Gears. Axle Bearings. CHAPTER 10. Wheel Rims and Tires. Wire Wheels. All Types of Rims. Rebuilding and Repairing Tires. CHAPTER 11. Miscellaneous Repair Processes. Autogenous Welding. Heat Treatment of Steel. Brazing and Soldering. CHAPTER 12. Useful Information. CHAPTER 13. Hints, Kinks, Receipts and Formulae. CHAPTER 14. Useful Tables for Mechanics. Mathematical, Mechanical, including Horsepower and Speed Charts.

Automobile Repairing Made Easy.—This is a most excellent work by Victor

The book contains over 1060 pages, size 5½ x 7½ inches, and 10 folding plates,

by The Norman W. Henley Publishing Company, 132 Nassau Street, New York, N. Y.

Burroughes' "Blue" Book—What Ails the Railroads, or Time vs. Tonnage as a Factor in Railway Economy—is a most logical exposition of the fallacy of the enormously large locomotives and the extremely heavy trains as a factor in economical railroad operation and revenue production. The author, Mr. N. E. Burroughes, gives facts and figures that are so convincing in support of the position he takes, and the style in which he writes is so pleasing that one cannot fail to be interested in following his line of argument from cover to cover. Following are some extracts from his book:

"When we recall that twenty years ago freight trains were drawn by very light types of 'eight-wheel' and 'ten-wheel' engines, capable of pulling, on favorable graded freight districts, from 700 to 1,200 gross tons, and then observe that the locomotives have since increased in size until they now pull, on many roads, from three to five times as much, an increase of from 200 to 400% per train; that the volume of business increased within the same time to such an extent that we now have twice as many large as we used to have of smaller trains—doubling the 200 to 400% increase mentioned—and that all of this was augmented about twelve years ago by a direct increase of about 33 1-3% in freight rates, can you blame the ordinary layman if he wishes to contend that the roads, able to live twenty years ago, should be able to make and save barrels of money now? But are they doing so?

"There is no limit to the gross increases that could be wrought by increasing the size of trains, if it were possible to increase their size, and, at the same time, maintain their number. But alas, when the 'earnings per train' are increased 50%, the number of trains are decreased 50% and the income is just where it was before, unless some new business is found in the meantime. We must, therefore, contend, and we have faith in our ability to maintain, that the question of the size of trains is entirely one of expense and not of income, and upon this point rests our whole argument . . ."

. . . Suppose we have a railroad running from Dan to Beersheba, 100 miles, and on it we have to pull two hills. The 'tonnage per train' is 'fixed' by the heaviest grade with which we have to contend. We are now able to pull, 1,500 gross tons per train and are moving 20 trains per day. An expert figures on the proposition and advises: "That by changing the way—grading down and running round the two hills—

class of locomotives, 2,500 gross tons per train, an increase of 1,000. The improvement will involve the building of 20 miles of track and the expenditure of \$1,250,000. But 1,000 gross will yield 700 net tons and the revenue on this, at \$1.00 per ton, will yield an increase of \$700 per train. Running ten trains per day, the increase would be \$7,000 per day, and at this rate the improvements would more than pay for themselves in a single day—and they are made. But at the end of the year none of the million and a quarter they cost is paid. Why? Because we have saved nothing to pay for them with. We had been moving all the business we could get—20 trains per day of 1,500 tons each, or 30,000 tons per day. We have acquired no new business, and increasing the size of our trains has only served to decrease their number. We are still moving 30,000 tons per day, but in trains of 2,500 tons each. . . . We saved the wages of 8 train crews, which is \$18.00 per train for a one-hundred-mile run, but the income comes in just as it did before. Eight times \$18.00 are \$144.00, and at that rate for 365 days we can save \$52,560. But the interest on the \$1,250,000 we spent, at 5%, is \$62,500 per year. So we are deeply in debt for interest on the improvement 'earnings per train' were going to pay for within the year.

"Then comes the expert from the 'Iron Mountain Locomotive Works.' Our trouble is, we are not hauling train enough yet—earnings per train are way too small—if we will send to the scrap heap some very good serviceable engines, which he classes out of date—too light, he will, for about \$30,000 each, furnish us some brand new monsters that will pull 4,000 tons, increasing our tonnage again by 1,500 per train.' This equals 1,000 net tons, and at \$1.00 per ton means \$1,000 clear cash every time the big engine goes over the road. 'Why it will pay for itself in less than two months!' We get a dozen of the big engines for about \$350,000. We spend a very considerable sum strengthening that part of the road not already rebuilt before we can use them, and when we put them in service we still move 30,000 tons daily—the income is no more than before. They save a little more than one-half the wages of a train and engine crew, or about \$12 per train. They do not save sufficiently to pay the interest on what they cost and what it cost to prepare the way for them. It costs three times as much to keep them up as it did our old engines. They soon block the road with shop cars, and if the 'Dan and Beersheba' is able after this to pay any dividends at all it is because she was in easy financial circumstances before the experts worked on her.

"When begged to shorten the hours

that overtime and poor engine and car service were sapping the life out of the railways, we have heard railroad officials say: 'We don't care for a few hours overtime, the freight on one car will pay the entire crew's wages, overtime and all.' They were figuring on 'earnings per train.' There is no more positive way to figure gains and losses than on a percentage basis. If a 50% increase in the cost of moving

any train could be avoided by a 25% reduction of the train, no expert accountant is needed to determine on which side of the ledger the balance will appear."

The book contains 36 pages, size 5 x 7 inches. Price to employes, in clubs, 25 cents. Orders should be addressed to N. E. Burroughes, 1610 Monroe Avenue, Covington, Ky.

Echoes from the Firing Line

The Smoke Evil—Railroads not the Only or the Greatest Offenders—Laws Fail to Hit the Cause.

Much hardship has been imposed on engineers and firemen in the large cities, and even smaller ones, east of the Mississippi river through anti-smoke laws which make engine crews liable to arrest for the violation of any of these laws, regardless of conditions of service, kind of fuel furnished, or the poor steaming qualities of the engine they may be using at the time.

As showing how unjust is much of the criticism of the public regarding the railroads, and locomotive enginemen in particular, as to the smoky atmosphere of our cities, the findings of the Chicago Association of Commerce committee on smoke abatement in its report dealing with the electrification of Chicago's railroad terminals, as summarized in a recent issue of the Milwaukee (Wis.) Journal, should be received with much interest by our members. The investigation made by this committee extended over a period of four and one-half years, at a cost said to be \$600,000 which was borne by the railroads. Experts, headed by Prof. W. F. M. Goss, dean of the college of engineering, University of Illinois, made an extensive study of conditions, and in the report herein referred to it is stated that the elimination of the coal burning locomotive would produce a hardly perceptible betterment of the Chicago atmosphere; that the minimum cost of electrification would be \$274,440,630; that Chicago, under the state law, can not aid in meeting the cost, and that

order the railroads to bear the burden would be confiscatory and unconstitutional. Other findings of the commission, according to the Milwaukee Journal, are:

"That the Chicago electrification would equal the combined electrification of the whole world.

"That before the coal-burning locomotive is eliminated, pollution must first be reduced to a minimum from the three more damaging sources; high pressure steam plants, metallurgical and other manufacturing furnaces and domestic fires.

"That the coal-burning locomotive stands third among smoke-producing agencies, using only 12 per cent of the fuel consumed, and that its elimination would reduce the gaseous pollution of the air only 5 per cent and the solid pollution, less than 4 per cent.

"That electrification, hydroelectric and other long-distance transmission being inapplicable, would add power-house smoke enough to offset much of the gain through the elimination of locomotive smoke.

"That electrification would subtract only 1,291,282 tons of coal from the total of 21,208,886 tons consumed annually.

"That all smoke regulation has erred in confining itself to visible aspects of smoke, whereas, the really harmful factors are the invisible gases, and the solids of combustion, sulphurous gases and mineral dusts in particulate.

"That Chicago air is polluted annually by the introduction of 304,391 tons of soot, dust and cinders and by 5,008,111-106,758 cubic feet of sulphurous and other gases.

"That, despite the fact Chicago burns more coal annually than any other large city—eight tons per capita as against four for Manchester and one and one-half for Berlin—its air is better than that of

Our Special Study Course

THE WESTINGHOUSE AIR BRAKE

(PART 3, SECTION 6.)

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Later Forms of Equipment—Details—Operations, etc.

The LN Equipment

1. **As the Highest Development of the Pneumatic, Single-Cylinder, Passenger Car Brake.**—The LN Equipment represents the highest development of the purely pneumatic, single-cylinder, passenger car brake. Possessing all of the characteristics of the older PM equipment, it embodies additional functions that provide for *quick-service application* in which a portion of the brake-pipe air is vented into the brake cylinder; *graduated release* at the will of the engineer; *quick recharge* of the auxiliary reservoir in which it gets its recharging air from both the brake-pipe and the *supplementary reservoir*; and while the brake-cylinder pressure at service application is automatically limited to a predetermined amount, *high emergency pressure* is provided by the added volumes of supplementary-reservoir and auxiliary-reservoir air, together with the jet of vented brake-pipe air, flowing to the brake cylinder when the triple valve operates with "quick action." The LN Equipment may be regarded as the perfection of the *high-speed brake* when a single brake-cylinder is used.

2. **Parts Essentially of the LN Equipment.**—Fig. 151 is a diagram of the air-brake parts comprising the LN Equipment. To change a car from PM to LN equipments, the Type P triple valve and the pressure head of the brake cylinder are removed, and a Type L triple valve with Type N cylinder head adapted for its attachment is substituted—the L triple valve being of the "pipeless" style, in which the brake-pipe connection is with the pressure head of the cylinder: and the exhaust port is also located in the cylinder head. The only additional part to be supplied is the supplementary reservoir, which is approximately two and one-half times the size of its consorted auxiliary reservoir. The high-speed reducing valve is removed from its connection with the brake cylinder, and is discarded, its duties being performed in a slightly different way by a *safety valve* that is considered as a part of the L Triple Valve.

3. **Benefits Obtained Through the Perfected Functioning.**—The *quick-service* feature effects a more rapid service reduction of brake-pipe pressure and in consequence a more nearly uniform application of all brakes—a very desirable consideration with respect to long passenger trains, with which the distance of stop is shortened, and with smoother results as regards the matter of shocks. *Graduated release* provides greater flexibility in braking, helping to shorten the stop when taken advantage of properly by making a quite

heavy service reduction while the train speed is high, to be followed by graduated brake-pipe recharges (graduated releases) as the speed is reduced, until the final stop is accomplished with a minimum of pressure remaining in the brake cylinder; such operation is also conducive to smoothness, and practically eliminates the possibility of wheel skidding and flattening—with an economy of air pressure, and the certainty of holding the highest possible charge in the auxiliary reservoir. *Quick recharge* of the auxiliary reservoir occurs whenever the L triple valve is moved to release position, either in case of a *graduated release* or *complete release* operation, and this has several desirable features: it assists in the function of graduated release; the quick recharge implies an immediate supply of as high a braking pressure as could be possible in the circumstances; the auxiliary reservoir recharges as rapidly as the brake pipe, and when a second application quickly follows the first one the L triple valve responds instantly, as the brake pipe holds no excess of pressure (over that in the auxiliary reservoir) that would have to be discharged before the triple-valve movement started; in making "spot stops" for water columns, coal docks, short station platforms, etc., where two or more applications and full releases are made—the last one at very slow speed—the quickness in response to service reduction, of the L triple valve obviates any probability of shocks to the train—or any excuse therefor. *High emergency pressure*:—It had been found that with the better design of trucks on the modern-built passenger cars the gradual blow-down of brake-cylinder pressure from the maximum to the minimum was not only unnecessary as a preventative of wheel skidding, but that the maximum brake-cylinder pressure at emergency application could be safely increased over that obtainable in the old standard high-speed brake, and retained to the completion of the

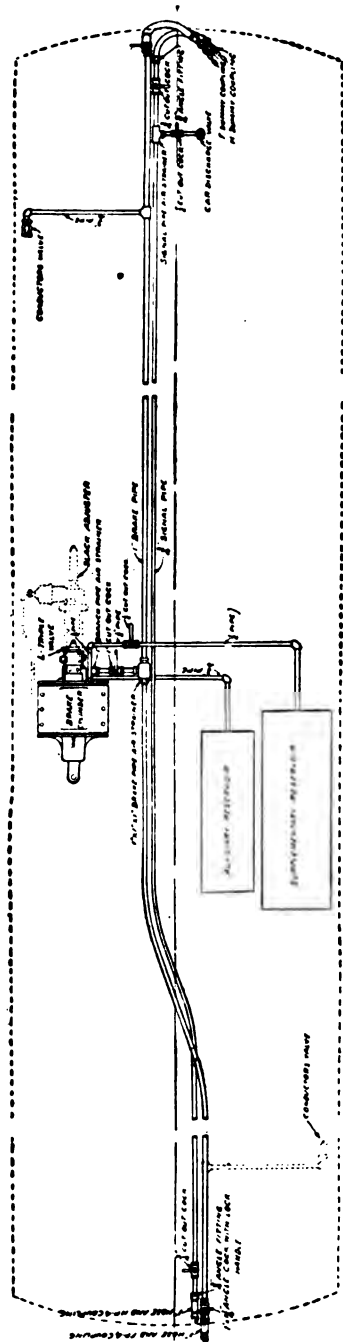


Fig. 151. Type LN Passenger Car Brake Equipment Diagram

the old standard high-speed brake, and retained to the completion of the

stop. It was decided that this increased emergency braking power was demanded on the very heavy, fast running trains of the present time, but that the maximum service brake-cylinder pressure should be limited to that of the former style of high-speed brake, so these improved conditions were incorporated in the LN equipment.

A *safety valve* attached to the body of the L triple valve is adjusted at approximately 60 pounds pressure; it is brought into communication with brake-cylinder pressure when the triple valve is in *service position*, thus limiting the service braking-pressure to an equality with the common high-speed brake. When the triple valve moves to *emergency position* communi-



FIG. 152. TYPE L TRIPLE VALVE

cation between the brake cylinder and safety valve is entirely closed, a jet of brake-pipe air enters the brake cylinder, followed by the transmission to the cylinder of the pressure from the auxiliary reservoir and the supplementary reservoir, the latter having a volume approximately two and one-half times that of the auxiliary reservoir. If a brake-pipe pressure of 110 pounds had been carried, the equalization of these volumes results in a brake-cylinder pressure of about 105 pounds; by the combination of the high pressure and its retention during the stop, an effective means is provided to compensate for the lowered coefficient of friction between the brake shoes and wheels, resulting from the increased work required at each brake shoe under modern conditions. Thus if but 60 pounds of brake pipe pressure is maintained

emergency stop can be made with the LN equipment than with the old standard high-speed brake carrying 110 pounds brake-pipe pressure, for in both cases the maximum brake-cylinder pressure is the same (about 85 pounds), but the L triple valve does not blow it down to 60 pounds, as does the old high-speed reducing valve.

4. **Parts of the Equipment.**—Following is a list of the parts which make up the LN Equipment:

A *triple valve type L*, which has connections through the pressure head of the brake cylinder with the branch of the brake pipe, the auxiliary reservoir, the supplementary reservoir, and (when used) the retaining valve.



FIG. 153. TYPE L TRIPLE VALVE

The *E-7 safety valve*, which is attached directly to the body of the type L triple valve.

A *type N brake cylinder*.

Two reservoirs—an *auxiliary reservoir*, and a *supplementary reservoir*.

A *centrifugal dirt collector*, connected in the branch pipe between the brake pipe and triple valve, as near the triple valve as circumstances will permit.

A *branch pipe air-strainer*, inserted in the branch pipe close to its connection with the brake-cylinder head.

Also the usual conductor's valve, branch-pipe tee, the various cut-out

cocks, angle cocks, hose couplings, dummy couplings, etc., that are common to all passenger-car brake equipments; and a pressure-retaining valve may be used if required, in pipe connection with the exhaust port in the pressure head of the brake cylinder.

5. **Detail Description of the Triple Valve.**—The Type L Triple Valve is furnished in three sizes, the L-1-B, L-2-A and L-3, the only interior difference being in the size of the ports required to handle the different volumes of air corresponding to different sizes of brake cylinders and reservoirs. The letters and number symbolizing the size of each triple valve is cast on the outside of the valve body; but a quick means of distinction is in the fact that in the triple-valve flange, through which it is bolted to the cylinder head, there are two bolt holes in the L-1-B, three bolt holes in the L-2-A, and four bolt holes in the L-3. Following is a table showing the sizes of triple valves used with the various sizes of brake cylinders:

<i>Cylinders.</i>	<i>Triple Valves.</i>
8" and 10"	L-1-B
12" and 14"	L-2-A
16" and 18"	L-3

Fig. 152 is a photographic view of the Type L Triple Valve showing the Safety Valve in place.

Fig. 153 shows the opposite side of the valve and its By-Pass Piston Cap.

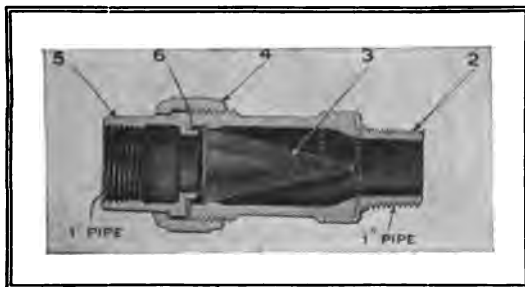


FIG. 154. BRANCH PIPE AIR STRAINER

Fig. 155 shows a vertical cross-section of the Type L Triple Valve, the names of its parts being as follows:

2, Valve Body; 3, Slide Valve; 4, Piston; 5, Piston Ring; 6, Slide Valve Spring; 7, Graduating Valve; 8, Emergency Valve Piston; 9, Emergency Valve Seat; 10, Emergency Valve; 11, Rubber Seat for Emergency Valve; 12, Check Valve Spring; 13, Check Valve Case; 14, Check Valve Case Gasket; 15, Check Valve; 16, Emergency Valve Nut; 17, Graduating Valve Spring; 18, Cylinder Cap; 19, Graduating Spring Nut; 20, Graduating Sleeve; 21, Graduating Spring; 22, Cylinder Cap Gasket; 23, Bolt and Nut for Cylinder Cap; 24, Bolt and Nut for Check Valve Case; 25, By-Pass Piston; 26, By-Pass Piston Ring; 27, By-Pass Valve; 28, By-Pass Valve Seat; 29, By-Pass Valve Spring; 30, By-Pass Valve Cap; 31, By-Pass Piston Cap; 32, Strainer; 33, E-7 Safety Valve; 34, End Cap.

Fig. 156 is an end view of the L-2-A Triple Valve, showing the bolting flanges.

The L Triple Valve is of the "pipeless" style; it is arranged so as to be bolted to the pressure head of the brake cylinder; to this cylinder head are connected the pipes from the auxiliary reservoir, supplementary reservoir

and brake pipe, and it contains a passage to the brake cylinder. These various air connections are all brought to port openings in the face of the cylinder head (see Figs. 158 and 159) that register with corresponding ports in the

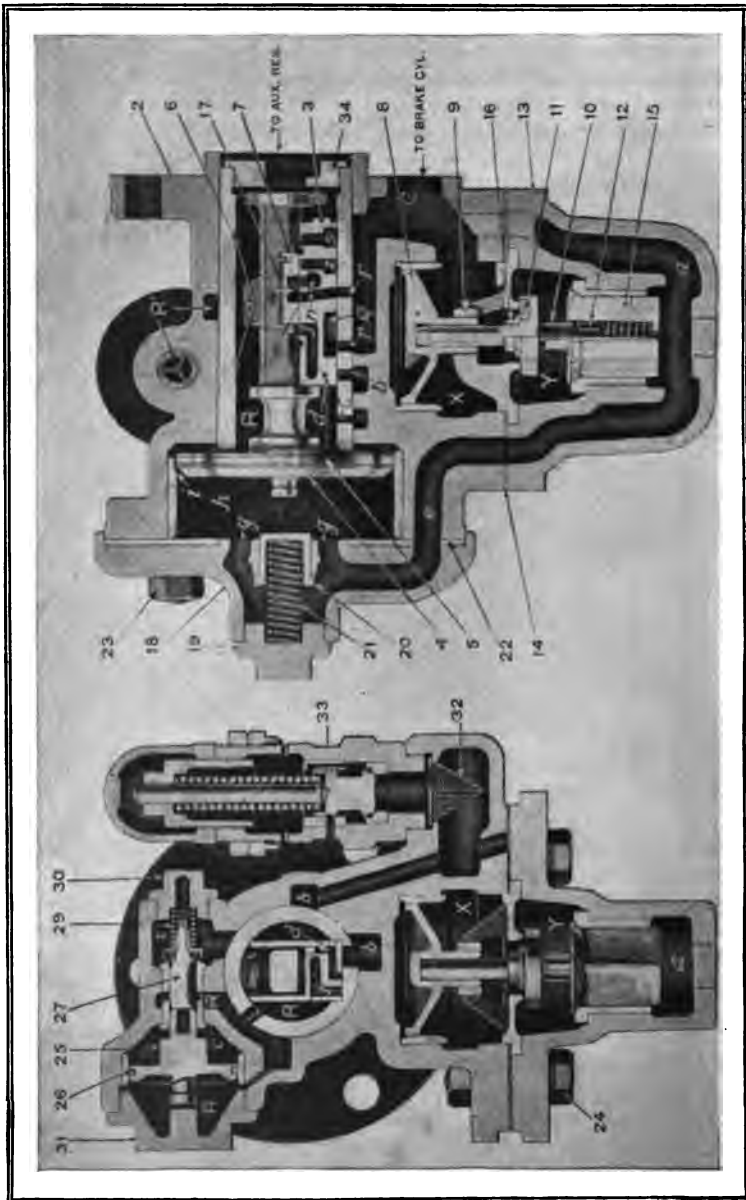


FIG. 155. TYPE L TRIPLE VALVE, ACTUAL SECTIONS

face of the cylinder end of the triple valve (see Fig. 156). This arrangement provides for removing the triple valve for cleaning and repairs without disconnecting any pipe joints, the loosening of the bolts holding it in place being all that is required.

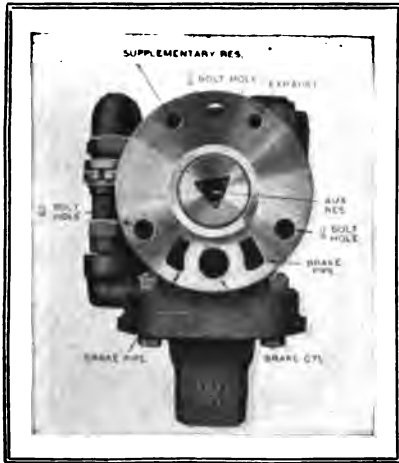


FIG. 156. CYLINDER END OF THE L-2-A TRIPLE VALVE

downward, which restricts the opening and opens the upper end of port *d* to the spring chamber *E*. Although chamber *E* is open to the atmosphere at all times, the connecting ports *f* in the body

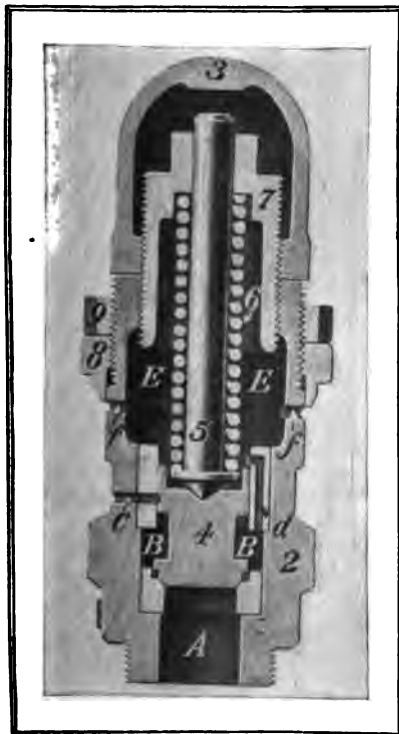


FIG. 157. E-7 SAFETY VALVE

The operation of the triple valve will be described later under "Operation of the Equipment."

6. The E-7 Safety Valve.—The parts of the E-7 Safety Valve (see Fig. 157) are: 2, Body; 3, Cap Nut; 4, Valve; 5, Valve Stem; 6, Spring; 7, Regulating Nut; 8, Exhaust Regulating Ring; 9, Lock Ring.

When the pressure in cavity *A* under valve 4 is sufficient to overcome the pressure exerted by the spring, 6, valve 4 is raised from its seat, which upward movement closes the upper end of port *d* in the valve bush and opens port *C*, permitting air to flow from cavity *A* through chamber *B* and port *C* to the atmosphere. As the pressure below valve 4 decreases, the tension of spring 6 forces valve 4 downward, which restricts the opening through port *C* to the atmosphere and opens the upper end of port *d* to the spring chamber *E*. Although chamber *E* is open to the atmosphere at all times, the connecting ports *f* in the body are sufficiently small to restrict the exhaust, so that the pressure builds up very rapidly in chamber *E*, and assists spring 6 in forcing valve 4 quickly to its seat.

This safety valve when used in the LN Equipment should be adjusted to a maximum, or *opening* pressure of 62 pounds. When necessary to readjust it, remove cap nut 3 and screw down, or back off, regulating nut 7, as may be required, after which replace the cap nut. The minimum, or *closing* pressure, should be 58 pounds; and the desired range between the opening and closing pressures can be adjusted by changing the area of port *f*, using regulating ring 8 for this purpose, after which screw down lock ring 9.

7. The Brake Cylinder.—Fig. 158 shows two views of the N type of brake cylinder. In that on the right, the upper part is an exterior view, while the lower portion exposes the interior and shows in vertical section the ports in the pressure head. On the left is shown an end view of the pressure head, exposing the seat to which the triple valve is to be attached. Referring to the right-hand

view, the piston, 3, has a solid push-rod which is connected by means of the plain crosshead, 6, to the levers of the foundation brake gear; 12 is a release spring, which forces piston 3 to release position when the air pressure is exhausted from the opposite end of the cylinder; the packing leather, 9, is pressed against the cylinder wall by the packing expander, 10, and prevents the escape of air past the piston.

Fig. 159 shows the different arrangements of bolts in the pressure heads for attaching the L-1-B and the L-3 Triple Valves.

Fig. 160 is a photographic view of the Type N Brake Cylinder with Type L Triple Valve attached.

Hand-brake rigging should be designed to work in harmony with the air brake; and to facilitate this, the slotted crosshead, 6, shown detached in Fig. 158, is provided, and furnished when specified.

8. The Branch Pipe Air Strainer.—In the older types, the triple valve contained an air strainer of closely woven wire mesh in the opening with which the brake-pipe branch connected; as the L type of triple valve has no direct pipe connections, a special Air Strainer (see Fig. 154) is provided. This fitting contains the usual kind of strainer, and the outside-threaded end is screwed into the brake-pipe-pressure supply port in the cylinder head, the union swivel, 5, being connected with the branch of the brake pipe.

9. Reservoirs.—The Auxillary Reservoir is used to supply air to the brake cylinder for both service and emergency operations. The Supplementary Reservoir, in addition to supplying air to the brake cylinder at emergency application to provide the high emergency pressure, assists in obtaining the graduated release of the brakes and the prompt recharging of the equipment in service operation.

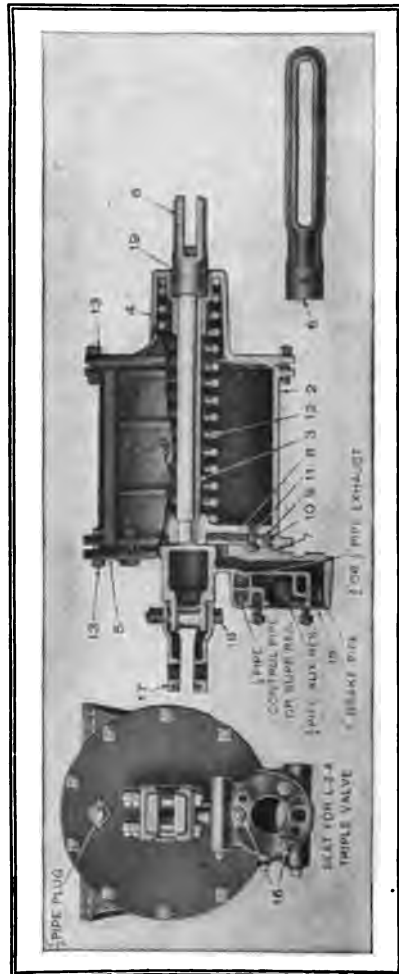


FIG. 158. TYPE N PASSENGER CAR BRAKE CYLINDER

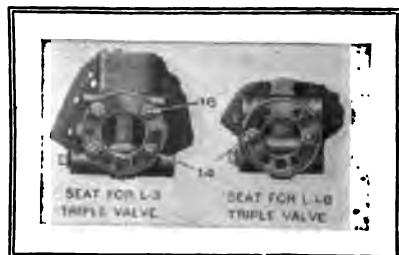


FIG. 159

Following is a list of the standard sizes of auxiliary reservoirs used with the various sizes of brake cylinders:

<i>Size, in inches.</i>	<i>Capacity, in cu. ins.</i>	<i>Used with</i>
10x24	1,588	8" Brake Cylinder
12x27	2,450	10" Brake Cylinder
12x33	3,088	12" Brake Cylinder
14x33	4,476	14" Brake Cylinder
16x33	5,724	16" Brake Cylinder
16x42	7,436	18" Brake Cylinder

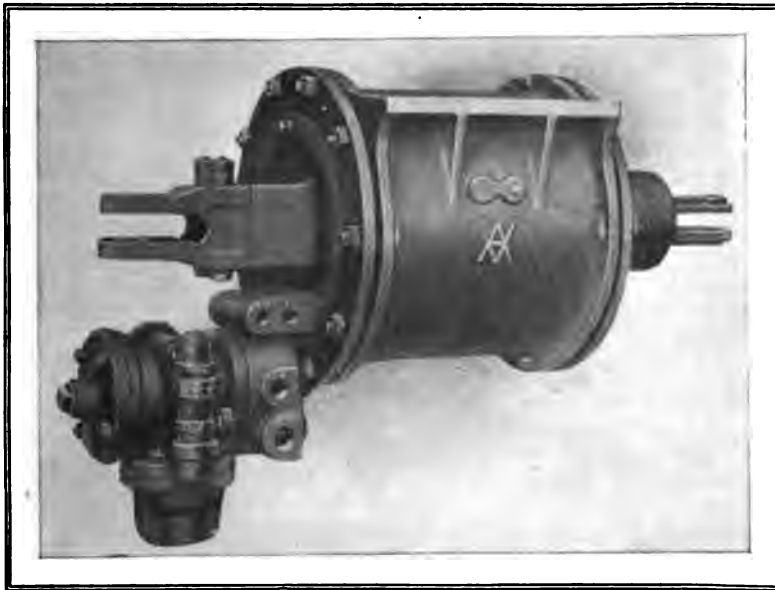


FIG. 160. TYPE N BRAKE CYLINDER WITH TYPE L TRIPLE VALVE

The size of the Supplementary Reservoir is also proportioned to the size of the brake cylinder, as shown in the table following:

<i>Size, in inches.</i>	<i>Capacity, in cu. ins.</i>	<i>Used with</i>
14x33	4,476	8" Brake Cylinder
16x33	5,724	10" Brake Cylinder
16x48	8,577	12" Brake Cylinder
20 1/2 x36	10,158	14" Brake Cylinder
20 1/2 x48	14,003	16" Brake Cylinder
22 1/2 x54	18,967	18" Brake Cylinder

10. The Centrifugal Dirt Collector.—The Centrifugal Dirt Collector, shown in vertical section in Fig. 162, is so constructed that due to the combined action of centrifugal force and gravity, all dirt and foreign matter is automatically eliminated from the air flowing through the collector—as when the brakes are applied or released—without reducing the area of the opening in any way. The design of the collector is such that the dirt, scale, etc., eliminated falls into the bottom chamber, and by means of a plug may be removed at intervals without breaking any pipe connections whatever.

The Centrifugal Dirt Collector should be connected in the branch pipe between the brake pipe and triple valve, as near the triple valve as circumstances will permit.

Other details in connection with the piping are of the usual standard for all modern types of passenger-car brake equipment, and have been described in previous papers of the Special Study Course.

11. **Changing from PM to LN Equipment.**—The pipe connecting the supplementary reservoir with the brake-cylinder head contains a cut-out cock; during the period in which the LN Equipment is being installed, it is desir-



FIG. 161. RESERVOIR

able to eliminate the *graduated release* feature, and at this time the cut-out cock should be closed and the handle wired and sealed in that position; this also suppresses the *quick recharge* feature and reduces the *high emergency pressure*.

For the sake of obtaining absolute uniformity in braking operations during this period, it is sometimes considered advisable to remove the safety valve and plug the opening so made in the triple-valve body by a special machine-threaded cap plug; temporarily retaining the old, high-speed reducing valve, and piping it into direct connection, as before, with the pressure head of the brake cylinder.



FIG. 162. CENTRIFUGAL DIRT COLLECTOR

Examination Questions and Answers.

THE WESTINGHOUSE AIR BRAKE.

(PART 3, SECTION 6.)

1. Q.—(a) What is the LN Equipment? (b) What functions has it in addition to those of the common PM equipment? (c) How does it compare with the old standard, high-speed brake?

A.—(a) It is the highest development of the pneumatic, single-cylinder, passenger-car brake. (b) Quick-service application, in which a portion of the brake-pipe air is vented into the brake cylinder; graduated release, at the will of the engineer; quick recharge of the auxiliary reservoir, supplied from both the brake pipe and the supplementary reservoir; and high emergency

ency braking pressure, from the combined volumes of auxiliary reservoir and supplementary reservoir, together with the quick-action vent of brake-pipe air to the brake cylinder. (c) The LN Equipment is the perfection of the high-speed brake, where a single cylinder is used. (Art. 1.)

2. Q.—(a) What is shown in Fig. 151? (b) What is necessary in changing from the PM to the LN equipments? (c) Why is the L triple valve called "pipeless"? (d) What additional part is necessary? (e) What are the relative sizes of auxiliary reservoir and supplementary reservoir? (f) What part of the old high-speed brake is dispensed with? (g) What takes its place?

A.—(a) A diagram of the air-brake parts of the LN Equipment. (b) A type L triple valve and type N brake-cylinder pressure head are substituted in place of the old cylinder head and P triple valve. (c) Because it has no direct pipe connections—all such being made to the cylinder head. (d) A supplementary reservoir. (e) The supplementary reservoir is approximately two and one-half times the size of the auxiliary reservoir. (f) The high-speed reducing valve. (g) The safety valve, directly attached to the body of the L triple valve. (Art. 2.)

3. Q.—(a) What benefits are obtained through the quick-service feature? (b) What from graduated release? (c) What from quick recharge? (d) What from high emergency pressure? (e) At what pressure should the safety valve be adjusted? (f) In what phase of triple-valve action is the safety valve connected with brake-cylinder pressure? (g) What results at emergency application? (h) Does not this high braking power result in skidded wheels? (i) What is the effect from an emergency stop made when carrying but 90 pounds brake-pipe pressure.

A.—(a) A more rapid reduction of brake-pipe pressure and a more nearly uniform application of all brakes, with smoothness of stop. (b) The stop is shortened, made smoother, and wheel skidding is obviated. (c) The auxiliary reservoir being rapidly supplied from both the supplementary reservoir and the brake pipe, is quickly in readiness to afford the maximum braking pressure; it assists in the graduation of release; it provides for quick triple-valve response at service reapplications. (d) A highly increased brake-cylinder pressure that shortens the stopping distance. (e) At approximately 60 pounds. (f) Service application, only. (g) Brake-cylinder pressure, obtained from the equalization of the auxiliary reservoir and supplementary reservoir, with a portion of the air from the brake pipe, combining at about 105 pounds, is wholly retained to the completion of the stop. (h) No. (i) As high a brake-cylinder pressure is obtained (and held) as was the maximum with the old high-speed brake—about 85 pounds, from a brake-pipe pressure of 110 pounds. (Art. 3.)

4. Q.—Name the parts of the LN Equipment.

A.—A type L triple valve; an E-7 safety valve; a type N brake cylinder; an auxiliary reservoir; a supplementary reservoir; a centrifugal dirt collector; a branch-pipe air strainer; and the usual conductor's valve, pipe fittings, cocks, hose couplings, etc., that are common to all types of passenger-car brake equipments. (Art. 4.)

5. Q.—(a) In how many sizes is the L triple valve made? (b) Do they differ any in operation? (c) Why are they made different in size? (d) How may they be distinguished? (e) What size triple valve is used with 8" and 10" brake cylinders? With 12" and 14" cylinders? With 16" and 18" cylinders? (f) What are shown in Figs. 152 and 153? (g) What in Fig. 155? (h) What in Fig. 156?

A.—(a) In three sizes: the L-1-B, L-2-A and L-3. (b) No. (c) To handle uniformly the different volumes of air corresponding to different sizes of brake cylinders and reservoirs. (d) In the triple-valve flange, the L-1-B has two bolt holes, the L-2-A has three bolt holes, and the L-3 has four bolt holes; also, each triple valve has its symbolic size numbers cast on the side of the body. (e) L-1-B, L-2-A and L-3, respectively. (f) Photographic views of the Type L Triple Valve, showing the safety valve in place, and the opposite side with its by-pass piston cap. (g) A vertical cross-section of the Type L Triple Valve, with all parts numbered to assist in their explanation. (h) An end view of this triple valve, showing the bolting flanges. (Art. 5.)

6. Q.—(a) What is shown in Fig. 157? (b) What is the duty of the safety valve? (c) At what pressure is it adjusted? (d) How may it be readjusted? (e) What is the purpose of regulating ring 8?

A.—(a) The E-7 Safety Valve. (b) To restrict the brake-cylinder pressure at service application, *only*, to a predetermined maximum. (c) It should open at about 62 pounds, and close at about 58 pounds pressure. (d) By removing cap nut 3 and screwing down, or up, regulating nut 7. (e) It is for adjusting the range between the opening and closing pressures, to the desired limits. (Art. 6.)

7. Q.—(a) What is shown in Fig. 158? (b) What in Fig. 159? (c) What in Fig. 160? (d) What is the purpose for which the slotted cross-head, shown in Fig. 158, may be used?

A.—(a) The Type N Brake Cylinder. (b) The different arrangements of bolts in the pressure heads, for attaching the L-1-B and the L-3 triple valves. (c) A photographic view of the type N brake cylinder with type L triple valve attached. (d) To facilitate the installing of hand-brake gear that will work in harmony with the air brake. (Art. 7.)

8. Q.—(a) Where is the Branch Pipe Air Strainer located? (b) What is its duty? (c) In what plate is it shown?

A.—(a) In the triple-valve branch of the brake pipe—usually screwed into the port provided in the pressure head of the brake cylinder. (b) To strain the air of the finer dirt and foreign matter that might enter and obstruct the action of the triple valve. (c) In Fig. 154. (Art. 8.)

9. Q.—(a) What is shown in Fig. 161? (b) Should there be a particular size of auxiliary reservoir and supplementary reservoir for each size of brake cylinder?

A.—(a) The general type of auxiliary reservoir and supplementary reservoir. (b) Yes—as shown in the tables. (Art. 9.)

10. Q.—(a) What is shown in Fig. 162? (b) Where is it located? (c) What is its duty?

A.—(a) The Centrifugal Dirt Collector. (b) In the triple-valve branch of the brake pipe, as near the triple valve as possible. (c) To retain, by centrifugal force and gravity, scale and the coarser dirt that might pass into the triple valve or fill up the mesh of the branch-pipe air strainer. (Art. 10.)

11. Q.—When changing from PM to LN equipments, during the transition period, (a) what part should be temporarily cut out? (b) What functions does this suppress? (c) Is it necessary, during this period, also to remove the safety valve? (d) What, then, limits the brake-cylinder pressure at heavy applications?

A.—(a) The supplementary reservoir. (b) Graduated release and quick recharge; the high emergency pressure is also reduced. (c) Yes, if absolute uniformity in association with PM equipment is desired. (d) The com-

mon high-speed reducing valve, which for the time being is retained in direct pipe connection with the pressure head of the brake cylinder. (Art. 11.)

(To be continued.)



Study Course In Electrical Railroading*

THE STREET CAR EQUIPMENT

Controllers—Lightning Arresters—Braking, etc.

1. An essential feature of all controllers used for the purpose of starting and stopping street car motors is the magnetic blow-out. This arrangement is based upon the discovery some years ago that an electric arc can not maintain itself in a magnetic field, if the lines of force of the magnetic field are sufficient in number and are caused to exert their influence in the proper direction. Such a magnetic field can be obtained by winding a coil of copper wire around an iron core. In the case of a controller, the same current of electricity that passes into the motors for their operation also passes through the coil of wire around the iron core that creates the magnetic field which acts as a blow-out for any arcing that may attempt to form at the controller contacts. The shape of the iron core referred to is such that the lines of force gathered by it are forced across and around the controller contacts. Consequently, when any circuit is opened or contact broken by a shifting of the controller handle, the arc, which would otherwise tend to form at the controller contacts, is immediately snuffed out.

2. To the inexperienced, it might not be amiss to state that an arc formed and maintained with a 500 volt direct current is one of the most vicious and destructive flashes imaginable. It will instantly vaporize a metal or almost anything else in its path. Its flash is blinding in its intensity and heat, the greatest of artificial heats. Exhaustive experiments had to be made, therefore, to develop detail apparatus that would rupture an arc when attempting to form and thereby protect other apparatus. The magnetic blow-out in a controller occupies just such a position.

3. It was not an uncommon sight in early days to see a motorman enveloped in flame from a controller, a car load of panic-stricken people and a crippled car. Such occurrences are rare nowadays, although we now and then read of flames making their appearance in or about an electric car, generally due to causes other than a defective controller.

4. There are a number of terminals within a controller case to which the wires are fastened when the apparatus is installed upon a car. These terminals are stamped so as to show what wires are to be fastened to them. The motor terminals are similarly stamped, as well as the diverter terminals and those of the cut-outs or circuit breakers. The lead wires used in inter-connecting controllers, motors and diverters are carried in what is termed a

drum hose. These wires carry tags which indicate to which terminals they are to be attached. Such tags should never be removed. A plus sign (+) signifies a positive terminal, a minus sign (—) a negative terminal; *F*, a field terminal; *A*, an armature terminal; *G*, a ground terminal; *T*, a trolley terminal; *R*, a resistance or diverter terminal; *B*, a brake terminal. When the letter *F* or *A* is followed by the figure 1 or 2, etc., the number of the motor of the car equipment is referred to; that is, *F*₂+ and *A*₁— mean respectively positive field terminal of motor No. 2, and negative terminal of armature on motor No. 1. When the letters *F* and *A* are not followed by figures, they are understood as referring to all of the motors. Diverter or resistance terminals are marked to distinguish them apart, as *R*₁, *R*₂, etc.

5. The greater number of controllers in use today are known as the series-parallel type. Such controllers have two handles on the top, one of which handles is used in turning the current on and off, and the other, the smaller one, for reversing the direction of rotation of the motor armatures and consequently the direction of movement of the car. Each of the handles are removable from the controller case. The larger handle, for operating the car, is provided with a pointer or index that travels with it, and which points to the notch on top of the controller case, indicating the position of the controller drum with respect to its contacts. Controllers of different makes and sizes will differ as to the number of notches which they might have, the number varying perhaps from five to nine. Whatever may be the number of the notches, there are usually but two running positions for the handle to assume; at the last notch and one intermediate. The running notches are those wherein the diverter resistance is not in use. This condition exists when the motors are in series with one another and the line, or when the motors are in parallel with one another and the line. The first condition will be found when the controller handle occupies an intermediate position, and the last named condition will be found when the controller handle is on as far as it will go. No part of the resistance of the diverter should be cut in when the motors are operating continuously, as diverters, not being constructed for that purpose, will not stand it, and, moreover, it is not economical.

6. When it is desired to start a car for the first time, it is, of course, necessary to observe that the controller handles are in the off position. The trolley can then be placed in contact with the trolley wire and the main switch closed in the cut-out box. The smaller handle of the controller can then be moved into the position desired, either forward or backward, depending upon the direction in which it is intended that the car shall travel. In general, for a forward movement of the car, the reversing handle should be moved forward and vice versa. The above precautions having been exercised, the operating handle of the controller can be moved into the first position. In this position the car should start and move slowly. The use of but the one notch is good practice in running cars through crowded streets.

7. The controller handle having been thrown to the first notch, and the motors having acquired good motion, the controller handle can then be passed to the next notch and so on along the range. The movement of the controller handle from one notch to another should be positive; that is, the handle of the controller should not be permitted to leave a notch and then hesitate between notches, but the pass from one notch to another should be made quickly and positively. In moving from the first notch to the last, however, care should be exercised so as not to go too rapidly, for the safety of the

equipment and for the comfort of the passengers. The speed of movement of the controller handle depends altogether upon the speed of the motor at the time a movement of the controller handle is made, the more slowly the motor is running, the more gradual must be the movement of the controller handle. Motors can be made to acquire speed much more rapidly than steam engines, with the result that careless handling in the starting of them may produce very unpleasant effects.

8. The stopping of the car is accomplished by bringing the main controller handle to the off position. This is done with a continuous movement or sweep, and as quickly as circumstances warrant. When the controller handle has been brought to the off position, the brakes can be applied. It is unwise, however, to attempt to make any use of the reversing handle for the purpose of bringing the car to rest, unless in dire circumstances when the brakes might fail to operate quickly or to take hold satisfactorily, when a quick resort to the tractive effort of the wheels on the rails might be made use of. If, however, the reversing lever must be made use of for the purpose in mind, it can be done only by bringing the controller handle to the off position, throwing over the reversing handle and moving the controller handle to the first notch, or farther if it is deemed absolutely necessary to do so. An occasion of this kind is rarely ever a necessity, unless it is to avoid an imminent collision or to save a life.

9. The danger to an equipment is great when an effort is made to reverse a car's direction when in motion, and should be experimented with by tried, experienced and cool-headed men only.

10. Controllers are also provided with plugs by means of which any motor of an equipment can be cut out of service by reason of defect. These plugs can be seen by removing the front of the controller case. The plugs are marked, and it will be seen that a plug can be inserted so as to cut out one motor or another of a multiple equipment.

11. There are also a number of composite controllers in use combining the features of a starting device and a braking mechanism, the braking being accomplished by means of an electric current energizing a pair of magnets in juxtaposition to one another and fastened upon the truck axle. Some forms of these last mentioned controllers operate the brakes with the same handle that is used for the operation of the motors. With the single handle type of brake controller, when the handle is brought to the off position, if the motion of the same handle is continued backward, there will be approximately five additional notches that can be covered. These additional notches regulate the amount of current that passes into the braking circuits just as the forward motion of the same handle controls the amount of current going into the motors.

12. The action of the electric brake combination is such that when the current is cut off from the motors, the latter then act as series direct current generators, and the current generated by them passes through the same system of diverters or resistances belonging to the equipment, and thence into the brake energizing coil which is stationary. The core of the brake coil is magnetized by the action of this current, and exerts a powerful pull upon an armature fastened to the car axle and traveling in front of the coil. The amount of pull is regulated by the current flowing, which, in turn, depends upon the position of the controller handle and speed of car. Electric brakes will not operate when the car is not in motion, and the faster a car may be

that the motor armatures must revolve to generate a current, and the more rapidly such armatures revolve, the higher will be the voltage generated and consequently a stronger current will be pushed through the brake coils. Similar reasoning will show that a car equipped with electric brakes can not be made to skid, for the moment it begins to skid, just that soon the motor armatures cease to revolve and no current is generated for use in the brake coils. Other forms of electric brake controllers are equipped with three handles, one for starting and stopping the motors, one for reversing the direction of same and one for controlling the operation of the electric brake circuits.

13. The lightning arrester, choke coil and fuse block of a direct current street car motor equipment are usually connected together as shown diagrammatically in the drawing (Fig. 1).

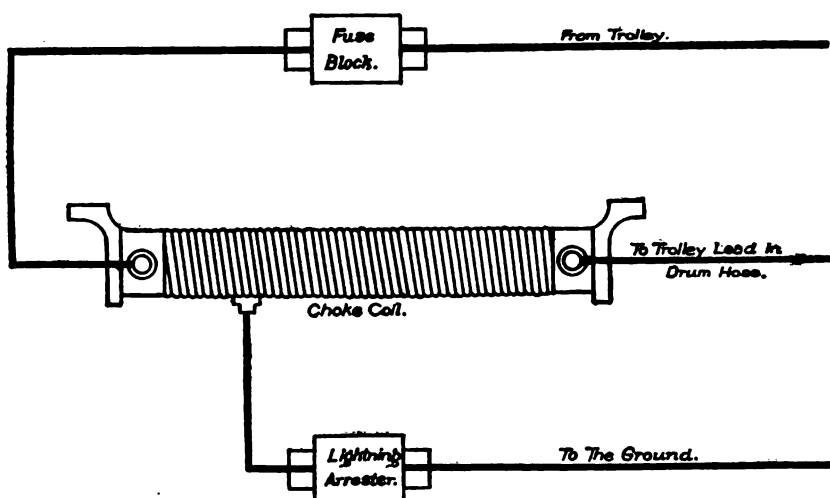


Fig. 1. Showing diagrammatically the arrangement of the lightning arrester, choke coil and fuse block of a direct current street car motor equipment

14. The fuse blocks formerly in use were made up of a block of lignum vitae, upon which two metallic terminals were securely mounted. Between these terminals the fuse was fastened. The fuse in some cases was copper wire and in others a soft metal alloy strip. Suitable binding posts were provided for the clamping of the fuse between them. The wire leading directly from the trolley was brought to one of the terminals of the fuse block and the other terminal of the fuse block was connected to the choke coil. Present day types of fuses are very much the same, being easier of replacement with the use of composition materials instead of the lignum vitae. Sometimes the magnetic blow-out may be used to snuff out the arc that the blowing of the fuse may form. Fuses are always used in combination with circuit breakers on surface street car systems. Fuse blocks are usually placed on the car body above the trucks. The renewing of a fuse can only be done when the power is off of the car circuits. The sure method is to pull down the trolley; the next best procedure is to open the circuit breaker, always, of course, being certain that the controller handle is in the *off* posi-

15. The choke coil is inserted for the purpose of protecting the electrical equipment from lightning discharges, and it has been termed a choke coil for the reason that it has a choking effect and tends to prevent the passage of lightning discharges beyond it. The choke coil in this case is made up of heavy insulated copper wire connected in series with the motor and the trolley, so that all of the current from the trolley passes through it, but it will choke lightning and force it to pass along another path provided for it, and a path, moreover, through which the regular working current of the motors can not pass.

16. Near the trolley end of the choke coil a terminal is fastened to which is connected one side of the lightning arrester, the other side of the arrester being connected to the truck of the car and therefore with the ground. The lightning arresters provided for this purpose comprise in some cases merely an air gap enclosed in porcelain, while other forms are built up of lignum vitae. The lightning will jump across this gap in preference to passing through the coil of wire constituting the choke coil, but a current at an electrical pressure of but 500 volts can not pass across the same gap. Therefore, if lightning traverses the trolley wire to a car, the tendency will be for it to pass down the trolley pole to the fuse box, thence to the choke coil and from there through the lightning arrester to the ground, leaving the car equipment uninjured.

17. The canopy switch which has been referred to may be either in the form of a switch or a combined switch and circuit breaker. The last named combination is more modern and certainly more desirable. There should be two of these, one mounted over-head on each platform of a car. They are connected in series with the trolley wire and the controller at the same end of the car.

18. A circuit breaker is virtually an automatic switch. It can be opened and closed manually, and will open automatically. They are so set upon each car that when a certain current value is established, they will open automatically and thus protect the motors. They are better than fuses for motor protection, because they act more quickly. The same circuit breaker can also be set to take care of different limiting values of current.

19. The lighting circuit of a car will usually comprise a circuit of five or ten lamps, or several circuits of the same relative number of lamps per circuit. In the case of a 500-volt system of railway service, if the car lamp circuits are split up into five units per circuit, then the voltage of each lamp should be approximately 100, but if there should be ten lamps per circuit then the voltage of each lamp should be approximately 50. Since these lamps comprising each individual circuit are connected in series with one another, it follows that when any lamp in such a circuit burns out, the entire circuit becomes dead and remains so until a new lamp is inserted in place of the one that is defective, for the turning of the current into one must do the same to the others in the same series circuit. A low efficiency lamp should be employed, because of the variations in voltage of the circuits supplying the lamps with current, a variation which can not be corrected on account of the very variable demand for power. A small switch is mounted in each end of the car so as to facilitate the lighting of the car.

20. General instructions for operation are very similar to what might be said of any form of traction. Surface railways are so built that very slow speed can only be maintained in running around curves, crossing streets and railroads, and when passing over rough track. The current should be cut

off at the controller when passing under an overhead switch. The passing of such a switch can be detected by the sound of the trolley wheel. It is advisable to run slowly through any flooded places. When examining the motors, water should not be allowed to drop upon them from wet clothing or other source. Electrical trouble that might arise and persist can be stopped quickly by opening the canopy switch or circuit breaker, or by pulling the trolley pole down.

21. In going down a grade, great care should be exercised to keep the car under perfect control; also to keep the trolley upon the wire; as it may be necessary in an emergency to stop suddenly, when, if the brakes fail, the motors can be reversed. If the power is shut off from the trolley wire from any cause whatsoever, the controller should at once be brought to the off position, and the car lighting switch turned on, when the lighting of the car will indicate the return of power to the line.

22. The trolley should never be placed to the trolley wire unless both of the car controllers are at the off position. If from any cause the trolley pole leaves the wire the car should be brought to a stop as quickly as possible and trolley replaced, the controller in the meantime having been brought to the off position. If the trolley pole leaves the wire frequently, if loose motion is noticed, or if there be flashing at the trolley wheel when running, the facts should be reported at once, because such defects are very destructive to the overhead construction.

23. A car should not be run with the trolley pole in the wrong direction, as there is great danger of bending the pole or of tearing down overhead construction. When a car is run into the barn the canopy switch should be opened and, if possible, trolley pole should be thrown up so as to relieve the springs of tension. When handling any of the car equipment it is always good policy to pull the trolley pole down from the wire, and in this way avoid a possible unpleasant contact with the electrical circuit. The lamps in a car may sometimes refuse to light, due perhaps to a burned out lamp, poor connection between one of the lamps and its socket, poor connections in the lamp switch, a loose or broken wire or a broken fuse. In attempting to repair such defects, care should be exercised that current is not on the circuit at the time. A lamp should never be removed from a street car circuit when current is on, as an arc might be formed, burning out the socket and injuring the workman.

24. In the more modern high speed, high powered electric locomotives, where overhead conductors are used for conveying power to the locomotives, the familiar trolley poles are not used. In their stead, pantagraph types of trolleys are employed. These are so called because of their similarity in outline and combined movements to an instrument known as a pantagraph, used for the copying of a mechanical drawing to the same or a different scale. This type of trolley has a shoe at its upper part which slides along the trolley wire. The shoe is made of an alloy somewhat softer than the copper of the trolley wire so that the shoe wears instead of the trolley wire. It is only used where high voltages are employed on the system with the consequent reduction in the strength of the current in amperes. The pantagraph trolley is raised and lowered by compressed air, which is controlled by the usual valve mechanism.

25. The trolley wire for use on this system is also suspended differently. The form of suspension has been termed "catenary" from the name of the shape of the curve which a wire assumes between two supports under its

own weight. The catenary construction combines a messenger cable of steel, generally, two of them which hang from the poles, towers or bridges constructed for the purpose. The messenger cables assume the curved shape mentioned. The trolley wire is fastened to the messenger cables by means of rods of different lengths so that the trolley wire when properly hung is always at the same height from the roadbed. The use of two messenger cables with the trolley wire supported from them forms a triangular outline and this form minimizes the tendency of the trolley wire to swing. The sliding shoe on the trolley of the locomotive also minimizes the tendency to swing which the swaying of the locomotive would otherwise tend to produce.

Technical Contributions

ELECTRIC TRACTION BRAKE EQUIPMENT*

By F. B. FARMER

Rules For Operating the AMM Brake Equipment (With M-22 Brake Valve)

The following rules are intended to cover in a condensed form the important instructions to be observed in handling this equipment in service:

CHARGING.

Before starting the air compressor, close the drain cocks in the main and auxiliary reservoirs, the brake-pipe and control-pipe cut-out cocks at each end of the train (or car), the brake-valve cut-out cock in the brake pipe under the brake valves not to be operated, and all whistle cut-out cocks except the one in the operator's cab. In the straight-air application and release pipe beneath the brake valve is a three-way cock, which when the handle points down (venting position) vents this pipe to the atmosphere and when the handle is cross-wise with the pipe (non-venting position) closes this connection to the atmosphere and opens the straight-air application and release pipe to the brake valve, so that straight-air communication is then completed through the cock. When running single car the handles of the three-way cocks at each end of the car must be placed in non-venting position. In train operation the handle of this cock must be placed in venting position on both ends of the head car and on all following motor cars.

See that all the following cocks are open: governor cut-out cock, main reservoir cut-out cock (between main reservoir and feed valve), double cut-out cock,

all brake-pipe and control-pipe cut-out cocks between cars, the brake-valve cut-out cock in the brake pipe under brake valve to be operated, and the whistle cut-out cock in the operator's cab.

See that all hand brakes are fully released.

The fuse in the compressor circuit on all motor cars must be in place and "live."

Place a handle on the brake valve to be operated (the cut-out cock underneath it being open) and move it to *Release and Running* position at the extreme left. Then start the compressors by closing the snap switches in the compressor circuits. As a warning to the motorman in case the brake-valve cut-out cock at the operating end of the car has not been opened, as directed above, a flow of air occurs from the brake valve through the cock to the atmosphere with sufficient noise to attract his attention. This cock should be opened before proceeding.

Do not attempt to move the train (or car) until the brake-pipe gauge hand shows full brake-pipe pressure.

RUNNING.

Keep the brake-valve handle in *Release and Running* position when not being used.

In event of sudden danger move the brake-valve handle quickly to *Emergency* position, at the extreme right, and leave it there until the train stops or the danger is past.

If the brakes apply while running over the road, as from the opening of a conductor's valve or bursting of a hose, move

position at once to prevent loss of main reservoir pressure. After the train stops the cause of the application should be located, and remedied before proceeding.

SERVICE APPLICATION.

Straight Air.

(a.) *Single Car.*—To apply the brakes for an ordinary stop move the brake-valve handle to *Straight-Air Application* position. When the desired brake-cylinder pressure has been obtained, as judged by the retardation or holding power felt, return the handle to *Straight-Air Lap* position where it should remain until it is desired either to release the brake or to make a heavier application. In the latter case move the handle again to *Straight-Air Application* position, further applying the brakes until the desired result is obtained, then return it to *Straight-Air Lap* position.

Automatic.

(b.) *Train.*—In train operation the brakes are applied (service) by placing the brake-valve handle in *Automatic Application* position.

When the brake-pipe gauge hand shows that a sufficient reduction in brake-pipe pressure has been made to apply the brakes as required by the speed, condition of rail, grade, and kind of stop desired, move the handle back to *Automatic Lap* position, where it should remain until it is desired either to release the brakes or to apply them with greater force. In the latter case move the handle again to *Automatic Service* position, further reducing the brake-pipe pressure until the desired result is obtained, then return it to *Automatic Lap* position. The amount of brake-pipe application necessary in any given case depends entirely on the conditions as stated above, a knowledge of which is soon acquired by practice. It should be especially borne in mind, however, that the retarding effect of any given reduction is greater at low than at high speeds, other conditions being equal. When making a service application, the brake-pipe pressure should never be reduced below the "Equalizing Point," at which the brake cylinder and auxiliary reservoir pressures become equal. Under normal operating conditions this corresponds to a reduction of 20 pounds from 70 pounds brake-pipe pressure. Beyond this point further reduction will not cause any increase in brake-cylinder pressure, is a needless waste of air, and interferes with the release of the brakes.

The best possible stop will be made

when the brakes are applied as hard, at the beginning of the application, as the conditions of speed, rail and comfort of passengers will permit, and then graduated off as the speed of the train is reduced, so that at the end of the stop little or no pressure remains in the brake cylinders.

Because the retarding effect of any given reduction is greater at low than at high speed, a heavy brake-pipe reduction at low speeds will result in an abrupt stop, with discomfort to passengers and perhaps slid wheels. At high speeds a heavier initial reduction may be made in order to obtain the most effective retardation possible when the momentum of the train is greatest. If the brake-cylinder pressure is very light at first and is increased as the speed of the train diminishes, it not only makes a longer stop but the high cylinder pressure at the end will be liable to produce a rough stop, perhaps slide the wheels and result in loss of time because of the necessity for waiting until this high cylinder pressure can exhaust before the train can proceed.

HOLDING BRAKES APPLIED.

Straight Air.

(a.) *Single Car.*—When the desired brake-cylinder pressure has been obtained, the brake-valve handle should be placed in *Straight-Air Lap* position where it should remain until it is desired either to make a heavier application or to release the brakes.

(b.) *Train.*—After the reduction of the brake-pipe pressure has been made, the brake-valve handle should be moved to *Automatic-Lap* position and left there until it is desired either to make a further reduction or to release the brakes.

Never allow the brake-valve handle to remain in *Lap* position, in either *Straight-Air* or *Automatic* operation except while bringing the car or train to a stop, and in any case it should not be allowed to remain in this position for a sufficient length of time to permit the cylinder leakage to diminish the braking power materially.

RELEASE.

To fully release the brakes after any application, move the brake valve handle to *Release* and *Running* position. The handle must be left in this position at all times when the brakes are not in use, to keep the brake system charged and ready for operation and to insure that the brakes will not be applied by leakage.

Straight Air.

(a.) *Single Car.*—To graduate, or partially release the brakes move the brake-valve handle to *Release* and *Running* po-

sition for a moment, then back to *Straight-Air Lap* position. Repeat this operation as may be necessary until the car is brought to rest with only enough pressure retained in the brake cylinders to prevent it from moving.

Automatic.

(b.) *Train.*—To graduate or partially release the brakes, move the brake-valve handle momentarily to *Release and Running* or to *Straight-Air Lap* position, then back to *Automatic-Lap* position. Repeat this operation as may be necessary until the train is brought to rest, retaining only enough pressure in the brake cylinders at the end of the stop to prevent the train from moving. With a very little practice the motorman will learn how long the handle should remain in *Release and Running* or *Straight-Air Lap* position to produce the results desired. This time varies mainly with the brake-cylinder pressure had when release is begun, the amount of reduction in brake-cylinder pressure desired and the length of train.

When it is desired to release the brakes but slightly or when handling short trains, if the handle is removed to *Release and Running* position the resulting increase in brake-pipe pressure and the corresponding release of brake-cylinder pressure is likely to be greater than is in-

tended. For this reason it is usually best to move the handle from *Automatic Lap to Straight-Air Lap* instead of to *Release and Running* position. A few trials will enable the motorman to find out for himself which of the two positions he should use.

EMERGENCY.

If it is necessary to stop in the shortest possible time and distance, to save life or avoid accident, move the handle quickly from whatever position it may be in to *Emergency* position, which is at the extreme right, and leave it there until the train has stopped or the danger is past.

CHANGING ENDS.

When changing from one end of the train or car to the other, close the cut-out cock in the brake pipe underneath the brake valve, remove the brake-valve handle and, after placing it on the brake valve at the other end and moving it to *Release and Running* position, open the cut-out cock in the brake pipe underneath the brake valve. Always close this cut-out cock before removing a brake-valve handle and, in placing a handle on a brake valve, always move it to *Release and Running* position and then open this cock.

(To be continued.)

AIR PRESSURE CALCULATIONS*

By JOHN HAMILTON

In order to solve problems involving air brake equipment, the capacity of the auxiliary reservoir must be known, and a method must also be given to calculate the capacity of the brake cylinder for the piston travel required.

The capacity of the auxiliaries used with an 8-inch and a 10-inch brake cylinder is 1,620 and 2,440 cubic inches respectively. The capacity of a brake cylinder in cubic inches can be found by determining its cross sectional area and multiplying the result by the length of the piston travel. The cross sectional area of a brake cylinder can be found by multiplying the diameter of the cylinder by itself and by .7854. The cross sectional area of an 8-inch brake cylinder would then be $8 \times 8 \times .7854 = 50.2656$, or about $50 \frac{1}{4}$ square inches. This multiplied by the length of the piston travel, or 8 inches, will equal 402 cubic inches. To this must be added the clearance in

the brake cylinder, the volume of the auxiliary tube, and the space in the triple valve, which will equal about 48 cubic inches, or the total capacity of the brake cylinder will be 450 cubic inches.

If the auxiliary is charged at 70 pounds pressure per square inch, or 85 pounds absolute pressure, the pressure of equalization can be found as follows, the unknown quantity being the pressure after expansion. If this quantity be designated by x , the proportion would be written to conform to the law governing the expansion of air:

$$\begin{aligned} \text{Press. before Exp.} &: \text{Press. after Exp.} \\ = \text{Vol. after Exp.} &: \text{Vol. before Exp.} \\ 85 \text{ lb.} &: x \text{ lb.} = 2,070 \text{ cu. in.} : 1,620 \text{ cu. in.} \\ x \times 2,070 &= 85 \times 1,620 \\ x &= \frac{85 \times 1,620}{2,070} = 66 \text{ pounds absolute} \end{aligned}$$

pressure or 51.5 pounds gauge pressure. The formula $b = \frac{a \times c}{d}$ could also be used.

*Continued from February, 1916, Magazine.

To be more exact, the volume of air in the clearance space, which is 48 cubic inches at atmospheric pressure, should also be taken into consideration. This would imply that both the pressure in the auxiliary and in the clearance space is compressed into a space equal to 2,070 cubic inches. Before these volumes can be added they must be reduced to like pressures or to a pressure of 1 pound per square inch. This will require the writing of the following proportions, the unknown quantity being volume after expansion:

85 lb. : 1 lb. = x cu. in. : 1,620 cu. in.
 $x = 85 \times 1,620 = 137,700$ cu. in. or air at 1 lb. pressure.

15 lb. : 1 lb. = x cu. in. : 48 cu. in.
 $x = 48 \times 15 = 720$ cu. in. of air.

137,700 + 720 will equal 138,420 cubic inches of air at 1 pound pressure to be compressed into the brake cylinder, or into a space of 2,070 cubic inches. Using the proportion already given in the first example, the pressure after compression

138,420
 will equal $\frac{\quad}{2,070}$, or 51.8 pounds gauge pressure.

The difference between the two results is so slight that the air in the clearance space can be disregarded.

The rule for finding the pressure at which the auxiliary and brake cylinder equalize can then be stated as follows: Multiply the auxiliary volume by the absolute pressure and divide the result by the combined capacity of the auxiliary and-brake cylinder. Subtract 15 from the result to obtain gauge pressure.

The above calculations do not take into consideration any loss of air through the leakage groove in the brake cylinder; therefore the resulting pressure will be slightly more than it actually is.

The following table gives the sizes of the auxiliary reservoirs, their capacities, and the diameters of the brake cylinders with which they are used:

Size	Capacity	Cylinder
12 x 33	3,088 cu. in.	12"
14 x 33	4,476 cu. in.	14"
16 x 33	5,724 cu. in.	16"
16 x 42	7,436 cu. in.	18"

The amount of clearance in the different cylinders is as follows:

- 8" cylinder, 50 cu. in.
- 10" cylinder, 60 cu. in.
- 12" cylinder, 70 cu. in.
- 14" cylinder, 100 cu. in.
- 16" cylinder, 120 cu. in.

To calculate the brake cylinder pressure

during an emergency application, it is assumed that the air entering the brake cylinder from the brake pipe is sufficient to give a pressure of 24 pounds to the square inch, or 39 pounds absolute pressure. The problem then is to find the pressure of equalization of auxiliary and brake cylinder, the former charged to 85 pounds absolute pressure and having a capacity of 1,620 cubic inches, and the latter charged to 39 pounds absolute pressure and having a capacity of 450 cubic inches. The auxiliary and brake cylinder volumes must be added together and, as they contain air at different pressures, the pressure in each must be reduced to the same amount or to 1 pound per square inch before this addition can be performed.

As already noted in the last problem, the volume of each multiplied by the absolute pressure will give the volume of each if the air be expanded until the pressure is 1 pound per square inch.

1,620 \times 85 = 137,700 cubic inches of air at 1 pound pressure, 450 \times 39 = 17,550 cubic inches of air at 1 pound pressure, or a total of 155,250 cubic inches of air at 1 pound pressure. To find the pressure developed by this volume of air at stated pressure, divide it by 2,070 cubic inches, or by the combined capacity of the auxiliary and brake cylinder. This will equal 75 pounds absolute pressure, or 60 pounds gauge pressure.

In the above example, as well as in others in which air at gauge pressure already existed in the brake cylinder, the pressure can be either reduced to pounds per square inch absolute pressure, as has been done in the preceding examples, or to pounds per square inch gauge pressure. In the first case the answer would be in absolute pressure, and in the latter gauge pressure. In the above example assume it is required to find the resulting volume if the pressure is reduced to 1 pound per square inch gauge pressure. This will equal 1,620 \times 70 plus 450 \times 24, or a total of 124,200 cubic inches of air at one pound per square inch gauge pressure. Dividing this by the combined capacity of the auxiliary and brake cylinder, or 2,070 cubic inches will give a resulting brake cylinder pressure of 60 pounds per square inch gauge pressure. Gauge pressure can also be used if desired should atmospheric pressure exist in the chamber into which pressure is to be expanded.

(To be continued.)

MOVEMENT OF TRAINS

By G. E. COLLINGWOOD.

Character and Knowledge.

It is well understood that character and knowledge are of great value in all honorable undertakings, and when we come to consider the vast importance of railway operation, with respect to those who trust their lives to the men in the railway service, we begin to understand of how much greater value character and knowledge are in railway operation than in most other occupations. Safety and efficiency in train movement implies character and knowledge. Character implies personal worth and a system of working and living which is consistent with progress and helpfulness,—a high moral quality of principles. Knowledge implies a clear perception of duty and a thorough understanding of the rules governing the performance of that duty. It should be the ambition of every fireman and engineer to develop character and knowledge to such an extent that liability of accident, through error, would be greatly lessened. Such a development is within the reach of all and is abundantly worth while from every point of view.

The workman is greater than his tools. It is a mark of great character to be equal to any emergency, to make the best of any situation, to be able to take whatever means are at hand, no matter how inadequate they may be, and accomplish the task. Men who have developed character to this extent never give up. They know instinctively that they are greater than their tools and they accomplish the thing that the undeveloped individual would call impossible. Character and knowledge produce such men.

Robert Burns was once walking with an aristocrat when an old farmer passed them and was greeted cordially by Mr. Burns. The aristocrat took Mr. Burns to task for recognizing the man, and this so aroused Burns' indignation that he exclaimed, "Why, you fantastic gomerill, it was not the great coat, the scone-bonnet and the Saunders' boot-hose that I spoke to, but the man that was in them: and the man, sir, for true worth would weigh down you and me and ten more such any day." So we may learn by observation and the knowledge that has come to us down through the ages that there is no power in ancestry to make the foolish wise, the careless thoughtful, or give character where none exists. For all of these things must be gained not given.

Character and knowledge should go hand in hand to accomplish the greatest

good and safeguard progress to the fullest extent. It is then evident that to live a life worth while, to gain character and knowledge, which is of such great value to railroad men, requires earnest and continuous personal effort. Every engineman and fireman should be thoroughly acquainted with train rules and their application and should have sufficient character to apply such knowledge to the best possible advantage, and it is to this end that these articles are written. Nothing in this article should be construed as indicating that the author thinks that enginemen and firemen are lacking in this respect, for he knows beyond question that the standard of enginemen is as high as that of other employes. The subject is brought up in a spirit of helpfulness.

An understanding of the practical application of Rule 99, under all sorts of working conditions, has been requested, and this understanding of the rule will prove of value to many readers. It is submitted herewith.

Rule 99 is not explicit in detail. It gives, however, in an outline, a general course of procedure. Owing to the conditions under which the rule must be administered being so varied, it is impossible to embody in the rule a detailed method of operation.

After a careful consideration of the subject the following explanation of the rule is submitted. As is pointed out in Rule 105, both conductors and enginemen are responsible for the safety of their trains, and are therefore to be held responsible for the protection of their trains in any case.

A train may be moving along, but such fact will not release conductors from using all necessary caution to safeguard a train which may be following. This is especially true in heavy weather or when the train is moving slowly. In such a case a fusee should be dropped off at a point where it may seem best, and other fusees should be dropped at intervals when it seems necessary. Or it may be necessary to drop a flagman off, in some cases. The action necessary can best be determined by the local conditions.

The rule is so worded that whenever a train stops or is delayed under any circumstances in which it may be overtaken by another train the flagman must, without waiting for the engineman to whistle him out or for the conductor to send him back, go back immediately with stop sig-

nals, which shall consist of a red flag and torpedoes by day, and in addition, by night, a red and white lantern and fuseses, when such are used. The flagman must go a sufficient distance to insure full protection regardless of whether it be a half-mile or a mile and a half; the distance is always to be determined by the conditions of grade, curves and by the weather and the distance an engineman can see from an approaching train. The flagman should then place one torpedo on each rail opposite each other. He should then go back about six or seven telegraph poles farther and there place two torpedoes on the rail on the engineman's side about six or seven rail lengths apart as required by Rule 15, to act as a caution signal.

When the engine or an approaching train explodes these torpedoes the engineman should bring his train under cautionary speed and proceed at such rate of speed for the distance which a flagman should be out from a train at that point; he may then proceed at normal speed if he finds no stop signal or flagman.

It is the duty of the flagman, after having placed the two torpedoes on the rail, as indicated above, to return to the point where he placed two torpedoes on the rail opposite each other, where he should remain until he is recalled or until overtaken by a train.

It is the duty of the flagman to go out immediately without waiting for instructions from anyone to go back, but the conductor and engineman are not relieved of responsibility in flagging, as it is a part of their duty to know that the flagman goes out as required to protect the head end or rear end of their train. It is also the engineman's duty to whistle out the flagman promptly whenever it is necessary to prevent accident. It is the conductor's duty to know that the flagman has gone out with proper signals and that he understands what is expected of him.

When a train is pulling out of a siding, pulling off from a branch, or crossing any main track the flagman must take such action as will insure protection.

When a flagman goes back to flag, under the conditions as indicated by Rule 99, if he is recalled to his train before he is out the required distance to insure full protection, he will continue to go back until he has reached a proper distance where he will place caution signals, if conditions require such action to insure safety, before returning to his train.

When a flagman is recalled after hav-

ing placed both sets of torpedoes, he should, if no following train is within sight or hearing, take up the stop torpedoes and return to his train, leaving the caution torpedoes still on the rail as placed, and in addition thereto in stormy, dark weather or at night, place a fusee indicating caution.

When a flagman is overtaken by a following train before he is recalled to his train, he will give a stop signal with his red flag in the day time, and if it is at night he will give a stop signal with a red and white lantern swung in the same hand. If weather conditions are bad or other interference makes it advisable the flagman will also use a fusee in addition. When the engineman of the approaching train answers the stop signal the flagman will not remove the torpedoes from the rails, because the engineman's answer to the signal may have been intended for some member of his own crew, and which would be given the same kind of an acknowledgment.

Yard limit boards furnish no protection except as provided for in Rule 93. For example, on lines which state that within yard limits the main track may be used protecting against second and third class trains, there is no authority given for yard crews or road crews to use the main track on the time of first class trains, and such trains and crews will not occupy the main track in yards on the time of first class trains without train orders authorising such action. Second class and third class trains and extra trains must move within yard limits prepared to stop unless the main track is seen or known to be clear. Yard crews and road crews must be protected within yard limits as required by the rules. This protection may be given by automatic block signals, with manual block signals, or with semaphores placed on either side of the yard which are to be placed at stop at all times except when changed to proceed to permit a train to come into the yard or pass through it. However, the exact manner in which protection is to be secured within yard limits is left for each road to decide, but protection of some sort must be given.

Flagmen must keep the proper signals ready for immediate use and must keep them in good condition as indicated by Rule 7. The flagman on a passenger train should usually go back about two rail lengths when his train stops, with stop signals displayed, and remain there until train is ready to start unless conditions require him to go out a greater distance and flag, to protect an extra long stop.

Questions and Answers

Locomotive Running and Repairs.

Answers by F. P. Roesch.

2569. Tonnage Rating.—"What would be the tonnage in empty cars of an engine with 43-inch wheel, 32½ tons on drivers, 16 x 24-inch cylinders, 170 lbs., steam pressure, 2-6-2 type, up a 5.2 per cent grade?"—*Member.*

Answer.—Using the regular formula for obtaining tractive power, namely,

$$T. P. = \frac{d^2 \times S \times .85 B. P.}{D}$$

we find that the tractive power of the engine in question is equal to 20,646 lbs. To find what tonnage an engine of this tractive power will handle up a 5.2 per cent grade, we must find the resistance per ton on this grade and divide it into the tractive effort, and from this subtract the weight of the engine and tender, loaded. The difference will be the gross tons that the engine can haul behind the tank. The resistance for a 5.2 per cent grade is equal to 5.2 multiplied by 20, equals 104 lbs. To this must be added the resistance due to friction, which is commonly taken as 6 lbs. This would give a total resistance of 110 lbs. per ton. If there are any curves not compensated on the grade in question, the resistance due to curvature must also be added. But as no curves are given, we simply divide the tractive power found, by the resistance as found for grade and friction. 20,646 divided by 110, equals 187 tons. From this, as previously stated, must be deducted the weight of the engine and tender. In the question this is not given; consequently, the 187 tons, as found, would include this weight. If, however, our correspondent knows the weight of the engine and tender, loaded, and will subtract this weight in tons from 187, it will be equal to the maximum tonnage that the engine can drag in empty cars over the grade in question.

Would state, however, that if the dimensions given for this engine are correct, it would prove to be a very slippery engine, as we find that the engine has but 3.25 lbs. of adhesion per pound of tractive power; and, consequently, it would be necessary to use considerable sand. This will naturally make the train pull harder, and would probably result in the engine being able to handle less than the theoretical rating.

2570. Wet Sand.—"If sand is dry when put in the sand box and no steam leaks under it, what will cause sweating? Most water collects on cover and wets sand. Sand at bottom remains dry."—*Mc. L.*

Answer.—In the case in question there is no doubt but what the sand is not thoroughly dry when put into the sand box, even though it may be apparently so, as with the sand dry there could be no sweating. The water would naturally collect on the cover, as the heat is imparted to the sand from beneath by the heat in the boiler. This drives whatever moisture is in the sand up through it, in the form of steam or vapor. As the cover of the sand box is exposed directly to the cooling action of the air, this steam or vapor collecting on the underside of the cover will naturally be condensed into water, and, dripping down, have the effect of wetting the sand on top. Even though the sand is dried thoroughly before being placed in the bin, it is possible that the sand in the bin will absorb sufficient moisture to cause this sweating when it again comes in contact with heat, as is the case when it is placed in the sand box.

2571. Lever Jerking.—"Can you explain why, when engine is being worked slowly with full throttle, the valves become dry and the lever jumps, when the lubricator is apparently feeding properly? What would you do under these conditions?"—*J. E. C.*

Answer.—As has frequently been explained in this department, oil can only be fed from the lubricator to the valves so long as circulation is maintained through the oil pipes. Whenever this circulation or flow of steam is arrested, however, condensation of the steam will occur, forming a water seal in the oil pipes, which holds up the flow of oil and causes the valves to become dry. The circulation of steam through the oil pipes can only be maintained so long as the pressure at the lubricator, or the upper ends of the oil pipes, is greater than the steam chest pressure, or the pressure at the lower ends of the oil pipes. When the engine is being worked slowly with a full throttle, the steam chest pressure has an opportunity to build up to practically boiler pressure. Therefore, if the engine is fitted with a lubricator having a steam supply pipe smaller than the combined

area of the two oil pipes, or if the steam valve to the lubricator isn't wide open, or if the equalizing tubes are in any way restricted on the inside, there will be a greater pressure at the lower end of the oil pipes than there is at the upper end; consequently, a water seal will be formed in the oil pipes immediately above the steam chests, as it is that portion of the oil pipe that is exposed directly to the cooling influence of the atmosphere, and all oil fed from the lubricator will fall down to this water seal and float on top of it, remaining there until the throttle has been partially closed, so that the steam chest pressure is less than the oil pipe pressure. When this occurs, the oil pipe pressure will force the water, together with the oil that has lodged on top of it, into the steam chest, and the valves will again become lubricated. In this case the lubricator will apparently be feeding all right but the oil does not get to the valves. To overcome this condition, either one of two remedies can be used. First, if on the road and the lever begins jerking under these conditions, simply ease off on the throttle while the drivers make a few revolutions. This will allow the steam chest pressure to fall and allow the oil to get to the valves. The second remedy is to apply a copper gasket between the oil pipe and the tallow plug just above the steam chest, punching a very small hole through this gasket, say a hole about 1-32-inch in diameter, or as large as an ordinary pin. This will have the effect of maintaining a lower pressure in the bottom of the tallow pipe than there is at the top and will usually insure a steady oil feed to the valves regardless of the manner in which the engine is being worked.

2572. Oiling Superheater Valves.—“Does a superheater engine require more valve oil than a saturated steam engine, and how much and why?”—*J. E. C.*

Answer.—In our experience a superheater engine only requires as much more oil than a saturated steam engine as the difference in the area to be lubricated. In other words, superheater engines usually have larger cylinders and lower steam pressure than saturated engines of the same tractive power; therefore, as the cylinder area in the superheater to be lubricated is greater than that in the saturated steam engine, it should require as much more oil as the difference in areas. If, however, the cylinders of both engines are the same diameter and stroke, the superheater engine will not require any more valve oil than the saturated steam engine.

The question of lubrication as connected with superheated steam is one that is not thoroughly understood by all engineers. It is not so much a question as to the amount of oil supplied to the valves and cylinders as to the manner in which the engine is handled. The temperature of the cylinders on an engine using superheated steam usually rises above the flash point of the valve oil supplied, but so long as there is steam in the cylinders the valve oil cannot carbonize, and, consequently, fills its functions as a lubricant. If the throttle is closed suddenly, however, so that the supply of steam, which forms a protective covering for the oil, is shut off and air is admitted to the cylinders either through the relief valves or through the nozzle, the oil in the cylinders, which is vaporized and heated to a temperature above its flash point, will become mixed with the indrawn air and carbonization will immediately result. Therefore, the proper way to handle a superheated engine under all conditions is, when a stop is to be made the throttle should not be entirely closed but should be kept cracked sufficiently to admit enough steam to keep the cylinders filled with steam at a pressure slightly above the atmosphere so that no air can enter the cylinders until the train has been brought to a full stop. After the train has been brought to a stop, the throttle can be and should be closed. In tipping over a hill where no stop is intended but where the engine and train will drift, the throttle should be kept cracked for a distance of two or three miles and the reverse lever lowered to about half stroke. At the end of a two- or three-mile run the cylinders will usually have become cooled below the flash point of the oil and the throttle can then be entirely closed without any danger of the oil carbonizing. Of course, this manner of handling an engine and looking out for the lubrication depends altogether upon the man running the engine. As this keeping the throttle open when stopping or when tipping over a hill is entirely new, however, and something to which engineers have not been accustomed heretofore, it is natural for an engineer to occasionally forget and close the throttle instead of keeping it cracked. While he may close the throttle for but an instant, yet during that instant there has been an opportunity for air to rush into the cylinders, and, of course, what oil was in the cylinders has become carbonized. Knowing this to be the case, many railroads are introducing what is termed a drifting valve, or one that will automatically admit steam to the cylinders from

some other source when the throttle is closed, so that steam is no longer admitted through the usual source. The great difficulty with the majority of drifting valves on the market at the present time, however, is that they do not admit the steam at the right time, namely, just before the throttle is closed, so that there will be steam in the cylinders after the supply through the throttle valve has been shut off. Others depend on manual operation and are, therefore, little if any better than depending upon the engineer to handle his throttle properly when stopping or tipping over the top of a hill. A drifting valve is now being developed, however, that overcomes all of the objectionable features, or one that is always in operative position and works automatically under all circumstances.

2573. Broken Valve.—"Describe the proper method of locating a broken valve, valve seat or valve yoke."—*E. O.*

Answer.—A broken valve or valve seat is usually manifest when the engine is running by a severe blow at the stack. To locate the side where the break occurs, place the engine on the quarter on one side with the reverse lever in the center of the quadrant, open the cylinder cocks; if the steam blows from either cylinder cock on the side that is on the quarter, it is an indication that either the valve or the seat is broken on that side. Of course, if you get no flow of steam from the cylinder cocks in this instance, place the engine on the quarter on the opposite side and try that side. There are instances where this test will not reveal a broken valve seat, as, for instance, if one of the bridges is broken you could not locate it by placing the engine on the quarter, with the reverse lever in the center of the quadrant.

To locate a broken bridge, place the engine on the quarter on the side to be tested, then move the reverse lever into forward or back corner. If a blow now occurs, it is evident that either one of the bridges or the cylinder packing on that side is broken. To determine which, open the cylinder cocks; if steam flows from both cylinder cocks the trouble is due to defective cylinder packing. If steam only flows from the cylinder cock connected with the open steam port, it is due to a broken bridge.

A broken valve yoke, unless broken off entirely at the stem, is somewhat more difficult to locate, as if only one side of the yoke is broken, its only effect will be to cause the engine to go lame when working steam. A standing test will not reveal as a rule the side where the

valve yoke is broken. Therefore, it can only be located while running and by watching the crosshead, as, for instance, if the engine seems lame; that is, has one loud and one light exhaust when the crosshead is leaving the ends of the guides on the right side, you are safe in reporting the right valve yoke. If the loud and the light exhausts occur when the crosshead is at the center of the guides on the right side, the trouble is in the left side. If the valve yoke breaks off entirely from the stem, the engine will stop on the dead center on the side where the yoke is broken and cannot be moved in either direction. The usually described standing-test for locating a broken valve yoke is to place the engine on the quarter on the side to be tested, open cylinder cocks and then throw the reverse lever forward and back, at the same time admitting a little steam; and, if the steam cannot be made to flow out of alternate cylinder cocks on that side, the valve yoke is broken. This test is not practical, however, in that, with the valve yoke broken off, the engine, as stated before, will stop on the dead center on the side having the broken valve yoke and cannot be moved in either direction, consequently it cannot be placed on the quarter. Therefore, the absolute test for a valve yoke broken in this manner is, when your engine stops suddenly with one side on the dead center and cannot be moved in either direction, it is safe to assume that the valve yoke on the side where the engine is centered is broken off.

2574. Repairing Broken Valve Seat, Etc.—"After the broken valve seat or yoke has been located, what should be done?"—*E. O.*

Answer.—If either the valve or the seat is so broken that the ports can be covered with what is left of the valve, or if the seat is so broken that the valve can still be used to cover the ports, the valve stem should be disconnected, either at the valve rod or at the rocker arm, and the valve placed centrally over the seat and clamped in this position. If the engine is fitted with cylinder relief valves, the relief valves should be removed in order to overcome any compression of air in the cylinder, and also to afford a means of lubricating the cylinder. The main rod need not be taken down. If the cylinders are not fitted with cylinder relief valves, the front cylinder head should be slacked off so as to admit air to the cylinder and afford a means of lubrication, or else removed entirely.

In case of a broken valve yoke that

is, when the yoke has broken off from the stem entirely, the valve rod should be disconnected and the relief valve screwed out of the front end of the steam chest; the valve should then be pushed back through the relief valve opening to a position where it covers both ports; then the valve stem should be pushed against it and clamped in this position, after which a stick should be cut long enough to reach from the relief valve to the main valve, placed in the end of the relief valve and the relief valve screwed back into place; after which the usual provision for lubricating the cylinder can be made.

2575. Broken Rocker Arm.—"What should be done in case an upper rocker arm should break? If a lower?"—*E. O.*

Answer.—If the upper rocker arm should break, simply remove the broken part if it is liable to interfere, and clamp the valve centrally on its seat; then make the usual provision for lubricating the cylinder, leaving the main rod up, and proceed on one side.

The same method can be used for a broken lower rocker arm unless the lower rocker arm affords a support for a transmission bar; that is, in cases where the rocker arm is not connected direct to the link-block pin, but it is connected to a transmission bar, if this transmission bar has no other supports except the rocker arm at that end, it will either have to be swung by means of a chain or else removed entirely. The latter method is, as a rule, preferable. Then clamp the valve centrally on its seat, make the usual provision for lubricating the cylinder and proceed on one side.

2576. Broken Link Hanger.—"What should be done in case a link hanger or link saddle should break?"—*E. O.*

Answer.—In either case, cut a block that, if placed between the top of the link block and the top of the link in the link slot, will raise the link to a position where it would be when handling the train, proceeding on both sides. This is usually the quickest way to handle a case of this kind, although, if the link hanger should break, the link can sometimes be chained up by substituting a light chain in place of the hanger. In a case of this kind, when necessary to back up, the link on that side must, of course, be raised with a bar and a longer block used for blocking up the link.

2577. Testing For Valve Blow.—"Why is it necessary to place an engine on the quarter to test for a valve blow?"—*E. O.*

Answer.—Because this is practically the only position in which the valve can be placed by means of the reverse lever in such a position to cover both ports. If the engine were placed in any other position except on the quarter and the reverse lever placed in the center of the quadrant, one of the ports might be open, thereby permitting steam to flow into the cylinder and misleading you in the test.

2578. Setting Valves on a Superheater Engine.—"Please explain the setting of valves on a superheater engine to give the best results in freight service. Eccentric throw, 5 ins.; driving wheel, 63 ins.; piston valve; 22x8 in. cylinder."—*H. B. E.*

Answer.—There is practically no difference in the manner in which valves should be set on a superheated or saturated steam engine. It is customary, in setting valves on engines to be used in freight service and equipped with Stephenson gear, to set the valves with about 1/16-in. lead. Owing to the fact that superheated steam is much more fluid than saturated steam, we believe that better results could be obtained by decreasing the amount of lead to say 1/32-inch.

The manner in which valves should be set on any engine depends very much on the service; as, for instance, if this engine is used in high-speed freight service, line and line would be preferable to having any lead. If, however, it is used in drag service, 1/16-inch lead would, perhaps, be preferable to 1/32-inch. Not knowing exactly what kind of service the engine is in, we split the difference and suggest 1/32-inch lead. Of course, if the engine were equipped with Walschaert gear, it would be necessary to set the valves with the same lead in full gear that is desired in mid-gear.



The Westinghouse Air Brake.

Answers by F. B. Farmer.

1195. Undesired Quick Action.—"In operating a passenger train equipped with universal brake equipment if undesired quick action (a 'kicker') develops, what can be done to overcome the trouble until the final terminal is reached?"—*E. C.*

Answer.—If undesired quick action occurs with any design of valve, including the universal valve, locate and cut out the valve at fault. It is an interesting fact that this trouble has not occurred with the universal valve unless some of the mechanism has been damaged

or ports have become stopped up, something, of course, more liable with a new than with an old and well known device. Where oil on the slide valve seat will cause triple valves to be harder to apply and will occasionally cause sufficient resistance to make one apply in undesired quick action this will not occur with the universal valve.

In connection with this matter of undesired quick action and the various valves and attachments having, among other purposes, the intention to prevent it, we should not lose sight of the fact that any valve which can give *desired* quick action has in it the possibility of undesired quick action. The probability of the latter can be reduced, but to say that it can be prevented under all and every condition of service, neglect and lack of understanding is to exaggerate. On the other hand, it has been positively proven on a road with several thousand cars which do not leave the line and are run in special service that with the present standard freight triple valve undesired quick action has been practically eliminated without any extra expense or special precautions, but, instead, by merely ordinary attention to well known recommendations on cleaning and repairs. Engineers have not been asked to change their methods of braking in any particular from those generally recommended.

1196. Double-Heading Cock.—"With the handle of the double-heading cock in closed position what ports are open and what are closed?"—*J. E. C.*

Answer.—With all equipments but No. 5 ET the closed position of the double-heading cock (brake valve cut-out cock) merely closes the brake pipe near the brake valve and thereby cuts out the latter. With No. 5 ET this cock is "double", having, in addition to the brake pipe passage, a port for the double-heading pipe. When one of these passages is open the other is closed. Hence, when this brake valve is cut out the double-heading pipe is cut in. In this position the application chamber exhaust port of the distributing valve is connected with the automatic brake valve. When the latter is on lap this pipe is then open to the atmosphere, allowing the application chamber air to escape to the atmosphere and this locomotive brake to release as soon as the equalizing slide valve is moved to release position, by operation of the automatic brake valve then in control of the train brakes.

1197. Braking Power from Various Brake Pipe Pressures.—"Do you get any more braking power with a train pipe

pressure of 90 pounds than with 70 or 80 pounds, with the same piston travel for all three pressures, and with a full service application?"—*Member.*

Answer.—Yes, the higher the brake pipe pressure carried the higher will be the brake cylinder pressure obtained by a full service application. However, if the brake pipe reduction made is not beyond that necessary to fully apply with 70 pounds brake pipe pressure then no greater brake cylinder pressure will be obtained from higher brake pipe pressures and the same reduction, but there will be more in reserve with the higher brake pipe pressures.

1198. Why 110 Pounds Brake Pipe Pressure.—"What is the object of high speed trains carrying 110 pounds train pipe pressure? Explain fully."—*Member.*

Answer.—Safety. The higher the speed the longer is the distance required in which to stop. This distance increases in a greater proportion than the speed. There are two reasons: First, because with all else the same the holding power or frictional resistance of the brake shoes is lower with higher speeds. Second, because the work the brake has to do to stop the train increases with the square of the increase in speed. To explain the latter, and taking a speed of 20 miles per hour for comparison, at double this speed (40 m. p. h.) the work would be four times as great, and at three times the assumed speed, or 60 m. p. h., the work would be nine times as great.

Higher brake pipe pressure will permit of obtaining a greater brake shoe pressure; hence, is one way of partially offsetting the effects of greater energy to be destroyed, the work the brake has to do to stop the train, and the poorer brake shoe friction. The LN, the PC and the Universal equipments afford other means of obtaining higher brake shoe pressures in emergencies and of getting this result quicker, as well as having other advantages over the early form of high speed brake.

1199. Pressures to Operate Slide Valve Feed Valves.—"How much excess pressure is required before the slide valve feed valve will open or supply? Would also like to know the strength of the piston spring, and the leakage past the supply piston. Some men here claim the feed valve will work with two pounds excess pressure."—*G. G. G.*

Answer.—The important thing to know is that at least 20 pounds excess pressure should be carried to insure operation of the feed valve. There are two strengths of piston spring, the lighter for

the B-3 and B-4 feed valves and the stronger for the C-6 and B-6 valves. *Theoretically* it requires about 5½ pounds of excess pressure to compress the lighter spring to the full open position of the B-3 or the B-4 valve, and about 11 pounds with either of the other two. *Actually* it must take more with any in practice because of oil, gum and dirt in varying quantities. Then, too, it should be remembered that the apparent excess pressure had is quite often more than the actual amount. To test this close the double-heading cock (brake valve cut-out cock), place the handle of the automatic brake valve in release position and then observe the large, duplex air gauge. If the black hand shows less pressure than the red hand subtract the difference from the excess pressure indicated in running position and the result will be very close to the actual excess pressure carried. In release position the pressures shown by these two gauge hands are absolutely equal; hence, any difference between the gauge hands then shows the gauge is in error.

There is no direct relation between the leakage past the feed valve piston and the excess pressure needed to open the feed valve, yet the leakage past this piston is important. There must be some leakage or the feed valve would not close. On the other hand, if the leakage were greater than could pass the wide-open regulating valve the feed valve would not open. These are extreme and seldom-met conditions, but with the B-3 and B-4 valves, having the smaller regulating valve, it is not so uncommon to have such leakage past the piston as to cause the feed valve to shut its supply valve as soon as the regulating valve commences to close, in which case any further increase in brake pipe pressure must come from the air flowing past the piston and the regulating valve. Such a condition is illustrated where with a train of moderate length and no excessive leakage the brake pipe pressure carried is several pounds less than is shown with the light engine.

It might be well to add that even the B-3 and B-4 types of feed valve will require at least 5 pounds excess pressure to just open the feed port and that 7 pounds is nearer what may ordinarily be expected to open it fully under ordinary service conditions.

1200. Blow at H-6 Brake Valve Exhaust Port.—“What will cause a continuous blow at automatic brake valve exhaust port when the handles of both brake valves are in running position?

How can you determine whether the leak is from the main reservoir, rotary valve of the independent brake valve or pressure chamber? And how would you proceed to test the distributing valve?”—*J. L. H.*

Answer.—Leakage past the rotary valve of either brake valve, the distributing valve equalizing slide valve or the distributing valve gasket.

Place the handle of the automatic brake valve in holding position and disconnect the application cylinder pipe and the distributing valve release pipe at the distributing valve. Next, unless a blow can be heard, hold a finger over the end of each of the pipes for a few seconds to note whether any pressure accumulates. If there is leakage from the release pipe and it stops on lapping the independent brake valve the fault is probably with the rotary valve of the automatic brake valve, but with the rotary valve of the independent brake valve if it then continues. If there is a blow from the application cylinder pipe disconnect at its two brake valve connections to determine which valve is at fault.

It being assumed that the engine brakes are charged and in release at this time close one of the pipe openings at the distributing valve and note whether there is a blow from the other. If so, the equalizing slide valve or the distributing valve gasket is defective. An examination of both is usually the quickest way to settle which is at fault. The equalizing slide valve is the more probable one.

The following is an ordinary test of the distributing valve, the two brake valves and their connecting pipes. With full pressures make a service reduction of 10 pounds, move to holding position and then watch the brake cylinder gauge hand. If it does not move or gradually drops three or four pounds and then comes back to the same pressure a reasonably good operative condition of the distributing valve is indicated. If the brake cylinder pressure rises a leak into the application cylinder from one of the four points mentioned earlier is indicated. If the brake cylinder pressure continues to fall a leakage from the application cylinder pressure exists. This fall in pressure will usually be accompanied by more or less frequent exhausts at the distributing valve until the locomotive brakes are off. If the brake cylinder pressure drops considerably, say, eight pounds or more, and is then restored, the application portion of the distributing valve has too much resist-

ance, due to dirt, gum, lack of lubrication or defective fit of some part.

To test the safety valve adjustment move the handle of the automatic brake valve to emergency position and note what brake cylinder pressure is obtained. It should not be over 75 pounds at the most as the safety valve should open at 68 pounds. Do not allow it to exceed 75 pounds so as to avoid undue strain on the brake rigging. Prevent by lapping the brake valve, then ascertain why the safety valve failed to operate properly (probably dirty or incorrectly adjusted) and have the fault remedied.

1201. Steadying a Train on a Curve. "In steadying a train on a curve when should the brakes be applied and released?"—*J. L. H.*

Answer.—There is a difference of opinion on this; hence, engineers should observe the instruction given on this by the road each is working for. Some prefer to slow the train so as to release on entering the curve. Others believe it better to hold a moderate application as far around the curve as practicable. Both recommend the use of steam while rounding the curve. The main essential is not to enter the curve faster than is perfectly safe. The writer believes objections to holding the brakes lightly applied around the curve are based, so far as they have justification, on entering the curve at too fast speed, being convinced that a moderate application around the curve reduces the side lurches, particularly when it is accompanied by fairly heavy use of steam, as recommended, and without increasing liability of derailment, but instead tending to decrease it.

1202. Engine Brake Cylinder Leakage With ET Equipment.—"If the main reservoir pressure falls when a brake application is made what is the cause, and what should be done to remedy the trouble?"—*J. L. H.*

Answer.—This evidently refers to ET locomotive brake equipment. With such the engine and tender brake cylinders are supplied direct from the main reservoir. As a feature of this equipment is that brake cylinder pressure is maintained at the right amount for the brake pipe reduction made, irrespective of piston travel and brake cylinder leakage, it follows that if there were a serious brake cylinder leak, as from a broken brake cylinder pipe or very defective leather, this would draw heavily on the main reservoir pressure while the locomotive brakes were applied. If this used more air than the compressor could supply the

main reservoir pressure would fall, as assumed in the question.

The immediate need would be to stop the loss of main reservoir pressure. As this leak would occur alone while the locomotive brakes were set the next thing to do would be to release them with the independent brake valve if this could be done with safety. After stopping the next thing to do would be to find the leak and remedy it. To locate the leak, make an independent application. The following continuous blow from the leak should render it easy to find. If the cause cannot then be remedied, close the cut-out cock that will cut out the brake (driver, tender or engine truck) that has the defect, and brake for the remainder of the trip with the understanding that so much braking power has been lost.



Train Rules and Train Practice.

Answers by G. E. Collingwood.

913. Authority of Train at End of Schedule.—"Train No. 1, a first-class train, is scheduled to leave A at 7:30 p. m., and scheduled at B, the end of the run, at 8:30 p. m., the distance being nine miles.

"Can a second-class train, moving in the opposite direction, go beyond the siding at B between 7:30 and 8:30 p. m. without protection? There is no time shown for No. 1 between A and B.

"There is a siding located one-half mile beyond B in the direction of A. Can a second-class train, moving in the opposite direction, arrive at B, pass B and go to this siding, clearing the main track at 7:33 p. m.? The distance from A to this siding is eight and one-half miles. In other words, is No. 1 due at B at 7:30 p. m. at the time scheduled to depart from A, or must this train arrive at B at 8:30 p. m.? There is only one time shown at B for No. 1."—*C. A. H.*

Answer.—If the time-table shows 8:30 p. m. at B, as the arriving time of No. 1, then No. 1 cannot arrive at B before 8:30 p. m. The time in such a case would apply at the switch where an inferior train would enter the siding.

The exact answer to the question must depend upon the kind of block signals in use, or the absence of same. If an absolute manual block system is in use, then a train inferior to No. 1 could not pass B in the direction of A after 7:30 p. m. If there are no block signals in use, the main track at B can be used up to 8:25 p. m. under protection.

But if the time shown at B for No. 1 does not indicate that it is the arriving time, as it should, it must be considered as being the leaving time, under Rule 5, and the leaving time at A would be considered as the arriving time at B.

An inferior train cannot pass B and go to the siding one-half mile beyond B, unless such siding is the regular siding at B, against No. 1, unless it can make that siding before No. 1 is due to leave A. But if it is the regular siding for B station, then the time at B for No. 1 would apply at that siding at the point where an inferior train would enter the siding, and inferior trains could move accordingly.

The distance from A to B cannot, under the rule, enter into any arrangement an inferior train may wish to make to help itself to the siding located beyond B.

914. Rule 220.—“Rule 220 states that train orders, once in effect, continue so until fulfilled, superseded or annulled. Please explain as fully as possible what is meant by ‘fulfilled, superseded or annulled.’”—*Member 835.*

Answer.—The application of train orders is technical under the Standard Code of rules. The word “fulfilled” has no definition in the Standard Code, and it is conceded that a train order is fulfilled when the train concerned carries out the provision of the order which relates to it with respect to the dictionary meaning of the word. For example, a train holds an order to meet No. 1 at B. This train must actually meet No. 1 at B before the order is fulfilled. If No. 56 holds an order that No. 1 will run 30 minutes late, the order is fulfilled when No. 1 becomes 30 minutes late at the point where No. 56 is, so far as No. 56 is concerned. If a work extra holds an order to work 5 a. m. to 5 p. m. between A and B, such order is fulfilled to the work extra at 5 p. m.

An order or part of an order is superseded by a subsequent order to which the words, “instead of” have been added to the prescribed form. There is no other way of superseding an order. When an order is superseded, only such part of the order is actually superseded as is referred to in the superseding order. For example, an order is issued as follows: “No. 1 meet No. 2 at B and No. 4 at C.” Later another order is issued reading, “No. 1 meet No. 4 at D instead of C.” In this case that part of the first order directing No. 1 to meet No. 2 at B still remains in effect, while that part of it directing No. 1 to meet No. 4 at C is not in effect.

To annul an order or part of an order, a subsequent order must be issued, reading, “Order No. 1 is annulled.” Or “That part of order No. 1 reading No. 1 meet No. 2 at B is annulled.” In this latter case only such part of the order as

is referred to is annulled, while, in the first case, the entire order is annulled.

Rule 220 also provides that orders held by or issued for or any part of an order relating to a regular train become void when such train loses both right and schedule as prescribed by Rules 4 and 82, or is annulled.

The above methods of disposing of train orders which have once been in effect are the only methods of which the Standard Code speaks. But it is taken for granted that when a train reaches its terminal station all of its unfulfilled train orders become void.

915. Right of Track and the Register.—“No. 3 leaves A and receives the following train order: ‘Extra 230 east has right over No. 3 C to B.’ B is a register station, and when No. 3 arrives there it finds that extra 230 has registered its arrival into B at 11 a. m., with white signals. Extra 230 is not at B when No. 3 arrives there, it having returned to C. Has No. 3 the right to leave B while it holds the right of track order?”—*Student.*

Answer.—When extra 230 arrives at B it registers its arrival at that point, and such register is an official announcement that extra 230 has arrived at B, and, if the time is such that it may properly be considered the extra which is named in the order, No. 3 may proceed, as the order is fulfilled.

The situation is the same as obtains when a branch train is scheduled over a portion of the main line. For example, let us suppose that there is a branch leading out of the main line at B, and that branch trains use the main line from C to B. An extra train is moving from A to C on the main line, and there is a branch train overdue at B; but if that branch train has registered its arrival at B the extra may proceed, although the branch train is superior to the extra train; it having registered its arrival, such evidence can be accepted as official notice that the branch train has arrived, and such information can be acted upon by the extra just the same as though it had seen the branch train actually arrive at B. So in the case of No. 3, the extra is superior to No. 3, but the evidence of the register is sufficient proof that the extra has arrived, and, the extra having arrived at B, its order is fulfilled and No. 3 may properly proceed. The right of track order is different in this respect than the meet order. The explanation of the meet order states that the trains will meet as directed, and that explanation requires the presence of both trains to fulfill the order.



DISCUSSION OF CURRENT TOPICS

REPORT OF UNITED STATES COMMISSION ON INDUSTRIAL RELATIONS*

Press Abstract of Commission's Report on Colorado Mine Strike

By GEORGE P. WEST

Rockefeller Power Bulwarks Colorado Operators in their Defiance of Public Opinion. Publicity Campaign Floods Nation with Bulletins Denouncing Strikers and Defending Coal Companies. Rev. Gaddis Declares Situation "Despicable and Damnable." Law Gives No Protection to Miners—Government an Instrument of Tyranny—Bankers, Chamber of Commerce, Real Estate Exchange, Newspaper Editors "Co-Operate" Against Striking Miners—Companies Control Even Churches and Censor Ministers' Sermons.

"From first to last Mr. Bowers, as shown by his letters to Mr. Rockefeller's office, saw nothing in the struggle of the miners for the right to organize for collective bargaining except a plot by 'socialists,' 'anarchists,' and 'political demagogues' to wrest the control of the mines from their owners. His letters to Mr. Rockefeller, Jr., early in the strike show him to have been bitter and prejudiced in the extreme, with an adherence to the individualistic economic doctrines of a century ago that was almost grotesque in its intensity.

"Back of Mr. Bowers and President Welborn in determining and maintaining the operators' policies stood John D. Rockefeller, Jr., whose enthusiastic approval and indorsement of these policies gave incalculable moral and material support to both his own subordinates and to the executive officials of other companies. Mr. Rockefeller's indorsement and approval was accorded promptly at the beginning of the strike in the form of personal letters to

*Continued from February, 1916, Magazine.

Mr. Bowers, which were shown not only to the executive officers of the company but to the heads of other companies as well. It is greatly to be doubted if the Colorado operators could have maintained their unyielding and defiant attitude of opposition to the enlightened public opinion of the entire nation had they not been bulwarked by the material and moral power wielded by the possessor of the hugest private fortune in the world.

"Mr. Rockefeller's power to direct the policies of his own company is admitted and needs no discussion. But it is alleged that the Colorado Fuel & Iron Company was but one of many, and by itself unable to control the situation.

"Examination of the evidence shows that Mr. Rockefeller's agents admitted the company's leadership in the counsels of the operators during the first seven months of the strike.

Rockefeller Seeks to Divide Responsibility After Ludlow Massacre.

"It was not until the horror of the Ludlow massacre had shocked and outraged the nation and brought upon its perpetrators the wrath and loathing of every decent citizen that Mr. Rockefeller, for the first time, makes the point that his company was but one of many, and that Mr. Bowers in Denver, his supreme self-conplacency staggered for the minute, writes his employer 'we have been given altogether too prominent a place in this trouble.'

"Mr. Bowers used this phrase five days after the Ludlow massacre. The same sudden desire to minimize his part in the affair, apparently animated Mr. Rockefeller in New York at about the same time. Telegraphing to Mr. Bowers on April 26th, while the tide of the nation's anger still rose about him, Mr. Rockefeller asked:

"How many coal companies are involved in the strike?

"What proportion of their normal total output does your company represent? Answer ten West Fifty-fourth street.'

"Contrast Mr. Bowers' modesty after Ludlow with his early boastfulness. On November 18th he wrote Mr. Rockefeller:

"Personally the strain has been very great on Mr. Welborn, who has been the recognized leader among the operators.'"

While Mr. Rockefeller may have fully believed that conditions in the Colorado mines had been greatly improved since Mr. Bowers was sent there, and were as good or better than conditions prevailing in other fields, it is submitted that even a cursory reading of Mr. Bowers' letters should have revealed to his employer that here was a man temperamentally and intellectually incapable of dealing wisely and fairly with a strike involving the vital rights and interests of thousands of employes and their families, and seriously menacing the peace and well being of a state. Mr. Bowers' letters alone should have been sufficient to convince Mr. Rockefeller that the writer was irritable, arbitrary and obstinate to an exceptional degree; that he was a survival of the dark age of theory and practice regarding industrial relations; that he was ignorant of the characters and records of the men whom he opposed; and that finally his attitude toward the government of the state and nation was contemptuous, hostile and defiant.

"Nor could Mr. Rockefeller be acquitted even had Mr. Bowers concealed these qualities in his correspondence with 26 Broadway. From the day, seven days before the strike began, when he avoided an interview sought by a mediator of the federal government, Mr. Rockefeller refused to enter upon any independent investigation in order to determine for himself the true situation in Colorado, before he threw all the enormous power of his personal support behind the men who had set themselves to the task of crushing the revolt of 8,000 miners.

Yet the men whose unsupported word he accepted were almost strangers to him. They were men who could not have admitted the grievances complained of without admitting themselves guilty of crimes against society. But their denial was all that Mr. Rockefeller required before projecting himself into the situation as a decisive factor.

Rockefeller's Attitude Prevents Peaceful Settlement.

"That Mr. Rockefeller's support of his Colorado officials became a factor of tremendous importance, if not a decisive factor, in preventing a peaceful settlement is made clear by a study of the testimony and correspondence.

"On May 13, 1913, Mr. Bowers wrote to Mr. Rockefeller's secretary: 'It is well known that the Rockefeller interests are managing the affairs of the Colorado Fuel & Iron Co.' Business men, ministers, college professors, editors, and the general public knew that Mr. Bowers and Mr. Welborn represented the greatest financial interest in the world. They represented this interest in a comparatively new state, where dependence on 'eastern capital' and the habit of sedulously cultivating the friendship of eastern investors still held. They represented the world's greatest investor in a community of small business men newly arrived in the charmed circle of wealth and power and acutely sensitive to the glamor that surrounds the world's financially powerful.

"In the business community of Denver Mr. Rockefeller's agents had a prestige comparable to that of those strong men of Rome sent out from the world's capital to carry its grandeur into distant provinces. Three newspaper publishers, preachers of the gospel, obscure officers of the militia, looked to Mr. Rockefeller, a stranger in distant New York, for succor in their financial distress. When the United States government, warned of the discontent and the impending revolt in the coal fields, moved to prevent a disastrous strike, it was to Mr. Rockefeller's office in New York that this government sent its mediator. It was to Mr. Rockefeller that a Cabinet Officer appealed early in the strike, and Mr. Rockefeller's answer then, in contrast with his attitude after Ludlow, carried no denial or repudiation of his supreme authority and power."

There are submitted many extracts from the correspondence between Messrs. Bowers and Rockefeller in Denver and Mr. Rockefeller, or members of his personal staff, at 26 Broadway, all bearing on the question of Mr. Rockefeller's responsibility.

Rockefellers Publicity Campaign.

The report continues:

"But Mr. Rockefeller's part in the Colorado conflict was not confined to these letters of praise and indorsement which so heartened and sustained the Colorado operators. Prior to the massacre at Ludlow on April 20, the letters proved quite sufficient for Mr. Rockefeller's purpose. But the storm of popular wrath that rose after Ludlow demanded more active participation. It was then that Mr. Rockefeller initiated the nation-wide publicity campaign by which he hoped to convince the country that the strikers, and not his company's mine-guard-militiamen, were responsible for the deaths of thirteen women and children who perished at Ludlow, and that the strike itself, instead of a struggle for freedom, was a revolt by bloodthirsty and anarchistic foreigners, led by men who obtained huge incomes from organized agitation and lawlessness."

Still hiding behind his executive officials in Denver, Mr. Rockefeller employed a publicity expert and advanced him money from his personal funds to begin the campaign. He chose for the purpose Mr. Ivy L. Lee, publicity agent for the Pennsylvania Railroad. The president of that railroad consented that Mr. Lee should devote a part of his time to Mr. Rockefeller's service, and the pamphlets and bulletins were to be dispatched in bulk from Mr. Lee's Philadelphia office to Denver, for distribution from the office of the Colorado Fuel and Iron Company. They were to go forth under the name of the operators' committee, as correct information gathered and written on the scene by men familiar at first hand with the facts.

"Early in the summer of 1914 there began that remarkable publicity campaign by which Mr. Rockefeller flooded the nation with bulletin after bulletin, defending the coal operators and denouncing the strikers and their leaders. These bulletins contained false and deceptive statements. Salaries paid

to officials of the United Mine Workers in Colorado for the year ending November, 1913, were conspicuously displayed as salaries for the nine weeks ending in that month. This gross and palpable slander was mailed to thousands of congressmen, editors, ministers of the gospel, school teachers, public officials, business and professional men whose names appeared on Mr. Lee's carefully prepared mailing lists. No correction was made until it had been exposed by this Commission during the hearing in Denver in December, 1914.

"The preparation and distribution of these bulletins was carried on with the greatest secrecy as to the authorship of Mr. Lee and as to his employment by Mr. Rockefeller. When this Commission demanded the name of the writers of the bulletins of Mr. Welborn, during the hearing in December, Mr. Welborn refused to answer until he had consulted his attorney. Even then he carefully refrained from revealing the fact that the publicity campaign had been initiated and paid for by Mr. Rockefeller.

"Has the Colorado strike opened the eyes of Mr. Rockefeller and his associates to necessity, wisdom or moral obligation pointing toward radical concessions and changes in Colorado? The evidence justifying an affirmative answer is lacking.

Rev. Gaddis Says Situation Despicable and Damnable.

"The Rev. Mr. Gaddis visited all the camps of the Colorado Fuel & Iron Company and had exceptional opportunity to meet the miners and superintendents and to ascertain the actual conditions. Testifying in May, 1915, he summed up his judgment of the situation existing in these camps in the following language:

"I have never seen a situation to my mind more despicable and damnable. . . . It is an oligarchy that is controlling everything."

The direct cause of the strike, says the report, was the refusal of the mine owners, led by the Rockefeller company, to grant a conference to representatives of the strikers. The report says, after relating at length efforts of the union officials to obtain a conference during the summer of 1913 and prior to the strike:

"Spies and local officials had kept the operators fully informed of the unrest existing in the coal camps. That this unrest was of long standing is shown by Mr. Bowers' letter of September 19, 1913, to Mr. Murphy, in which he tells of the steps taken within the preceding year or two to forestall agitation. Before the strike began Mr. Welborn wrote to a director in New York, Mr. J. H. McClements, expressing the writer's anxiety and predicting that most of the men would go out if a strike were called.

"In his letter of Sept. 19 to Mr. Rockefeller's office, Mr. Bowers makes the significant admission that the operators believed they could avoid the strike by merely granting a conference to the union's officials. He writes:

"The strike is called for the 23rd, but it is thought on the part of a good many operators that the officials, anticipating being whipped, will undertake to sneak out if they can secure even an interview with the operators, which so far they have been unable to do, thus boasting before the public that they have secured the principal point; namely, recognition of the union."

"It was three days before the date of this letter that Mr. Rockefeller in New York had decided to see Mr. Ethelbert Stewart, of the United States Department of Labor, and instead had directed his attorney, Mr. Murphy, to receive Mr. Stewart and to refer him to the executive officials in Colorado.

"In the light of Mr. Bowers' admission that a mere conference would have prevented the strike, the operators' refusal to grant such a conference must be regarded as making them responsible for all the disasters that followed. For it was a policy opposed to the spirit and the practice of the times, and the state of mind which dictated it can only be explained on the theory that the habit of arbitrary power had fastened itself on the men who ruled the coal mining counties from their offices in Denver."

Rockefeller Charged With Misrepresenting Facts.

The report charges Mr. Rockefeller and other operators with misrepresenting the facts regarding a conference with striking employes held in Gov. Ammons' office on November 26, 1913. This conference led to the plan of settlement contained in Gov. Ammons' letter of November 27th. The report says:

"The effort is made to convince the public that in meeting their men and accepting the Governor's proposition the operators conceded all that reasonable men could ask, and that the strikers in rejecting it became responsible for an unjustifiable continuance of the strike. Therefore it is important to arrive at a correct conclusion regarding the validity of the operators' action as an effort in good faith to meet the strikers half way and as a modification of their previous arbitrary refusal to yield an inch.

"But the most conclusive evidence regarding the bad faith of the operators in this alleged consent to meet their men is contained in the following extract from the examination of Mr. Ivy L. Lee at Washington, in May, 1915. Mr. Lee had visited Colorado and had become, since the strike, a director representing Mr. Rockefeller in the Colorado Fuel & Iron Co.

"*Commissioner Weinstock:* Are you aware of the fact, Mr. Lee, that it was brought out in the testimony here, that the operators did meet with representatives of the strikers in the office of the Governor some two months after the strike took place?

"*Mr. Lee:* Yes, that has been brought out, Mr. Weinstock; but I cannot say that I have been impressed with the fact that the representatives of the men who met the operators were truly representative.

"*Commissioner Weinstock:* Now, will you explain in what way they did and did not represent the men?

"*Mr. Lee:* Well, I just give you my impression. I have not been impressed with the representative character of that committee.

"*Commissioner Weinstock:* Do you recall who the members were?

"*Mr. Lee:* I do not. I simply give you a general impression. My feeling is that that was one serious mistake.

"*Commissioner Weinstock:* Meeting these men in the office of the Governor?

"*Mr. Lee:* It was the failure to meet the real representatives and talk it over with them.

"*Commissioner Weinstock:* You don't know how these men were chosen that met in the Governor's office?

"*Mr. Lee:* No; I simply give you my impression as to their general standing."

President's Plan of Settlement.

Discussing the company's rejection of President Wilson's plan of settlement, the report quotes a letter from Mr. Murphy, Mr. Rockefeller's attorney, to President Welborn as follows:

"The fact that the President of the United States has suggested a plan of settlement and has given it out to the public produces a delicate situation which we have no doubt you gentlemen in the West will handle in the same careful and diplomatic way in which you have handled the whole situation thus far, avoiding on the one hand any entanglement with the labor union and on the other an attitude which would arouse a hostile public opinion. We are, of course, greatly interested, and if you think we can be of any service in helping you to prepare a reply we shall be most happy to collaborate on any draft of one which you may send us."

And the report adds:

"Mr. Rockefeller here sends his instruction that there be no entanglement with the labor union, which, it apparently was feared, might grow out of an acceptance of the President's plan. The letter of Mr. Murphy clearly conveys Mr. Rockefeller's wish that his Colorado officials shall not be unduly impressed or swayed from their course merely by a request from the Presi-

"Enough has been told to prove that a spirit of accommodation or conciliation at no time actuated either the Colorado operators or Mr. Rockefeller. The evidence is conclusive that such a spirit, if manifested, would have prevented the strike and all the disastrous events that accompanied it."

Who Was Responsible for Violence.

Discussing violence the report states that the first act of violence in connection with the strike was the killing of Gerald Lippiatt, an organizer for the union, by a Baldwin-Felts detective in the employ of the Colorado Fuel and Iron Company. It adds:

"But the question as to who committed the first act of violence is of minor importance. Conditions in the coal mining district were such that violence was inevitable. The testimony of Sheriff Jefferson Farr and Former Under-sheriff John McQuarrie proves that men accustomed to the ready use of a revolver or rifle had been imported into the district in large numbers from Texas, New Mexico, West Virginia, and other sections by the Colorado Fuel & Iron Company and its associates. These mercenary adventurers had been employed and armed by the coal companies prior to the strike, and had been given deputy sheriffs' commissions by the sheriffs of Las Animas and Huerfano Counties, who were political partners and agents of the coal companies.

"When the miners left their homes on company property and established tent colonies on land leased by the United Mine Workers, they knew that they could expect no protection from officers of the law. A sheriff who at the company's behest would deputize hundreds of men whom he had never seen, and who, for all he knew, 'might be red handed murderers fresh from the scenes of their crimes,' could not be counted upon to safeguard the rights of striking employes of a company that was his partner in the liquor business and his political master. Mr. Lawson, the most prominent Colorado official of the United Mine Workers, knew from bitter experience how low the sheriff of Huerfano county would stoop to aid the operators and to crush the strike. The scene was set, so far as the operators were concerned, for a repetition of 1903 and 1904, when every constitutional right of the strikers had been violated and they had been deported, imprisoned and assaulted.

Miners Resist Armed Tyranny With Force.

"At the inception of the strike it seems clear that the union officials and the strikers determined that 1903 was not to be repeated; that at the first attempt of the operators' private army to override their rights, there should be resistance. But it is clearly established that the operators had employed 326 armed mine guards in Huerfano county alone prior to September 1st, and that no step to arm the strikers was taken by union officials until twelve days after that date. Mr. Welborn gives September 12th as the first date when, it is alleged by the operators, arms were purchased of a Pueblo hardware dealer by agents of the union.

"In addition to the presence of large numbers of armed guards and the absence of honest and impartial public officials to control them, there existed the elements of violence that are common to all large strikes. The strikers had established tent colonies at strategic positions near the mouths of the canyons in which the mines were situated, so that strike breakers going from the railroad stations to the mines were forced to pass near them. The history of strikes shows that workmen on strike feel that they have a property interest in their jobs, and that other workmen who take their places and thus aid their employers to defeat the strike are fit subjects for abuse, ridicule and violence.

"It is only by ostracising and intimidating strike breakers that organized workmen can hope to discourage the practice and thereby win in a struggle for higher wages or for industrial democracy. For after negotiation fails, their only means of exerting a compelling influence on the employer is to stop production by quitting work and to prevent a resumption of operations by keeping out strike breakers. And society, if it wishes to prevent violence in industrial disputes, has only two courses open: to prohibit strikes, and in so doing to establish involuntary servitude; or to prohibit the im-

portation of strike breakers at least until the employers consent to meet officials of the strikers' union."

Government Existed Only as an Instrument of Tyranny.

The report gives an account of the various riots and disorders and says:

"In all discussion and thought regarding violence in connection with the strike, the seeker after truth must remember that government existed in southern Colorado only as an instrument of tyranny and oppression in the hands of the operators; that, once having dared to oppose that tyranny in a strike, the miners' only protection for themselves and their families lay in the physical force which they could muster.

"It remains to be seen how even the supreme authority of the State failed to protect them in their struggle for the right to work and live as free men and to bring up their children in an atmosphere where law and order was not synonymous with the anarchistic will of a lawless corporation."

One chapter of the report is devoted to the part played in policing the strike by the Colorado militia. It states that Governor Ammons when he called out the militia issued orders that they should not be used to escort imported strike-breakers from the railroad station to the mines. The report says:

"That this policy of Governor Ammons was not out of line with the correct theory of policing strikes is indicated by the fact that when the federal troops entered the field seven months later similar orders were issued to them by the Secretary of War.

"The wisdom of prohibiting the importation of strike breakers as a means of maintaining order has been amply demonstrated, but this policy rests on a firmer basis than its mere expediency. The record in Colorado shows that in 1903 and 1904, and again during the strike under discussion, the coal operators had no scruples in taking steps to displace men who for years had been attached to the mining communities by ties of family, friendships and love of state, with homeless and penniless immigrant workmen from distant states.

"The record shows that strike breakers were imported in carload lots under the guard of private detectives who recruited them in distant cities, and that both on the train and after their arrival in Colorado they were treated more as chattels than as free men. Contracts in the possession of the Commission made by detective agencies engaged in such work show that these agencies guarantee against the escape of strike breakers en route by providing guards for the front and rear entrances of the railway coaches. So extensive are the organizations of such agencies that strike breakers can be supplied within a short time in any numbers.

What Unrestricted Operation of Strike Breaking Agencies Means.

"If employers and strike breaking agencies are to be permitted to operate in this fashion without let or hindrance, it means that entire communities of home-making and home-loving citizens can be displaced almost over night by an army of homeless vagabonds, drawn from the scum of the labor markets of widely scattered cities. This practice makes wanderers of hard-lence and finally it has a disastrous effect on the community and the state working and home-loving men whose only offense is that they have taken part in a strike. It fills strikers with hatred and leads inevitably to violence and finally it has a disastrous effect on the community and the State. by working a deterioration in the quality of the citizenship."

The report charges that several weeks after the troops entered the field the mine owners coerced Governor Ammons into countermanding his orders and permitting the use of the militia to escort strike-breakers. On this point the report says:

"In spite of the occasional acts of violence the strike zone remained comparatively quiet so long as Governor Ammons' orders against the use of troops to escort imported strike breakers remained in effect. The Governor's policy in this respect had been vigorously opposed by the operators, and

immediately after the calling out of the troops they began a campaign to coerce the Governor into withdrawing his original orders and directing the troops to act as escorts for imported strike breakers.

Bankers, Chamber of Commerce, Real Estate Exchange, Business Men and Newspaper Editors Co-Operate Against Striking Miners.

Letters already quoted from Mr. Bowers, the highest executive official of the Colorado Fuel and Iron Company, to Mr. Rockefeller in New York show the methods pursued by the large companies. On November 18, 1913, he wrote:

"You will be interested to know that we have been able to secure the co-operation of all the bankers of the city, who have had three or four interviews with our little cowboy Governor, agreeing to back the state and lend it all the funds necessary to maintain the militia and afford ample protection so that our miners could return to work, or give protection to men who are anxious to come up here from Texas, New Mexico and Kansas, together with some from states farther east. Besides the bankers, the Chamber of Commerce, the Real Estate Exchange, together with a great many of the best business men, have been urging the Governor to take steps to drive these vicious agitators out of the State. Another mighty power has been rounded up in behalf of the operators by the gathering together of fourteen of the editors of the most important newspapers in Denver, Pueblo, Trinidad, Walsenburg, Colorado Springs and other of the larger places in the State. They passed resolutions demanding that the Governor bring this strike to an end, as they found, upon most careful examination, that the real issue was the demand for recognition of the union, which they told the Governor would never be conceded by the operators as 90 per cent of the miners themselves were non-union men, and therefore that issue should be dropped.

"Still the Governor hobnobs with Hayes, Lawson, McLennan and the rest of the gang, and either refuses or begs for more time to bring the strike to an end or to amply protect the operators in bringing in outsiders to take the places of those who have left the state and those engaged in these murderous assaults whom we refuse to take back under any circumstances. Yet we are making a little headway.

"There probably has never been such pressure brought to bear upon any Governor of this state by the strongest men in it as has been brought to bear upon Governor Ammons."

Announces Success of Coercion Campaign

"On December 22, 1913," says the report, "Mr. Bowers announced the success of this campaign of coercion in the following letter to Mr. Rockefeller:

"If the Governor had acted on September 23d as he has been forced to act during the past few weeks, the strike would have never existed ten days.

"We used every possible weapon to drive him into action, but he was glove-in-hand with the labor leaders and is today, but the big men of affairs have helped the operators in whipping the agitators, including the governor.

"Now these fellows are cursing him without regard for common decency, so everybody is giving him more or less taffy to keep him from backsliding. The enclosed is a sample of the resolutions being sent to him, besides any number of personal letters."

The testimony of former United States Senator Thomas M. Patterson is quoted to show that the countermanding of this order by Governor Ammons resulted in throwing the militia entirely on the side of the operators and that very soon after the original order had been rescinded the state troops, under General Chase, began to disregard the civil rights of the miners by imprisoning them without a hearing and by exercising arbitrary power in controlling their movements.

The report states that the economic dependence of the state troops on

the Colorado Fuel and Iron Company and other operators has been fully established. President Welborn testified that his company had paid militiamen from \$75,000 to \$80,000 on certificates of indebtedness.

Mine guards and company employes were enlisted by the militia and paid by the companies and the troops became, in every sense, allies of the operators against the strikers. One troop of mine guards and company employes which took a prominent part in the so-called Ludlow massacre was enlisted with the knowledge and approval of the Colorado Fuel and Iron Company and of Mr. Rockefeller only a week before the massacre.

The report describes the destruction of the Ludlow tent colony with the deaths of thirteen women and children and five strikers, three of whom were murdered by the militiamen, and mine guards while being held as defenseless prisoners. It describes the virtual rebellion that followed.

Rules of "Civilized Warfare" Only Criterion for Criticism.

In closing its discussion of the militia the report says:

"It seems of vast importance that it should be understood how nearly the situation in Colorado approached a condition of absolute prostration of government and of actual revolution. This is apparent not so much in the record of battles and skirmishes fought and lives lost as in the evidences given above of the state of public feeling. It was apparent in the frankness with which strike leaders admitted that they were gathering and distributing arms, in the open admissions made by many strikers that they or others whom they named had taken part in one or the other of the various attacks, and in the refusal of the District Attorney of Las Animas county to take official notice of the killings which followed Ludlow. The rules of 'civilized warfare' formed the only criterion for public criticism of acts on either side during this period.

"Enlightened public sentiment existing in Denver and other Colorado communities found itself helpless of effective expression. That expression, of course, should have come through the State. This leads to the direct causes of the failure of government and of all the horrors that resulted from it. Their consideration is vitally important because there is no guarantee that the same cause may not operate again in Colorado or other states, and that some day they may produce a situation far more serious even than that under discussion.

"The state of Colorado through its military arm was rendered helpless to maintain law and order because that military arm had acted, not as an agent of the commonwealth, but as an agent of the parties in interest, as an agent, that is, of the coal operators, as against the strikers.

Militia Instrument of Oppression.

"Only those who hope and pray for bloody revolution can contemplate the record of the Colorado National Guard and fail to see the need of measures that will make this branch of the government as representative of the people and as subservient to the people's will as other governmental agencies. Today there is ample evidence in Colorado to prove that the national guard is an instrument of oppression maintained for the purpose of intimidating and crushing workmen who go on strike in an effort to improve the conditions of life for themselves, their women and their children, and to secure for themselves a larger measure of freedom from arbitrary power."

The report quotes at length from the testimony of the Reverend Eugene S. Gaddis, Superintendent of the Sociological Department of the Colorado Fuel and Iron Company, to show that the company's store system; its method of renting property to liquor dealers, and its hospital system, contributed to the unrest of the miners, and to the intolerable situation existing in the camps.

The companies are scored for their use of political power to control coroner's juries and other officials dealing with cases of personal injuries

in the mines, in order to prevent miners from recovering damages for personal injuries in the courts.

The testimony of a former under-sheriff is quoted to show that the mine superintendent is always consulted in making up a coroner's jury, and that the sheriff of Huerfano county boasted of being a Colorado Fuel and Iron Company man.

Records are quoted to show that personal injury suits against the companies are practically unknown.

Mine Companies Control Even Churches and Censor Ministers' Sermons.

Testimony and letters by officials of the Colorado Fuel and Iron Company are quoted to show that the companies control the churches in its camps and exercise a censorship over the sermons of the ministers.

On the subject of permitting the miners to employ check-weighmen, the report says:

- "No more substantial cause for resentment could be imagined than this denial to the miners of any means to insure honest payment of wages. And in denying the right to organize, the companies must be convicted of doing just this. It is impossible to conceive of the citrus fruit growers in California sending their oranges and lemons to the eastern market unweighed or unnumbered, and accepting the figures of the jobbers in the east as a basis for payment. Yet the situation would be analogous to that endured by the Colorado miners."

The reasons assigned by the operators for refusing to deal with the United Mine Workers are discussed at length. None of these reasons are declared to have been sufficient to justify the operators' refusal, and the animating reason is declared to have been merely the operators' unwillingness to brook any interference with their power.

Discussing concessions granted to the men, prior to the strike, by the Colorado Fuel and Iron Company, the report points out that all of these consist of rights already required by the laws of the State, several of which the company had previously violated. It declares that the company, in granting concessions, was animated not by respect for law or by desire to improve the conditions of their employes, but by the wish to forestall agitation by union organizers, and thus minimize the danger of a successful revolt. Letters from Mr. Bowers, Mr. Rockefeller's agent in Colorado, are quoted to substantiate this charge.

Mr. Bowers is also quoted at length to prove that political activity and domination by the Colorado Fuel and Iron Company still exists in the mining communities. It calls attention to Mr. Bowers' admission that men, whom he himself characterized as cutthroats, were employed by the company as spies on their employes.

Use of Political Power.

Discussing the use of political power, the report says:

"Most important of all benefits enjoyed by the companies as a result of their political control was the aid of subservient public officials in denying agitators or union officials access to the camps, during peace, and in intimidating, arresting, imprisoning and killing strikers and their leaders during strikes. This use of political control by the companies is more important than their use of it to ignore mining laws or to prevent the collection of damages for personal injuries, for the reason that it has effectually prevented the unionization of the mines. This unionization would have given the miners an economic weapon with which they themselves could have forced compliance with the law and by which they could have speedily broken the hold of the companies on government, by limiting the power of discharge, and thus establishing free speech, a free press and free assembly, and encouraging healthy discussion and agitation."

The report takes up at great length the five causes of the strike as set forth by the strikers, as follows:

1. Ignorance of the owners of the great coal producing properties concerning actual conditions under which their employes live and labor.
2. The lack of any proper sense of personal responsibility on the part of those owners, for what is wrong in those conditions.
3. The maintenance by the coal-mining operators of a modern system of monopolistic feudalism, with many of the evil features of the old feudalism, but without many of those features which made it somewhat beneficent.
4. Insistence by the operators upon their right to conduct a vast coal producing business,—a business in reality affected with a public interest,—regardless of how their conduct may affect society at large, and as if it were a small private business.
5. The unwillingness on the part of the operators to concede to their employes the right of effective organization, while themselves maintaining a complete combination and organization.

Testimony and letters are quoted at length to support the report's conclusion that each of these charges is fully justified by the facts.

Regarding the claim of the operators that their employes did not belong to the union and that the strike was forced by a minority, the report says:

"On September 15 the convention of miners was held at Trinidad. Whether or not the men who sat in this convention and who voted for the strike, were representatives of the great body of miners, is a subject of controversy. It is regarded as relatively unimportant, in its bearing on the state of mind of the mining communities, and their attitude toward a strike.

Spies, Camp Marshals and Armed Guards Infest Camps.

"Spies, camp marshals, and armed guards infested the mining camps and the city of Trinidad, and the miner who might wish to attend such a convention, or to attend local meetings for the selection of delegates, knew that to do so would be to incur prompt discharge and expulsion from the town.

"In Huerfano county alone, 326 men, many imported from other states, had been commissioned as deputy sheriffs by Sheriff Jefferson Farr prior to September 1st. Sheriff Farr admitted before this Commission, that for all he knew they might have been red-handed murderers, fresh from the scenes of their crimes, and that they were employed, armed, and paid by the Colorado Fuel and Iron Company and the other large companies. The first violence had already occurred in the killing of Gerald Lippiatt, a union organizer, who was shot down on a street in Trinidad by a detective in the employ of the operators."

The convention voted to call a strike for September 25, 1913. On that day from 8,000 to 10,000 miners, comprising from 40 to 100 per cent of the employes at the various camps, packed their meager household belongings on carts and wagons, and, accompanied by their women and children, moved down the canyons through a drenching fall of snow, sleet and rain, to the tent colonies that had been established by the union officials. This sudden exodus became necessary because, in a majority of the coal camps, the companies owned every house and every foot of ground. No more eloquent proof could be given of the intense discontent of the miners and their families, and of their determination to endure any hardship rather than remain at work under existing conditions.

A Political Philosophy That Justified Slavery.

Dealing with the character of the men employed in the coal camps, the report says:

"Coming as amazing evidence of the repudiation of American principles by certain small but powerful groups, is the allegation frequently heard during the Colorado controversy that the inhabitants of the coal camps,

being largely of foreign birth and speech, were incapable of either political self-government or of exercising a voice in determining their working conditions. Such an acceptance of the political philosophy that justified slavery half a century ago hardly needs serious consideration. Granting that social and political conditions in the coal camps could be worse than those which existed under coal company domination, and granting that they actually would be worse under a truly democratic control, the nation even then could not complacently tolerate a benevolent despotism. But no such concession can be made. There is ample testimony to prove the capacity for civic and social progress inherent in the populations of coal mining camps composed just as were those of southern Colorado—of a small minority of English-speaking miners and their families and a majority of recently-arrived Europeans. Besides the testimony of officials of the United Mine Workers who have studied the needs of the foreign-born miners and who have watched their progress, the Commission has the significant testimony from Francis S. Peabody of Chicago, a mine owner who operates on a scale larger than that of any of the Colorado companies."

(To be continued.)

GRAFT TAX AND LIVING COST

Monopolies Assess Taxation That Government Would Not Dare to Impose

Rule of the "Invisible Government" Means Multiplied Millions for the Idle Rich

"Gasoline Not to Be Taxed"

The above humorous statement comes from Washington. It appears that our wise law-makers have decided that they will not tax gasoline in order to raise money needed for preparedness.

Congress probably decided not to tax the people that use gasoline, realizing that the oil monopoly does that kind of taxing thoroughly.

Let not automobile users imagine that they are gaining anything because GOVERNMENT doesn't tax them. They will be taxed to the limit by those that control the oil monopoly.

Within a year almost 100 per cent has been added to the price of gasoline, and the price will go higher.

Suppose GOVERNMENT had put a tax of 100 per cent on gasoline. How the people would have roared! Congressmen voting for such a tax would have been driven from office.

But private individuals, men with no right to lay taxes better than the right of a burglar to break into a house, put a tax of 100 per cent on gasoline, a necessity of modern life, and the people endure it.

Americans were not always so patient. Perhaps they will not REMAIN so patient.—Cleveland News.

Yes, of course the oil monopoly puts a tax—a big tax on gasoline and all other oil—because it can. And for the same reason it puts a tax on all its other products. That "tax," that is, the amount charged for these products over and above a price that would net a reasonable profit is simply "graft."

The oil monopoly may decide to put a 200 per cent "tax" on gasoline and on its other products and the people will pay it. They will have to pay it or go without oil, etc., and if that trust does not further increase this "graft tax" it will be because it feels that it has probably reached the limit of the people's endurance and does not wish to invite revolt. The beef trust taxes

beef likewise and the sugar trust sugar and the leather trust leather and the drug trust drugs and so operates this "graft tax" system along the entire line of trusts.

Various causes are advanced for the high cost of living but a very large percentage of people seem to be too stupid to realize that the high cost of living is due to just this kind of "taxation" and they seem to be too dumb or too indifferent or too something to see that it is this graft tax—this tribute they are forced to pay in the form of extortionate profits on life's necessities—that makes the multiplied millions—the fabulous fortunes of the trust magnates. And these trust magnates' wives buy diamond studded collars for their pug dogs and hire trained nurses to take care of the said dogs. And widows who slave at the wash-tub are compelled to pay this graft tax while their children and the families of underpaid wage earners generally, because of this graft tax, are forced to live amidst conditions of hardship and want that mean misery, malnutrition and sickness and in many cases death. They must suffer from want that the dogs of the idle rich may be decorated with diamonds. What a scientific, what an "efficient" economic system!

Why is the cost of meat so high? Because the beef trust controls the selling price of that commodity and the people have to pay the beef magnates as much more for meat than meat is worth as the said beef magnates see fit to charge and they charge about "all that the traffic will bear."

Practically everything the people buy in the way of life's necessities must be bought from these trusts—these monopolies—either directly or indirectly. There is no one else to buy from because they have eliminated all competitors and on everything the people buy they must pay this "graft tax." The amount of this "graft tax" the trusts themselves regulate but whatever they wish to charge, the people have to pay because that instrumentality that should protect the people from such robbery, viz., government is not government of, for and by the people but, generally speaking, government of the people for and by the privileged "interests"—that aggregation of financial kings of Wall Street who with their allied monarchs of industry and commerce and their subsidiary interests throughout the nation constitute what collectively is known as the "invisible government" and this "invisible government" is the real power that governs and it is maintained and perpetuated by our corrupt system of machine politics and political bossism.

Now the railroad companies through their publicity agencies—the big newspapers, magazines, etc., they control—tell the people that if the railroad work day is limited to eight hours the cost of living will go still higher. "It is to laugh."

ARIZONA COPPER STRIKERS WIN THEIR FIGHT

B. of L. F. and E. Man One of the Successful Mediators Who Helped in Settlement of Trouble

Unable to Use State Militia as Private Gunmen to Crush Strikers, Copper Magnates Give Up Attempt to Starve Workers Into Submission

The Clifton-Morenci-Metcalf copper mine strikers of Arizona returned to work on Monday, January 31st last, the companies agreeing to pay higher

wages and to meet once each month grievance committees selected by the mineworkers.

Brother Joseph S. Myers of our Brotherhood, who is a mediator of the United States Department of Labor, and Mr. Hywell Davies, another of that department's mediators, succeeded in bringing about an agreement between the striking mineworkers and the employing companies, which agreement provides for a wage increase of from twenty to sixty per cent over the old scale. Both Brother Myers and Mr. Davies are men of wide experience in adjudicating labor troubles. Brother Myers was for years Labor Commissioner of Texas and Mr. Davies has had much to do in managing mining properties and with supervising the work of large numbers of men. The agreement includes an understanding between the operators, the miners and the Federal Government, which understanding, if lived up to by the operators, will insure peaceful industrial relations between these mine owners and their employes.

The victory won by these miners demonstrates that when government performs its duty to the workers and employers with absolute impartiality—when it protects workers against professional strike-breakers and hired gunmen and thugs, Labor can win every properly organized battle in which it engages for living wages and humane conditions of employment.

With Governor George P. Hunt refusing to permit the mine managers to employ armed guards, gunmen, thugs, strike-breakers, etc., the copper magnates of New York, Boston and Arizona realized that they could not win the strike merely through their tactics of endeavoring to starve these five thousand miners and their families into submission and subjection. They found the process to be in fact a decidedly unprofitable one, particularly as copper is now bringing the highest price it has brought for nine years.

The settlement provides for a wage rate based on a sliding scale to be regulated by the selling price of copper. Thus one scale is fixed for a selling rate of eighteen cents, another of twenty cents and another of twenty-four cents. Copper is now selling at twenty-six cents. Under the scale when copper is selling at twenty-four cents, the wage rates for a day of eight hours are: Miners, \$3.41; muckers and trammers, \$2.70; timbermen, \$3.52; laborers, \$2.52; charge wheelers, \$2.68; skimmers, \$4.12; punchers, \$3.20; carpenters and electricians, \$5.00; and machinists and boilermakers, \$5.32.

Labor's Debt of Gratitude to Governor Hunt and Sheriff Cash.

When the strike began the mine managers left the state, believing they could impress upon the public that the strikers were a lawless and desperate class and expecting that they could send in hired thugs, gunmen and strike-breakers as has been done in other states, who would receive protection from the State Government. In this, however, they were mistaken, for not only did Governor Hunt refuse to permit them to do so, but Sheriff Cash appointed men from amongst the strikers as deputy sheriffs and thus kept the companies' gunmen, professional strike-breakers, etc., out of the strike district.

Governor Hunt's humanity and fairness have earned for him the bitter and lasting hatred of the big corporations not only in Arizona but everywhere throughout the continent, and their most virulent antagonism and their powerful opposition will follow him to his grave. Labor should ever remember him as its sincere friend—as a Governor who did not hesitate to risk his political fortunes that he might insure justice and equality of treatment at the hands of the government of Arizona to the workers of

that State. Already a gigantic conspiracy has been set on foot not only to relegate Governor Hunt to oblivion, and ruin his future as a public man and in other ways, but also to dethrone popular government in Arizona and establish in its stead an oligarchy of "special interests" whose tools shall fill the various offices and administer the affairs of government as dictated by the "special interests" in the same manner as has been in vogue in Colorado.

Because he used his power as Governor of the State of Arizona in the interests of its people, Governor Hunt now has to face the vengeful fury of defied tyranny—the relentless reprisals of the monied aristocracy.

The workers owe it to themselves to uphold and defend Governor Hunt in every possible way within their power and to demonstrate to the arrogant greed despots that they cannot sacrifice him because of his fearless adherence to his determination to uphold law and order—because he dared to do right.



GREED CONSIGNS WOMAN TO HARD LABOR

Cheap Foreign Female Labor Used to Supply Shortage of Cheap Foreign Male Labor

Another Reason Why Stringent Immigration Laws Are Needed to Protect the American Home and Keep the American Workers From Being Reduced to the Level of the Poverty Stricken Peasantry of Europe

Edgar E. Adams, superintendent of a Cleveland hardware manufacturing company, is quoted in a Cleveland press dispatch appearing in the Denver Express a few weeks ago as follows:

"So many hundreds of women machinists and mechanics have been developed in this and other American industrial centers since the European war boomed business and cut off immigration, that the American woman's invasion of the mechanical trades threatens to vie with the invasion of the same field by women in Europe.

"Thousands of women have been employed for years on light mechanical tasks in this country, but skilled women mechanics manipulating giant steel lathes, punches, drills, trimming presses and other heavy machinery, is believed to be an industrial innovation in America.

"This at least is true of Cleveland, which, with other cities, is riding the crest of the prosperity wave started by huge war orders from the allies. The cause is twofold; there is a labor shortage and women are more efficient in certain mechanical work."

As to a labor shortage, while business conditions have greatly improved and opportunity for employment is much better than it has been for a couple of years, there is no such scarcity of male labor as to justify, or furnish even the most flimsy pretext for the employment of women in mechanical trades. Large numbers of men are seeking employment at such occupations, but the door of opportunity is closed against them because the jobs are being filled by women. No, these women are employed because they work for so much less than men that the avaricious purpose of the money lords is thus the better served.

We quote further from the press dispatch:

"Whether women will continue their invasion of jobs formerly filled by men is, many manufacturers say, one of the big factors to be reckoned with after the war is over.

"He [Edgar E. Adams] declared today that women mechanics have begun a permanent invasion of men's places in factories.

"As women and girls have supplanted men at typewriters, behind department store counters and in the textile and canning industries, so will they take men's places at all machines where dexterity and considerable muscle is needed, Adams believes. At first these women workers will be recruited mostly from those immigrant races whose women are accustomed to manual labor in the fields."

It is not sufficient that the boy just graduated from school and entering manhood with lofty ambitions should find himself barred from the office and store—because his sister will do the work for half or less than half what would be a reasonable wage for him—but worse yet, not only himself but his father as well are to be excluded from mechanical pursuits while the mother and sister go out to perform this hard manual labor which God never intended they should do, and all so that the millions of the Princes of Finance and Monarchs of Industry may multiply.

Again quoting from the press dispatch:

"Due to the labor shortage here, where 3,000 skilled mechanics are needed, and to the decrease in immigration, Adams declared he was employing as fast as he can find them, women constitutionally fitted to operate machines; and that other employers were doing the same. At drilling, punching and trimming presses, Adams' company now employs 160 women. They are running machines formerly operated by men and doing better work, Adams said.

"These women, recruited from the ranks of Polacks, Lithuanians, Slavs and Hungarians, average \$1.75 per day for eight hours' work. Others get married and keep on working. Their average age is about 25."

We contend that it is not due to any labor shortage that the 3,000 skilled mechanics needed are not employed, but—as this man Adams truthfully says "to the decrease in immigration," immigration from which these mechanics' places might be filled with cheap foreign male labor. As for women operating machines and doing "better" work than men; this is an assertion so silly as not to be worthy of consideration. What looks "better," no doubt, to greedy manufacturing interests is the fact that these women are working for half or less than half what is considered a fair day's pay for men doing similar work.

If any further argument were required to demonstrate beyond question the necessity for stringent immigration laws which would protect the American home and the American wage-earner from the evil effects of the unrestricted influx of the hordes of illiterate, cheap foreign labor and save our American working class from being reduced to the degraded level to which the aristocracy of some European nations has reduced the peasantry of those countries, such argument has been supplied in the paragraphs quoted above.

WALSH STATES PLAIN FACTS TO INDUSTRIAL MONARCHS

Hypocrisy of "Americanization" Movement Clearly Revealed

Process to Educate Foreign Workers to Howl With Patriotic Fervor While the Sweat and Blood of Their Half Starved Bodies Are Being Coined Into Big Dividends for the Idle Rich

One of the latest schemes of "Big Business" is a movement for the "Americanization" of foreigners. It likewise serves as a fad for the women of Big Business who evidently derive from it much the same enjoyment that they do from their "slumming" parties.

The process consists for the most part in holding gatherings of these foreign workers employed in big industrial plants where they are forced to listen to the platitudinous mouthings of multi-millionaires and their representatives—industrial experts, etc., etc., as well as occasionally to female parasites of "high" society who are deeply concerned in the matter of having these foreigners acquire a "proper" conception of American patriotism—a conception of patriotism that will make them submissive and docile while their sweat and blood is being coined into fat dividends—a conception of patriotism through which a revolt on their part against the oppressions of the monarchs of industry could be held up to them as a desecration of the flag of their adopted country, etc., etc.

It is worthy of note that these foreigners are assembled in these meetings during their (the foreigners) leisure hours so that the process of "Americanization" will not in any way interfere with the profits of their over-rich exploiters.

From a special press dispatch in the New York Times of January 21st last we quote in part a letter by Frank P. Walsh, who served as Chairman of the United States Commission on Industrial Relations and who is now Chairman of the Committee on Industrial Relations.

Some weeks prior to the writing of this letter Mr. Walsh wrote Mr. Trumbull, Chairman, and other members of the executive committee of the "Americanization" movement, urging the use of trade and labor unions as real "Americanization" agencies. This letter he supplemented with another advising of his knowledge of the fact that his request had been ignored, said request being that his preceding letter be placed before the executive committee for discussion and action at a meeting of that committee to be held at the home of Mr. and Mrs. Edward T. Stotesbury in Philadelphia on January 19th, and that his plea had been evaded, viz., that the committee use their powerful machinery of agitation to point out to the immigrants the advantage and necessity of strong union organizations so that they be protected from exploitation and oppression. Evidently the persons mentioned in this letter are all promoters of this "Americanization" movement. Mr. Walsh's letter to Mr. Trumbull is in part as follows:

"I have studied your literature carefully without finding therein the merest suggestion of a plan that offers relief to the wage-earner from the unspeakably wretched conditions that prevail among the underpaid workers in the New York subway, financed largely by the firm of which Mr. Stotesbury is a member; among the employes of the Pennsylvania Railroad, who are deprived of their freedom by an elaborate system of spies, armed guards, bribery of labor leaders, intimidation of public officials, and the maintenance of private arsenals, all directed and authorized by the corporation of which

your Mr. Samuel Rea is President; among the admittedly underpaid employes of the Western Union Telegraph Company, of which your Mr. Jacob H. Schiff is a director, and the employes of the Postal Telegraph Company, of which your Mr. Clarence H. Mackay is President.

"Nor can I find any slightest indication on your part that you intend to Americanize the immigrants by striking at the system which permits the idle few to amass huge fortunes through their control of natural resources, by which they are enabled to exact a heavy toll in rents and other unearned revenues from the foreign-born workers who inhabit the tenements of our cities and who are dependent for food, clothing, and shelter on the natural resources thus controlled and plundered by men who perform no service.

"Nor do I see much hope of such action on your part when some of your most active members are among the most notorious recipients of unearned incomes obtained through the exploitation of land and other natural resources. I refer in particular to Mrs. Vincent Astor, Mrs. Cornelius Vanderbilt, and Mrs. Edward T. Stotesbury.

"On the contrary, I find much positive evidence that your efforts are primarily directed to strengthening the chains of industrial tyranny in this country. You propose to sanctify and confirm oppression by waving the American flag in the face of its victims and by insidiously stigmatizing as unpatriotic any attempts they may make to throw off the yoke of the exploiting interests you represent.

"You cite with approval the policy of employers who have used compulsion to force workmen into night schools where they may learn English. You would have employers extend their arbitrary control over the lives of the workers to the workers' leisure hours, dictating to them what they shall do in the evening and threatening them with the loss of their opportunity to earn a living—that is, with starvation for themselves and their families—if they do not obey."

SLAVERY "PRECEDENT" ESTABLISHED BY UNITED STATES DEPARTMENT OF JUSTICE

United States Government Upholds Involuntary Servitude by Making It a Crime to Quit Work

Conviction of Postoffice Employee for Merely Resigning Their Positions if Permitted to Stand Will Make Striking on Railroads a Criminal Offense

Because of intolerable working conditions twenty-six letter carriers and postal clerks at Fairmont, W. Va., on November 17th last sent their resignations to the postoffice department at Washington, D. C., same being accompanied by signed letters indicating that these workers had been patiently enduring numerous abuses. They had lost faith in the Civil Service Commission and the postal authorities, for the opinions and views of postmasters are apparently all that is considered when complaints of ill treatment are made by subordinates. The postoffice department, however, did not redress the grievances of these workers. They did not even inquire into them. The only acknowledgment accorded their letters of resignation was the action of the United States Department of Justice in having them indicted for conspiracy to obstruct and retard the passage of the mails because they resigned their jobs. They held membership in the National Association of Letter Carriers and the United National Association of Postoffice Clerks. Neither of these organizations, however, is affiliated with the American Federation of Labor nor are they labor organizations. As we understand it, they are merely mutual admiration associations, being entirely ineffec-

tive and inoperative in the matter of protecting the industrial and economic interests of their members.

Held Guilty and Fined.

The case of the indicted clerks recently came to trial before injunction judge Dayton in the Federal Court at Parkersburg, W. Va. On the advice of their counsel they entered a plea of nolo contendere (I will not contest). Charges against four of the men were dismissed. The other twenty-two were held guilty and fined in sums ranging from \$500.00 down to \$5.00, the total fines assessed amounting to \$1400.00. News reports say that W. H. Fisher, a letter carrier—one of the four the charges against whom were dismissed—suffered so from worry and mental strain that he killed himself with a revolver after having prepared to attend the trial at Parkersburg, and that he leaves a widow and three children.

Russian Bureaucrats Outbureaucrated.

The government's lawyers and the postoffice officials are, it is reported, quite exultant over the outcome of the proceedings—"proceedings" in which these bureaucrats have out-bureaucrated the Russian bureaucracy itself. They say they have secured a precedent that will cover future cases, and, no doubt, they have in mind the extension of this "precedent" to cover the employees of government-controlled public utilities, the most prominent amongst which are the railroads.

This decision means that under existing laws and practices employees of the postoffice department will lose their jobs if they protest against burdensome and unjust working conditions and will be criminally punished for quitting if they do so in numbers sufficient to arouse suspicion that their so doing is the result of concerted action or mutual understanding in protesting against mistreatment. In other words, if their quitting bears any resemblance to a strike, they will be adjudged guilty of a criminal offense and punished accordingly.

Now, if postal employees are subject to indictment, conviction and punishment as criminals for quitting work because their so doing may obstruct and retard the passage of the mails, railroad employees or even persons working for a private corporation would also be subject to criminal conviction for quitting work when such action on their part might interfere, though indirectly, with the conducting of the United States mail service.

The Mailed Fist of Tyranny.

The mailed fist of that tyranny which is fast developing as a result of the ascendancy of the power of privileged wealth and its control of the instrumentalities of government can be clearly seen in this entire proceeding.

This case should have been contested to the limit, and had these workers been members of the labor organization that represents postoffice employees instead of the mutual admiration "associations" to which they belonged, the case would have been fought to the last ditch. Apparently, however, the attorneys for these postal employes did not realize the seriousness of this case nor the menace of the precedent resulting from the conviction of their clients. One of these lawyers is reported as having said:

"These men were not guilty of conspiracy, but it is expensive to maintain an action against the government in the courts. This means years of litigation and much financial loss. That is why they decided not to contest."

Had a fight been made, the grievances of these workers would have been given great publicity and as this publicity would doubtless have had the

effect of undermining the present bureaucratic system under which the postoffice department is conducted, some strong-arm work was apparently introduced to intimidate them into "throwing themselves on the mercy of the court" by deciding to enter a plea of nolo contendere, at least we would infer as much from an editorial on the subject in the Parkersburg (W. Va.) State Journal, from which we quote further along.

A bill known as the Keating bill has been introduced in Congress which would provide postal employees the right of final appeal for the redress of grievances to a tribunal beyond the power of the postoffice department. The enactment of this bill would make a repetition of the Fairmont case impossible.

But this decision must not be permitted to stand. The case should be reopened, the proceedings quashed, these postal workers publicly exonerated and due apologies made them, their grievances redressed, their fines returned to them with interest, their positions restored to them, wages paid them for all the time they may have lost on account of this trouble and the official of the government, whoever he may be, who is responsible for this outrage against the rights of citizens of the United States, publicly reprimanded and dismissed in disgrace from the service of the American people.

Justice, the Constitution of the United States and of the State of West Virginia, the law of the land, liberty, progress, enlightenment, freedom, everything to which humanity should look upward and forward, demands that such action be taken and taken promptly and vigorously, and if Organized Labor is alive to its own most vital interests this will be done. The toleration by Organized Labor of this outrage would mean its acquiescence in involuntary servitude, and it should be satisfied with nothing less than the fulfillment of every condition we have above specified.

Commenting editorially on the prosecution of these men, the Parkersburg (W. Va.) State Journal says that in their indictment and prosecution there has been established a

"precedent that men employed in the service of the government or by private corporations or quasi-public corporations, engaged in the transportation of the United States mails, have not the right to peaceably and in an orderly manner quit their employment if their resignation or retirement from service in any way hinders or retards the facile passage of the mails."

Continuing, the Journal's editorial says:

"This principle, expressed for the first time in the history of free America, and ironically written into our jurisprudence in the era of the New Freedom, is an incubus suspended over the heads of every railroad employee engaged in the transportation of federal mails. It binds alike the engineer and the brakeman; the trackman and the section hand; the telegraph operator and the station agent. And its incursion into wholly private industry or other public industry is but a short step. It stands since it was written a few days ago upon orders from Washington as the most deadly menace to the laboring man in the history of this country.

"It is all the more amazing and astounding when it is considered that the order directing the prosecution of the Fairmont postoffice employees came direct from Washington—from the so-called department of justice, which has in the light of the facts in this case earned a more appropriate name.

.....

The same editorial says further:

"No tyrant of the Middle Ages has declared for himself an autocracy more complete, no despot has raised a weapon more potent for the destruction of the rights and liberties of the people."

A "Precedent" to Promote Slavery.

The editorial continues:

" "There has already been driven the entering wedge to destroy all rights of labor. The significance of the step already taken should be lost to the sight of no one. It is well to bear in mind that the Fairmont postoffice employees were indicted and prosecuted for a conspiracy to obstruct and retard the passage of the mails by peaceably quitting their employment. It was admitted by the government that they used neither physical force, threats, intimidation nor moral suasion to prevent others from taking their places. They undertook to exercise no control save that guaranteed them—control of themselves and their own services.

"If the government of the United States in the Civil Service has the right and the power to compel its employees to continue their services under these circumstances, and upon the contention set up in this case, whether the employees will or no, then private interests and private employers have the same right and the same power.

"This precedent, followed to its logical conclusion, will make of every man who enters the employment of another, a slave at the caprice of the employer; abject servant to the latter's interests utterly regardless of his own. In such a proposition there is neither law nor logic. None but an autocrat and a despot would make such pretensions.

"As a champion of our free institutions, of the liberty that has been the gift of the fathers, and preserved by the immortal deeds of Washington, of Jefferson and of Lincoln, the State Journal protests. We call upon the West Virginia representatives in Congress to ask for an inquiry turning the full light of publicity upon this attempt to beat down popular rights held sacred since the beginning. If there is any warrant in the law for the unholy, astounding and unjust prosecution which has set the precedent boasted of, let there be an instant repeal. The whole nation should know the facts.

"Turn On the Light."

From an editorial entitled "Turn on the Light," in another issue of the same paper, we quote as follows:

"In resigning they exercised a right that had been preserved to the employee in any calling or pursuit since the beginning of the Republic. This fact was admitted by the District Attorney in his interview, when he boasted of a 'precedent' established by the government in the Fairmont case.

Accused Workers Coerced and Intimidated.

"The men were made to understand that, unless they confessed, all the power of the national government would be brought to bear to send them to the penitentiary. They were told that unless they did confess they would be dragged to the bar term after term, in the event of a hung jury or an acquittal, upon one count or one indictment, until they had become financially exhausted and their power and ability to defend themselves had been dissipated.

"It might be pointed out that in one instance, one of the defendants pleaded that he had no objection to the other accused defendants pleading guilty; as for himself he was guilty of no crime and intended to fight to the last ditch, and for the truth that was in him. He was told that unless all surrendered and confessed all would be prosecuted and the defendant refused to take the responsibility for a prosecution of his associates. The brow-beating, intimidation and coercion, in the name of justice, succeeded; the government won a glorious victory.

"Of more consequence is the end attained than the sordid means; but Heaven knows that a voice of protest would go up from one end of the country to the other if only the means and the cause, and not the dangerous portent of the government's new precedent were exposed. Let the Congress of the United States get to the bottom of the Fairmont case. Let the light be turned on."

One Reason Why the "Interests" Want Militarism in U. S.

Just why is "Big Business" behind the preparedness campaign?

Why have leaders of the steel group and the Standard Oil group gone out of their way to present armored motor cars to the New York militia and to throw all their influence back of the demand for a huge army and navy and an aggressive foreign policy?

The answer is easy.

"Big Business" wants a huge army and navy because big business, having reached the end of the cheap labor supply in this country, having capitalized this country's natural resources for about all they will stand, and having exploited the people of this country to the point where further putting on of the screws will be difficult or dangerous, is now planning a campaign of world conquest.

Is the commercial and industrial imperialism of Morgan, Rockefeller, Vanderlip and Gary to be backed by a governmental and military imperialism? Are we to give them battleships and big armies to collect debts and to protect Wall Street dollars already bloody with exploitation at home, from the wrath of the exploited peoples of foreign lands?

It's about the biggest question of policy this country has had to determine since the Civil War.

Our preparedness champions profess fear of a foreign invasion. They ask if this country is not to defend its liberties. The real question is this:

Do you prefer to take your chances with an imaginary European enemy who is sure to be economically exhausted and sickened of militarism?

Or do you prefer to give your assent while this democracy is conquered from within, by act of Congress?

For if there's any difference between United States Steel, or Standard Oil and the worst militarist ruling class in Europe, the advantage is all with the latter, so far as democracy, liberty and the rights of man are concerned. Remember Youngstown, Bayonne and Colorado.

Chauncey M. Depew made a speech at a Republican club dinner in New York the other night in which he let the cat out of the bag. He said:

"There will never be a foreign commerce until the Government protects American business and American rights in foreign countries."

And don't forget Rear Admiral Chad-

wick's paper before the Clarke University Conference, in which he said:

"Navies and armies are insurance for the wealth of the leisure class of a nation invested abroad."

GEORGE P. WEST.

**Labor Affairs in the United Kingdom.***

The whole aspect of British labor organization appears to have changed during the year 1915. Even though the war was four or five months old when the year opened things were going on much as usual; there were strikes and lock-outs and all the old run of disputation. The supreme tragedy of the events of the past twelve months has permeated everywhere; it has been a sobering influence. The whole nation is organized for war and the value of the workman's services has never before been so openly and honestly admitted by the government and by the newspapers. Whether as a fighting man or as a munition worker the workmen, and indeed the workwomen, form the wide and solid foundation of the national edifice and organization. They suffer from the higher cost of living but against this there is practically no unemployment and good wages are being earned except in stray quarters. Every month wages have been advanced in one section of industry or another until it is only amongst the newer entrants into the industrial field that one finds under-payment and sweating. We hear of some women being paid only between three and four cents per hour for working on munitions of war, undertaking important work in the manufacture of shells, etc. These women, however, are newcomers in the industrial field; they are unorganized and do not know the value of their services. Hence they become the easy prey of the war leach—the creature who, blind to all the lessons of the mighty struggle now in progress and seeking only some one who can yield him a profit, finds out these ignorant new workers and bleeds them. Where workers are organized, even female workers, wages rule higher and higher. although it must be said that looking at the average worker's weekly income the big increase is not so much from an increase in price per hour or piece rates as in a bigger return earned by working longer time.

The beginning of December was

* Exclusive correspondence to the Locomotive Firemen and Enginemen's Magazine.

marked by the final ratification of the working agreement between three of England's greatest labor organizations, namely, the National Union of Railwaymen, the Miners' Federation of Great Britain, and the National Transport Workers' Federation. Over a million and a half workers are thus together in an alliance which is the outcome of long negotiations. The scheme was originated before the outbreak of the war.

The scheme originally drafted provided:

"(1) That a joint body shall consider matters of a national character or vitally affecting a principle; (2) until the matter in dispute has received the endorsement of the national executive of the body concerned co-operation shall not be called for; (3) when two of the three executives have decided in favor of such a course joint action shall be taken; (4) each of the three bodies shall be autonomous and may take action on its own behalf; (5) a joint committee to be appointed of two representatives from each organization; (6) every effort to be made to create effective control of their respective organizations by the allied bodies."

The management expenses of the alliance will be defrayed out of a separate fund to be raised by contributions at the rate of \$2.50 per thousand members from each affiliated body.

This Munitions' Act, by the way, is not received with pleasure altogether by some of the trade unions. It was a hastily drafted measure and, although made to secure industrial peace and having certain clauses to prevent employers in want of men from poaching on other employers' staffs, lets in a good deal of trouble.

Some of the difficulties can be gathered from the fact that the Labor Party has put down two amendments to the Munitions Act (Amendment) Bill. One proposes that there shall be no imprisonment for non-payment of fines inflicted upon workmen by Munitions Tribunals. The other proposed amendment seeks to bring all establishments in which munitions are being manufactured within the scope of Part II of the act. Part II provides, amongst other things, that in controlled establishments the profits of the owners shall be limited, and any restrictive rule, practice, or custom not having the force of law suspended. Some firms which are partially engaged in the manufacture of munitions are, it is said, enforcing the sub-section relating to the suspension of trade union rules without

being under obligation to conform with that affecting profits.

As is known, the last Budget in this county imposed an income tax on weekly wages, or at least upon those of over \$12.50 per week. Labor leaders whose opinion has been asked are not greatly impressed by the plan for helping the collection of a working men's income tax suggested by the Parliamentary Committee of the Trade Unions Congress. It is that the Treasury should issue stamps to the value of 25 cents, 36 cents and 60 cents, which workers can buy when they have money to spare, and in that way save up for the quarterly installments. The merit of the plan is held to be that it would lessen the hardship of a worker being called upon for a lump sum.



*Industrial Items of Interest.**

Favor Union Text Books.—"At the request of Typographical union officials," according to a report from Fort Smith, Ark., "the county board of this county has passed a resolution providing that in the future school books shall bear the union label."

Want "Detectives" Tabbed.—The local federation of labor, Detroit, Mich., is urging the city council to license private detective agencies. Secretary R. L. Reeves of the federation's legislative committee, made this statement to the council committee that is considering the proposal:

"The greater part of the work of these agencies is the watching of men who are not criminals. They do a class of work that requires a disreputable class of people. They are irresponsible and should be made responsible to some one. The result is friction because of this class of men. They bring in Chicago, Philadelphia and other gunmen. The prosecuting attorney has already stated that the destruction of property in Youngstown was due to private detectives and he has declared that they did the first shooting.

"Large agencies rent out men for a certain price to the corporations—men who will use guns if necessary. These agencies get a rake-off between the amount the employer pays for the service and what the man gets. Where they employ thousands a day, as some agencies do, they get on the basis of \$1 a day, and in this way obtain thousands of dollars."

*From A. F. of L. News Letter.

THE HAUNTED ROSE

By ADELBERT CLARK

There's a sweet, but faded rosebud
With a kerchief folded down,
And a snowy gown of muslin
That belonged to Mary Brown.
'Tis the one she wore that evening
In the fragrant garden close,
When he pinned it on her bosom—
Just a little half-blown rose.

"When Spring comes again," he whispered,
"And the lark begins to sing,
I will come to you, sweet Mary,
And will bring a wedding ring.
Sorrow with its shades of blackness
Ne'er shall touch you with its pain,
For we'll live and love together
When the roses bloom again."

More than fifty years the roses
Blossomed in the sun and dew,
Fifty years she lived and waited
As fair maidens seldom do.
Fifty years the crumbling rosebud
With the kerchief folded down,
Held the breath of one dear Summer,
And the soul of Mary Brown.

It is still up in the attic
Where she left it long ago.
But she sleeps within the valley
Where the flow'rs in beauty grow.
And when nights are warm in Springtime,
Often in the garden-close,
Walks her spirit with the kerchief
And the sweet half-opened rose.



Communications intended for publication should reach this office not later than the 10th of the month to insure their appearance in the following issue. Write on one side of the paper only. All typewritten matter should be double spaced. Sign name and address in all instances, not necessarily for publication, but as evidence of good faith. Correspondents may, if they desire, use a nom de plume, but no attention will be paid to anonymous communications. The Editor and Manager reserves the right to revise or reject any communication if he deems it to the best interests of the Brotherhood to do so.

Obituary notices and resolutions and detailed accounts of events of a purely local nature can not be published. Pictures are published only when same are of general interest.

All orders for subscriptions should be sent to the Editor and Manager.

Members when changing their address should immediately notify the Magazine office. All changes for the Directory should reach this office previous to the 10th day of the second month of the quarter in which it is desired that such changes should take effect.

Inquiries for the address of or any information concerning another, should be made through the secretary of the lodge nearest the residence of the person making such inquiry.

THE EIGHT HOUR MOVEMENT—CONTEMPTIBLE TACTICS BEING USED IN EFFORT TO DEFEAT IT

Warning to Our Members—Our Opponents Seeking to Create Dis-
sension in Our Ranks

**Beware of the Insidious and Treacherous Tactics of Those Who Would
"Divide and Conquer"**

"United We Stand, Divided We Fall"

Without any concert of action, and entirely without any prompting, rail-
road train service employes generally began long since to realize that no
class of workers are abused to the extent that they are, so far as hours of
service are concerned. In looking about for some relief, during the past few
years, it has been proposed that an "Eight Hour Movement" be conducted
by one or more of the railroad labor organizations. While the Brotherhood
of Locomotive Firemen and Enginemen has taken no such action at a con-
vention, conventions of the other train service organizations have passed res-
olutions endorsing a movement for an eight-hour work day, some of them in-
structing their officers to seek a co-operation between all of the organiza-
tions for the purpose of securing a reduction of hours of labor for men in
train and yard service. This culminated in a meeting in the city
of Chicago in December, 1915, at which a proposition was formulated whereby
it was hoped that men in all classes of road service, except passenger service,

and in all classes of yard service, and in hostling service, would secure an eight hour day. The joint committee that formulated this proposition, having no authority to go further with the matter, directed that it be submitted to each and every member of the Brotherhood of Locomotive Engineers, Order of Railway Conductors, Brotherhood of Railroad Trainmen and Brotherhood of Locomotive Firemen and Enginemen in railroad service. Between January 1st and March 1st, 1916, the members of these organizations were expressing their desires in the matter. Each member was requested to say whether he favored the presentation of such a proposition to the railroad companies. If the vote favors the proposition, it will be presented. If the vote is unfavorable, it will not be presented.

Railroads "Publicity" Weapon.

The railroads, recognizing that through "publicity" they had whipped the people of the country, the Interstate Commerce Commission and the national administration into increasing their freight rates, immediately concluded that they would defeat the efforts of railroad employes to secure an eight hour day by similar methods. Having had experience in "publicity" work, and realizing that its success depended largely upon deceiving the public, it is not strange that the railroads' publicity work should be but an exponent of their mendacity.

Greatest Labor Force.

The present coalition of the four great railroad labor organizations in the Eight Hour Movement constitutes the most powerful combination of labor interests that the American continent has yet known and is an indication of the still further closing up of Labor's ranks that is by no means relished by Labor's exploiters. Hence, railroad companies are endeavoring by every means in their power, fair and foul, but principally foul, to sap the strength of this movement. Through a plan to create dissention in the ranks of the organizations constituting it they hope to counteract the effect of that unity of purpose which has brought them together in one magnificent industrial army to fight for those civic, domestic and social conditions and opportunity for moral and educational advancement to which they are justly entitled. Hence, we find the literary hirelings of the powers of wealth resorting to the most base tactics of misrepresentation and to the depravity of purile petty political tactics in an effort to divide us against ourselves—tactics which would make a political ward boss turn green with envy.

Base Tactics of "Invisible Government's" Servile Press.

A great publicity machine has been created by the railroads and this publicity machine has the free and full co-operation of all of the newspapers, magazines and other periodicals that are controlled by the "invisible government." Amongst its recent activities has been its industrious application to an effort to create factions amongst the members of the allied train service organizations and to shake the confidence of the rank and file in their leaders. This publicity machine is subdivided into three branches, one in the east, one in the west and one in the south. The methods to which we refer have been particularly characteristic of the operations of its eastern branch and these tactics can be classed amongst the most grossly dishonorable known to the journalistic profession. Through a liberal use of sharp practice strategy known only to unscrupulous journalism utter falsehoods are told with a plausibility that easily misleads the casual reader into accepting them as truths, libel action being guarded against by the adroit use of terms such as "alleged," "it seems," "it is reported," etc., etc.

In the New York World of January 24th, the statement is made that Pres-

ident Carter of our Brotherhood "is the man who is universally credited with being the originator and organizer of the plan for a country wide strike on steam railroads," etc. The World also states that he made promises to our members at the Boston Union Meeting on October 31, 1915, that the passenger men would be included in the movement. The "World" also gave out the impression that great dissatisfaction was being expressed by the members of the Brotherhood of Locomotive Firemen and Enginemen against what it evidently desired to be regarded as a reckless scheme on his part to gratify a towering personal ambition. And then resorting to the base expedient of peanut politics it stated that a chairman of a certain Joint Protective Board in the East was defeated for re-election because of his friendship for President Carter.

Now the press agencies, of course, are controlled by "Big Business" and the combined railroad corporations constitute a very prominent and very important factor in "Big Business" and hence the press agencies helped to circulate this stuff with the result that references appeared to it in the press of all parts of the country.

Another contemptible falsehood that has been circulated by such methods is to the effect that the passenger men were lining up against the Eight Hour Movement and that a large proportion of them would refuse to leave the service in case that movement should involve a strike.

A Brazen Falsehood.

The same publication, The New York World, later on discharged another blast at the instigation, we believe, of the publicity department of the eastern railroads, wherein the statement is made that President Carter had sent representatives to the wage conference at Mobile, Alabama, between the coal operators and representatives of the United Mine Workers, "to do missionary work there with the officials of the soft coal miners' union," and involve all miners with all railroad men in engine and train service in one gigantic strike. In commenting upon this, The World says that

"Opponents of W. S. Carter, President of the Brotherhood of Locomotive Firemen and Enginemen, said yesterday this move was only one of a plan formulated by Carter and W. G. Lee, President of the Brotherhood of Railroad Trainmen," etc., and that "Carter's opponents, who are carrying on a vigorous campaign against him within the Brotherhood of Railroad Enginemen and Firemen with a view to kicking both him and Timothy Shea out at the forthcoming Denver election, say that President White of the United Mine Workers has already been officially sounded on the combination scheme and has strongly intimated his disapproval of any such coalition."

Now as a matter of fact neither President Carter nor President Lee of the Brotherhood of Railroad Trainmen ever once thought of presenting any such proposition to "the officials of the soft coal miners union," and this idea which is exclusively the product of the inventive brain of a professional enemy of our Brotherhoods never once occurred to them until they saw it in The New York World. Not that it would be to their discredit nor to the discredit of any man to try to bring about the closest co-operation possible between all labor organizations, but it was here used to becloud the issue—to make it appear to the members of their respective organizations that Presidents Carter and Lee had exceeded their authority and overstepped the instructions regarding the Eight Hour Movement under which they are working, and that they were unsafe as leaders and unworthy of the confidence of the men whose interests they represent. Then by its reference to "Carter's opponents" etc., it hoped to discourage members of our order who, not being familiar with the facts, might be led to believe that our organization was torn by rival

political factions—that there was opposition to our President and Vice President of such magnitude as to materially weaken its force as a fighting unit.

Nothing more clearly reveals the desperation of the position of the railroads than their resorting to such dishonorable, deceptive practices.

Trying to Use Religious Prejudice to Hamper Our Movement.

Nor are these the only tactics being resorted to in the hope of creating discord in our ranks. Religious prejudice is being appealed to in an effort to cause our members to distrust each other—in an effort to set brother against brother because they see fit to worship God as their consciences respectively dictate. The most despicable and contemptible methods are being utilized with a view to this end, as is evidenced by the circulation of certain literature attacking officers of railroad labor organizations on religious grounds. Some of this literature has been forwarded to the Magazine by local lodge officers to whom same was sent through the mails by some unknown party or parties.

We therefore most solemnly warn our members in this crisis to pay absolutely no attention to anything they may see in the columns of the daily press reflecting in any way on the Eight Hour Movement or on any of the officers of any of the organizations engaged in this movement. Never was the motto, "United We Stand, Divided We Fall," more applicable to a situation than it is to that of the four railroad train service organizations at the present time. If we stand together, "one for all and all for one," proof against every effort to create distrust or dissension in our ranks and united by a bond of reciprocal confidence and mutuality of interests all the powers of hell cannot defeat us.

Brothers, remember the majority of the big daily newspapers of this country are nothing but the paid tools of "Big Business," the sycophantic servitors of that "invisible government" which in exploiting the toiling millions so that the vast fortunes of the idle rich may grow greater and greater knows no deception too contemptible or dishonorable—no oppression too pitiless or merciless and no method too low to resort to that these purposes may be accomplished.

Remember, brothers, "one for all and all for one," confidence in each other, confidence in our leaders, unwavering fidelity to our great cause, and VICTORY.

NEGLECTFUL LOVE DOES NOT COUNT FOR MUCH

A Warning Story That Every Brother Should Read

Precaution Taken for the Safety of Those We Love Is Practical Affection

A brother, a resident of Indiana, whose name we will not mention here, was working on a road upon which is maintained a sick and accident benefit department to which the employes contribute out of their wages.

One evening during the fall of 1915 while the weather was still warm he and his wife were sitting on the porch of their residence talking over their affairs. The brother said that should anything happen to him the \$1800.00 mortgage on their home could be paid out of his insurance, viz., \$1500.00 in the Brotherhood and \$2000.00 in this railroad sick and accident benefit department, and that his wife would still have a nice sum that would materially aid her and their little daughter in getting along. His wife, when subsequently relating the matter to the Editor, said that while she did not like to talk with her husband on the subject, inasmuch as he had brought it up she thought she would mention some matters to him regarding his insurance

that had often come to her mind. She therefore asked him if his insurance policies were so made out that they would be payable to her without any difficulty or trouble of any kind, and he said his Brotherhood policy was payable to her but his policy in the railroad sick and accident department was still payable to his father, and that he would attend to the matter right away of having it made payable to her. Now his father being in quite comfortable circumstances would not need this money—had full and plenty without it, but his wife and baby would need it and need it badly should this brother lose his life—and there was absolutely no good reason why the policy should be payable to his father rather than to his wife.

This fireman was young and full of life and vigor and the world held bright prospects for him. Like ninety-nine out of every hundred men in the bloom of their young manhood, he gave but little thought to the danger of death inherent in his occupation and he put off from day to day the matter of having this policy he carried in the railroad sick and accident benefit department changed so as to make it payable to his wife instead of to his father. He had a fast passenger run and one evening his engine plunged into a ditch and he and his engineer were both killed and this policy still remained payable to his father and his father did not turn the money over to his son's wife and child. The Brotherhood insurance was promptly paid, but it was not sufficient to clear the mortgage off the home. Now, this fireman's wife is in poor health and the shock of her husband's death has completely unnerved her and she is unable to do any work, and between grief and worry she is in a helpless—a pitiable condition. If this brother had had the forethought to have made this insurance policy payable to his wife she would have been able to have gotten along nicely until such time as her health would have been restored and she would have been saved the distress of the worry she is now undergoing because want stares her in the face.

We would here call attention to the case of which Brother Hawley tells in the January, 1916, issue. It is the case of a member who had his certificate made payable to his wife. Now his wife, who was dissolute, cold-blooded, hardened and an unnatural mother, left him and went away with another man. This was five years prior to the death of this member, and yet he never made a change in the designation of his beneficiary, even although he had two small children depending upon him for support. The wife, according to information received, lived with the other man until the time of her husband's death and immediately after his death married him.

The Brotherhood was compelled to pay the amount of this brother's certificate to this woman and leave the two small children—her children as well as his—to be cared for by their grandmother, who was unable, or not in a position to be left with the care and expense of these two orphans. In so far as the Brotherhood is concerned, it were better that this money were at the bottom of the ocean than that such a woman and such a man should be in any way benefitted by it, and it is doubtful that there is anything that this brother could wish for more intensely than that this money would be taken away from them and given to his mother and his little orphans. There was a time when he could have provided for this by a stroke of the pen, but when a man once receives the death summons that time has passed.

A brother whose beneficiary certificate is made payable to any other than the person he desires most it should be paid to should take immediate steps to have the necessary change made. If he does not do this, his neglect may cause those nearest and dearest to him considerable suffering and worry should he be taken away from them.

MEXICO

State Department Warns Railroad Employes

FROM THE NATIONAL LEGISLATIVE REPRESENTATIVES*

The Department of State has advised the National Legislative and Information Bureau of the Brotherhoods that although there is no objection on the part of the present authorities in Mexico to the employment of American citizens on the railroads in that country, the Government of the United States will not assume the responsibility of advising Americans to enter Mexican territory to seek employment or for any other purpose, but on the contrary the Department thinks that on account of the unsettled conditions prevailing in Mexico it would be prudent for American citizens to remain out of that country.

This authoritative warning from the United States Department of State to the engine and train service employees in this country was given in response to an inquiry directed to the Department by the national legislative representatives, who asked to be informed whether or not American citizens are now employed or are permitted to be employed as engine or train men on the National Railroad or other Mexican railroads; and also if American citizens are being employed, to whom application should be made for the positions. It was stated in the communication that the Bureau had received a number of inquiries from persons who were employed in the engine and train service in Mexico before the trouble and who expressed a desire to return to their former positions if they were permitted to do so and if conditions were such as to make it advisable.

In the reply of the Department of State it is stated that a mail despatch has been received from Mr. Charles B. Parker, representing American interests in Mexico City, who advises that he has been informed by Mr. A. J. Pani, General Manager of the Constitutionalist railways, that there is no objection to the employment of American citizens on the railroads in that country. Mr. Pani also stated that application for employment should be addressed to Mr. R. Maury, Superintendent of Motive Power, but Mr. Maury's address was not given.

Railroad employees will do well to heed the warning of the State Department, however, and remain away from Mexico until matters there are more definitely settled.

*H. E. Wills, A. G. C. E., B. of L. E.; P. J. McNamara, Vice President, B. of L. F. and E.; W. M. Clark, Vice President, O. R. C.; Val Fitzpatrick, Vice President, B. of R. T.

States in Which Illiteracy is a Bar to Operating Trains.

In the states of Idaho, Minnesota, Nevada, New York, Ohio, Oregon and Washington railroad companies are prohibited by law from employing illiterate persons to operate trains. The New York statute reads as follows:

"Any person unable to read the timetables of a railroad and ordinary handwriting, who acts as an engineer or runs

a locomotive or train on any railroad in this State; or any person who, in his own behalf, or in the behalf of any other person or corporation, knowingly employs a person so unable to read to act as such engineer or to run any such locomotive; or who employs a person as a telegraph operator who is under the age of eighteen years, or who has less than one year's experience in telegraphing, to receive or transmit a telegraphic message or train order for the movement of trains, is guilty of a misdemeanor."

WHY THE EIGHT HOUR DAY?

Official Statement by the Chief Executives of the B. of L. E., O. R. C., B. of L. F. and E., and B. of R. T.

The demand is fair; all of the leading industries and trades, railroads excepted, have recognized the economic justice of the eight-hour day. We believe it can be adopted with no greater inconvenience by the railroads than accompanied its introduction in other employments.

The eight-hour day movement is based wholly upon the justice of a work day of reasonable hours that will permit the men further to separate the dead line between work and wages. The railroads say in effect that men who have put in a few years of railroad service have worked themselves out and will not be accepted if they lose their positions. If men are worked out in a few years under present service conditions, as the railroads in effect declare, the demand to extend their wage-earning years is fully justified.

Extra Pay for Extra Work.

Overtime in road service is due almost wholly to the practice of railroads overloading trains so that they cannot make their mileage within their time limits. The railroads are doing this for profit; they do not deny it; and if they propose to demand extra service at the sacrifice of the health and future earning ability of the men they should pay extra for it. The payment of overtime applies with particular force to yards where the companies can regulate their work so that no overtime need be made. If they exact extra service it is to their own interest, and the men have a perfect right to demand time and one-half time for that service.

A Shorter Day Wanted.

The railroads contend that the men are not sincere in their demand for a shorter work day; they declare they want a wage increase rather than a time decrease, and refer to a small number of the men who prefer the extra hour jobs to prove it. If the companies desire to test the sincerity of the men, let them prove their belief in what they say and establish the eight-hour day so that the men do not have to make a minute of overtime. The shorter work day is the main proposition on which the men are voting.

An Error Corrected.

The statement has been made that the payment of overtime is an incentive to delay work during the regular working time. It does not apply to railroad service. Both the employers and the men know that if delays are made without reason, the men are called to account for it; if at fault they are disciplined, and the companies have it within their power to determine whether or not delays are unnecessary.

The time used from the beginning of the trip until the crew is released is checked against the conductor's report—every delayed movement must be accounted for; efficiency experts follow both train and yard work and there are many roads where a careful record of every operation is kept for comparison. The Pennsylvania Railroad stated its supervision methods before the Industrial Relations Commission as follows:

"The rules of this company governing railroad operation are the most approved rules known to the railroad art. As a means of ascertaining the alertness of the men and the care with which rules are obeyed, surprise tests

of conditions such as would be encountered during a day's work, with particular reference to safety rules, are systematically made and their results carefully recorded. The record of 3,861,962 tests and observations made during the year 1914 showed slightly more than 99.9 per cent efficiency or practically perfect obedience to the rules.

"There was considerable opposition, on the part of the employees, when this practice was first inaugurated, but they have come to recognize its wisdom as keeping them constantly alive to their duty and proper supervision.

"On the larger divisions, where the number of employees warrants, experienced persons are appointed to act as Efficiency Inspectors, devoting their entire time to this work. The various officials whose duties frequently take them over the road, aid the inspectors by making observations, and at times assist in conducting tests. On the smaller divisions, all the tests and observations are conducted by officials. Each division keeps a record of all the tests and observations made during each month to see that each individual is tested at regular intervals; in addition to making the reports required by the General Manager, an individual record is kept for each employee, who is given credit for proper observance, and is charged with his failures."

This does not make it appear that the men waste time for the sake of overtime, but it furnishes conclusive proof that railroad operation has developed its efficiency to the highest degree and, due to that same system, the railroad companies are in position to correct the causes that are responsible for train delay, or slow movement, and, whenever the employee can be held responsible, the discipline for failure is in the hands of the employer. Where is there a railway operating officer who will admit that his men are inefficient for the sake of making overtime? If time is not made, the railroads have the remedy in their own hands. Between the efficiency expert and railroad discipline there is no chance for the man to loaf on the job and hold it.

Railroads Exaggerate Earnings of Men.

The railways have introduced statements that serve no purpose other than to divert attention from the main question; for instance, the money paid to a "green" brakeman is quoted at \$800 a year. A "ripe" brakeman does not get any more for the year than the green brakeman except that the ripe brakeman has a regular job and stands a chance to make regular time, while the green brakeman is on the extra board and must take his chances for employment when the regular man lays off. Instead of getting \$800 a year, there are times when he will be fortunate if he has a chance to make a trip once a month. If he works on certain roads, that one day will be applied to his payments due the voluntary relief association and he will not even receive that in money.

What the Men Really Get.

The pay of train service employees, other than passenger, is based on 100 miles or less, ten hours or less. In the Eastern territory, for instance, the brakeman will receive the munificent sum of \$2.67 for regular freight train service, out of which he must maintain his family at home and take care of himself at the other end of the road. The 100-mile trip is what represents one day's work, and means that at its expiration the man must lay away from home until he is dead-headed back or returned with a train. The conductors in all classes of road service receive approximately one-third more pay than the brakemen. The difference between the wages of the two is easily estimated.

To be specific, the wages paid in freight service in the Eastern territory are as follows:

"Through freight: Engineers, \$4.75; firemen, \$2.45 to \$3.40, according to class of engine. Way freight: Engineers, 25 cents additional and firemen 15 cents additional per day. Switching service: Engineers, \$4.10; firemen, \$2.50 and \$2.60. One hundred miles or less, ten hours or less, constitute a day. A few roads pay engineers \$4.85 and \$5.15 per 100 miles or less for certain classes of heavy power, while other roads in the same territory, with heavier engines which handle approximately 35 per cent more tonnage, pay the same rate of \$4.75 to the engineer, although the fireman gets the benefit of a graduated scale running from \$2.45 to \$3.40.

Through and irregular freight, work, construction, snow-plow, circus or wreck train service: Conductors, \$0.04; flagmen, \$0.0267; brakemen, \$0.0267 per mile; runs of 100 miles or less to be paid for as 100 miles, on a speed basis of ten miles per hour. Local freight service, way freight, pick-up or drop, mine and roustabout service are paid as follows: Conductors, \$0.045; flagmen, \$0.03; brakemen, \$0.03 per mile; 100 miles or less, ten hours or less, constitute a day.

Eight hundred dollars means that the brakeman who receives that amount must work 100 miles or less, ten hours or less, every working day in the year. Railroad men are piece-workers; they do not get paid by the year, but by the days worked. Whatever wages brakemen receive above \$800 are earned because they have worked overtime. It is no trouble to estimate these wages, for they are based on 100 miles or less, ten hours or less, for the day's work. Wages are a trifle higher in the Southern and Western territories, for train and enginemen in some instances.

Another Error Corrected.

The statement has been made that this present demand for the shorter work day is based on "peak" earnings of the railways, due to the present boom in business. This is not so. The shorter work day movement was started before the present earnings of the railways were thought of. The demand is based wholly on the absolute belief of the men that the eight-hour day is the proper work day, and that when they have worked that number of hours they have fully complied with every reasonable requirement that pertains to a fair day's work.

Roads in Receivership.

The statement has been made that roads in the hands of receivers have not cut wages. The fact that wages have not been reduced on such roads is not to be placed to the credit of the companies themselves, but rather to the courts that have denied the right of the railway companies to reduce wages of employees on railroads in the hands of receivers.

"Forty-five per cent of the earnings of the railway companies are paid in wages," affords the opportunity to show the sum total of wages paid. What interests the railroad employee is not the bulk sum paid to all of the railway employees, but the individual amount that goes to each man, and it is only on this basis that the figures of the railway companies interest them.

Roads Now Prospering Under Eight-Hour Day.

That there is not so much justification for the contention of the railroads that the eight-hour day is impossible is proven by the fact that at the present time there are seven roads in the Southeastern, and one in the Western, territory, that pay overtime on an eleven miles per hour basis. Six roads in the Southeastern, and two in the Western territory, pay overtime on a twelve-mile-per-hour basis. Eight in the Southeastern, and five in the Western territory pay overtime on a twelve and one-half miles per hour speed basis. There is only one road in the United States of which we have

knowledge that works more than the ten-hour work day, namely, the Monongahela.

We quote the testimony of Mr. Keefe in the arbitration between the Brotherhood of Locomotive Engineers and Brotherhood of Locomotive Firemen and Enginemen and the Western railroads, 1914, 1915, page 2735, volume 5:

"Mr. Sheean: Now, Mr. Keefe, was there in connection with any of the sheets which show the individual operations on the several lines following that anything to which you wish to direct attention especially? Of course, sheet No. 2 gives the average time on the average road, running time, in October, 1910, 9.41 hours in making a run of 113.2 miles, while October, 1913, shows the average running time 9.31 in making 112.6 miles.

"Mr. Keefe: Yes. I would like to direct attention to the results shown on column No. 6 of sheet No. 2. It shows that for the 111,865 through freight trains making 12,963,295 miles, the average time per train in hours was 8.39 hours, as shown on the bottom of column No. 5, and that the average length of the run for each one of these trains was 115.88 miles. That was in 1910.

"Mr. Sheean: That is in column 3?

"Mr. Keefe: Yes, in column 3. That was in 1910. Now, in 1913, the number of trains run is shown in column No. 11, as 113,362 trains, or an increase over October, 1910; that their average distance operated, as shown at the bottom of column 13, was 116.06, and that the average time per train was 8.38 hours, as shown on the bottom of column 15."

This covers 78 per cent of the through freight service in the territory.

A Question for the Future—Federal Wage Regulation.

The question has been raised, "Whether there should be a national regulation of wages on the railroads, to be administered by a special national board?" This is a question that at this time should not enter into a discussion of the main proposition. It contemplates, however, so great a departure from the present methods of fixing wages that certain inquiries as to its effect are pertinent. The most important are these: Does the proposition by implication mean that wages so fixed would have to be accepted by the employees without question? Is it the idea that wages and conditions once decided by a board of the character suggested would mean that the employees would have to accept them and remain in service? If neither of the suggestions applies to the proposition, and railroad employees are to be left perfectly free to accept or reject wages and conditions fixed by such a board, and would not consent to work under them, it would leave the situation exactly as it is. There does not appear much to be gained by the creation of such a board unless involuntary servitude is expected to be a part of its application. Understanding the question as it has in this way been answered, the railroad organizations are opposed to it.

Government Ownership Not the Question.

The following question has been asked:

"Whether there should be government ownership of railroads reducing the employees to classifications under the civil service?"

The question of government ownership has nothing whatever to do with the present shorter work day movement, and therefore is not a matter for discussion relating to it.

No Wage Cuts of Other Employes Necessary.

This question has been asked: "Whether the railroads in responding to the present demand of the four Brotherhoods should reduce the wages of other classes?" Certainly not. The effect of wage increases to the four

Brotherhoods in the past has been to encourage increase in wages to all other employees whether or not they were organized. It is true that in the past two years the railroad companies have attempted to show that the increased pay secured by the employees who were organized prevented them from increasing the pay of employees who were not organized. The purpose of this contention has been merely to becloud the main issue. The fact stands in evidence that no wage increases were given to the organized employees until they exerted every pressure at their command.

Another question has been asked:

"Whether they should reduce interest and dividend payments?" So far as railway employees are concerned, that is a matter with which they have nothing to do.

Improvements Demanded by the Public.

The next question asked is "Whether they should cut down expenditures for so-called non-productive improvements?" That is a matter entirely within the judgment of the railroad companies themselves, governed largely, however, by the demands of communities for buildings and terminals that will meet the requirements established by civic pride and business demand. If a railway company in complying with public demand expends twenty millions for a passenger station that will not increase its revenues, it can hardly be expected that the employes alone should assume the cost of the unproductive investment. It bears the same relation to their wages as so much watered stock.

Long Hours Mean More Wages.

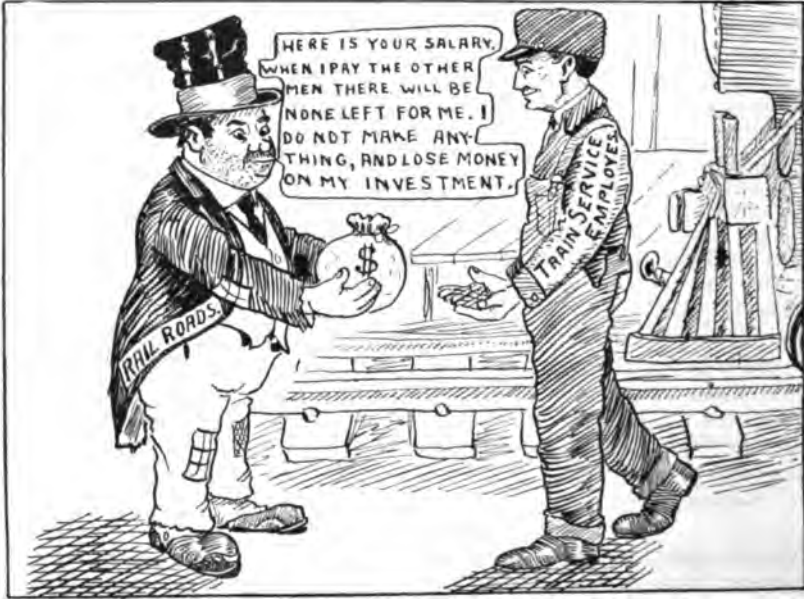
We are asked, "Whether they, the railroads, should seek another increase in rates?" This is asked on the assumption that wages are to be increased. The men are not asking for more money. They are asking for a shorter work day. If the railways insist on a longer day, then it will mean increased pay. If the railways need revenues to meet their increased costs of operation, yes. There is no other business in the United States that is not at perfect liberty to adjust its revenues to meet its costs of operation. The fact that the railway companies must first secure authority from the Interstate Commerce Commission to raise rates places them in a different position entirely from the remainder of the business in the country. This, however, is not the fault of the employees, and it is wholly unfair to expect that approximately eight million railway employees and their dependents must sacrifice their interests to the general betterment and welfare of the remainder of the population. Why should not the railroad companies be permitted to increase rates to meet legitimate costs, the like of which had to be met in the same way by every other industry?

We are asked "Whether they, the railways, should refuse the present demand and risk a strike, should arbitration be refused by the employees?" This is a question that at this time is not a part of the discussion. Whether arbitration will even be suggested or whether it will be agreeable to either side is a subject that at this time can not even be guessed.

Not Opposed or Pledged to Arbitration.

The position of the railroad organizations in regard to arbitration is about the same, and might be expressed in general terms as follows: They are not opposed to arbitration, neither are they pledged to accept it. They are practically pledged to peace, but that does not mean peace at any price. It means peace with honor, and not peace at the sacrifice of justice. The organizations do not desire to take issue with the public; they have no disposition to take undue advantage of it in any sense; they accept every

AS THE RAIL ROADS WOULD HAVE US BELIEVE.



As It Really Is.



public responsibility. They challenge even the inference that they have not always been fair to the public, and they ask only from the public that which the public holds fast as its absolute right, namely, the liberty to make its own terms of service so far as it has the power. Now, to say what will be done would be based wholly upon personal opinion and without organization authorization. It is true that in past arbitrations the men were disappointed and to some extent lost faith in that method of adjustment of differences, but there is neither warrant nor authority for saying that arbitration will or will not be accepted. Circumstances will determine the position of the men when the need arises, and they will then decide what shall be done.

W. S. STONE,
Grand Chief Engineer B. of L. E.
W. S. CARTER,
President B. of L. F. & E.
L. E. SHEPPARD,
Acting President O. R. C.
W. G. LEE,
President B. of R. T.



EDITORIAL EXPRESSIONS ON EIGHT-HOUR MOVEMENT BY PROMINENT NEWSPAPERS

Public Vitally Interested In Impending Struggle Between Railroads and Employes Over Question of Eight-Hour Day and Time and One-Half for Overtime

Shall Wealth Created by Modern Inventive Genius and Increased Labor Efficiency Go to Swell Fortunes of the Privileged Idle Rich or Be Diffused for the Benefit of the People at Large?

New York Journal, January 26, 1916:

"The public has been fair to the railroads. Public officials, often nominated or owned by railroads, have been very generous. Railroads repeatedly ask for higher rates, and often get them. The people are willing that a generous rate should be charged for freight and all other service. Public officials are ready to protect railroads from anything that even seems lacking in generosity. New York passed a two-cent-a-mile bill, as many States had passed it. The Governor of New York, Mr. Hughes, vetoed it. The rights of way of railroads are granted by the people. Railroad wealth is made up of population plus the energy of railroad officials.

"The chief asset of a railroad is the workmen, who run the trains and take the risk. The requests that the workmen now make are extremely reasonable. Let the railroads set a good example by granting these requests, without a fight that will irritate the public and create bad feeling. The men demand an eight-hour day. They ought to have it, they will have it, for it is nothing more than justice. Why not concede this demand without a long strike, tying up business, inconveniencing the public, injuring the railroads and causing bad feeling between management and men? The railroads run day and night. It is natural for them to have three shifts of eight hours each.

"Eight hours means men thoroughly rested, therefore greater protection for the public. Passengers are even more interested than workmen in the eight-hour day. Their influence should be exerted in favor of it.

"Business conditions in the United States are good. Railroads that have

intelligent, honest management are highly prosperous. They must be, since they are busy writing letters to the public refusing freight and telling why they can't take it. Why not let workmen share the prosperity?

"Before long we shall have here and there government owned railroads, operating on an eight-hour basis, needless to say. Such railroads will make it necessary for privately owned railroads to follow suit, if they last. Why not accept conditions, do the sane, sensible thing, and give the men what they ask, since it is absolutely reasonable?" (Copyrighted.)

Chicago *American*, January 27, 1916:

"The demand of the organized railway employees for an eight-hour day at present wages, with the possible alternative of a general strike which would indefinitely tie up all the railroads in the United States, is a matter of grave interest, not only to the parties directly concerned, but still more to the general public.

"As a matter of fact, the public always has to carry the main burdens imposed by a strike involving any public utility. The public must put up with the personal inconveniences, business paralysis, breaches of the peace, and the like, which always go with a railroad strike. And in the long run the public must pay the cost of the entire difficulty.

"The public, therefore, has a right, a good right as the main party in the present controversy, to demand peace. And the Chicago *American* believes that the right and safe road to pacification is for the railway magnates to give their men the eight-hour day without any further squabbling. It is a perfectly reasonable demand.

"In a calling so highly responsible as that of the railway workers, a calling that taxes to the uttermost, strength, nerve, endurance and instant attention, eight hours in the day is long enough. It is long enough for the railway worker and long enough for the passenger who must trust life and limb to the skill and endurance of those who run the train. It is a wrong to all who travel to compel them to endanger their lives by riding on trains managed by overworked and exhausted men.

"If the highly salaried gentlemen who are in the top places in our railway management, and who fix their own hours to suit themselves, shall finally refuse their employees the eight-hour day, and if, as a consequence, the people of the United States are plunged into a huge business crisis, the people will know whom to hold responsible. And they will probably get a new reason for insisting on the right remedy for railroad troubles of many kinds—government ownership." (Copyrighted.)

Chicago *Examiner*, January 28, 1916:

"The impending strike of the railroad men presents to this country again in tangible form one of its most serious and important issues. The four Brotherhoods of railroad men and 95 per cent of the 400,000 railroad men operating upon the 528 railroads of the country are practically a unit in their demand for an eight-hour day at the present ten-hour wages, and time and one-half pay for all working hours in excess of eight.

"It is not likely from the conditions that this question will be settled by any compromise or by any modification of the real issue at stake. The issue is an eight-hour day, and it is just as well that it should be settled definitely and permanently now as at any other time in the economic history of the country. The country is growing so fast and is settling its vital economic issues with so much thoughtfulness and deliberation that this one ever-present and ever-pressing issue might as well be written now among the established things of our economic system.

"The whole genius of our government in its economic relations is revolving around the principle of a three-fold distribution of the twenty-four-hour day into equal periods of labor, of rest and of recreation. The development of our national manhood and of our business and social life has reached this as the wisest and soundest arrangement.

"In the matter at issue as it has shaped itself, the *Examiner* believes that the railroad men are entirely right. What they are demanding in its essentials is an eight-hour day. They now have a ten-hour day and the eight-hour day is only a legitimate demand for the recognition of the standard hours of labor. This demand should be conceded by the railroads. Public safety and public efficiency unite in demanding an eight-hour day for the

working railroad men. We shall have better service and safer service and happier and healthier public servants when the eight-hour day is fully established.

"The period of making the demand appears to the *Examiner* to be well chosen. The country is now enjoying prosperity, and by all the omens is approaching an era of unparalleled prosperity. The railroads have received within recent months all sorts of concessions and all kinds of aid from the government. Nearly everything that they have asked has been conceded by the government under the railroad claim in the general interest of prosperity.

"The railroads have been allowed to increase their rates. They are now in prosperous times and are making money and are getting ready to make a great deal of money. They have made their money out of the people of the country, and they are confronting even greater prosperity through concessions given by the government, but coming really from the people of the country who support and sustain the government. It is only right, therefore, that the railroads should divide some small part of these benefits with their employees. And the very least that the railroads can do is to give their men an eight-hour day.

"No settlement of this question short of the eight-hour day will be a satisfactory settlement or a permanent settlement. If compromise or arbitration should settle this question upon any other basis than the eight-hour day, it will simply cover up for a time a discontent which will smolder under a sense of injustice and break out sporadically or generally at other times in other strikes and upheavals to the discontent and disadvantage of the great majority of the people.

"The *Examiner* believes that the large, wise thing for the railroads to do, and to do now, is not to fight the inevitable in this matter, but to accept frankly and definitely the principle of the railroad men's demand for an eight-hour day and to settle this widespread threatening disturbance upon that basis.

"Whatever conditions may be made under this general principle are for the discretion and good will of the railroad owners and the railroad workers. But the *Examiner* plants itself upon the proposition that the eight-hour day for railroad men is right, and because it is right it ought to be granted, and that there will be no permanent peace and no permanent prosperity for the railroad operators and the railroad workers until a final and unchangeable arrangement is made upon this basis." (Copyrighted.)

Boston *American*, February 2, 1916:

"The impending struggle between the railroads and their employes over the question of an eight-hour day is a fundamental and irrepressible social and economic conflict. Its causes and its results lie far deeper and reach much farther than the interests of the immediate participants in the struggle. This conflict is a manifestation of an evolution in society—a development of our economic and social conditions. It is a manifestation of the advance of the arts and sciences. It is the result of the inventive genius of the age—a consequence of the increased power of labor.

"One hundred years ago nearly everything that we *now* do by machinery was done by hand. What it took one hundred men with their unaided hands to do a hundred years ago, one man with a machine can do today. What it took four locomotives to haul twenty-five years ago, one locomotive can haul today. Two men on a big electric car today can handle twice as many passengers as the two men on the little car of fifteen years ago.

"The automatic brake and couplers and the safety devices of the railroads have greatly reduced the number of men required on the freight trains. Our great ocean liners are almost twice as large as they were twenty-five years ago. We have ten times as many telephones, and the telephone dispenses with innumerable errand boys and details and saves untold hours of labor. All this means that in a given time we are able to produce more and more with our labor.

"Now, this increase in the productive power of labor must have one of three results. It must either go to increase the great fortunes of the few until we have a plutocracy in this country, which will, by the power of its vast wealth, absolutely subvert our free institutions and destroy the republic; or it can be diffused over the great mass of the people, giving them not only more of the necessities of life, but more of its luxuries, thus yielding them a larger and larger dividend from the activities of society; or its advantages can also be diffused over the mass of people by shortening the hours of labor, thus yielding to society a greater dividend in leisure, in which individuals may pursue their happiness according to their lights, so that men may be home longer with their families and have more time to cultivate their minds and to acquire the knowledge which will make them better citizens and able to give our government better guidance.

"The struggle is age-long between the classes and masses to win possession of this great increment in the productive power of society. Unjust taxation and unjust ownership of land were the ancient devices of the powerful and highly organized few to abstract all the benefits from the increased efficiency of society in ancient times. These two devices still survive in our present day and are still a very efficient means of absorbing by the few an unjust share in the increased productive power of modern society.

"But among the inventions of modern society there has been added a new contrivance for appropriating the lion's share of the increasing general wealth for a very small minority. That contrivance is the modern scheme of stock-watering, bankers' underwriting profits and commissions; the purchase by a corporation at extravagant prices of property owned by those in control of the corporation, to the loss of the stockholders of the purchasing corporation and to the very great profit of the insiders.

"More than 90 per cent of the swollen private fortunes of this country have been made out of such unlawful and unethical schemes as these. Now, the community must either accept this exploitation of society as inevitable and give up all hope of receiving great and constant benefit from the advancement of the arts and sciences, or we must take sides with those labor organizations which, through the power of their organization, are fighting against these schemes to aggrandize the few, and are fighting it by constant demands for an increase in wages and for the shortening of the hours of labor.

"By an increase in wages they force from the general wealth a greater share, which would otherwise go to swell the dangerously large private fortunes. The other method of meeting the struggle of privilege to get more than its share is by demanding a reduction in the hours of labor. If a locomotive engineer and a fireman can make their engine haul four times as much freight today as it could haul yesterday, they may say, 'We will not turn over all this difference to the Wall Street bankers, but we will take some of it ourselves, either by increased wages or by a reduction in the hours of labor, or by a little of both.'

"The demand for a reduction in the hours of labor, however, stands upon a somewhat different ground in one respect. It has always been contended by the labor organizations, whenever they have demanded a reduction in the hours of labor in the factories, that this reduction will not materially reduce the output or the productivity of the day's work. And it must be admitted that their predictions have proved true by experience in this State. The dire prophecies of evil made in the last fifty years by the manufacturers that every reduction in the hours of labor must result in such a disadvantage

to the State's manufacturers, in competition, with manufacturers in those States where the law does not limit the hours of work, that our manufacturers must go out of business, have all failed of fulfillment.

"Organized labor argues, and argues well, that you do not get an increased output from a man necessarily by increasing the length of the hours of his labor in a day, nor do you necessarily decrease his output by decreasing his hours of labor. They argue that a man can work at a higher speed if he works shorter hours and can produce just as much in a shorter time as he would produce if he dragged wearily and discontentedly over a longer period. There are, therefore, in any ordinary demand for a reduction in the hours of labor two arguments: One, that it is only giving to labor its own increase in productiveness; and the other, that within limits not yet reached it does not reduce the output of labor.

"But the demand of the railroad employes for a reduction in their hours of labor to eight hours a day stands upon a still more special ground. These men are operating a very dangerous instrumentality. The American railroads are more destructive of human life and limb in proportion to the passengers they carry than any other railroads in the world. Several years ago the Interstate Commerce Commission published a comparison between the railroads of the other nations and our own American railroads with respect to the number of accidents. In the year which is taken, the railroads of all the other countries of the world killed 5,044, while the railroads of the United States alone killed 10,151. While all the other railroads of the world injured 40,347 passengers that year, the railroads of the United States alone injured 150,159. The railroads of the United States killed more than twice as many that year and injured three times as many people as all the other railroads of the world put together *and that was a typical average year.*

"When an accident happens on a railroad it is customary for the railroad managers to blame it on an engineer or a fireman whose lips are sealed in death and cannot make reply. But often the man's wife or mother, who knows the story of his unfortunate life, reveals to the public the truth. Not long ago an accident happened on a New England railroad and, of course, the engineer was blamed; but his wife told the newspaper reporter a story of the hours which her husband had been obliged that week to work, with scarcely any sleep, and she declared that if he had dozed at the switch the fault was not his, but should be laid at the door of the railroad managers, who had outraged nature by demanding of that engineer a service which no man could safely render.

"Thus the public is interested to help the railroad employes obtain shorter hours, because it tends to help the even distribution of the increasing wealth of the country in which all share, if it is evenly diffused, and in which only a few will share if it is not; and also because it will make for safety in the operation of our American railroads.

"If, on the other hand, the managers of these railroads say they cannot grant this decrease in the hours of labor and operate their railroads at a profit, then the answer is obvious: they should surrender these public utilities and let the government operate them. These are great public service enterprises, whose first duty is to serve the public—and necessary public service comes before profit." (Copyrighted.)

Sparks.

A warm invitation is extended to all members of the Brotherhood and of the Ladies' Society to be present at the Fourth Annual Colorado State Meeting. Meeting will be held March 21, 22 and 23, this month, at Trinidad, Colo.

Send orders to John F. McNamee, Editor and Manager, Traction Terminal Building, Indianapolis, Ind., for bound volumes of the Locomotive Firemen and Enginemen's Magazine for 1915. Same can be secured for \$3.50 each, prepaid to any point in the United States and to any point in Canada or Mexico for \$4.50 subject to duty.

Brother W. S. Parham, of Lodge 201, advises that he has complete files of the Magazine for the years 1907 and 1910 and broken files from September, 1903, to December, 1915, which he desires to dispose of. Interested parties communicate with W. S. Parham, R. F. D. No. 3, Hickman, Ky.

Sunday, March 26th, is the date of the next Get-together Meeting at Pittsburgh, Pa. Every brother who can be present should attend. Remember it will be on the 26th of this month. See the announcement elsewhere in this issue.

As the Directory is corrected up to the 10th of February, May, August and November, all notifications of changes of address, etc., to appear therein should be in the hands of the General Secretary and Treasurer not later than the first of the months named.

A piping diagram of the LT Automatic Control Equipment may be secured for ten cents. Send orders to John F. McNamee, Editor and Manager, Traction Terminal Building, Indianapolis, Ind.

A set of twelve colored charts of the No. 6 ET Locomotive Brake Equipment in its different operative positions, together with descriptive matter and a piping diagram of the LT Automatic Control Equipment may be obtained for 35 cents. Send orders to John F. McNamee, Editor and Manager, Traction Terminal Building, Indianapolis, Ind.

The second section of the first edition of "Sparks and Cinders," a book of poems by Brother J. Alex Killingsworth, is now

on sale. This edition, while an exact duplicate of the first edition, will sell at 75 cents a copy. This is a price to meet the times. "Sparks and Cinders" will prove a valuable addition to the library of any Brotherhood man. Orders should be sent to J. Alex Killingsworth, 21 Myrtle St., St. Thomas, Ont., Canada.

We have for sale a new series of air-brake charts in colors. The set consists of fifteen charts on the P-C Passenger Car Brake Equipment of the Westinghouse Air Brake Company, and shows diagrammatically the No. 3-E Control Valve in its various operative positions. Price per set of fifteen charts, including printed descriptive matter, 35 cents, prepaid to any address. Send orders to John F. McNamee, Editor and Manager, Traction Terminal Building, Indianapolis, Ind.

A cordial invitation is extended to all brothers and the public as well to be present at the Crestline, Ohio, Joint Union Eight Hour Day Preparedness Meeting to be held in that city on the 19th of the current month (March). The proposition of an eight hour day and time and one-half for overtime will be fully explained by international officers of the four train service organizations. Notice of meeting appears elsewhere in this issue.

Brothers, your change of address should be sent promptly to the Magazine office to insure your receiving your Magazine regularly. Those who wish to keep a complete file of the Magazine will not overlook the importance of keeping us advised of their correct address.

Notwithstanding that the Magazine is being printed in Columbus, Ohio, the editorial offices are still located in Indianapolis, and all correspondence should be addressed to us here.

Brothers, keep on hand at all times a supply of application blanks. Keep some constantly in your pocket so that you may be always ready to hand one to any man you may meet who is eligible to join the "Tried and True."

In order to take effect with the next issue your notification of change in your address must be in the Magazine office not later than the 10th of the month.

A copy of "The Angel of Easter," a beautiful new Easter song by Adelbert Clark, whose poems appear monthly in our Magazine and who is also the composer of "A Plea," can be secured for thirty-five cents. Music by Canadian composer, W. Francis Firth. Send orders direct to Francis Firth Music Co., 23-25 Farmer Street, Detroit, Mich.

For particulars as to soliciting subscriptions for the Magazine, write John F. McNamee, Editor and Manager, Traction Terminal Building, Indianapolis, Ind.

Crestline, Ohio, Joint Union Meeting of Sunday, March 19th, should be attended by every brother who can be present. Eight Hour Movement will be explained by general officers. Announcement of meeting appears elsewhere in this issue.

Anonymous communications cannot be published in the Magazine. Every letter that reaches the Magazine office will receive prompt and courteous attention, provided the signature of the writer is attached.

Every brother should put forth his best efforts to have every non-union fireman and hostler he knows join the Brotherhood without further delay.

Brother A. O. Kirk, Lodge 311, advises that he has a complete file of the Magazine since 1908 of which he is desirous of disposing and all of which are in good condition. Interested parties write A. O. Kirk, Belle Plaine, Ia.

The next Pittsburgh, Pa., Get-together Meeting will be held at the Kenyon Theatre in that city, Sunday, March 26—this month. All members who can attend should be present. Read about it elsewhere in this issue.

Inquiries have come to the Magazine office as to the opportunities for employment in railroad service in Mexico. In this issue appears a statement from the National Legislative Bureau, advising that the State Department of the United States Government warns all Americans that the United States Government will not be responsible for the safety of any American citizens who enter Mexico.

When preparing communications for publication in the Magazine, contributors are requested to write on one side of the paper only, and if matter is typewritten it should be written double space.

A copy of the Catechism of the Electric Headlight, containing supplement on the Pyle National Equipment "E" with folders, can be secured for 50 cents. Send orders to John F. McNamee, Editor and Manager, Traction Terminal Building, Indianapolis, Ind.

Brother Harry C. Ebbert Lodge 465, has a complete file of the Magazine since September, 1905 which he is willing to dispose of at a low price. Interested parties communicate with Harry C. Ebbert, 601 Grandview Ave., Pittsburg, Pa.





Top row, left to right: R. E. Thornton 468 B. L. F. & E.; A. J. Chipman, 94, B. L. F. & E.; Roy Turner, 166, B. L. F. & E.; E. S. Miller 29, B. L. E.; E. B. Rogers, 481, B. L. E.
 Middle row, left to right: F. W. Hoffman, 975, B. L. F. & E.; W. A. Keston, 59, B. L. F. & E.; Fred Beasley, 679, B. L. F. & E.; R. A. Bryant, 323, B. L. F. & E.; J. A. Irviss, 713, B. L. E.;
 S. C. Rooney, 197, B. L. E.; J. J. Walsh, 524, B. L. E.
 Bottom row, left to right: George Cyril, 146, B. L. F. & E.; Vice Chmn J. P. B., B. L. F. & E.; S. G. Payne, 773, B. L. F. & E.; Sec. Tress, J. P. B., B. L. F. & E.; Joint Secretary, J. N. Wilson, 113, B. L. F. & E.; Gen. Chmn J. P. B., B. L. F. & E.; Vice Chairman Grant Kentfrore, 37, B. L. E.; Gen. Chmn G. C. A., B. L. E.; Chairman E. A. Schlereth, 461, B. L. E.; Sec. Tress, G. C. A., B. L. E.; Joint Secretary; D. M. Wright, 269, B. L. E.; Vice Chmn G. C. A., B. L. E.

JOINT COMMITTEE OF THE B. OF L. E. AND B. OF L. F. AND E., DENVER AND RIO GRANDE SYSTEM



Annual Reports.

Many of the lodges have, as yet, failed to get their Annual Reports to this office, and I sincerely trust that every officer who is supposed to look after matters of this kind, will get busy and see that the report reaches this office at an early date, because it must be understood that any lodge who fails to file their Annual Report, or is under suspension for any assessments, will not be permitted to have a delegate, or, in other words, the delegate from their lodge will not be entitled to a seat in the Convention. Get busy on this and do not permit your delegate to get to Denver and then be told he cannot sit in the Convention.

Issuing Receipts.

I find that many of our financial secretaries continue to issue an official receipt to an expelled member before he received notice from this office that the expelled member has been readmitted. This is directly contrary to the provisions of the Constitution, and our financial secretaries should see to it that no receipt is issued to an expelled member unless a notice of his readmission is in the hands of the financial secretary. We also find when papers in connection with death claims reach this office and the receipt is attached thereto that in many instances there is no indication on the receipt to show on what date the assessments were paid. The law provides that it should be indicated, either by a punch mark, or a bank stamp. I urge upon all financial secretaries to be sure that they punch out the exact date on which assessments are paid, providing they receive the assessments, and to be sure and instruct the bank, providing they have their assessments paid into a bank, to put the

stamp on the face of the receipt showing the date of payment.

Death Reports.

We find that some of our recording secretaries are quite dilatory in getting the reports of deaths of members to this office promptly, and I desire to again impress on recording secretaries and other officers how very important it is that they get death reports in here just as soon as possible. At least, get in the official notification of the death of a member so we can take up correspondence to get the additional papers. Just as soon as we receive an official report of a death we make record of the same; the assessments of that member stop, and we then try to get the remainder of the reports. It makes at least one month's difference in the payment of a death claim when the report gets here after the fifteenth of the month. In other words, a report received here on the fifteenth of the month is payable on the fifteenth of the following month, providing the papers are completed and approved. While if it reaches here on the sixteenth it is not payable until the fifteenth of the second month following.

Again the Old Timers.

While examining for approval the claims to be paid on February 15th, I find that seven (7) more of the old-timers have passed away and another is being paid the amount of his disability claim. All of these members have been in the organization over twenty-five (25) years, and it will be noted that one of them had passed his thirty-second year as a member of the organization.

I give herewith the names of these members; the numbers of their respective lodges and the number of years and months that each held continuous membership:

<i>Name</i>	<i>Lodge No.</i>	<i>Years</i>	<i>Mos.</i>	held by each of the above named mem- bers:	<i>Name</i>	<i>Amount</i>
Johnson, Charles.....	1	29	4		Johnson, Charles.....	\$508.80
Lindsley, W. S.....	27	26	11		Lindsley, W. S.....	478.45
Funk, Chas. J.....	57	28	5		Funk, Chas. J.....	493.45
Williams, E. F.....	138	28	6		Williams, E. F.....	498.80
Connors, John.....	211	30	11		Connors, John.....	530.80
White, E. E.....	240	29	9		White, E. E., Disability.....	494.65
Fertig, Wm. H.....	251	32	2		Fertig, Wm. H.....	545.45
Heaney, Wm. L.....	285	28	11		Heaney, Wm. L.....	503.80

The following will show the amount of money paid into the organization on account of the beneficiary certificate



Forum

PUBLICITY CAMPAIGN NEEDED IN EIGHT HOUR MOVEMENT

Railroads Keep Their Side of the Case Constantly Before the Public

A Few of the Things the Public Should Know As to Why Railroad Employees Are Demanding Better Working Conditions.

By A TEXAS MEMBER

The campaign of publicity now being carried on by the railways regarding the Brotherhoods and the eight-hour movement reminds me of this familiar line, "same old story, nothing new."

I have just received a letter from an O. R. C. brother of Salt Lake City, which says in part:

"I would like to ask a fair question: Why have we not been in touch with the public for years past? Why is it not good policy and a proper spirit to go to the people with the human side of our problems? Why should not the public know of the humiliation of the physical examination, of the ruthless barbarism of the arbitrary age limit, of the 'crucifixion' by the railways of their own cripples, and of their inhuman disregard of the rights of their unorganized employes and the miserable pittance they allow them as wages, that sets the danger signals for the organized employes to organize still more?"

In reply to the brother I will say we have been top-heavy with knockers from all sides and the sad part of it is all the knocking has been carried on without much protest from our own side. In other words, we have been so busy

squandering our health capital trying to make a living we have not given the public much thought, and we are just beginning to open our eyes and realize it is up to us to tell our own story. So, brothers, I will give you a few lines to think over and discuss with the public.

Is It Right?

Now ask the public:

Is it right for train and engine service employes to work sixteen hours per day?

Is it right for one man to do two men's work while 20,000 or more experienced Brotherhood men are floating around the country trying to keep their families and loved ones from hunger and want?

Is it right for the railroads to claim that they are going broke on account of the demands of labor when there are men getting over a million dollars a year income from their money invested in railroads while the average wage of the employes, including the officials (some of whom draw \$300 and \$400 per day and expenses), is only \$2.54 per day?

Is it right for insurance companies to



Top row, left to right: B. Howard, 481, B. L. F. & E.; L. J. Rustell, 526, B. L. F. & E.
 Second row, left to right: M. S. Fletcher, 216, B. L. E.; D. Britt, 589, B. L. E.; J. F. Seely, 331, B. L. E.; H. H. Colley, 819, B. L. F. & E.; H. E. Debrecht, 44, B. L. F. & E.; Chas. Kuyvon, 17, B. L. E.
 Third row, left to right: H. E. Cowles, 156, B. L. E.; H. S. Stollard, 536, B. L. F. & E.; M. Rowland, 86 B. L. E.; J. Russell, 49, B. L. F. & E.; E. R. Porter, 54, B. L. F. & E.; W. Bliss, 533, B. L. F. & E.; H. A. Belding, 546, B. L. E.
 Bottom row, left to right: Chas. Hathaway, 487, B. L. E., Sec.-Treas., G. C. of A., and Asst. Secy of Joint Committee; F. A. Denton, 730, B. L. E., Vice Chairman, G. C. of A.; A. S. Mead, 548, B. L. E., Chairman G. C. of A., and Chairman of Joint Committee; Chas. F. Thomas, 535, B. L. F. & E., Chairman J. P. B., and Vice Chairman, Joint Committee; E. L. Miser, 456, B. L. F. & E., Vice Chairman J. P. B.; Carl Rudolph, 405, B. L. F. & E., Acting Secretary J. P. B., and Secretary of Joint Committee; F. A. Auschwitz, 302, B. L. E.

JOINT COMMITTEE B. OF L. E. AND B. OF L. F. AND E., WABASH RAILROAD.

invest the people's money in railroads and refuse to insure railroad train men?

Is it right for a railroad official who gets \$200 per day or more to accuse the employes of bankrupting the road, and tell the public that a railroad official is worth all he can get?

Is it right for the railroads to tell the dear public of the large increases the employes have received for murdering their physical constitution on the cross of long irregular hours of toil in the past few years, and say nothing of the big increases the officials have received during the same period, not to mention the large bonuses paid to some for service not rendered? Why not tell the dear public who pays this bill of expense?

Is it right for a railroad general counsel who is receiving a salary several times larger than the Chief Justice of the Supreme Court of the United States, to point out some engineers who make more than certain governors and not tell that the governors receive their expenses and get most of their satisfaction from the honor of the office?

Is it right to talk of cutting the wages of the unorganized employes to make up for loss of dividends when some of the employes are getting less than one dollar per day, and living in stalls like cattle?

In conclusion, brothers, I will say it is right and necessary that we tell our own story. Yes, print the true side, the human side. Put the man before the dollar. Boosting is better than knocking. Brothers, boost for the eight-hour day, time and one-half for overtime and a twelve-hour law.



Joint Union Eight-Hour Day Preparedness Meeting, Crestline, Ohio, March 19th.

There will be a Joint Union Eight Hour Day Preparedness Meeting of the four railroad train service organizations held in the Opera House Block at Crestline, Ohio, on the 19th of the present month (March). Sessions will be held at 1:30 p. m. and 7:30 p. m. All railroad employes and the public as well are cordially invited. The eight hour day subject is one in which all are vitally interested. It will be discussed by international officers of the different Brotherhoods and by other speakers of prominence. All brothers who can possibly attend are urgently requested to be present.

J. G. LIGHTBURN,

Lodge 299, B. of L. F. and E.,
Secretary of Meeting.

A Plea for Disabled Brothers.

Business conditions have improved materially in recent months and our men who had been laid off during the recent dull times are nearly all back working. On some roads not only are all those who had been laid off back in the service again, but new men have been hired. While enjoying the realization of this returning prosperity, however, let us not forget those of our brothers who if tendered the best runs on the system would be unable to accept them because of physical disability.

We have had two cases in our own lodge which I wish to cite; one of a brother whose back was injured in a wreck some three years ago and who has been unable to do much since, in fact for the past year he has been unable to work at all. This brother has a wife and two small children looking to him for support. He carried a policy of \$1,500.00, but, his case not being provided for by the constitution, it was turned over to the Board of Directors for consideration. Our lodge went to the expense of sending a representative to the meeting of the board in Peoria last February to present the facts in the case and the board allowed \$500.00 on his policy, payable at the rate of \$25.00 per month, which had it been paid in a lump sum, would have permitted him to get a brace for his back and pay some of his debts.

The local lodge, however, came to the rescue and gave him a lift through subscriptions. Another case nearly as pathetic is one of a brother whose eyes gave out and he was forced out of his position on the road. Owing to his poor eyesight he was unable to secure any other responsible position and is now doing his best to eke out an existence on a sand farm in northern Michigan.

Not being totally blind, his case did not come under the provisions of our constitution, so the lodge could do nothing for him and, being unable to pay his assessments, he was forced out of our Brotherhood. The Board of Directors and other Grand Lodge officers are often criticized in regard to such cases, but, brothers, it is our own fault and no one else's that we do not amend our constitution and make disability claims payable in full for any disability necessitating a brother's removal from engine service. Our assessments would naturally be a trifle more, but we would have protection. If a brother can get no assistance when he is down and out, can we expect him to share much of his earn-

ings with his younger brothers when he is able to work? I think that this to a great extent accounts for the presence of so many Rockefellers, Carnegies, Morgans, etc., etc., in our organization. We have millions of dollars lying idle in our treasury while some of our disabled brothers are compelled to go hungry simply because their particular case does not come under the provisions of our constitution.

Because some may have defrauded the Brotherhood is no justification for hundreds of deserving members being denied their just dues. In my opinion loyalty to our organization lies in protecting the interests of its members; so, brothers, let us act in this matter and make provision to aid these poor brothers in their distress.

FLOYD E. DRAKE,
Rec. Sec. Lodge 332.



Reduce Convention Expenses and Help the Old Members.

Much appears in our Magazine relative to helping the old members, but thus far little has been done. I claim the old men made our order what it is today. If it was not for the Brotherhood the firemen would be putting in time cleaning their engines with no pay. In the old days some engineers would use their handkerchiefs wiping around in the cab to see if the fireman had been the least neglectful in the work of cleaning and if any evidence were found that he had been thus neglectful he would surely hear of it. Now, I believe this work has all been taken off the firemen. We old timers also came in for those nice little C., B. and Q. strike assessments and without a murmur we paid them. In looking over my old receipts of the order I found one which was issued May 7, 1885, for admission fee and grand dues to Falls City Lodge 103, so you can see I am one of the old members. I had Brother Hannah to come and organize Clark Lodge 297 and was one of its officers so long as I worked on the old J. M. and I. I was let out in 1893 on account of a rear end collision which was no fault of my own. I fought the Voluntary Relief Department and drew out of it and that, I believe, was the reason for my dismissal. I did not let the Brotherhood take up my grievance which they wanted to do. In those days the company was very hostile to the Brotherhood. The old members fought your battles and made the order what it is today, and they are entitled to some consideration. I think

they should be helped by the next convention, for they deserve help. Now, in my own case for instance, I have a broken foot, four toes off the same foot, a rupture, am compelled to wear bifocal glasses, and am 60 years old. Let me ask you brothers who is most entitled to their insurance, the young man with one eye or the old and infirm man in the condition I describe?

I think the expense of conventions ought to be cut down. I read the article by Brother McCoy in the October, 1915, issue in which he says that convention expenses could be reduced nearly \$200,000.00. If his figures are right, that would be a great saving and this same amount could be levied and the old members paid their insurance out of the money thus saved in convention expenses. The number of delegates should be cut down. One delegate could represent three lodges and thus as good results would be secured as from conventions having eight hundred delegates. I would like to hear from some of the brothers on this subject.

GEO. T. SHIRLEY,
Member Lodge 297.



Conventions Too Large—Accident Insurance.

I have been reading with interest the articles started in the January issue of our Magazine entitled "Grand Lodge Conventions," by Bro. R. F. Cole, of Sparks, Nev. Brother Cole is handing out facts from experience, and I invite all brothers to read Brother Cole's excellent articles now appearing in our Magazine and read them carefully, and brothers, if you are interested in bringing about a big reduction in the cost of conducting our conventions, which you must be if you are interested in your assessments, go to lodge regularly and assist in having your delegate ordered with iron-bound instructions to go to our 1916 convention and support the best plan to bring about badly needed reform in this connection.

Brothers, I would further suggest, if you do not think Brother Cole is stating facts that if possible you visit the next convention and see for yourself. I was at the Washington (1913) convention and saw how a large number of the delegates were paying no attention whatever to what was going on, but were either reading newspapers or conversing with other delegates.

With all due respect to the brothers

who were delegates to that convention, about 51,000 dollars to pay this additional expense money. I wish to express my disapproval of their action in allowing each delegate \$2 a day for expenses. This increased their salary to \$9 per day. It seems the large expenses of the convention were entirely overlooked, as it cost this Brotherhood

I would like to see an accident insurance department established by our next convention.

G. C. STEELE,
Member 645.

AN EIGHT-HOUR DAY

By J. ALEX KILLINGSWORTH,
Author of "Sparks and Cinders"

Let us have a shorter day;
Let us move along that way.
No man's working day should be
More in hours than five and three.
Why should men who hardships bear,
Such as others do not share,
Work more hours to make a day?
Let railroad officials say
Why the men that they employ
In train service don't enjoy
Working hours that ev'rywhere
Are considered just and fair.
Eight hours' work is plenty sure,
Where men working must endure
Railroad hardship such as we
In the railroad service see.
Any hour of night or day
Callers prowl around and pay
Visits to the haunts of those
Toilers in blue overclothes.
And the men must, one and all,
Be prepared to take the call.
If the men whose schedules now
Eight-hour working days allow
Can have ev'ry night in bed
And at reg'lar hours be fed,
Why should not our trainmen be
Treated just the same?—to me
There is inconsistency
In the present policy.
Therefore, let all trainmen strive
For a day of three and five
Working hours. Stand firm and say
"Nothing but the eight-hour day."
Let us have a shorter day
Let us move along that way.
All together then, "Hurrah!"
Trainmen want an eight-hour day.

RANK AND FILE DEMANDING ECONOMY

Extravagance of Convention Cost and of Joint Protective Board Meetings a Weakness Used by our Opponents to Create Discontent in our Ranks

A Proposed Plan Under Which Joint Protective Board Expenses Can be Reduced to a Minimum and Efficiency Promoted to Highest Standard

By JOHN E. BJORKHOLM*

In contributing the following it is the sincere wish of the writer that the criticism embodied in the article be not construed as a reflection on any individual representative or officer of the Brotherhood. Instead my aim is, as it has been of other writers who have written before me in the same spirit to point out, in my humble way, the wrongs in our system, a system that, unless it is reconstructed along more efficient lines sooner or later is bound to work havoc within our ranks, causing not only wholesale desertions, but, perhaps, also rival organizations. The steady increase of special assessments is in itself not so much the root of the discontent that is to be found within our ranks as the cause making such assessments necessary. Usually, when a brother can be shown that the assessment he is paying is a necessity, an outgrowth of various conditions and obstacles with which his representative has been confronted he ungrudgingly pays, knowing that no organization, labor or otherwise, can transact its affairs without financial backing. It is when the brother who has been given the trust to represent him, a trust of which everyone should feel proud, and should put forth every ounce of energy in obtaining the greatest possible result with the minimum cost, can not give a good and reasonable account for the tremendous cost of conventions and Joint Protective Board meetings that he grumbles, and rightly so. While these large sums, sometimes entirely unreasonably large, spent at our conventions or J. P. B. meetings, may sometimes be laid at the door of the individual representatives, still the root of the evil is to be found in a system which, through the complexity of our laws in some respect and inadequacy in others, makes such lavish and unnecessary expenditures possible.

If we are to prosper and survive as an organization, if we are to retain the con-

fidence of the tens of thousands of honest and loyal enginemen, each and every one a stockholder in the organization, we must find a remedy, and we must find it before it is too late. Such a remedy is easy to find. All that is needed is, that every delegate at the coming convention lay aside all selfishness and thoughts of individual gain, having in mind only the welfare of the Brotherhood, trusting, as does the writer, that a new spirit will be born in the minds of our membership bringing about magnificent results, indeed, that the improvement will be such that ere long the Brotherhood of Locomotive Firemen and Enginemen will stand before us as an organization managed by the most efficient business methods, a model for others to follow, and a still mightier force of labor than it is today. It is a goal worth striving for, as when that day comes libelous periodicals, lurking like snakes in the grass and financed by corporation barons will no longer be able to prey on our membership, as each and every individual of the tried and true will know that his funds are ably, honestly and efficiently handled, and if some selfish representative would endeavor to further his own selfish ends, such a thing would be impossible.

While the writer has never been a delegate to any of our conventions, convincing evidence that something is wrong with the system has been published in these columns from time to time. Even had no such writings ever appeared, the fact that our conventions consist of a law-making body of close to one thousand members is in itself sufficient evidence that something must be done, in the interest of efficiency and economy, to have the number reduced.

Any man having had some experience as a member of law making bodies knows only too well that it is utterly impossible, no matter how good the intentions of the members of the body may be, to carry on the business efficiently

* Local Chairman, Lodge 120, M. U.

membership of such bodies is unreasonably large. While some of the brothers may feel that each and every individual lodge should have a right to have their representative seated at the conventions in the future as well as in the past, we have reached a stage where sentimentality must give way for efficiency and economy, and sane business methods in handling our affairs should be the foremost and paramount question. New methods to take the place of our old antiquated arrangements have been mentioned in these columns, among them being the system proposed by Brother Cole in recent issues, and a somewhat similar system earlier advanced by the Directors, which should be given our earnest and most sincere consideration.

Leaving the matter of conventions and referring to Federated Boards and Joint Protective Board meetings they are, largely on account of our laws, but not exclusively so, no better managed than our conventions; if anything, worse. Trusting that the coming convention will devote some of its time in applying corrective measures to the first mentioned, I will confine myself to the illness of the second, or to Joint Protective Boards.

Fresh from a board meeting on the system on which I am employed, and still having in mind some not altogether efficient transactions at the expense of the brothers who are called upon to foot the bills, I sincerely hope that every member who reads these lines will do his share towards having the delegate from his lodge instructed to use all honorable means at the coming convention to enact such changes in our laws that will, in the future, relieve our members of the frequently unreasonably high and, oftentimes entirely uncalled for, extravagant expenditures of such meetings. I urge this in the interest of our organization, not only from experience on my own system, but because I know the disease to be quite contagious. Again, it is not so much the fault of the individual representative as it is of the system, a system of laws making the individual "not guilty" as long as he stays within the law. Then, where is a remedy to be found? Answer, by changing our laws.

The next question then naturally would be: How is the laws governing Joint Protective Boards to be changed in order that such boards still will be representative bodies, conducting their business along lines, if not scientific, at least by sane and sensible every-day business methods? No private concern

first annual jubilee if its affairs were managed similar to the affairs of some of our Joint Protective Boards, and it should be the sacred duty of every delegate at the Denver convention to cooperate with each other in enacting such laws as will make it obligatory on every one of us to manage the funds and affairs in our trust just as honestly, just as efficiently, just as painstakingly as if we were handling the business of a private and progressive concern, where wide-awake stockholders and directors would unceremoniously administer the boot where it would be most effective if it could be shown that the money expended were not of an urgent necessity.

For instance, let us imagine a railroad or similar corporation calling twenty or twenty-five officers together at the expense of hundreds of dollars a day to single out a mass of grievances, a score or more of them of a like character, being presented from several sources. Let us imagine some twenty, or perhaps about a dozen, members sitting idle for weeks at the expense of the men at home, some of whom are making a bare living, while the executive committee, or a schedule committee, is preparing a proposed schedule. Surely, should the affairs of a private enterprise be managed in like manner the responsible parties would sooner or later, most likely sooner, be visited by the sheriff to answer for their transactions in a court of bankruptcy, congratulating themselves if successfully escaping serious punitive consequences.

My own experience is, and I am sure the experience of others, that considerable time is spent at Joint Protective Board meetings in, as just mentioned, arranging the grievances presented by various lodges, sometimes as high as four to six lodges presenting the same grievance, and, it is strange to say, but nevertheless true, that each of them is being discussed while the disposal of one should have automatically disposed of them all. Also, while a new schedule is being drafted the majority of the board is idle, but under pay, while exactly the same result would be obtained if those not serving on the executive or schedule committee were sent home subject to call should their presence be required. In order that a more economical plan of handling the Joint Protective Boards—a plan that would be at least just as effective as the present one—may be brought before the members for discussion, I suggest the following for the consideration of the members of the

First—All grievances to be presented by the local lodges should be in the hands of the secretary of the board on date provided in the constitution and by-laws of respective boards.

Second—On date specified in the constitution and by-laws of each board the executive committee shall convene to consider all grievances submitted and formulate a list of such to be presented to the officials of the railroad, subject to the approval of the main body. The executive committee shall also prepare a proposed schedule, or a schedule revision, as well as make such changes in the constitution and by-laws as may be necessary.

Third—This being accomplished, the entire board will be convened to pass upon matters submitted for approval by the executive committee, but will again immediately adjourn after having approved the submissions, and only the executive committee shall remain in session to meet the officials of the road.

Fourth—Should the executive committee be unable to reach a satisfactory settlement with the railroad management the entire board will be reconvened to determine what action, if any, is to be taken, and for the election of officers.

Many a brother will say, after reading the foregoing, that under this scheme many lodges will be deprived of representation. While this may be true in one respect, such argument is wholly without merit, as every local chairman on the system would be present and consulted should anything of importance come up which the executive committee would be unable to solve. Indeed, it would, to my mind, be a sane, sensible, and highly efficient proposition, and should, at least, be given a fair trial. When one stops to consider that many a local chairman represents only a mere handful of men, say fifteen or twenty, it is easily calculated how long it will take such a lodge to pay in to the J. P. B. Fund the equivalent to the salary for its representative, should the session last sixty days, and the members of the board be paid eight dollars a day. On a system with many such small lodges the burden to meet the expenses of the Joint Protective Board meetings is worse than unreasonable, and from an efficiency standpoint can not be defended.

An effort to change the laws relative to Joint Protective Boards will be made at the coming convention by Lodge 130, and it is the sincere hope of the members of this lodge that in the interest of the future for the organization the brief suggestion outlined in this article, or some similar suggestion, may be seriously considered. It must be understood, that it is not the thought that the brief proposal outlined herein can not be im-

proved upon. It is simply a rough draft embodying the principles which the writer believes would, at least, considerably improve the conditions. In addition to bringing about a considerable economical saving a system of this kind would undoubtedly invite a greater care in the elections of local chairmen, as every individual lodge would strive towards electing the very best man available as the members of the J. P. B. in their turn would use the utmost care in electing an executive committee from the best material available on the board, and those who have to pay the bills would be the gainers. The brothers at home who put their interest, and the interest of those who are dear to them, in the trust of their representatives should be, and are entitled to, the first consideration regardless of personal selfishness and individual greed.



Proposed Lodge of the Ladies' Society at Richmond, Indiana.

On January 4th last, Lodge 582 held a meeting, the principle purpose of which was to organize a lodge of the Ladies' Society in our city. Owing to the unusually heavy business on the roads entering Richmond and the prevalence of a grippe epidemic, the meeting was not as largely attended as it otherwise would have been.

The meeting was ably presided over by Brother J. Donson, Financial Secretary of Lodge 582, who has been putting forth special efforts in the work of organizing a lodge of the Ladies' Society and in promoting the interests of his lodge and of the Brotherhood generally.

We had with us Bro. John F. McNamee, Editor and Manager of the Magazine, who urged the great necessity for complete and thorough organization and co-operation between the orders representing the different branches of railroad train service. Bro. McNamee drew an interesting comparison between existing conditions and those that prevailed before the Brotherhoods were fighting powers. He also impressed on the ladies present the great advantages of forming a lodge of the Ladies' Society.

I am glad to say that the preliminary steps taken at this meeting looking to the formation of a lodge of the Ladies' Society have, I believe, been successful, as a committee from the ladies present was selected to make arrangements for securing the charter, etc.

Bro. H. C. Hartman, Local Chairman of Lodge 9, Columbus, Ohio, also ad-

dressed the meeting and emphasized the necessity for every man eligible to membership in our organization being enlisted in its ranks.

The meeting will, I am sure, be productive of very beneficial results.

MEMBER.



Ways to Cut Down Convention Expenses Without Reducing Number of Delegates.

Every local lodge should officially ask its elected delegate if he is satisfied to serve at the next convention for \$7.00 per day. If he is not willing to serve for \$7.00 per day let him say so before going to the convention and the lodge can elect some one who is, and further, every lodge should pledge its delegate to oppose any increases of wages of delegates and also sight seeing trips with pay. Every delegate should be willing to serve for the salary which at the time of his election as delegate he knows he is to get. The reason I say "elected" delegates is because our lodges will have held their elections before this article appears in print.

Our delegates are being paid \$9.00 per day. The Columbus, Ohio, convention (1908) increased the pay of delegates from \$5.00 to \$7.00 per day and the Washington, D. C. (1913) convention added \$2.00 per day for expenses, making \$9.00 per day. This was wrong. I was a delegate at Columbus in 1908 and know whereof I speak. The increase in pay at Columbus was proposed two or three times and defeated. Call for ye and nay vote defeated, delegates apparently not wishing the brothers at home to know that they would vote to increase their own wages while in session. The question was brought up again the following day just before adjournment and passed by a viva voce vote and the convention adjourned immediately. At the next session the ye and nay vote was called for and the officer who was presiding refused to entertain the motion. Everything considered it is the quality and not the number of the delegates that should concern us. There is no law that would prevent 300 delegates from

increasing their own salaries to \$12.00 per day or more if they saw fit any more than there was a law to prevent seven or eight hundred from increasing them to \$9.00 per day.

I have always thought that our St. Paul Convention was about the right length and I see no reason why our next convention should be any longer unless we are going to pay our delegates to go sight seeing around the State of Colorado.

It was necessary to increase our Grand dues, or General Fund assessments as they are now called, 50 cents per member per year after the \$2.00 increase in delegates pay at Columbus. Then it was found necessary at the St. Paul convention to increase the time between conventions to cut expenses and while unable to attend that convention I know how the delegates there transacted business and tried to keep down expenses.

I spent two weeks at Washington and the impression I received there was that we are not workmen but millionaires. There is no doubt but what there were many good, honest, hard-working, conscientious brothers there, but judging from the awful cost of the convention they were unable to keep down extravagance. The following suggestions might do much toward reducing convention expense if carried out:

1. Send best man from each lodge as delegate.
2. Select some central city and make it a permanent convention city. This would do away with sight seeing to a certain extent.
3. Local lodges instruct their delegates to oppose any increase in salaries to delegates in session.
4. If elected delegate is unwilling to serve for \$7.00 per day, let him resign and elect as delegate a brother who is.
5. Don't elect members as delegates who never come to lodge except when they want something.
6. Don't elect men who are not in active service.
7. Have your delegates pledge themselves not to go sight seeing around the State of Colorado unless they go at their own expense. We don't care where they go sight seeing if we don't have to pay them for it.

- GEO. STEWART.
Member Lodge 392.



GRAND LODGE CONVENTIONS

III. Explanation of District Convention Plan

By ROBERT F. COLE*

The writer takes it for granted that the members of our Brotherhood are quite capable of making up their own minds as to which of the several plans, if any, they may desire to adopt for the reducing of the size and cost of Grand Lodge conventions, but in order to determine which plan is most likely to fulfill the requirements of our Brotherhood we must have enlightened discussion through the columns of our Magazine. There are many men who have not the courage to try anything new; instead they insist upon running in the old rut because it requires no thought or energy. On the other hand, there are many men who are persistent students of the needs of our Brotherhood, men who will give consideration to the various models and theories which are proposed, and who, after estimating their value as to practical working, will sift from every plan a thought or two. To that class of men I need offer no apology.

In presenting a plan for holding district conventions it is not held that anything new or novel has been discovered; as a matter of fact the idea of district conventions is in common use among labor and fraternal organizations whose jurisdictions extend over large territories and whose subordinate parts have grown so numerous that it is unwise to collect them together in one body for the transaction of business.

Representation in District and Grand Lodge Conventions.

For the purpose of indicating the representation in the various district conventions, and the number of delegates to the Grand Lodge convention allowed under the apportionment rule, the following table has been compiled:

	Delegates to District Convention	Delegates to Grand Lodge Convention
<i>District No. 1.</i>		
Alberta	5	1
British Columbia.....	7	1
Manitoba	8	1
New Brunswick	5	1
Novia Scotia	7	1
Ontario	35	5
Prince Edward Island.....	1	1
Quebec	11	1
Saskatchewan	9	1
	88	13
<i>District No. 2.</i>		
Washington	13	1
Oregon	4	1
Idaho	4	1
Montana	13	1
California	19	2
Nevada	4	1
Wyoming	5	1
Utah	5	1
Arizona	5	1
New Mexico	7	1
	79	11

*This is the third and last of a series of articles on "Grand Lodge Conventions" by Robert F. Cole. The first, under the sub-title "Evils of the Present System," appeared in the January, 1916, issue, and the second, under the sub-title "A Plan for District Conventions," appeared in the February, 1916, issue.

	Delegates to District Convention	Delegates to Grand Lodge Convention
<i>District No. 3.</i>		
North Dakota	5	1
South Dakota	7	1
Minnesota	24	3
Wisconsin	22	3
Michigan	22	3
	<hr/>	<hr/>
	80	11
<i>District No. 4.</i>		
Colorado	18	2
Nebraska	12	1
Kansas	26	3
Missouri	31	4
	<hr/>	<hr/>
	87	10
<i>District No. 5.</i>		
Texas	54	7
Oklahoma	11	1
Arkansas	11	1
Louisiana	9	1
	<hr/>	<hr/>
	85	10
<i>District No. 6.</i>		
Iowa	30	4
Illinois	56	8
	<hr/>	<hr/>
	86	12
<i>District No. 7.</i>		
Indiana	27	3
Ohio	47	6
West Virginia	11	1
	<hr/>	<hr/>
	85	10
<i>District No. 8.</i>		
Mississippi	8	1
Alabama	7	1
Georgia	7	1
Florida	2	1
Tennessee	11	1
Kentucky	10	1
South Carolina	4	1
North Carolina	5	1
Virginia	14	2
Maryland	7	1
Delaware	2	1
District of Columbia.....	1	1
	<hr/>	<hr/>
	78	13
<i>District No. 9.</i>		
Pennsylvania	79	11
New Jersey	15	2
	<hr/>	<hr/>
	94	13

<i>District No. 10.</i>	Delegates to District Convention	Delegates to Grand Lodge Convention
New York	54	7
Connecticut	4	1
Rhode Island	1	1
Massachusetts	10	1
Vermont	6	1
New Hampshire	3	1
Maine	6	1
	<hr style="width: 10%; margin: 0 auto;"/> 84	<hr style="width: 10%; margin: 0 auto;"/> 18

In comparing this plan with the one proposed by the Board of Directors, which is the only concrete plan yet proposed in the columns of the Magazine, it will be found that the district convention plan provides for ten divisions of representation, as evenly balanced as can be arranged geographically by following the state and province lines, and are of approximately even force and power; on the other hand, the state and province convention plan would have 57 divisions of representation, ranging from 1 to 79 delegates with a corresponding inequality of power. The advantage to be derived from the district convention plan lies in the fact that a more general and diversified expression of opinion can be obtained from eighty delegates than is possible in many of the small state and province delegations, 17 of which would have an assemblage of five or less.

Representation in the Grand Lodge is simply a matter of apportionment and should be as evenly distributed over the several states and provinces as possible, but surely not permitted to run far above the one hundred mark. In this particular the plan here proposed provides for 116 delegates, while the state and province plan provides no less than 325 delegates, which is dangerously near if not above the point where numbers mean confusion and disorder. There is a point some place between one and five hundred in an assemblage of men whose duties are judicial and legislative, at which on the one side will be found attention followed by calm and considerate judgment, and on the other confusion followed by impulsive and erratic action. The writer believes that any number very far in excess of 100 will fall in the last named class.

Work of District Conventions.

The preliminary work of a district convention would be the election of a chairman and a secretary, and the adoption of by-laws for its own government; but the largest and most important work would be the consideration of amendments to the Grand Lodge Constitution which may have been proposed by the various lodges. Such proposed changes as met with the approval of the district convention would be sent to the Grand Lodge convention and would come before that body. In this manner no change in laws, which had failed to survive at least one district convention would take up the time of the Grand Lodge convention, while those which passed safely through one or more of the first processes of elimination would come before the Grand Lodge convention with a force proportionate to the number of district convention approvals it bore. If a proposed amendment was so universally demanded that it passed through district conventions and secured the approval of all, such amendment should, and no doubt would, be passed unanimously by the Grand Lodge convention and with little or no loss of time.

Permitting each district convention to pass upon all proposed amendments will therefore lessen the work of Grand Lodge conventions. In the past

Grand Lodge conventions have always been flooded with half-baked legislation, some of which had no greater approval than the vote of three out of five members at a single lodge meeting, and while this condition would still obtain with reference to the work of the district conventions, most all of the wild and imaginary schemes would fail in committee or of district approval.

Election of delegates to the Grand Lodge convention would not be a very large undertaking for 80 men, and might be distributed in such a way as to allow each state or provincial unit to select its own quota of Grand Lodge delegates.

Payment of District Convention Expenses.

Any plan of meeting the expenses of subordinate conventions, be they state or district or other territorial divisions, which does not provide for payment from the General Fund, should be opposed by the membership at large because it would be a departure from the fundamental principles of co-operation which has long borne the approval of and is now in actual practice in every department of our Brotherhood. In the final analysis the membership pays the freight on every movement which the Brotherhood makes, and when it comes to a proper distribution of this burden the easiest and safest way is to assess each and every member equally, and the only fund to which every member contributes equally is the General Fund.

Business sagacity on the part of the Brotherhood demands that the financial end of the conventions be promptly and accurately handled; and experience on the part of individual delegates will soon teach that delayed payment for services will greatly inconvenience the average delegate. The district convention plan has in mind both of these features and it should be carried into the plan of final adoption because it means much toward the success of any new arrangement of handling things.

Limits Placed on District Conventions.

For the purpose of maintaining approximate equality in the cost and duration of district conventions and regulating the expense of law-making in our Brotherhood it is very essential that rival subordinate conventions be not permitted to compete with each other, either toward maximum or minimum goals; and the only way in which this can be prevented is to fix limits which will provide equal and ample time for the business to be handled. The work before each district convention will be of approximately the same magnitude and under ordinary circumstances can be disposed of within the limits of ten days and ten thousand dollars.

The appropriation necessary to cover all ten district conventions is placed at one hundred thousand dollars, but the actual expense will fall below that amount as shown by the following estimates, which are fairly accurate:

10 days attendance 845 delegates @ \$7.00.....	\$59,150.00
3 days travel 845 delegates @ \$7.00.....	17,745.00
Other expenses 10 conventions @ \$1,000.00.....	10,000.00
	\$86,895.00

For a fair comparison this, of course, must be added to the approximate cost of the Grand Lodge convention which follows, and I think that the following figures can be accepted as being approximately correct estimates of the cost of Grand Lodge conventions:

116 delegates @ \$7.00 per day.....	\$ 812.00
All other expenses per day.....	188.00
	\$1,000.00

This shows an approximate cost of one thousand dollars per day and with the session not extending beyond 30 days, the actual cost of all conventions—district and Grand Lodge—under the proposed plan would be something below \$125,00.00, which is less than half the cost of the Washington convention in 1913.

In Conclusion.

As a last appeal to the only source of hope I want to repeat, and I believe the statement is worthy of reiteration, that "the force and agency which must be employed to reduce the size of conventions is the combined opinion of our membership, expressed in unmistakable terms by them on the floor of our lodge rooms, and by the subordinate lodges to the Grand Lodge convention. Resolutions which contain iron-clad instructions and which will place men under obligations to those whose interests they represent should be passed and issued to every delegate to the Denver Convention in 1916 by his lodge."

The action of past conventions has lagged behind urgent necessity, and many men will always argue that the time is inopportune, but the lodges throughout this Brotherhood should arise as one body and stand the Grand Lodge convention at Denver face to face with the demands of an intelligent membership, and when that body resolves itself into a vast debating society, to pass upon this important legislation, the spirit of the man in the cab will rule the day and the old plan of conventions, fitted only for a reunion of delegates, will fall and in its place there will arise a system of conventions adjusted to the transacting of Brotherhood business in a business way.



PITTSBURGH GET-TOGETHER MEETING OF FEBRUARY 6th

Meeting a Splendid Success and Much Good Accomplished

**Important Notice to Lodges and Committee Members—Next Meeting
March 26th**

The third Get-Together Meeting of this district was held in the Kenyon Theatre, Pittsburgh, Pa., February 6, 1916, there being three sessions, morning, afternoon and evening. From the interest evinced by those present and the attention given the different speakers the Committee feels satisfied that it is the desire of the membership that these meetings continue, and as a motion to that effect was presented and adopted the members can rest assured that these meetings will be carried on so long as the Committee receives their support, financially and otherwise.

Morning Session.

The morning session was opened by Bro. G. W. Jones, Lodge 225, B. of R. T., Vice Chairman of the Committee, who briefly stated the object of the meetings and touched upon the different subjects for discussion in a short and interesting manner, after which he read a resolution from Lodge 323, B. of R. T., which was unanimously adopted.

Brothers W. O. Taylor, Lodge 465, B. of R. T., and J. C. Young, Chairman of the B. of L. F. and E., of the Bessemer

and Lake Erie, in the order named, made short addresses on the benefits of co-operation, in which the members were urged to endeavor to have same put into effect on all the systems entering Pittsburgh. A resolution to this effect was offered by Brother Taylor and adopted.

The lady visitors were welcomed to the meeting by the Chairmah with a few appropriate remarks, after which addresses were made by the following brothers: Bro. J. Yeager, O. R. T., B. & O. system, on the subject of co-operation; Bro. J. F. Miller, Chairman O. R. T., P. R. R. Lines West, who covered the different subjects in a manner which showed that he is familiar with the work; Brother Williams, O. R. T., Bessemer and Lake Erie, who spoke briefly of conditions on the system he represents. Remarks were also made by various brothers in the audience and many good points and much useful information was brought out, several matters on which doubt existed being made clear. This is one of the objects of these meetings, and if possible all questions will be answered.

Afternoon Session.

The afternoon session was opened by Bro. George Stewart, B. of L. F. and E., Chairman of the Committee, following which addresses were made by the following brothers: Brothers D. D. Miller, Chairman B. of L. F. and E., P. R. R. Lines West, and W. J. Burke, Chairman O. R. C., B. & O. system, spoke interestingly on the eight-hour day, being followed by Bro C. R. Carlton, Chairman B. of R. T., P. R. R. Lines West, who urged the passenger men to stand behind the freight men and yard men in this movement and made a few brief remarks upon other questions of the day; Bro. S. R. Tarner, Chairman O. R. C., Pennsylvania State Legislative Board, made some interesting remarks on the subject of co-operation; Bro. R. A. Edwards, a member of the B. of R. T. Board of Insurance, Los Angeles, Cal., also spoke on co-operation and conditions on the Pacific coast. Various members spoke from the audience, and questions that were asked were answered as well as they could be at the present time.

At this session a motion was made that the meetings continue for one year at least, and after discussion was carried unanimously. Bro. W. O. Taylor again presented his resolution and it was again adopted, a motion for its adoption being made and carried.

Evening Session.

Bro. W. O. Taylor read the resolution that he had presented at both the morn-

ing and afternoon sessions. After a brief discussion it was carried unanimously. The resolution is as follows:

WHEREAS, These Get-Together Meetings are being held for the purpose of better understanding, to bring about a closer affiliation, to bring about universal harmony, and to acquaint ourselves with the necessity of getting together, or forming and putting into effect *Co-operative Agreements* for the mutual interests of our brothers, and

WHEREAS, We are learning almost daily of the General Committees of other roads about us having put *co-operation* into effect, and

WHEREAS, We, the membership of the B. of L. E., B. of L. F. and E., O. R. C., O. R. T. and B. of R. T. employed on the various systems entering Pittsburgh, realize that *co-operation* is our only salvation, and

WHEREAS, It is necessary for the General Committees of the above named organizations to say whether the membership under their jurisdiction shall vote upon the question of *co-operation*; therefore be it

Resolved, That we, the membership of the above named organizations, employed on the various systems entering Pittsburgh, in meeting here assembled, hereby request that the General Committee of the five above named organizations immediately take steps to meet at some convenient point, and cause to be sent to their members a circular calling for a vote for or against *co-operation*; and be it further

Resolved, That all the members affected by this resolution should write to their General Committees and declare that they are in favor of such action as is called for herein, and that they will do all in their power to bring the movement to a successful conclusion.

Bro. George B. Rowand, of the B. of R. T., addressed the meeting and was followed by Attorney John B. Henry, of Pittsburgh, Pa., who spoke on the Manly Report of the U. S. Industrial Relations Commission. He urged all members of the organizations represented at the meeting to write their Congressmen at Washington, D. C., requesting them to use their influence toward having an ample supply of copies of this report printed. He was followed by Brothers Fox, Lodge 635, B. of L. F. and E.; Oliver Irwin, Chairman O. R. C., P. R. R. Lines West; J. C. Young, B. of L. F. and E., Bessemer and Lake Erie, and S. R. Tarner, O. R. C., who made brief but interesting remarks. After some discussion by members in the audience, the meeting was closed by Bro. J. F. Miller, O. R. T., P. R. R. Lines West, whose remarks were heartily appreciated. The meeting was then adjourned until March 26, 1916.

The Committee has decided to have these minutes and financial statement

printed in the official publications instead of sending them to the lodges, thereby saving considerable expense. We request each secretary to write us, advising as to what his lodge will do in furthering the plan for the 1916 meetings. If the lodges will come forward with the finances we will take care of the meetings and see that you get the best that is available. Do you think that it is right to let the other lodges bear all the expense of these meetings? At all of the meetings the sentiment has been in favor of holding the meetings throughout this year at least. Every lodge should help, and if you are located within two hundred and fifty miles of Pittsburgh we will be glad to have you with us. Visiting members from Los Angeles, Jersey City, New York, Philadelphia, Milwaukee and Atlanta, Ga., spoke highly of the meetings and of the brothers for their up-to-date methods. The treasurer's report is also included and he requests that the secretaries forward him the form attached to our last letter so that he will have it for his files. We will be glad to furnish any information that you may desire and trust that all lodges will support the meetings.

All the representatives to the Get-Together Committee are requested to meet at the Colonial Annex Hotel, Parlor K, Pittsburgh, Pa., Tuesday evening, March 14, 1916, at 8 o'clock p. m.

The next Get-Together Meeting will be at the Kenyon Theatre, Pittsburgh, Pa., Sunday, March 26, 1916, at 10 a. m., 2 p. m. and 8 p. m.

Following is the financial statement:

Financial Statement for 1916 Meetings to Date.

WAMPUM, PA., February 11, 1916.

Receipts.

Balance on hand, report January 7, 1916	\$ 6.76
Received for December 5th meeting after January 7th report:	
B. of L. F. & E. Lodge 235	\$ 2.00
Receipts for 1916 meetings:	
B. of R. T. Lodge 179	2.90
B. of R. T. Lodges 421, 593, 2 at \$2.00	4.00
O. R. C. Division 172	2.00
B. of L. F. & E. Lodge 293	2.00
B. of L. E. Division 454	2.00
B. of R. T. Lodges 106, 159, 178, 218, 225, 244, 286, 321, 323, 355, 378, 435, 440, 452, 465, 471, 591, 685, 775, 842, 848, 21, et. \$5.00	105.00

B. of L. F. & E. Lodges 207, 223, 235, 257, 416, 630, 802, 7 at \$5.00	35.00
B. of L. E. Divisions 260, 293, 310, 472, 4 at \$5.00	20.00
O. R. T. Divisions 33, 36, 52, 3 at \$5.00	15.00
O. R. C. Divisions 278, 433, 2 at \$5.00	10.00
B. R. S. of A. Division 33	5.00
	204.90
	\$211.66

Disbursements.

Deposit on Theatre for February 6 meeting	\$ 10.00
Balance on Theatre for February 6 meeting	30.00
Deposit on Theatre for March 26 meeting	10.00
Paid Janitor of Theatre for February 6 meeting	3.00
Stamps and stamped envelopes	7.99
Printing	10.25
Salary and expenses of Secretary and Treasurer	24.25
	95.49
Balance on hand	116.17
	\$211.66

Fraternally,

R. W. BEES,
Treasurer.

A. V. CRAIG,
Secretary of Committee.



A Word for the Out-of-Service Member.

I have read with considerable interest the several articles appearing in the Magazine in regard to election of officers and the out-of-service members but none of these articles was so strong as that by Bro. F. B. Geer of Lodge 8, which appeared in the November, 1915, issue, under the title "Pass the Offices Around." Bro. Geer seems to be of the opinion that the only privilege that should be allowed the out-of-service member is that of paying his dues. What would our Brotherhood come to if it were not for the out-of-service members? They each contribute as much to the up-keep of the order as the active service member. I personally know of several lodges whose officers are out of service members and the affairs of those lodges are conducted more in compliance with the constitution than some of our active service officers conduct their lodge affairs.

I see no reason why the out-of-service member cannot render as good service as

the active service member. I know many of them that are better posted on railway and lodge affairs than active service members. They are more before the public and public favor is what counts now-a-days. The Brotherhood needs the out-of-service members and to enact a law denying them the privileges enjoyed by the active service men would be a rank injustice, and in so saying I believe I voice the sentiment of the membership generally.

A. H. McDONALD,
Member Lodge 770.



Some Good Advice.

Brothers, let us be prepared for a big fight. Save your money. Each pay day lay up a little so in case of sickness or trouble you can live for six months or a year without asking favors from any one. Failure to be thus prepared has been a serious obstacle to the success of many labor organizations when forced to take a stand in defense of the rights and interests of their members. This I have several times observed during labor troubles. Let us therefore be prepared so we can depend on ourselves and not be forced to seek help elsewhere in case of trouble.

MEMBER, Lodge 668.



When Counsel Is Most Needed.

Several cases have come under my notice within the past few years, where the evidence given proved that the railroad company was guilty of criminal negligence and the widow received about one-third of what she should have had.

In some of the cases the company did not even try for a settlement or abide by the State Compensation Act but settled a few days before the case came up for a hearing and the result was a lawyer paid from "both" sides but such would not be the case if help was had from our General Counsel.

Article 5, Section 6 of the Constitution reads: (i) "Upon receipt of proper request to defend a member who is accused of criminal negligence or manslaughter because of accident on the road, he shall at once secure competent counsel to act in his defense, and in every case he shall act as either counsel or associate counsel."

The above article gives us protection now, but does not give our widows and orphans the protection they need from the grasping lawyers.

Now, brothers, think it over and if you have any suggestions to make let us

hear from you and we will endeavor to get something before the next convention that will give our widows and orphans some protection when we are not here to defend them and fight their battles.

MEMBER,
Lodge 516.



Service vs. Non-service Members Holding Office.

I wish every member would read Bro. Henry Zink's article in the December, 1915, number of the Magazine. How many lodges of this great order would have meetings more than once a month, and some probably not that often, if it were not for the out-of-service brothers devoting their time to go to lodge so there can be business transacted of interest to the service brothers?

Bro. Robt. F. Cole's article in the January number says, "Let the men in overalls act." Sure, let these brothers act when it comes to questions regarding schedules and rates of pay but the non-service brothers have something to say when it comes to the Constitution and By-Laws.

There is one way to keep non-service brothers out of office—don't elect them. But listen, they pay dues and have the right to hold office the same as any other brother, except on the protective board.

Bro. C. G. Coats in the January number says he does not think that members away from the home lodge should be entitled to a vote. Are not these brothers paying lodge dues the same as brothers that can attend their own lodge regularly?

Take away the privilege of such absent members voting at our annual lodge elections and I venture to say this great Brotherhood of ours would lose some good members.

Our forefathers of 1776 said, "We will not stand for taxation without representation," and it will be the same way with our non-service brothers when it comes to elections.

Bro. F. B. Geer, in the November, 1915, number favors passing the offices around, except to out-of-service brothers, and advocates the election of none but service brothers as delegates to conventions of the Grand Lodge. I can not understand why some of the service brothers should be against the non-service brothers holding office in a lodge, unless it is because they are not wanted in our Brotherhood.

I am an out-of-service brother.

F. W. HICKS,
Secretary and Delegate Lodge 623.

Correspondence

LODGE 96—(Member, Wellsville, Ohio.) We are pleased to announce that our worthy financial secretary, Bro. R. B. Russell, was recently elected councilman in our city (Wellsville, Ohio) by a large majority. Brother Russell has been our secretary for ten years and has always been ready to help us in anything we undertake. He has put our lodge in the best financial condition it ever was. He has our very best wishes for his success.

LODGE 199—(Member, Youngstown, Ohio.) Business is good on the old reliable Erie and about all of our promoted men are working at their trade. We have 148 members now, with a large class soon to be initiated. Let us work for the 200 mark. Our members are taking an active part in the Eight Hour Movement.

Bro. Geo. Hegley has been placed in charge of the air brake instruction car following Mr. Allen's promotion to superintendent of the Wyoming Division of the Erie. Bro. C. C. Thorpe, committeeman and financial secretary for a number of years, has been appointed by Governor Willis to the position of inspector for the Public Utilities Commission. Brother Thorpe's appointment was due to the efforts of our able and zealous legislative representative, Bro. R. B. Ackerman. Bro. H. C. Evans, of Newark, Ohio, also secured a position with the Commission. Governor Willis has appointed men in actual service to these positions.

Our charter is draped in mourning, Lodge 199 having lost two members recently; Bros. A. S. Harvey and W. C. Turrell, the latter having become a member just the day previous to his death.

LODGE 482—(Joe Walker, Whitefish, Mont.) Lodge 482 is still doing business at the same old stand and getting a new member now and then. There are not many men here who are not lined up at the present time.

Business has been fair on the road in this locality this fall. A few new men have been hired, but would not advise any brother to come here looking for work, as there are many on the extra list now.

We try to take care of any brothers who come along this way, although we have no meal ticket, but the boys are all good in that way and we do not send

in bills to other lodges, although we have received several, but no doubt the brothers of the lodges sending these bills were themselves not making any more time than the law allows.

Will endeavor in future to let the brothers hear from 482 oftener through the Magazine.

LODGE 659—(Member, Beardstown, Ill.) We have a good lodge here but, as in other places, the attendance at meetings is not all we would wish it to be. A few of the boys get out, however, and keep the good work moving along. Business is good here at present although one seems to grow younger in the service every year, the reason for this being our big engines and long trains. We drag along with ninety cars going and coming and think that we are running light if we have less. Cold weather will make it necessary to cut the tonnage, and that is about the only way we get a shorter train. Our 6100 class of engines are good ones and they steam well. All are equipped with Street stokers, electric headlights and cab lights. Stokers are doing good work here and every one seems to like them.

Our lodge held its annual ball on December 8th last, instead of December 1st, due to the death of Bro. T. C. Henry, who was killed in Centralia yards while preparing to leave on a return trip home. He was run down by a cut of cars which was being shoved in on the track next to his engine. He was cleaning out the ashpan of his engine when the accident occurred. He leaves a wife and other relatives to mourn his loss. He was buried in Saginaw, Mich. Brother Henry was well liked by everyone. Brothers, we never know when our time is coming so we should all keep our dues promptly paid up.

We held our election on December 5th last and a good set of officers was chosen. Our lodge at present has 112 members and is in a better financial condition than it has been for some time. Brothers, come to lodge and show the spirit of the Tried and True. It will do you all good to see what the lodge is doing for you.

LODGE 95—(I. R. Griffin, Willmar, Minn.) I have been reading our Magazine for nine years but have never noticed any correspondence from our lodge.

Business is good with us now after a long dull spell and all the men who were cut off are again at work, and we look for continued prosperity in spite of the heavy power now in use here.

I am glad to be able to say that the young firemen take pride in joining our ranks as soon as they are in a position to take that step.

I regret to advise of the death of Bro. P. H. Staples, who died on October 16th last as the result of a collision between two switch engines, the cab being torn from the engine on which he was engineer. Brother Staple's death has cast a gloom over our lodge and will prove a serious loss to the Brotherhood in general. He was beloved by all who knew him. He was vice president of our

In a collision between a passenger train and a freight train, which occurred at about 8:40 a. m., September 24th last, near Plattsmouth, Neb., on the M. P. R. R. (a view of which is shown herewith), Bro. W. R. Goodman of this lodge, who was firing the passenger engine, Bro. M. Sherlock of Division 491, B. of L. E., the passenger engineer, and J. E. Wilson, a brakeman on the freight train, lost their lives. The accident occurred on a curve where a grove made it difficult for the trainmen to observe each others' approach. Brother Goodman leaves a wife and a three-year-old daughter to whom we extend our deepest sympathy.

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 LODGE 823—(Member, Toledo, Ohio).
 Previous to the organization of a Joint



WRECK ON THE MISSOURI PACIFIC, NEAR PLATTSMOUTH, NEB.. SEPTEMBER 24, 1915

lodge and performed his duties with care and good judgment. He was always an energetic lodge worker and a friend to everyone. He possessed the highest qualities of a man, and may he live in our memories as a light to guide us to better manhood. He leaves a widow and little daughter to mourn his loss and our Brotherhood extends its deepest sympathy to them in their sad bereavement.

We expect to put our goat in regular service in the near future. With the increase in business on the road his work will pick up.

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 LODGE 812—(H. M. Herbst, Recording Secretary, Falls City, Neb.) Our lodge is doing very nicely and has at this writing over one hundred members. Business at Falls City is, at present, very good and all the firemen who were cut off the extra board have been put back to work.

Protective Board on this road, a committee from two lodges and having a chairman and secretary acted in the capacity of a Joint Protective Board, and their expenses were borne by the two local lodges. By circulating a petition and persuading the men working in the yards who held membership in four different lodges to transfer their membership to Lodge 823, this lodge was made stronger and we were enabled to take up real Joint Protective Board work. Bro. B. L. Summers was a member of this board and was elected as general chairman for the system, being, I believe, the first general chairman to be chosen from among the yard men in the eastern territory.

While the period of Brother Summers' membership in the B. of L. F. and E. does not quite cover three years, he has been very aggressive and has accomplished much during that time. He organized

the first Joint Protective Board on the T. & O. C. Ry., and during the year 1914 acted as general chairman, recording secretary for Lodge 823, and as local chairman of the J. P. B. At present he is president of the lodge, local chairman, local organizer, and general chairman of the J. P. B.

In March, 1915, Brother Summers attended a union meeting at Columbus, Ohio, and was so impressed with the good that might be accomplished as a result of such meetings that upon his return he sprung the proposition on our lodge and a committee was appointed and plans made for a smoker to which our sister lodges were to be invited in the hope of getting them interested. Later the matter was taken up with the four train service organizations and the meeting arranged for, which proved to be a great success, and I now feel that there will be many more meetings of a similar nature.

I hope to see all the good brothers wake up and boost, boost for something better, boost for an eight-hour day, boost for better wages, better working conditions, better laws and their enforcement, and above all boost for a closer affiliation between the train service organizations, for if we stand together we are bound to succeed.



LODGE 125 (*Member, Marshalltown, Iowa.*) Our lodge is in pretty good condition considering slack business and the number of members out of employment. The large power here has cut business in half; that is, as far as the number of trains is concerned. Our largest locomotives a year ago had 21-inch cylinders where now they are 24 inches, and trains of 1,250 tons have increased to 2,000. We are bothered here as they are in other places with very poor coal. We have got another schedule, effective December 1st last, with an increase on large power of 25 cents and 10 cents on other power, and we've got terminal overtime which we never had here before.

There have not been any men hired here for nearly a year and it does not look as though they were going to need any for some time. Our lodge has 58 members. We have had several transfers from other lodges.

Let us get together and do things for everyone must know that we can not do anything unless we do get together.

Brothers, let us see if we can't hear from one another oftener through the Magazine.

LODGE 166—(*C. F. Schenkel, Huntington, Ind.*) Our lodge is prospering. On December 7th last we had election of officers at 2:30 p. m. and after lodge meeting we had a little banquet for the members and their families and the Ladies' Society. The banquet was in the form of an oyster supper and we all had plenty to eat. After the supper we had a social gathering which proved a great benefit to all, as we all got better acquainted with one another. It also helped the ladies to get some new members for their lodge. We had several good musical selections.

We expect to hold gatherings of this kind more often in the future than in the past. We are greatly indebted for the success of the event to the good work of Bros. M. E. Williams, A. A. Bitner, and Charles Plummer, committee.



LODGE 149—(*Member, New York City.*) As a feature of the work of our Financial Secretary, Brother G. W. Aitken, I believe the following which appears on his notice cards is well worthy of being brought to the attention of our membership in general through the columns of the Magazine:

Pay On Time.

"Do not get excited. There is no reason on your part. It's your beneficiary who has dreams of a thousand or so and who needs to excite you. No one is going to give away a thousand unless you make the proper arrangements. It is the family of the brother who allows himself to get in arrears, failing to pay his assessments during the current month, and dies under suspension—it is his family who will get excited when told his insurance has lapsed. See to it that your insurance is always paid on time.

"In sending checks, money orders, etc., through the mail, you should always have your name and address on envelope."



LODGE 340—(*Member, Newton, Kans.*) While Star of the West Lodge 340 is amongst the highest for the number of initiations for the quarter ending June last, as shown in the August Magazine. We will probably fall short now as we have but a very few non-Brotherhood men left on the Western Division of the Santa Fe. We surely feel proud to be so near the head of the list. Much praise is due our local organizer, Brother Walter H. Kusel. He is a true Brotherhood man and labors for the good of the cause. I read in the Magazine of brothers complaining of poor coal and will say that if any man wants

to see real poor coal he should come out to the Western Division of the Santa Fe and then he will see what poor coal looks like. We "get by" and when that is said, all is said.



LODGE 100—(*J. C. Roseborough, Decherd, Tenn.*) Our lodge is doing well. I am glad to say that business is good and most of the men who were laid off during the recent hard times are back at work and are lining up with the Tried and True again.

Since last writing our superintendent has been changed twice. Mr. G. D. Hicks, who had been with us so long, moved to another division, and Mr. W. G. Templeton took his place. Now Mr. Templeton has moved away and Mr. Hicks has returned to his old job and we all welcome him back again.

On January 25th last seven of the brothers from this city, including myself, went to Paducah, Ky., to be present at a meeting of Lodge 105 that evening at which there was to be installation of officers, and also two new members to take into the lodge. We arrived there at 1:30 p. m., being met by Bro. R. B. Wilkins, who took us to his home for dinner, which, needless to say, we thoroughly enjoyed. At 7:30 p. m. we went to the lodge room where we met many of the brothers, and I wish to say that I have never seen business transacted so smoothly. I want to congratulate Brother Wilkins and the other members, and I hope I will have an opportunity to be with them again, and if ever they come to Lodge 100 we will endeavor to prove to them how deeply we appreciated our visit with them.

Best wishes to all brothers of the Tried and True.



LODGE 154—(*Harry B. Waggoner, Chanute, Kansas.*) Our goat has been getting some exercise of late and we are proud of our lodge and its officers. The officials of the road are as good a set of men to work under as one could ask for.

We have been adding to the membership of our lodge and still have several applications pending with the possibility of more, which is very encouraging. Several of our boys have been promoted during the last year. They express their intention of staying with the old Tried and True, and they will never regret doing so.

I often see the word "scab" mentioned in the Magazine and I wonder how many brothers could give a true definition of what a scab is. No doubt each and

every one knows in his own mind. The following is the definition of a scab as I best can define it:

A scab is to his trade what a traitor is to his country, and though both may be useful to one side in troublesome times they are despised by both sides when peace returns. When help is needed the scab is the last to contribute assistance and he is the first to grasp the benefit that he never labored to secure. He cares only for himself; he sees not beyond the extent of a single day, and for a momentary consideration he would betray his friends, family and county. He is ever ready, yes, eager to sell the labor organization that represents his craft—ready to sell himself, ready to sell his employer and is ultimately despised and deserted by all. He is an enemy to himself, to the present age and to posterity.

Esau sold his birthright for a mess of pottage, Judas Iscariot sold his Saviour for thirty pieces of silver, and Benedict Arnold sold his country for the mere promise of an officer's commission in the British army. The scab sells his birthright, his country, his wife, his children, and his fellow workman for an unfulfilled promise from a trust or corporation. Esau was a traitor to himself, Judas Iscariot was a traitor to his God, Benedict Arnold was a traitor to his country, but a scab is a traitor to himself, his God, his country, his family and his class. A real man could not be a scab.



LODGE 369—(*E. Morton, Ft. Scott, Kansas.*) We are prospering at this time, business having been good for the past three or four months, with bright prospects of its holding up. We hope that business is good all over the country and will ever continue so. Let us be constantly after the non-union man and endeavor to make him see the light—see the right and justice of the great battles we are fighting, and never quit until we have him landed, for we should all unite and stand solidly together shoulder to shoulder to win our fight for economic and industrial justice.

Our lodge has been taking in a few new members. Practically all within the jurisdiction of our lodge who are eligible to membership have enlisted in the Tried and True, and it seems at this time that we are pretty well organized.

I am for the old Tried and True first, last and all the time. Unity forever.



LODGE 212—(*F. T. Richardson, Watertown, N. Y.*) Business is gradually improving at present. A few of the brothers have been set up running owing to the snow and increase of freight.

A special meeting was held by the Ladies' Society Lodge 305 on January 6th last for a joint installation with the brothers in the A. O. H. Hall. The officers were duly installed, Sister Lester acting as installing officer for the sisters, and Brother Waite as installing officer for the brothers. Sister McEwan acted as toastmistress. The evening was spent in the enjoyment of music, speaking and dancing. A most bountiful banquet was furnished by the ladies and a very enjoyable time was had. We hope to have meetings of this kind annually.



LODGE 448.—(*Member, Keyser, W. Va.*) Through our beloved Magazine, that defender of truth and expounder of information which is not controlled by any trust or corporation but conducted exclusively for the benefit of our members and the working class generally, I desire to let our brothers know something about Lodge 448.

We held a joint installation of officers with Lodge 41 of the Ladies' Society, on the 11th of January last in the new I. O. O. F. Hall on Virginia Avenue, there being about 160 present. After the newly elected officers of our lodge and our sisters' lodge had been installed and after some appropriate remarks by members of the Tried and True we journeyed to the banquet hall of the same building where the dear sisters had prepared a bounteous feast of turkey and chicken

and numerous other dishes. The way the brothers partook of the feast was proof that they enjoyed their wives' cooking.

Our sisters' lodge is small in number compared with the membership of Lodge 448, and I would like to see a boom started for the benefit of the Ladies' Society. Since some of the brothers had their wives present who do not belong to the Ladies' Society, and some their sweethearts, I feel that great good could be accomplished if we would get busy and encourage some of the eligibles to enlist in the Ladies' Society.

We have just finished a year of trials and tribulations which go with a business depression, but we are slowly climbing the ladder to success again, and if we succeed in securing an eight-hour day, which I feel confident we will, I am sure we will be back to where we were in 1912 as we still have a number of engineers back firing and a number of firemen furloughed.

Our lodge conducted a business of nearly \$17,000.00 for the year 1915, which we regard as very good considering the conditions that have existed. Our brothers have all been faithful to their obligations and, speaking in behalf of our lodge and the Brotherhood in general, I am sure that every brother feels it a credit to himself to belong to the Tried and True.

I would like very much to see the views and sentiments of other members of No. 448 expressed in our Magazine.



Official

Addresses Wanted.

Persons desiring to learn the address of or any information concerning a member or any other person, will please communicate with the secretary of the lodge nearest the residence of the person desiring such information. Upon receipt of a communication from the secretary of such lodge, requesting that a notice be published in the Magazine inquiring for such address or other information, same will be complied with. However, the

Magazine cannot undertake to act as a collection agency, and must decline to lend itself to such purpose. Information should be sent to the person specified in the notice. The following inquiries have reached this office since our last issue went to press:

Paul G. Crause.—A member of Lodge 19. When last heard of in February, 1915, he was in Minneapolis, Minn. Anyone having any information as to his whereabouts kindly communicate with J.

S. Cottrell, Recording Secretary, Lodge 19, Sparks, Nevada.

Fred Keeler.—Thought to belong to some lodge in Houston, Texas, and was a member of the B. of L. F. and E. for over twenty years. Is about 53 years old, stout, weighs about 180 pounds, has grey hair, blue eyes, grey mustache, good appearance and address. His last occupation was a solicitor for the American Railway Employes Journal, with whom his accounts were square. Had traveled for a correspondence school in the Northwest. Employers fear foul play. Anyone having any information as to his whereabouts kindly communicate with C. N. Smith, Recording Secretary, Lodge 21, care R. R. Y. M. C. A., St. Louis, Mo.

E. W. Harber.—When last heard of in July, 1915, was firing on the Chicago, Rock Island and Pacific Railroad running out of Manly, Iowa. Anyone having any information as to his whereabouts kindly communicate with his father, Mr. G. H. Harber, Redvers, Saskatchewan, Canada.



Lost Traveling Cards, Etc.

This office has been notified of the loss of the following traveling cards, receipts, etc., and the request is made that all members be on the lookout for them. Should they be discovered in the possession of persons not entitled to them they should be forwarded to the owners or to the secretaries of the lodges that issued them:

Bro. T. A. Dunbar, of Lodge 132, reports the loss on February 1st last, of his receipts for 1915, and January, 1916, and service letter from the M. K. & T. Ry., also Milwaukee pass from Kansas City to Perry, Iowa. If found, kindly return to F. Peach, Financial Secretary, Lodge 132, 308 S. Cadwell Ave., Eagle Grove, Iowa, or T. A. Dunbar, Coffeyville, Kansas.

Receipts and card from Lodge 812, together with service letters belonging to Bro. Roy C. Hosman, of Lodge 838, were lost on January 20th last between Clovis, N. M., and Amarillo, Texas. If found, kindly return to Roy C. Hosman, Jefferson City, Mo.

Bro. L. C. McPherson, of Lodge 145, reports that on December 23d last, in Los Angeles, Cal., he lost his traveling card, lodge receipts for January, 1916, and service letters from the S. P. Ry., I. & G. N., T. & B. V., G. H. & S. A. W. N., and A. T. & S. F. railroads. If found, kindly return to D. B. Howard,

Financial Secretary, Lodge 145, 917 Burleson St., San Antonio, Texas.

Bro. H. W. Hardy, of Lodge 140, reports that between January 25th and 27th last he lost his B. of L. F. and E. receipts (the last one being for January, 1916), also service letter from the D. & R. G. R. R., which he thinks were lost in Grove, Okla. If found, kindly return to C. R. Wilson, Secretary, Lodge 140, 332 E. 4th St., Salida, Colo., or H. W. Hardy, Dodge, Okla.



Acknowledgment.

Mrs. W. S. Cook and son desire to thank the Grand Lodge for the prompt payment of the death claim of their late husband and father, Weston Cook, also the members of Lodge 150, of which he was a member for nearly 24 years, and Ladies' Society Lodge No. 6, for their beautiful floral tributes and kindness and sympathy shown them at the time of his death.



The Home Account.

The following donations were received at the Home for Aged and Disabled Railroad Employes for the month of January, 1916:

Grand Lodge, B. of R. T.....	\$2,537.93
Grand Lodge, B. of L. F. and E.	1,335.15
Grand Division, B. of L. E.	26.40
Grand Division, O. R. C.	380.00
B. of R. T. Lodges.....	93.00
O. R. C. Divisions.....	12.00
B. of L. E. Divisions.....	12.00
L. A. to O. R. C. Divisions....	11.00
G. I. A. to B. of L. E. Divisions	5.00
Dividend on Carhartt stock....	14.00
Sale of junk.....	2.50
Sale of rags.....	6.25
From the contribution box in Trainmen's room of Lodge 428, B. of R. T.....	3.25
Hamilton Carhartt, Detroit, Michigan	25.00
George E. Howard, Division 183, B. of L. E.....	4.00
James Costello, Division 270, O. R. C.....	1.00
Alfred Lunt, Lodge 877, B. of R. T.....	1.00
C. S. McKay, Division 119, B. of L. E.....	1.00
From a member of Division 249, B. of L. E.....	1.00
	\$4,471.48

Miscellaneous—5 towels, 2 pairs of socks, tobacco and pipes from Lodge 497, L. A. to B. of R. T., quilt from Lodge 33, L. S., to B. of L. F. and E.

Respectfully submitted,

JOHN O'KEEFE,
Secretary-Treasurer and Manager.

Beneficiary Statement

To SUBORDINATE LODGES:

OFFICE OF GENERAL SECRETARY AND TREASURER, } PEORIA, ILL., February 1, 1916.

The following is a statement of receipts in the Beneficiary Department for the month of January, 1916.

RECEIPTS.

Table with columns for Lodge No. and Amount, listing receipts for 28 lodges from 1 to 28. Each lodge has two columns of amounts.

Beneficiary Statement—Continued

Lodge No.	Amount	Lodge No.	Amount	Lodge No.	Amount	Lodge No.	Amount	Lodge No.	Amount	Lodge No.	Amount	Lodge No.	Amount	Lodge No.	Amount		
658	69 85	679	128 70	700	165 55	721	28 60	742	38 00	763	77 00	784	34 65	805	81 40	826	40 70
659	179 85	680	139 70	701	134 75	722	60 50	743	185 45	764	83 05	785	167 20	806	89 65	827	47 30
660	144 10	681	112 75	702	91 30	723	60 50	744	32 45	765	119 90	786	60 50	807	126 50	828	55 55
661	78 65	682	85 80	703	52 25	724	29 70	745	75 85	766	39 05	787	118 80	808	149 05	829	50 60
662	66 00	683	90 20	704	204 60	725	67 10	746	30 80	767	85 26	788	103 40	809	75 35	830	78 65
663	148 55	684	118 80	705	80 30	726	61 05	747	83 60	768	301 40	789	39 05	810	40 70	831	19 25
664	71 50	685	215 60	706	48 95	727	31 85	748	24 75	769	34 10	790	63 80	811	69 85	832	24 20
665	81 40	686	57 20	707	83 60	728	106 15	749	90 75	770	146 80	791	40 15	812	165 55	833	45 65
666	264 00	687	86 85	708	162 25	729	33 55	750	67 10	771	72 60	792	90 75	813	40 70	834	56 10
667	164 45	688	81 40	709	98 60	730	115 50	751	19 25	772	84 70	793	70 40	814	98 45	835	99 55
668	118 85	689	31 35	710	66 55	731	82 50	752	.....	773	92 40	794	50 60	815	129 25	836	158 65
669	74 25	690	109 45	711	120 45	732	107 80	753	41 25	774	185 35	795	73 70	816	23 10	837	208 45
670	258 85	691	37 95	712	42 35	733	113 30	754	45 10	775	28 05	796	122 10	817	74 80	838	110 00
671	73 15	692	60 60	713	135 30	734	86 90	755	86 35	776	151 25	797	92 95	818	52 80	839	52 80
672	91 30	693	12 10	714	72 05	735	96 80	756	28 05	777	71 50	798	56 10	819	112 20	840	154 80
673	650 65	694	78 10	715	37 95	736	47 30	757	91 30	778	70 95	799	184 80	820	97 35	841	174 90
674	22 55	695	66 65	716	101 20	737	24 75	758	34 65	779	138 60	800	32 45	821	86 90	842	42 90
675	294 80	696	66 00	717	45 65	738	30 80	759	121 00	780	52 60	801	128 70	822	143 00	843	55 00
676	73 15	697	50 05	718	98 45	739	64 35	760	68 75	781	107 80	802	69 85	823	114 95	844	.....
677	124 30	698	185 90	719	307 90	740	119 90	761	102 30	782	265 65	803	110 00	824	121 00	845	.....
678	93 60	699	62 70	720	89 60	741	31 35	762	68 80	783	150 15	804	140 25	825	50 05	846	.....

Received during month of January.....\$122,014.65

Respectfully submitted, A. H. HAWLEY, G. S. and T.

Western Concerted Wage Movement

ASSESSMENT TO REIMBURSE PROTECTIVE FUND

ASSESSMENT No. 3, \$0.50.

PEORIA, ILL., March 1, 1916.

All Members in Engine Service on the Following Railroads:

Atchison, Topeka & Santa Fe (Proper); Atchison, Topeka & Santa Fe (Coast Lines); Baltimore & Ohio Chicago Terminal; Bellingham & Northern; Canadian Northern west of Parry Sound; Canadian Pacific west of Fort William; Chicago & Alton; Chicago, Burlington & Quincy; Chicago Great Western; Chicago Junction & Chicago River & Indiana; Chicago, Milwaukee & St. Paul; Chicago, Milwaukee & Puget Sound; Chicago & Northwestern; Chicago Rock Island & Pacific; Chicago, St. Paul, Minneapolis & Omaha; Chicago & Western Indiana; Colorado & Southern; Davenport, Rock Island & Northwestern; Denver & Rio Grande; Duluth, South Shore & Atlantic; El Paso & Southwestern; Fort Worth Belt; Fort Worth & Denver City; Great Northern; Gulf, Colorado & Santa Fe; Gulf & Interstate; Houston & Texas Central; Houston East & West Texas; Illinois Central; International & Great

Northern; Kansas City Southern; Kansas City Terminal; Louisiana & Arkansas; Mineral Range; Minneapolis, St. Paul & Sault Ste. Marie; Missouri & North Arkansas; Missouri, Kansas & Texas; Missouri, Oklahoma & Gulf; Missouri Pacific; Northern Pacific; Oregon Short Line; Oregon-Washington R. R. & Navigation Co.; Panhandle & Santa Fe; San Antonio & Aransas Pass; Santa Fe, Prescott & Phoenix; San Pedro, Los Angeles & Salt Lake; Southern Pacific (Atlantic System); Southern Pacific (Pacific System); Spokane, Portland & Seattle; St. Louis, Brownsville & Mexico; St. Louis & San Francisco; St. Louis Southwestern; Terminal R. R. Ass'n and the St. Louis Merchants' Bridge Terminal R. R.; Texas & Pacific; Trinity & Brazos Valley; Union Pacific; Union Stock Yards; Union Railway of Memphis; Wabash; Western Pacific; Wichita Valley; Wiggins Ferry, Yazoo & Mississippi Valley.

SIRS AND BROTHERS:—In accordance with the provisions of Article 25, Section 16, of the Constitution, you are hereby notified of Assessment No. 3, in the sum of fifty (\$0.50) cents. This amount is payable to the Financial Secretary of your lodge on or before the first day of April, by all members whose names are on the rolls in engine service March 31st. Any member liable therefor, failing or declining to pay will stand expelled the same as for non-payment of monthly assessments. Yours fraternally,

W. S. CARTER, President.

A. H. HAWLEY, General Secretary and Treasurer.

Article 25, Section 16. (c) Upon the conclusion of such conference the President and General Secretary and Treasurer shall have authority to levy an assessment upon all members in engine service on the lines participating in the movement, of sufficient amount to cover the expenses so incurred, the same to be placed in the Protective Fund of the Brotherhood for the money originally advanced for the purpose.

(d) Any member failing or declining to make payment of such assessment when levied, shall stand expelled as is provided for in the laws governing the non-payment of assessments.

Statement of Death and Disability Claims

PAID BY THE GENERAL SECRETARY AND TREASURER FROM DECEMBER 31, 1915, TO JANUARY 31, 1916

Claim No.	NAMES	Age	Death or Disability	DATE	Am't of Insurance	CAUSE
5693	Lyman E. Estabrook	284	Death	Aug. 20, 1915	\$1,500.00	Apoplexy
5706	Chas. L. Edmunds	387	"	Apr. 21, "	1,500.00	Killed in battle
5668	Lafayette D. Bichey	77	"	Nov. 15, "	1,000.00	Heart disease
5670	Glenn G. Smith	594	"	Oct. 31, "	1,500.00	Run over by train
4259	Jas. C. Cleveland (a)	411	Disability	Dec. 8, "	8,000.00	Amputation of hand
5672	Edward Lynch	218	"	Dec. 2, "	1,500.00	Blind in one eye
5676	Robt. H. Jarman	588	Death	Nov. 2, "	1,500.00	Collision
5678	Jerome Posten	8	"	Oct. 13, "	1,500.00	Diabetes
5676	Earl J. Rowlin	175	Disability	Dec. 17, "	1,500.00	Blind in one eye
5662	Wm. M. Meredith	85	"	Oct. 1, "	1,500.00	Amputation of foot
5685	John Joest	160	Death	Nov. 15, "	1,500.00	Bright's disease
5685	David D. Padgett	780	"	Oct. 31, "	1,500.00	Boiler explosion
5683	Geo. H. Shultz	7	"	Nov. 21, "	2,000.00	Consumption of lungs
5664	Edward J. Roche	44	"	Nov. 14, "	2,000.00	Struck by car
5685	Thos. B. Cruthers	868	"	Nov. 14, "	1,500.00	Lung and heart disease
5686	Elgie Saunders	116	"	Nov. 17, "	1,000.00	Typhoid fever
6063	Chas. H. McFall	276	"	Nov. 15, "	1,500.00	Pneumonia
6096	John T. Gallagher	57	"	Nov. 30, "	500.00	Falling from train
6096	Patrick T. Grace	101	"	Nov. 16, "	1,500.00	Intestinal obstruction
6096	Thomas Brown, Jr.	486	"	Nov. 30, "	1,500.00	Thrown from wagon
6010	James D. Ayers	446	"	Nov. 26, "	1,500.00	Struck by train
6011	Fred. C. Henry	659	"	Nov. 30, "	500.00	Run over by cars
6017	T. H. Viar (b)	286	"	Nov. 17, "	1,500.00	Consumption of lungs
6016	Robt. G. Murray	115	"	Nov. 29, "	1,500.00	Bright's disease
6021	Philip J. Sharrard	84	Disability	Dec. 16, "	2,000.00	Blind in one eye
6025	John H. Taylor	84	"	Dec. 23, "	500.00	Locomotor ataxia
6027	Thos. H. Hawkins	105	Death	Dec. 5, "	1,500.00	Pneumonia
6028	Wm. H. Frederick	212	"	Dec. 10, "	1,000.00	Crushed between engines
6028	Lewis B. Miller	884	"	Nov. 19, "	1,500.00	Heart disease
6030	Wm. O. Greer	444	"	Nov. 29, "	1,500.00	Suicide
6031	Chas. J. Flint	248	Disability	Dec. 22, "	1,500.00	Bright's and heart disease
6034	Allen L. Kelley	196	"	Dec. 5, "	500.00	Amputation of foot
6035	Richard Hampleman	217	Death	Dec. 5, "	1,500.00	Collision
6038	Henry Barr	827	"	Nov. 15, "	1,500.00	Consumption of lungs
6038	Claude Rhodes	824	"	Nov. 25, "	1,500.00	Tertiary laetic (brain)
5967	Rhine C. Meyers	240	"	Nov. 16, "	1,500.00	Falling from engine
none	John Gorman (c)	48	"	Oct. 26, "	1,500.00	Run over by cars
6031	Linus L. Brennan	288	"	Oct. 24, "	1,500.00	Run over by cars
5964	Jos. G. Ludt	59	"	Oct. 1, "	500.00	Consumption of lungs
6067	Henry C. Songer	59	"	Nov. 25, "	1,500.00	Falling from trestle
6036	Herman F. Zelt	141	"	Nov. 17, "	1,000.00	Boiler explosion
5463	Francis M. Wise	640	Disability	Feb. 12, "	8,000.00	Amputation of hand
6096	Ollie D. Burgess (d)	18	Death	Dec. 6, "	325.00	Locomotor ataxia

- (a) Claim No. 4259. J. C. Cleveland, Class "E," Litigated and compromised for \$2,500.00
 (b) Claim No. 6317. T. H. Viar, Originally Class "A," \$900.00 paid in Consumption Allowances.
 (c) Claim No. "None." John Gorman, Expelled Sept. 2, 1900, Litigated and settled for face value.
 (d) Claim No. 6096, Class "C," \$325.00 only paid.

Summary for month of January, 1916.

Death Claims.		Disability Claims.		Total number of claims paid during month..... 43
No. Class	Amount	No. Class	Amount	
23 - A	\$34,500.00	4 - A	\$5,000.00	Total amount paid during month..... \$59,625.00
4 - B	4,000.00	2 - C	1,000.00	
3 - C	1,500.00	1 - D	2,000.00	
2 - D	4,000.00	1 - E	3,000.00	
1 - E	1,025.00	1 - Irregular	2,500.00	
2 - Irregular	1,025.00			
34	\$46,025.00	9	\$14,500.00	

Pending Claims January 31, 1916.

39 death claims aggregating.....	\$122,178.00
73 disability claims aggregating.....	32,500.00
Total of 112 claims aggregating.....	\$154,678.00

Statement of Death and Disability Claims

FILED WITH THE GENERAL SECRETARY AND TREASURER DURING THE MONTH ENDING FEBRUARY 15, 1916.

No. of Claim	NAME OF MEMBER	No. of Lodge	Date of Filing	Character of Claim	Amount of Ben. Cert.	When Payable if Approved	Cause of Death	Cause of Disability
6122	Chas. E. Weston	228	Jan. 20, '16	Death	\$1500	Mar. 15, '16	Pneumonia	
6123	Wm. N. Engle	482	Jan. 20, '16	Death	1000	Mar. 15, '16	Crushed between cars	
6124	Edward Ritter	548	Jan. 20, '16	Death	1000	Mar. 15, '16	Pneumonia	
6126	Theo. Snader	162	Jan. 20, '16	Disab.	1500	Mar. 15, '16	.....	Blind one eye
6127	John T. Rea	776	Jan. 21, '16	Disab.	500	Mar. 15, '16	.....	Amputation of foot
6128	Albert R. Saint	147	Jan. 21, '16	Death	8000	Mar. 15, '16	Collision	
6129	E. B. Carpenter	147	Jan. 21, '16	Death	8000	Mar. 15, '16	Collision	
6130	Geo. W. Deagman	276	Jan. 21, '16	Death	1500	Mar. 15, '16	Boiler Explosion	
6131	Wm. E. Lehr	289	Jan. 21, '16	Death	1500	Mar. 15, '16	Collision	
6132	Jesse D. Seal	76	Jan. 25, '16	Death	1000	Mar. 15, '16	Intestinal Obstruction	
6133	Gleun E. Werts	338	Jan. 25, '16	Death	1500	Mar. 15, '16	Struck by train	
6134	Jas. E. Wakefield	646	Jan. 25, '16	Death	1500	Mar. 15, '16	Cancer	
6135	Asa Crane	1	Jan. 25, '16	Disab.	1500	Mar. 15, '16	.....	Paralysis
6137	H. O. Peavy	644	Jan. 25, '16	Disab.	1500	Mar. 15, '16	.....	Amputation of foot
6139	Harry Jones	62	Jan. 27, '16	Death	1500	Mar. 15, '16	Struck by train	
6140	Clarence W. Moll	77	Jan. 27, '16	Death	1500	Mar. 15, '16	Collision	
6141	Harvy Davis	166	Jan. 27, '16	Death	1500	Mar. 15, '16	Pneumonia	
6142	Herman F. Atkins	290	Jan. 27, '16	Death	1500	Mar. 15, '16	Derailing—open br'g	
6143	Robt. McMasters	381	Jan. 27, '16	Death	1500	Mar. 15, '16	Derailing of engine	
6144	Wm. H. Cochrane	485	Jan. 27, '16	Death	500	Mar. 15, '16	Intestinal Ulcers	
6145	Edwin D. Burch	718	Jan. 27, '16	Death	1500	Mar. 15, '16	Bright's disease	
6146	Robert Lobb	718	Jan. 27, '16	Death	1500	Mar. 15, '16	Bright's disease	
6147	Dow M. Bray	824	Jan. 27, '16	Death	1000	Mar. 15, '16	Collision	
6150	John P. McCabe	259	Jan. 27, '16	Disab.	1000	Mar. 15, '16	.....	Consumption of lungs
6151	Geo. Miller	180	Feb. 1, '16	Disab.	500	Mar. 15, '16	.....	Blind one eye
6154	John F. Kelleher	552	Feb. 1, '16	Disab.	1500	Mar. 15, '16	.....	Consumption of lungs
6155	Wm. C. Wolf	235	Feb. 1, '16	Death	1500	Mar. 15, '16	Pneumonia	
6156	Ralph B. Riddle	236	Feb. 1, '16	Death	1500	Mar. 15, '16	.....	.....
6157	Albert M. Smith	284	Feb. 1, '16	Death	1500	Mar. 15, '16	Chronic Rheumatism	
6158	Geo. W. Keith	350	Feb. 1, '16	Death	1500	Mar. 15, '16	Collision	
6159	Wesley Wortman	597	Feb. 1, '16	Death	1000	Mar. 15, '16	Collision	
6160	Thomas Roarke	149	Feb. 3, '16	Death	1500	Mar. 15, '16	Pneumonia	
6161	Geo. S. Birtwhistle	151	Feb. 3, '16	Death	1000	Mar. 15, '16	Killed in battle	
6162	Michael J. Foley	215	Feb. 3, '16	Death	1500	Mar. 15, '16	Stenosis of Larynx	
6163	Owen Lewis	82	Feb. 3, '16	Disab.	1500	Mar. 15, '16	.....	Blind one eye
6164	Thos. Stull	250	Feb. 3, '16	Disab.	1500	Mar. 15, '16	.....	Blind one eye
6165	Robt. M. Patterson	645	Feb. 3, '16	Disab.	1500	Mar. 15, '16	.....	Locomotor ataxia
6166	Thos. Wynn	49	Feb. 8, '16	Death	500	Mar. 15, '16	Paresis	
6167	John Smith	75	Feb. 8, '16	Death	1000	Mar. 15, '16	Pneumonia	
6168	David Nutt	90	Feb. 8, '16	Death	2000	Mar. 15, '16	Derailing of engine	
6169	Wm. H. Lewis	117	Feb. 8, '16	Death	1500	Mar. 15, '16	Killed in battle	
6170	Jos. Jodoin	150	Feb. 8, '16	Death	1500	Mar. 15, '16	Pneumonia	
6171	Charlie E. Reilly	214	Feb. 8, '16	Death	1000	Mar. 15, '16	C'sh'd bet. eng. & cars	
6172	Robt. Stackhouse	253	Feb. 8, '16	Death	1500	Mar. 15, '16	Catarrhal Jaundice	
6173	Thos. H. Hulung	287	Feb. 8, '16	Death	1500	Mar. 15, '16	Peritonitis	
6174	John A. Egler	439	Feb. 8, '16	Death	1500	Mar. 15, '16	Pneumonia	
6175	John A. Daley	608	Feb. 8, '16	Death	1500	Mar. 15, '16	Dementia	
6176	Paul O. Jochinke	730	Feb. 8, '16	Death	1500	Mar. 15, '16	Falling from train	
6177	Frank E. Griffin	801	Feb. 8, '16	Death	9000	Mar. 15, '16	.....	.....
6182	John Patt	191	Feb. 8, '16	Disab.	3000	Mar. 15, '16	.....	Amputation of foot
6183	John D. White	551	Feb. 8, '16	Disab.	3000	Mar. 15, '16	.....	Paralysis
6184	Roy F. Hudson	37	Feb. 11, '16	Disab.	1500	Mar. 15, '16	.....	Amputation of foot
6186	John H. Sweeney	465	Feb. 11, '16	Disab.	1500	Mar. 15, '16	.....	Blind one eye
6188	Francois X. Begin	610	Feb. 11, '16	Death	1000	Mar. 15, '16	Epilepsy	
6189	E. H. Greenmeyer	659	Feb. 11, '16	Death	1500	Mar. 15, '16	Pneumonia	
6190	P. C. Grey	52	Feb. 14, '16	Death	1500	Mar. 15, '16	Pneumonia	
6191	Dennis J. Moore	88	Feb. 14, '16	Death	1500	Mar. 15, '16	Pneumonia	
6192	W. M. Smith	107	Feb. 14, '16	Death	1500	Mar. 15, '16	Bright's disease	
6193	John H. Becker	149	Feb. 14, '16	Death	1500	Mar. 15, '16	Struck by train	
6194	Joseph Sharpe	167	Feb. 14, '16	Death	1500	Mar. 15, '16	Rn over by engine	
6195	Jos. W. Nowak	498	Feb. 14, '16	Death	1500	Mar. 15, '16	Falling from tank	
6196	Thos. C. Flynn	666	Feb. 14, '16	Death	500	Mar. 15, '16	Falling from engine	
6197	Rene Desbines	700	Feb. 14, '16	Death	8000	Mar. 15, '16	Struck by train	
6198	Edw. F. Lovell	779	Feb. 14, '16	Death	500	Mar. 15, '16	Appendicitis	
6200	Geo. W. Care	115	Feb. 14, '16	Disab.	1500	Mar. 15, '16	.....	Paralysis
6203	Bertle Nelson	197	Feb. 14, '16	Disab.	1000	Mar. 15, '16	.....	Consumption of lungs
6204	Wm. E. Gibbins	696	Feb. 14, '16	Disab.	1500	Mar. 15, '16	.....	Consumption of lungs
6205	Noah T. Morgan	88	Feb. 15, '16	Death	3500	Mar. 15, '16	Consumption of lungs	
6206	Jas. M. Padon	177	Feb. 15, '16	Death	1500	Mar. 15, '16	Consumption of lungs	
6207	Thos. W. Brick	685	Feb. 15, '16	Death	1000	Mar. 15, '16	Pneumonia	
6208	Wm. S. Becker	763	Feb. 15, '16	Death	1000	Mar. 15, '16	Derailing of engine	

Statement of Funeral Benefit Claims

FILED WITH THE GENERAL SECRETARY AND TREASURER DURING THE MONTH ENDING FEBRUARY 15, 1916.

No. of Claim	NAME OF MEMBER	No. of Lodge	Date of Filing	Amount of Ben. Cert.	When Payable if Approved	Cause of Death
106	Geo. W. Zibble	740	Jan. 26, '16	\$175	Mar. 15, '16	Bright's disease
106	Jan. S. Dyer	390	Jan. 27, '16	175	Mar. 15, '16	Diabetes
107	Harry L. Parker	169	Feb. 14, '16	175	Mar. 15, '16	Bright's disease

Statement of Funeral Benefit Claims

PAID BY THE GENERAL SECRETARY AND TREASURER FROM DECEMBER 31, 1915, TO JANUARY 31, 1916.

Claim No.	Lodge No.	NAME	Class	Amount	Cause of Death
97	188	Wm. F. Wall	Hon.	\$175 00	Hemorrhage of brain
98	28	Guy B. Wood	Hon.	175 00	Heart disease
99	115	John Q. Mays	Hon.	175 00	Consumption of lungs
108	448	Chas. H. Lupton	Hon.	175 00	Pneumonia

4 claims, aggregating \$700.00

Statement of Benevolent Claims

PAID BY THE GENERAL SECRETARY AND TREASURER, FROM DECEMBER 31, 1915, TO JANUARY 31, 1916.

Claim No.	Lodge No.	NAME	Amount Carried	Amount Allowed
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No new claims

Paid on claims previously published \$1,900.00

Statement of Consumption Allowances

PAID BY THE GENERAL SECRETARY AND TREASURER FROM DECEMBER 31, 1915, TO JANUARY 31, 1916, UNDER THE PROVISIONS OF PARAGRAPH (b), SECTION 12 OF ARTICLE 12, OF THE CONSTITUTION.

Claim No.	Lodge No.	NAME	Amount
5945	819	Chas. P. Cox	\$ 50.00
5946	91	Arthur H. Dahlgren	50.00
5972	186	Wm. Parks	50.00
5999	215	Chas. T. Flynn	50.00
5983	812	John W. Evans	50.00
6041	067	Wm. L. Keith	50.00

6 Claims paid, aggregating \$ 800.00
 Paid on Claims previously published 8,400.00
 Total \$9,200.00

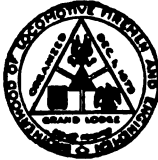
Beneficiary, General, Protective, Funeral Benefit and Local Assessments for the Month of April, 1916.

OFFICE OF THE GRAND LODGE, B. OF L. F. AND E. }
PEORIA, ILL., March 1, 1916. }

To all Members of Subordinate Lodges:

SIRS AND BROTHERS—You are hereby notified that Beneficiary Assessment for the payment of death and disability claims, General Fund Assessment, Protective Fund Assessment, Funeral Benefit and Local Assessment, are now payable and must be paid to the Financial Secretary of your lodge on or before April 1, 1916, in the following amounts, viz.:

	Beneficiary Assessment.	General Fund Assessment.	Protective Fund Assessment.	Funeral Benefit
Class E Members.....	\$3 30	\$0 25	\$0 10	.....
Class F Members.....	2 75	25	10	.....
Class D Members.....	2 20	25	10	.....
Class A Members.....	1 65	25	10	.....
Class B Members.....	1 10	25	10	.....
Class C Members.....	55	25	10	.....
Non-Ben. Members .....	.....	25	10	\$0 25
Honorary Members .....	.....	25	10	25



Local Lodge Assessment in such an amount as may be determined by your lodge, but in no case to be less than twenty-five (\$0.25) cents.

Any member failing or declining to make payment, as above provided, will be subject to expulsion from the order as per Section 8, Article 19 of the Constitution, said expulsion taking effect April 2, 1916.

Yours fraternally,

W. S. CARTER,
President.

A. H. HAWLEY,
General Secretary and Treasurer.

Notice to Financial Secretaries.

OFFICE OF THE GRAND LODGE, B. OF L. F. AND E. }
PEORIA, ILL., March 1, 1916. }

To Financial Secretaries of Subordinate Lodges:

SIRS AND BROTHERS—You are hereby notified to collect Beneficiary, General Fund, Protective Fund and Local Assessments (now due and payable on or before April 1, 1916), from all beneficiary members on the rolls of your lodge March 31, 1916, and *Funeral Benefit Assessment from all Honorary and Non-Beneficiary Members*. General and Protective Fund Assessments from all members in the following amounts, viz.:

	Beneficiary Assessment.	General Fund Assessment.	Protective Fund Assessment.	Funeral Benefit
Class E Members.....	\$3 30	\$0 25	\$0 10	.....
Class F Members.....	2 75	25	10	.....
Class D Members.....	2 20	25	10	.....
Class A Members.....	1 65	25	10	.....
Class B Members.....	1 10	25	10	.....
Class C Members.....	55	25	10	.....
Non-Ben. Members .....	.....	25	10	\$0 25
Honorary Members .....	.....	25	10	25

You will collect from all members Local Lodge Assessment in such an amount as may be determined by your lodge—in no case to be less than twenty-five (\$0.25) cents. All Grand Lodge Assessments to be forwarded on the forms furnished by the Grand Lodge, same to reach the General Secretary and Treasurer not later than the 20th of April, 1916.

Every member whose application for Beneficiary Certificate is approved by the General Medical Examiner during the month of March will be liable for double the above amount for Beneficiary Assessment for the month of April, according to class of certificate.

Yours fraternally,



W. S. CARTER,
President.

A. H. HAWLEY,
General Secretary and Treasurer.



Notice.

Communications intended for publication in the Ladies' Department of the Magazine should, in all cases, be addressed to the Editress, Agnes G. Strong, 527 Greene Street, Boone, Iowa.

Matter for the Grand President should be addressed to Mrs. Maude E. Moore, 15 Market Place, Stratford, Ontario, Canada, and that for the Grand Secretary and Treasurer to Mrs. Mary E. DuBois, 711 Story Street, Boone, Iowa.

Correspondents are requested, when sending communications for publication in the Magazine, to kindly write on one side of the paper only, and if matter is typewritten it should be written double space.



Mrs. George Goding Dead.

It is with the deepest of sorrow that we again announce the appearance of the Death Angel in our midst. This time the summons came to Mrs. George Goding, past Grand Officer and a member of Pride of 188 L. S. 201 of Chicago, Illinois, who departed this life January 19, 1916, at the St. Charles Hospital in Aurora, Illinois, following an operation. She is survived by her husband, George Goding, who has been an invalid for some years and is now making his home in the Railroad Men's Home at Highland Park, Illinois. A son, George, Jr., and a

daughter, Mrs. Irene Weeks, both live in Chicago. One son, Leo, died three years ago at the age of 21 years.

Sister Goding served the Ladies' Society for six years as a member of the Board of Grand Trustees and was at the time of her death a member of the Board of Managers of the Railroad Men's Home. Hers was a noble character, lived and spent for others. Her life was not all sunshine, nor her pathway by flowery beds of ease, nor by the still waters. She knew what sorrow meant, what sacrifice for others meant, and what the giving up of self that the joys of others might be complete meant. Many more years should have been hers, had she not in sweet unselfishness given so generously and often of her time and strength that life be less hard for others.

The funeral services were held from St. Mary's Church, Aurora, Illinois; interment at Mt. Olivet cemetery.

The Grand Lodge was represented by Sister Sadie E. Schoenell, Grand Vice President, of Huntington, Indiana. The floral offerings were many and beautiful.

And so another sister has passed into the Great Beyond and we extend to her husband and children our sincerest sympathy in their irreparable loss.

"No one hears the door that opens,
When they pass beyond our call,
Soft as loosened leaves of roses
One by one our loved ones fall."

Notes.

A new sister lodge was organized January 10th known as Earnest Workers No. 357 at Arkansas City, Kansas, with thirteen charter members. We trust that thirteen may be their lucky' number. Mrs. Minnie Dickens of Kansas City, Missouri, was organizer.

A charter application has been requested and sent to Enderlin, North Dakota, and we hope to report a new lodge organized at this place in the next issue of the Magazine.

We hear much about "the line of least resistance," in mechanics, and it's a good thing to discover. But not so good when it comes to morals. The easiest way in one's moral life is most certainly not always the best.

Some one has said that flattery is the most accomplished form of lying—the highest type of deceit; we certainly think this must be true. Surely, no one who has the slightest regard for truth will ever try to flatter another, no matter what they wish or hope to accomplish by it. The real aim of flattery is, we presume, to please by artful compliment, but when one attempts to pay an artful compliment they only reveal the cunning and insincerity of their own nature and seldom attain the object they had in view. A flatterer is a deceitful and shallow person, always empty headed. We are apt to imagine other persons guilty of the same things we were sure to be under similar circumstances; you who are given to flattery want to be sure of one thing, and that is, that you really know the person to whom you attempt to administer your nauseating dose, or else you might fail of your object, even though you had the impression that they might like it. It is a fact that people as well as things are not always what they seem. To prove it one needs but try.

There are members in our lodges who love the work, who enjoy taking part in its programs, who delight in doing anything that will help bring their own lodge up to the highest in their city. If they can not do their part in one way they are glad to do it in another. And then there are those who feel very different; to these we must show the greatest consideration if we would keep them interested members and regular attendants, and our supremest effort should be to retain the members we now have. Let us remember we are not a school of

discipline and mathematics. Each life has its own care and sorrow. What a sweet thing it would be to each and every one of us if we could look forward to our lodge meetings as a place where we would be sure to find, not contentions over some technical point, not discussions as to whether one sister should be treated with more consideration than another, but a place where we would be sure to find love, sympathy and kindness such as one sister showeth another.

Speaking of children at a social affair the other night, Congressman William C. Anderson of Georgia smilingly said that you can always depend on little Willie to ask the unexpected question.

"Some time ago," he said, "a Sunday school teacher repeated to a class of youngsters the text, 'Arise, and take thy young child and flee into Egypt.'"

Then the superintendent unrolled a large picture illustrating the text, and placed it on the wall.

"Now, then, children," he remarked, pointing to the picture, "here is the mother. Here is the young child. Over yonder in the distance is Egypt. Don't you think it is beautiful?"

"Yes, sir," responded Willie Smith, just a little disappointedly, "but where is the flea?"



The Big Ten.

Below is given the membership of the ten largest lodges of the Ladies' Society of the B. of L. F. and E., as reported February 1, 1916:

- 1. No. 3, Hazel, Peoria, Illinois... 173
- 2. No. 125, Charity, Jackson, Mich. 128
- 3. No. 81, E. Pluribus Unum, Logansport, Indiana 121
- 4. No. 38, Hyacinthe, Ft. Wayne, Indiana 116
- 5. No. 60, Pride of 174, Harrisburg, Pa. 109
- 6. No. 10, Helpmate, Elkhart, Ind. 105
- 7. No. 142, Empire, Buffalo, N. Y. 102
- 8. No. 36, Autumn Leaf, Sayre, Pa. 97
- 9. No. 59, Easter Lily, Pt. Jervis, New York 91
- 10. No. 113, Fort Orange, Albany, New York 81



Acknowledgments.

Bro. George M. Walker and family of Rochester, New York, desire to thank the Ladies' Society for the prompt payment of insurance claim of late wife and mother. It goes without saying it came as a friend in need.

Bro. P. W. Petersen, of Alton, Illi-

nois, desires to thank the Ladies' Society for the prompt payment of his wife's insurance claim.

Bro. Ferdinand Boss and family desire to thank the members of Ladies' Society Lodge 71, St. Louis, Mo., and especially the president, Sister Elda Nirk, for the kindness shown them during the illness and death of their wife and mother, who was vice president of L. S. 71 for the past eight years, a charter member of L. S. 147 at San Antonio, Texas, and for the beautiful floral offerings and the good attendance at the funeral.

"A precious one from us is gone,
Her voice we love is stilled;
A place is vacant in our home,
Which never can be filled.
God in His wisdom has recalled
The boon His love has given,
And although the body moulders here
The soul is safe in heaven."



Mother.

"It is a wonderful thing, a mother.
Other folks can love you, but only your
mother understands.

"She works for you, looks after you,
loves you, forgives you anything you may
do, understands you.

"And then the only thing sad she ever
does to you, is to die and leave you."



Just Being Happy.

I have been impressed by the thought expressed by so many sisters that they have resolved this year to make life easier and happier for others. To be more kind, for kindness is within the reach of all of us. It requires no special talent, no great wealth, and yet how many lives have been transformed by the simple magic of a kind work or deed. It is not a small thing to have made another happy, for the current of happiness once set in motion reaches on and on, touching other and yet other lives, till only the Father can measure the good that may result. But the Father knows.

Do you remember Browning's exquisite little poem, Pippa Passes? A little girl worked all day in the silk mills of Asola, winding silk on the whirling, whirling spools. She loved her work and was happy, and whenever a beautiful lady passed her in the street, wearing a silken garment, Pippa's heart would beat happily as she exclaimed to herself, "I helped make that. The world needs me." In all the long year there was just one day that Pippa could have for herself, when she might wander through the green meadows or to the strange, far off forests, but this one precious day was so

shining and full of joy to Pippa that the light of it shown all about her through the year, making itself into dreams and little songs which she sang to her whirling spools. One night, when the beautiful day was to begin the next morning, Pippa said to the day, "Sweet day, I am Pippa and have only you for my joy of the whole, long year. Come to me gentle and shining and I will do whatever loving deed you bring me." And the poet says, "The day broke golden and perfect." Pippa sprang up singing and started on her journey. Her song was the sweetest that had ever been heard; it was what the birds sing, only this song had words so full of joy and hope that when a sad poet heard it he stopped his plaintive song and listened till his heart thrilled. When he could no longer hear it, he took up his pipe and began to play until the air was full of music. The wretched children in the streets heard it and forgot their misery and laughed and danced, a lame man forgot his pain, the blind beggars at the corners forgot they could not see, for the song was so full of joy and hope. But Pippa did not know. She had passed on singing.

Beyond the village some men were at work on a lordly castle and among them was a youth who had a deep sorrow. To him had been given a vision of the beautiful and perfect work but it was his part to build only the stairs men trod on. As he worked away, wearily and half-heartedly at his task, he heard in the distance a strange, sweet song and listening intently he caught these words:

"All service ranks the same with God,
There is no last or first."

The youth sprang up, light came into his eyes, and he began to do the smaller things perfectly.

Farther on was a ruined house, and a man sat at the window with his head in his hands. A great deed must be done, the world needed it. The man loved the great deed but his heart was weak. But as Pippa passed along singing her beautiful song it was to the man as though God called, and he rose up strong and brave and mounting his horse rode away to give to the world the great deed.

That night, as Pippa lay on her bed, tired but happy, she said to the day: "Sweet day, you brought me no loving deed to do in return for the joy you gave." But the day knew. Isn't it worth our while as members of the Ladies' Society to add to the joy of the world? If our hearts are filled with love for humanity and gratitude to God perhaps we may unconsciously banish sadness from many hearts.

If we should resolve today that in the future we will be more kind, more charitable, more tolerant of the opinions of others, to try to keep out of our hearts all selfishness and self-seeking, all bitterness, envy and jealousy, such a resolution made and kept would constitute a memorial far more acceptable than any garlands of flowers or table of stone.

AGNES G. STRONG.



Sister Imogene Bates Bereaved of Mother.

The following clipped from the Oneonta Daily Star tells us of the great bereavement that has come to our dear Sister Bates:

"Heart disease, from which she had been suffering for upwards of two years, caused the death yesterday (Jan. 19th) of Mrs. Eva Della Gault, aged 62 years, and the wife of R. A. Gault, at their residence, 352 Chestnut Street, Oneonta, N. Y. For the past three months her condition has been extremely critical and her death therefore, was not unexpected. Mrs. Gault had been a resident of this city for 28 years past.

"The funeral services were held from the home of her daughter, Mrs. Grant Bates, 352 Chestnut Street, Sunday afternoon, January 23rd, at two o'clock, being largely attended by friends and relatives, and were in charge of Dr. J. C. Russell, pastor of the First Presbyterian church, of which the deceased was a member."

The floral tributes were many and beautiful, among them being a great bunch of palms and calla lilies from Sister Maude E. Moore, Grand President. The G. I. A., the Woman's Relief Corps and the Autumn Lodge, of which the deceased was a member, attended the services in a body.

She is survived by her husband and one daughter, Mrs. Grant Bates, and two sisters.

To our dear Sister Imogene, who has so often penned words of comfort to those bereft, our hearts go out in loving sympathy. Sorrow has a way of entering, an unbidden guest, into all of our homes, at some time or other. It is no respecter of persons. It is the great leveler, the one thing that makes the whole world akin. We are never quite ready for the passing away of our friends and never ready to have mother go. Her going takes the sunshine of life and makes the world forever different. The heartache can never leave us. No whispered message can cure the heartache which broken ties must cause, but while our tears are falling the voice of Faith comes

knoweth best," and that what is shadow for you is God's eternal sunshine for mother.

We sorrow not as those without faith in the Glory of the coming and can say with the poet:

"My God, my Father, though I stray
Far from my home in life's rough way,
Oh, teach me from my heart to say

Thy will, Thy will be done.
What though in lonely grief I sigh
For friends beloved no longer in,
Submissive, still I would reply,

Thy will, Thy will be done.
If Thou should'st call me to resign
What most I prize, it ne'er was mine,
I only yield Thee what is Thine,
Thy will, Thy will be done.

Grant but my fainting heart be blest
With Thy good spirit for its guest,
My God, to Thee I leave the rest,
Thy will, Thy will be done."

AGNES G. STRONG.



A Message from Sister Imogene Bates.

Dear Sister Strong:

Just a few lines this morning. It is time for my contribution to the Magazine, but I fear this once my pen must be silent. I know everywhere the sisters will be sorry for me when they learn Mother passed away on January 19th. I found these lines, an extract from Harpers, which speak what my heart would say:

"I shall not cry Return, Return,
Nor weep my years away,
But just as long as sunsets burn
And dawns make no delay,
I shall be lonesome—I shall miss
Her hand, her voice, her smile, her kiss.

"Not often would I speak her name
For what would strangers care,
That once a sudden tempest came
And swept my gardens bare.
And then she passed and in her place
Stood silence with her lifted face.

"Not always shall this parting be,
For tho I travel slow;
I too may claim eternity
And find the way to go;
And so I do my task and wait
The opening of the outer gate."

IMOGENE BATES.



Colorado State Meeting.

Before the April issue of the Magazine reaches us the Fourth Annual State Meeting of Colorado will have passed into history. What the record of this meeting will be rests with each and every lodge. I am sure if the sisters could only realize the many benefits and the valuable

gatherings there would not be one lodge without representation at Trinidad on March 21, 22 and 23, 1916.

That all delegates and visitors will be delighted with the entertainment provided by the brothers and sisters of 344 and 53 is a fact that can be vouched for by one who has already partaken of their hospitality.

Hoping to greet some sister from every lodge in the State of Colorado on the above-mentioned dates, I remain,

Yours in Friendship and Charity,

LUCY D. MORRIS,

State President.

Pueblo, Colorado.



New England States, Union Meeting.

There is to be a Union Meeting of the L. S. of the B. of L. F. and E., of the New England States held with Commonwealth Lodge No. 250 of Roxbury, Mass., March 29th, beginning at ten o'clock and continuing through the day, with lunch at one o'clock.

We hope all lodges will make extra efforts to have representatives present. A large attendance is desired.

MATTIE A. PETTINGILL,

Secretary Union Meeting,

24½ Warren Street, Concord, N. H.



From Sister May Henderson, Member Board of Grand Trustees.

It has been some time since I have had an opportunity of writing for the Magazine, or attending a meeting of our Ladies' Society. My work keeps me so constantly in the field, and only four lodges in the State of Montana, and I only get to about one a year.

On my arrival at Livingston I had the pleasure of attending the ninth annual ball of the B. of L. F. and E., at which about two hundred couples were present. The hall was beautifully decorated in the lodge colors and there I met several of the sisters of Snowy Range L. S. 168, as they assisted on the reception committee.

An invitation was extended to me to install their officers January 4th. Although it was a cold, stormy night our members showed their loyalty by a splendid attendance at the meeting. After the ceremonies of installation were concluded progressive whist was played. Sister Neilson, the new president, was hostess, and at midnight a delicious lunch was served, being assisted in serving by the secretary, Sister Richardson.

I found the sisters of 168 a loyal band, working under the banner of Friendship and Charity, and they were dispensing charity where it is needed.

I trust that I may meet with the sisters at some future time. Wishing all sisters a happy 1916, I am,

Yours in F. & C.,

MAY HENDERSON,

Member of Board of Grand Trustees.



Earnest Workers.

Earnest Workers Lodge 357 was organized on January 10th in Arkansas City, Kansas, with a charter membership of thirteen. Organizer Mrs. Minnie Dickens of Kansas City, Missouri.

After the ceremonies of organization were concluded a delicious luncheon was served by a committee of the members.

Since we have the lucky number of members (13) we have great hopes of succeeding. Lodge work is entirely new to the majority of our members but what we lack in experience we make up for in interest. Our meeting days are the first and third Friday afternoons at the I. O. O. F. hall at two-thirty o'clock. A cordial invitation to visit us is extended to all sisters.

ESSIE M. HELLYER,
Arkansas City, Kansas.



Jewel City.

Jewel City Lodge 310 was organized December 18th last at Tracy, California, with eleven charter members. Sister Stena Ward, of Mina, Nevada, Organizer.

We were organized in the afternoon and adjourned at six-thirty, returning in the evening to a banquet prepared by the sisters to which the brothers of 808 were invited. All those that attended did justice to the supper and a general good time was had by all.

Our president, Sister Smith, presented Sister Ward with a cut glass dish in behalf of the new lodge. Brother C. L. McHenry also presented our president with two large boxes of delicious candy that were enjoyed by all. The banquet hall was decorated in the lodge colors of red, purple and white by the brothers; it was with their generous donation that our lodge was organized.

Sister Ward made a very interesting speech in regard to the great development of the Ladies' Society, which was

fully appreciated by those present. After the banquet we returned to the lodge room where Brothers Stewry and Ledford rendered beautiful solos which were loudly applauded, as was the beautiful musical selections given by Sisters Wise and Neilson, after which dancing was enjoyed by those who cared to dance.

Some of the brothers proved to be good dish washers as well as good eaters.

We will meet once a month at present on the third Tuesday of each month in Masonic Hall at two o'clock. We have prospects of several new members, as all those who signed the charter application were not able to be present the day we organized but promised to join later. We hope the brothers will help us increase our membership by urging their wives to join our lodge.

We hope to have socials and card parties, as I see by the Magazine letters that other lodges have to increase the funds of their lodges. With best wishes for success in 1916 to the L. S. and B. of L. F. and E.

MRS. NETTIE SCHLINTINS,
Tracy, California.



Let This Be a Banner Year.

As we are again launching out on the new year, I find the lodges that I know about are starting up with new interest and taking in new members, and the new officers are getting into the harness with a view to good work. Let us all join hands and strive to add new members to our numbers, and endeavor to bring our membership up to that of our sister railway organizations who are now leading us in numbers. Let us make this year 1916 a banner year, and let us follow as nearly as our knowledge teaches us the rules laid down for us in our by-laws, then there will be naught but peace and harmony throughout our beloved order.

Let us each and every one faithfully stand by and support all officers in charge, so their work shall be successful and pleasant.

But another word, dear sisters, let us be very careful in soliciting membership, and be sure that those we accept in our order shall be of good moral character. It is very easy to get them in a lodge but very hard to get them out.

I wish the Grand Lodge officers and all sisters in our order the very best there is in the new year, and let us strive to "give to the world the best that we have, and the best will come back to you."

ANON.

Public Installation of Officers.

On January 12th last, Mary Lincoln Lodge 234, L. S., and Abraham Lincoln Lodge 9, B. of L. F. and E., of Columbus, Ohio, publicly installed their officers. Mrs. Ollie O'Shea, past president, acting as installing officer, assisted by Sister Peters as marshal, and the drill team added materially to the beauty of the work. After the ceremonies of installation were concluded a two-course buffet luncheon was served, followed by the official drill of the Ladies' Society, which was done in a very artistic manner by the drill team. Musical selections on the piano and violin were much enjoyed, after which Sister O'Shea was presented with a cut glass vase as a token of our appreciation of her efforts in behalf of No. 234 as president for the past two years. I doubt if there is a president in the organization who has striven more faithfully for the general good and uplift of the order, and with greater results, than Sister O'Shea.

Sister Geizel, our faithful secretary who has served us five years in that capacity, was also presented with a cut glass vase for the good services rendered, and we are glad that she is going to continue in this good work.

Afterwards the evening was given over to dancing, the old fashioned square dances being special features.

A MEMBER.



Letters from Friends.

FROM L. S. 284—(Leola Bolan, Wichita, Kansas.) We think the state union meeting which was held with us in October the most beneficial as well as pleasant event of the past year.

We have had a number of very pleasant entertainments through the past summer which we hope to continue through the winter.

The sisters of Pleasant Valley Lodge and their husbands were most royally entertained by the ladies of the B. of R. T. and their husbands a short time ago, so in turn we invited them to be our guests at a social held December 9th last, which was a great success socially as well as financially.

We have added seven new members to our membership roll during the past year, and have two applications on file at present. Our worthy president, Sister Ackerman, holds the credit for five of the applications as well as a large amount of our success as a lodge.

Election is over and the present year finds a number of new officers in the

different chairs, but we hope to find them efficient.

We have been invited by the brothers of 369 to hold a joint installation with them in the near future—which means another pleasant evening for all.

We extend a cordial invitation to all sisters visiting in our city to attend our regular meetings the third Wednesday of each month.



FROM L. S. 174—(*Delia Bledsoe, Chickasha, Okla.*) Day before Thanksgiving Sister Prickett lost her father. This was a very sad death, a treacherous well caving in on him and smothering him before he could be reached. We all felt it was a time for us to be with our sister and give her all the aid and encouragement we could.

Thanksgiving Day Sister Alice Pierson lost her only daughter, Mrs. Mary Whistle. She was seriously burned and passed away on Thanksgiving Day after suffering some three or four days.

Our little lodge has had a lot of sadness since we were organized, but I hope we may be a blessing and a comfort to one another.

We served a luncheon at our last meeting, as we had two visitors. We always have a grand social time after each meeting. We all wish our meetings came once a week instead of twice a month.

I love to read the letters from our sister lodges. I read them all the very first thing after receiving the Magazine. We have a new member to initiate at our next meeting and two more applications for membership, one being already examined. Considering that we were re-organized on the 6th of May the past year, I think we are growing wonderfully.

I send the best wishes of every member to all sister lodges for a happy and successful 1916.



FROM L. S. 358—(*Mrs. Ethel House, Springfield, Ill.*) The past year was not very prosperous for us, but we hope to add many new members during 1916.

Our election is over and I am glad to say we shall have Sister Myers as our president for another year.

We wish all sister lodges success in all their undertakings during 1916.



FROM L. S. 152.—(*Lillian W. Glass, Jamestown, North Dakota.*) God has called home our beloved president, Sister Turner. Our hearts are saddened for "her price is above rubies." Such is the analogy Israel's Wise Men give to

the virtuous woman. The world has many standards of value, but there is no standard or measure which can compete with the worth of a wife and mother and sister beloved.

Our Society finds words inadequate to express our loss.

Sister Turner possessed that charm and grace of young womanhood which endeared her to all. The added responsibilities of wife and mother only deepened the beauty of her character; and when she entered into the privileges of the Ladies' Society, she assumed also her share of its burdens.

The incentive for her action was:

"I shall pass this way but once; if, therefore, there is any good that I can do or any kindness that I can show to my fellowmen, let me not fail to do it now, for I shall not pass this way again."

She has left with us an increased consciousness of the possibility of a beautiful and useful life. The members of our Society must live truer, nobler, better, because of our association with Sister Turner.

"Her price is above rubies."



FROM L. S. 280—(*Helen F. Hurley, Stapleton, Staten Island, N. Y.*) The regular monthly meeting of Richmond Lodge 280 was held at Stapleton Hall, on Friday evening, December 17th. It being the last meeting of the year a social followed, to which the brothers of Clifton Lodge 339, who were also having a meeting on the same evening, were invited, and all joined in the merrymaking. Refreshments were served at midnight.

With the beginning of the new year, it is hoped that something new will arise each month which will help toward making our lodge a successful one.



FROM L. S. 168.—(*Mollie J. Kline, Livingston, Montana.*) A new year has begun. Let all past grievances be forgotten and strive to make the new year one of love and charity. We have so much to be thankful for, as all of our dear ones have had a good year and plenty of work. Last year at this time we experienced so much hardship and suffering on account of a slump in business and hard times. We are having our ten cent socials at our homes, which brings us together and we enjoy the jolly good times. We have cards and music and good things to eat. We had the honor of having our Grand Officer, May Henderson, with us for a short time. She was unable to be with us at our regular meeting. The president called a special meeting which was held at Sister Nell

son's, and our Grand Officer installed our new officers. There were over thirty brothers and sisters present. After installation, progressive whist was played, after which a fine lunch was served. Dancing was indulged in until a late hour.

We hope to see more of our Grand Officers out this way. We expect several new members to join us soon. I have the honor of having been elected delegate, and hope to meet all of our Grand Officers in Denver, June 5, 1916.

I wish all sister lodges and Grand Officers a happy and prosperous year.



FROM L. S. 279.—(*Charlotte M. Smith, North Bay, Ontario.*) Greetings to all sister lodges. May the new year be successful and prosperous and the past leave with you only pleasant memories.

We have not added to our membership during the past year, due possibly to the hard times and sickness. Indeed, when I started I really intended telling you of each member's illness, and for fear of the editorial frown and the taking up of too much space with our local affairs, concluded it would not be best. Nearly every sister has had her full share of sickness, yet we are all cheerful and have the brightest hopes for the present year.

While in an Ottawa Hospital recently I had the opportunity of meeting several of the members of Wake Up Lodge 157, and I very much appreciated their visits. In my opinion Wake Up Lodge has a very wide-awake president.

We had our first social of this year at Sister Meehan's home and a very enjoyable evening it was; also profitable to our treasury. We hope to have many more this year.



FROM L. S. 177.—(*Marie Johnson, Middletown, N. Y.*) I verily believe it is a whole year, or perhaps more, since our lodge has been represented in the Magazine, but with the advent of the new year comes, very naturally, new resolutions, and I am resolved to be a more faithful correspondent the ensuing year, and if there seems to be nothing to write about, why we'll just have to "start things going."

It is true our lodge is small and things have seemed to be rather slow during the past few months, but with the bracing winter weather came a renewed energy, and things are certainly livening up a bit. Why at our last meeting we had more than three-fourths of the members out, and I can assure you that that is an en-

couraging sight to the officers and the "faithful few." At that meeting was held our annual nomination and election of officers. There were few changes in our staff. We re-elected both president and vice president, which is proof that their work cannot be improved upon. Also re-elected our secretary and treasurer and collector, and right here I want to say that our collector certainly cannot be improved upon. Sister Hewitt is the very embodiment of good nature, yet conscientious in the extreme, rounding up the delinquents and absent minded ones in a most commendable manner. Our secretary, Sister Krumm, has held the office for a number of years and is very faithful.

On the 24th of November last occurred the silver wedding anniversary of Sister Larkin, and thinking this an admirable time to show substantially our affection for her, the lodge gave her a surprise. Accompanied by our husbands, we took possession of Sister Larkin's home, during her absence of an hour at the "movies." Well, she was surprised.

During the evening games and music were interspersed, and when refreshment time came our president presented Sister Larkin with a half dozen solid silver teaspoons. The occasion being also her birthday, a birthday cake containing the required number of candles and a huge bouquet of carnations was also presented. Sister Larkin was deeply touched and responded feelingly.

All in all everyone had a delightful time, and promised to repeat it at her golden anniversary.

We have been very busy "quilting a quilt" which we intend to dispose of in the near future. Have had a series of quilting parties at Sister Stewart's home, and I believe we are half sorry that it is nearly finished. With the proceeds from the quilt and from a "dark horse" and penny drill held every meeting day, we hope to add a neat sum to our treasury, and we mean to make this a prosperous year. And I earnestly and sincerely wish a happy and prosperous, and above all else, a harmonious year to each and every sister lodge.



FROM L. S. 89.—(*Katherine Backman, Salt Lake City, Utah.*) Victor Lodge has not been heard from for some time, but glad to say we are progressing nicely. We have not gained in membership but hope 1916 will be a banner year. We have an application to act upon at our next meeting.

On January 5th we were the guests of the three brother lodges, 173, 670 and 679,

at joint installation. After the installation an orchestra furnished music for dancing. Refreshments were served in the banquet hall.

Sister Glenn, who has been a faithful worker, was elected president again. Sister Allgood, our past president, was presented with a beautiful pin for her good work.

Our first meeting in January was well attended, at which refreshments were served and great enthusiasm prevailed.

Our sewing circle has proved to be a great success. We meet once a month at the home of one of the sisters, refreshments being served and a good time had. We are now making arrangements for our annual ball.

To all sisters, brothers and Grand Officers we extend our best wishes for success and prosperity in 1916.



FROM L. S. 381.—(*Helen Willard, San Antonio, Texas.*) It has been some time since we have been heard from in the Magazine and think it high time that our sister lodges were hearing from us. We will soon be organized two years; although we don't belong to the Big Ten we are progressing in numbers, slow but sure, having initiated four this year and are looking forward to several more real soon.

Our installation was held January 6th. We all regretted to see Sister McDonald leave her office as president, for nothing ever seemed too much for her to do, but feel, however, that she will be a faithful worker wherever she is. Sister Margerite Cook, our newly elected president, is well fitted for her office and we know we will progress with her at the head of our society.

Sister Kate Westrup, another one of our faithful sisters has just recovered from an operation for appendicitis and hopes to be with us again next meeting.

We are looking forward to a turkey luncheon after our next meeting, which is our regular social meeting. Plans are also being made for a dance soon at which we expect to clear a nice sum for our treasury.

We meet the first and third Thursday afternoons and would be so glad to welcome any visiting sisters.

Success and prosperity to all for 1916.



FROM L. S. 276.—(*Dora Wade, Springfield, Mo.*) The year 1915 has drawn to a close, and in summing up the work for the year we feel encouraged and hope to do at least as well this year. We have added several new members whom we hope will be willing to help make our

work even a greater success this year. Our worthy president, Sister Huntress, deserves much credit for the way she has conducted the meetings so as to make them of interest to all concerned.

We are looking forward with much interest to our annual banquet as one of our favorite socials of the year. November 2nd we gave our first annual ball, which netted us the neat sum of \$87.00 to swell our treasury. We had some opposition but made a success despite the obstacles. We hope to reach the point where all will work in peace and harmony together and make them an annual affair.

During 1915 death claimed two of our members, Sister Avy Smith and Sister Lillian Turner, but their memory lingers.

May the coming year bring all joys and no sorrows, all success and no failures to all sister lodges.



FROM L. S. 133.—(*Martha Parsons, El Paso, Texas.*) Our new officers for 1916 were installed at our first regular meeting in January and we trust they will receive the loyal support of all members throughout the year.

We have lost quite a number of our members through their moving from our city and transferring to the lodges in their new localities, but our loss has been some other lodge's gain.

We have been called upon to sympathize with several of our members in the loss of relatives who were near and dear to them, but the hand of death has never taken one of our little band and we have been organized for a period of ten and one-half years.

We are not doing very much in a social way but are doing some good by helping each other whenever we can. We are adding a new member occasionally and hope to be numbered among the "Big Ten" some time in the near future. Best wishes to all lodges.



FROM L. S. 270.—(*Mag Corr., Bakersfield, California.*) On January 6th Star of the Valley Lodge 270 held its annual installation of officers and entertained Kern River Lodge 731, Golden Poppy Lodge 221 and Mt. Whitney Lodge 139. The afternoon was spent in music and dancing, followed by an enjoyable luncheon.

We feel that we have held our own during the past year in spite of the dull times due to the depression of business, and look forward to the activities of the new year with a degree of anticipation that promises well for our success and prosperity.

The members of Star of the Valley Lodge join in wishing the officers of the

Grand Lodge a prosperous and successful year.

We hold our regular meetings the 2nd and 4th Saturday of each month in the K. of P. hall on Lake Street, and all visitors to our city are extended a welcome to our meetings.



FROM L. S. 86.—(*Lulu B. Roush, Laramie, Wyoming.*) Black Hills Lodge 86 and Jewel of 86 held joint installation of officers on the seventh of January, a dance and supper following the public ceremony when all present had a most enjoyable time. January 28th the sisters gave a "mask ball" and oyster supper, the proceeds going into the treasury of Jewel Lodge.

We recently initiated five new members and we all hope to make 1916 our banner year.

An unusual amount of interest is being shown here on account of the convention being so near, to be held in Denver in June, and a number of Jewell sisters plan to accompany Sister Busby, our delegate.

We meet on the second and fourth Wednesday of each month. Once each month some sister entertains the Jewel Club at her home. We have jolly times as well as elaborate lunches. Each guest contributes ten cents to the flower fund, which pays for the flowers we send to our sick brothers and sisters.

Jewel Lodge extends a cordial welcome to all visiting sisters.



FROM L. S. 108.—(*Lillian M. Myers, New Durham, New Jersey.*) I am going to begin my letter by wishing every sister a Happy New Year even if it is a little late. We held our installation on the afternoon of January 5th, the State Organizer of New Jersey, Sister Katie B. Coots, acting as our installing officer, being ably assisted by her daughter, Sister Alma Boyce. We are always glad to have Sister Coots with us, for her gracious personality and charm of manner makes her loved and respected by all who know her, and as for Sister Boyce, the least I can say is, "Like mother, like daughter." A number of other sisters from Benevolence Lodge 229 were with us, and we enjoyed their many pleasing remarks.

We presented our president, Sister Wynn, with a past president's pin for her good work during the year. She never once shirked her duty and did everything possible to promote "Friendship and Charity." Several of the other

officers were given beautiful cut glass compotes in appreciation of their services. At the close of the meeting refreshments were served and everybody went home happy. The following day several of the members from our lodge visited Benevolence Lodge, and it is needless to say we had a good time.

To those sisters who have sorrow I have this to say:

Dear sisters, if today the skies are overcast,

Somewhere, we know the sun is shining still;

It's silver radiance brims the lowering clouds

And we may catch its glory if we will;
And it is good to strive though we should fail,

And good it is to suffer and be strong;
And if we lift our faces to the light

The darkest day will sing to even song,
And when our feet are weary, and the road

More toilsome seems with every passing day

To share our every burden, little heart,
The Helper walks beside us all the way.



FROM L. S. 51.—(*Josie Coats, Denison, Texas.*) Grayson Lodge 51 is progressing nicely. We initiated several new members in 1915 and hope for even better results this year. Our aim is to be numbered in the Big Ten before the close of 1916. We have such enjoyable meetings and the spirit of harmony is always exhibited to the fullest extent. We have a hard working and faithful membership who never let an opportunity pass to prove to everyone we faithfully try to live up to our motto, "Friendship and Charity."

We feel that too much praise cannot be given to Sister Mallow. She has been our faithful president the last two years and was re-elected again to serve for 1916. She is always at her station, and never seems to overlook even one of the smallest things in regard to her duty. Every meeting she inspires us all with new courage and buoyancy. May all sisters of our order at all times give to their president their heartiest co-operation, for she needs their help and encouragement just the same as we need hers if we would succeed.

We have elected almost an entirely new staff of officers this year. Our retiring officers were each presented with a pin, an emblem of our order, and Sisters Young and Duncan, who had not missed a meeting the entire year, were given cut glass bowls, and to our president as a token of our love and esteem and for her

faithfulness the members presented her with a beautiful la vallier.

The joint installation with No. 8 was enjoyed to the fullest extent, as was also the banquet following which was served by the ladies. The last meeting in each month we have a social meeting and refreshments are served in honor of the one's whose birthdays come in that month. We all look forward to that meeting, as the committee in charge always has a surprise for the other members.

No. 51 sends greetings to all members of the L. S., also to our Editress and other Grand Lodge officers.



FROM L. S. 95.—(*Eudie Haas, McDonoghville, Louisiana.*) We have gotten nicely started on the new year, although it was with sorrow that we began this new year, for on December 24th we were called to pay our last respects to our beloved sister, Emily Beck, who passed away on December 23rd last. She was one of our charter members, and we extend our deepest sympathy to the family in their sad bereavement.

Our first meeting of the new year was held January 5th. We had a large attendance and our new officers were installed for the year, and I trust we will do as good work this year as we did in the past. After the meeting was closed we played lotto, after which a turkey banquet was served to which all did ample justice, and the committee deserves much credit for preparing same. All departed late in the evening for our homes well pleased with the evening spent. We hope for another such pleasant time together soon.

Our first meeting in the month is always well attended but we have poor attendance at the second meeting. Wake up, sisters, and get new life in you for the third Tuesday in the month, and come out to that meeting so that we can truthfully boast of all of our meetings that we hold this year.



FROM L. S. 371.—(*Clare Stevens, Superior, Wis.*) While we are still small in numbers we aim to do great things in the future when dull times have passed and we can increase our membership roll.

There are always the faithful few who attend all meetings. We are fortunate in having the co-operation of the brothers of 811. They are always ready to extend their help to the best interests of our lodge, and in behalf of our lodge I extend our thanks for their generosity to us.

If only all of the brothers would urge

their wives and those eligible to membership in their families it would soon increase our membership very materially. The more members we have the better work we can do, as more interest is shown. There is an old saying: "Our lives are what we make them;" just so it is with our order. If we'll work together to increase the growth of the B. of L. F. and E. and our Ladies' Society it will benefit the entire organization.

There is one thing lacking in our little lodge, and that is we should have better attendance at meetings. Let us make it a point to be on hand at all meetings (unless prevented by sickness). Go because it is our duty to our lodge, and do not leave all of the work to the faithful few and just be present at the social functions.

We have the penny march and this money is placed in our floral fund. Once a month a sister entertains in her home, each member paying ten cents, which is also used for this fund.

Let us not forget our motto, Friendship and Charity, and may it be an incentive for better work.



FROM L. S. 149.—(*Pearl A. Van Valkenburg, Two Harbors, Minnesota.*) January 6th the officers for 1916 were duly installed in a very pleasing manner, Sister Sarah S. Conliff, past president, acting as installing officer. At this meeting our president, Sister Jennie Griffin, presented gifts to the sisters who had not missed a meeting during the past year. Those receiving gifts were the secretary, Sister Jennie B. Tennant, and the collector, Sister Almeda Sullivan. At the close of this meeting a cafeteria luncheon was enjoyed by all present.



FROM L. S. 383.—(*Mary Stach, Greenville, Pa.*) We have closed 1915 and look forward to a bright future. Last meeting we installed our officers, all officers being re-elected with but one exception.

We are planning an oyster supper in the near future and hope to meet with success.

We have one social meeting beside our regular lodge meeting a month. This is always held at one of the sister's homes. Lunch is served, each sister providing something towards the lunch, and a fee of ten cents is paid into the treasury. We enjoy these meetings greatly and invite others who are eligible so that they will get better acquainted and perhaps add to our membership.

FROM L. S. 286.—(*Georgia M. Shellito, Albion, Pa.*) Faith Lodge 286 sends greetings and best wishes for the year 1916 to all Grand Officers and sister lodges.

Although our number is small we are striving for the good of our order. I am sorry to report that our membership has decreased nearly half in the past year. I think I can truly say that our prospects are brighter than they have been for some time. Our few members are enthusiastic and loyal, not only to our lodge but to each other, willing to put the welfare of the lodge above petty self-aggrandizement.

We have two new candidates to initiate, the first for many months, and have the promise of others later. We have been disappointed in the failure of our Grand President to pay an expected visit but are hopefully waiting, as we have her promise to be with us soon.

On January 6th we installed our new officers. Members of the Willing Workers Lodge of Greenville, Pa., were with us and assisted us in our installation, for which we are sincerely grateful.

On January 8th last we entertained Bessemer Lodge 558 at a banquet and social evening. Covers were laid for about seventy at six-thirty o'clock. The evening was occupied by a short program of music and recitations, followed by games of various kinds and dancing.

We have been having a busy social season since the cold weather set in. Many of our sisters have been given surprises, a gold thimble being left as a remembrance of an evening merrily spent.

January 12th last we met with Sister Spencers, the occasion being her birthday. January 20th we met with Sister Hoyt for our monthly social afternoon, our husbands arriving for supper and spending the evening in games and music. January 25th Sister Reynolds was given a surprise, the usual program of games and a light luncheon following.

Faith Sisters extend a standing invitation to any sisters visiting near us and assure them a hearty welcome.

Delegate Fund Notice.

GRAND LODGE
LADIES' SOCIETY OF THE BROTHERHOOD
OF LOCOMOTIVE FIREMEN AND
ENGINEMEN.

Office of
GRAND SECRETARY AND TREASURER

BOONE, IOWA, March 1st, 1916.

To all Subordinate Lodges:

Sisters—Pursuant to the requirements of the laws, you are hereby notified that the amount of fifty (50) cents for each member of your lodge will be due in the office of the Grand Secretary and Treasurer on or before April 1st, 1916. This amount will be due and payable for all members whose names appear upon the rolls of membership April 1st, 1916. This notice is in compliance with the laws enacted at the last convention for the purpose of creating a Delegate Fund for the payment of delegates in attendance at the meeting of the Grand Lodge. See Sections 41 and 107. The Treasurer is required to forward the same so as to reach the office of the Grand Secretary and Treasurer not later than April 1st, 1916.

Faternally yours.

MARY E. DU BOIS,
Grand Sec'y and Treas.

Approved:

MAUDE E. MOORE,
Grand President.

• • •

Death Report.

Caroline Boss, Lodge 71, St. Louis, Missouri; died December 15, 1915. Cause of death, strangulation of the bowels. Amount of insurance, \$200.

Emily Beck, Lodge 95, McDonoughville, Louisiana; died December 23, 1915. Cause of death, lobar pneumonia. Amount of insurance, \$200.

Sarah McGowan, Lodge 80, Little Rock, Arkansas; died December 25, 1915. Cause of death, brights disease. Amount of insurance, \$200.

APRIL 1916

BROTHERHOOD OF

Locomotive Firemen and Enginemen's Magazine



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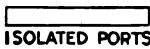
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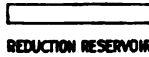
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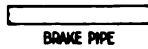
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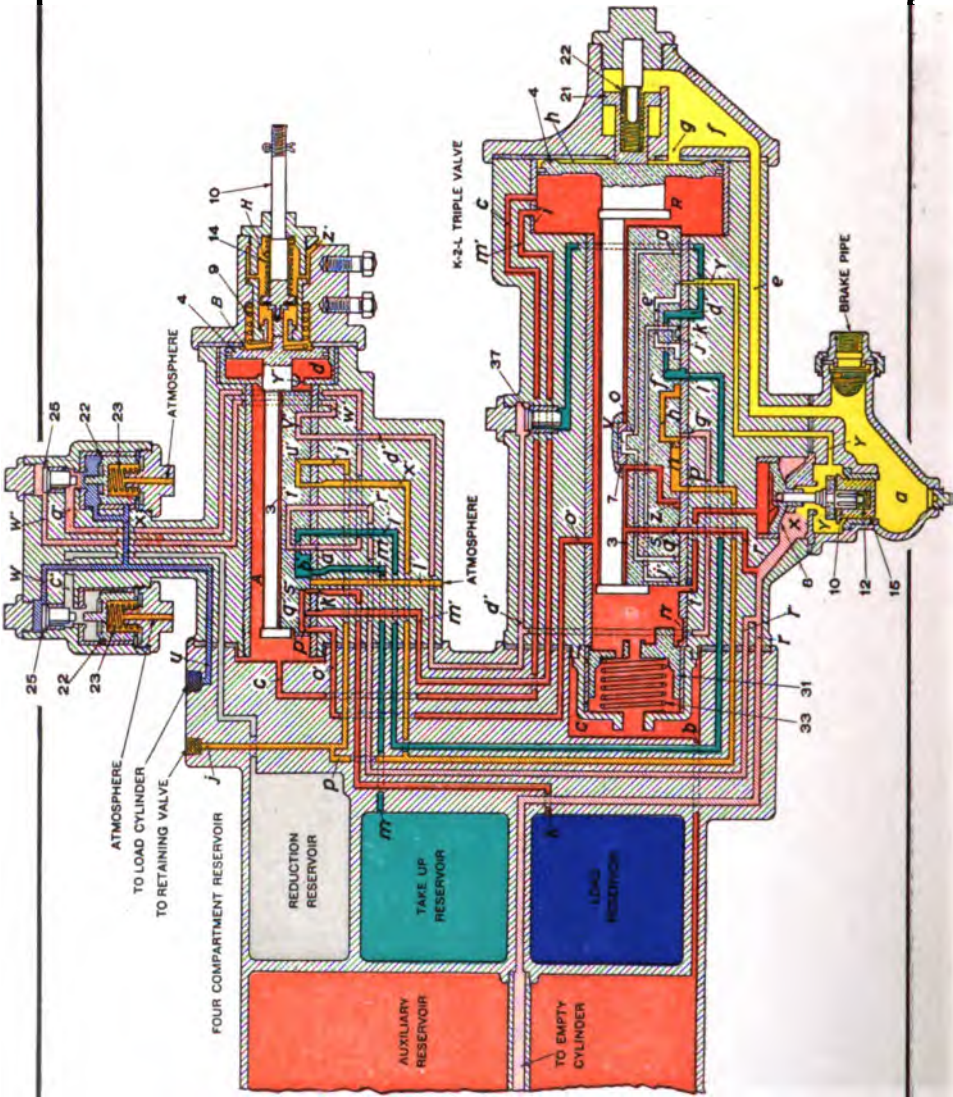
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TAKE UP RESERVOIR



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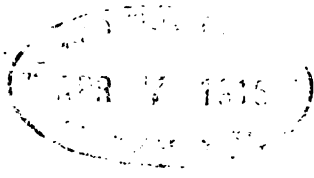


Locomotive Firemen and Engineers Magazine Educational Charts

WESTINGHOUSE AIR BRAKE SERIES

PLATE 106—EMPTY AND LOAD BRAKE

View Showing Triple Valve in Emergency Position;
Change-Over Valve in Load Position. Diagrammatic



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COLUMBUS, OHIO,

APRIL 1916

PLATE 106—EMPTY AND LOAD BRAKE

View Showing Triple Valve in Emergency Position; Change-over Valve in Load Position, Diagrammatic

Plate 106 of the Westinghouse Air Brake Series of the Locomotive Firemen and Enginemen's Magazine Educational Charts represents the *KL* Triple Valve and *H-3* Change-over Valve, with a portion of the Four-Compartment Reservoir, of the freight-car *Empty and Load Brake*, in a sectional view arranged diagrammatically so that all of the parts are shown at once in a single plane. The Triple Valve is in **EMERGENCY POSITION**, and the Change-over Valve is in **LOAD POSITION**.

Emergency Position for the triple valve is the same as was described in the explanation of *Plate 99* in the Magazine for September, 1915; and the flow of air through the change-over valve to the "load" brake-cylinder takes place as described under "*Quick Service and Full Service*," in the issues for November and December, 1915, *Plates 101* and *102*. The present article concludes the description of the freight-car *Empty and Load Brake* equipment.

Interesting History of Railroad Development.

President A. H. Smith of the New York Central Railroad gives many hitherto-unpublished facts and figures, woven with romantic events into a narrative of the development of one of the world's greatest railroad systems in an interesting sketch, just issued in booklet form, which begins with the chartering of the Mohawk & Hudson Railroad Company in 1826, and traces the episodes, obstacles and vicissitudes of the development of the New York Central into one great transportation machine embodying no less than 186 predecessor companies.

A series of rare pictures contrast pioneer scenes and equipment with those of the present day, and give striking impressions of the giant strides of railroad progress.



List of References on Railway Motor Cars.*

ELECTRIC (Continued)

Gasoline Electric Motor Car for the Chicago & Alton Railroad.

(Railroad Gazette, v. 38:694-95; June 16, 1905.)

Built by the Gas-Electric Car Company, Chicago.

The Union Pacific Gasoline Motor Car.

(Railroad Gazette, v. 39:14; Jul. 7, 1905.)

Account of the operation of motor car No. 1, built by W. R. McKeen.

Gasoline Motor Car, Union Pacific Railroad.

(Railway and Engineering Review, v. 45:504; Jul. 8, 1905.)

The first McKeen car, with some account of its performance.

Union Pacific Motor Car Number One.

(Railway Master Mechanic, v. 29:274-79; Aug., 1905.)

The first McKeen car.

High Power English Gasoline Motors for Driving American Locomotives.

(Scientific American Supplement, v. 60:24757; Aug. 12, 1905.)

Motors for General-Electric motor cars.

American Gasoline Railway Motor Cars.

(Scientific American, v. 107:157-58; Aug. 26, 1905.)

Gasoline Motor Car Number Two, Union Pacific Railroad.

(Railway and Engineering Review, v. 45:720-21; Oct. 7, 1905.)

Second car of the McKeen type.

Large Gasoline Engine for Railway Motor Cars.

(Railway and Engineering Review, v. 45:833-34; Nov. 25, 1905.)

A new motor car on the North-Eastern Railway, England.

A One Hundred Horsepower, Two-Cycle, Air-Cooled Motor.

(Automobile, v. 13:619-20; Dec. 7, 1905.)

Chicago & Alton Motor Car.

(Railway Age, v. 41:28; Jan. 5, 1906.)

A car of the McKeen type.

Motor Cars on the Harriman Lines.

(Railway Age, v. 41:161; Jan. 26, 1906.)

Cars of the McKeen type.

The Delaware & Hudson Gasoline Car.

(Railway Age, v. 41:218-19; Feb. 9, 1906.)

Built by the General Electric Company.

Motor Car for the Delaware & Hudson Company,

(Railway and Engineering Review, v. 46:94; Feb. 10, 1906.)

Built by the General Electric Company.

Delaware & Hudson Gas-Electric Car.

(Street Railway Journal, v. 47:247-48; Feb. 10, 1906.)

Built by the General Electric Company.

Railroad Gazette [Editorial].

Another Rail Motor Car.

(Railroad Gazette, v. 40:149-70; Feb. 23, 1906.)

Comment on the development of gasoline-electric cars.

The Strang Gasoline-Electric Motor Car.

(Railroad Gazette, v. 40:188-89; Feb. 23, 1906.)

Built by the J. G. Brill Company.

The Strang Gasoline-Electric Car.

(Railway Age, v. 41:284-85; Feb. 23, 1906.)

Strang Gas-Electric Railway Motor Car.

(Street Railway Journal, v. 27:359-60; Mar. 3, 1906.)

The Strang Electric Motor Car.

(Railway and Engineering Review, v. 46:162; Mar. 10, 1906.)

Lake Shore & Michigan Southern Railroad.

(Street Railway Journal, v. 27:428-29; Mar. 17, 1906.)

Its first gasoline-electric car, built by the G. C. Kuhlman Co.

Delaware & Hudson Gasoline-Electric Motor Car.

*Prepared by the Bureau of Railway Economics Library, Washington, D. C.—Continued

- (Railroad Gazette, v. 40:93 [general news section]; Mar. 30, 1906.)
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(To be continued.)



Recommended Practices for the Employment and Training of new men for Firemen.*

"There is nothing before the railroads of the country today that will so well repay the time and money spent as will the education and development of railway employes in general and of locomotive firemen in particular.

"Years ago when the number of men employed on one division was comparatively small, the fireman came into direct contact with the master mechanic and often with the superintendent of motive power. . . . Officials knew the engine-men by their first names, and in many cases also their families. This all tended to keep the rank and file in close touch with the officers of the road, so that it was an easy matter to instruct the men as required.

"The firemen then had to serve a much longer apprenticeship than they do now, and as they were to a great extent under the direction of the engineer, it was not difficult to train them along the best lines. When an engineer got a new fireman in those days he was told that he had to do as the engineer wanted or he would not suit. As the engineer owned the engine in those days, the fireman came very near doing what was required of him.

"In late years conditions have changed to such an extent that we have to bring about a general reform in our practice of employing and training new firemen.

"Men and officials have grown apart until there is a great lack of confidence on both sides. Right here is where the traveling engineer can be of the greatest help to any railroad in regaining this lost confidence, if he has the proper backing.

"The superintendent of motive power may never know a fireman personally, and the master mechanic may not know the fireman for years, by sight even. Some representative of either should come into direct contact with every employe of the company in such a way that the employe will feel that the highest official of the company has a direct and personal interest in the welfare of each man working for the company.

"This can best be accomplished by some system of education. Every company should have a distinct policy regarding the education and development of their firemen from the day they are employed until they have passed all examinations to make them full-fledged engineers. This system should be as clean-cut and as vigorously maintained as the best of other operating systems are maintained.

"There should be a systematic effort on the part of every railway to educate and develop the men who are employed as new firemen, so that when they start firing they have a clear idea of what is before them. . . .

"To many it will seem that the cost of education for employes will offset the advantages to be gained, or that the new fireman will not repay the time or money spent on his behalf. Other objections will come out as the plan is outlined, but if a careful study of the plan is made, I believe that it will be seen that there will result from its adoption economy in fuel, betterment in the personal

*Abstract from Committee Report to the twenty-third annual convention of The Trav-

the part of the engineman, and a betterment to the service in general. . . .

"Papers covering a complete course in locomotive running and breakdowns should be prepared, a great part of which can be found in the book put out by this Association.

"After all lesson papers are provided we should arrange for class instruction at the different terminals. This should cover all the prepared lessons and anything else which may come up from time to time.

"At the class room we should have a portable moving picture outfit, which can be taken from one terminal to another, as there is nothing to equal the moving picture as an educational medium. With the moving picture we can show the actual work being done just as it is wanted. It increases the interest in the lectures to such an extent that many more men will attend the lecture than do when the pictures are not used.

"Several roads use the moving picture now and speak very highly of it as an educational item of great value. One man very prominent in educational work says that the moving picture gives him better results than anything else he has used in class work.

"After the class work is planned, we will set up a dummy fire-box of standard size and shape, equipped with a brick arch so that the conditions will be the same as on the locomotive. . . .

"We now have a bare outline of the department before us, so we will pass to the employing of the new men. This is something which should be given strict attention, as we must have good material to work with, or it will not pay to spend any time or money on it.

"The official who employs new men should be a good judge of men, and should understand what is to be done to elevate the standard of new men to be employed. With this in view he should take time to see men who are looking for work, even if there is no opening at the time. We should encourage bright, clean-cut young men to look for positions as locomotive firemen. If there is no opening for them when they call, take their name and address, telling them that when there is an opening they will be given employment. When there is an opening send for the first man on your list and give him work. If you select the best men who call on you for work, and explain to them that a position as locomotive fireman is one of the best that a young man can get, and that they will be well taken care of if they will give their best efforts to the company in return for a good position and an education which will make skillful firemen and in time engineers out of them, you will find that other men will call and we will get more and better men than we do now under the present system of employing new men. . . .

"The prospective fireman should be

in some capacity, such as wiper, machinist helper, or on the cinder pit. In fact, any place where skilled labor is not required. If there are shops near or at the terminal, new men can be placed there.

"There may be objections to this on the ground that the shop force will be disorganized all the time, but if everyone will work to the one end of elevating the class of men on the locomotive, this can be overcome. In the first place, we will have a better lot of unskilled labor on account of giving the new men more attention and not employing any but the best class of men.

"With the men in the shops and in the roundhouse we will have them where we can start their education at once. Then they will get experience which will be of great value to them after they get on the road as firemen and even after they go running.

"When a man is employed and given a place as suggested, he should be given a letter which will outline the position of the company with regard to his future. It will be explained to him that the company intends to educate him along the best lines of standard practice pertaining to his work; that if he will devote his time during working hours and some of his time out of working hours to the best interests of the company, the latter will give him an education in everything pertaining to his work as a fireman and as a future engineer; that the company expects, as a reasonable return, that the man will give, first, loyalty to the company's interest in every way, striving to promote the welfare of the company wherever possible; then, that he will do his work energetically and according to instructions. . . .

"With this letter the new man will receive his first lesson paper which is to prepare him for the position of locomotive fireman. After a reasonable length of time he will be examined on this lesson and if he passes the first lesson, he will get the next and so on.

"Each day there will be class instruction at the different terminals, so that these men will be brought into direct contact with a representative of the superintendent of motive power. At this time instruction will be given on the prepared lessons and questions answered on the same. After class instruction the men will be taken to the dummy fire-box and shown just how the scoop should be used and the coal put into the fire-box. Then the new man is made to fire the dummy for a short time. By doing this each day for a short time under the eye of an instructor, he will soon be able to put the coal into the fire-box as desired.

"It is plain to be seen that this man will be able to get on a locomotive and do better work at once than under the present system.

"During the time this man has been

each day he should have been under the observation of some one who is interested to know if he is the right kind of man we want under the new system. If he is ambitious and energetic, taking kindly to instruction or reproof, showing an interest in his work in the shops, well and good. If in the class room or in examinations on the prepared papers he shows that he will study and is able to learn readily what is told him, he is the man we want.

"If he does not like to work, takes no interest in the work, or shows in any way that he will not take correction kindly, or does not get along well with his studies, he should be let go at the first time any of these things develop. . . .

"Under the system suggested we will soon have a body of men ready to start out on a locomotive to make a few student trips with picked crews. These men will have been instructed as to the proper way to put the coal into the fire-box and will have had actual experience with the scoop shovel. They will know why they should fire as you instruct, as they will have the education in the chemistry of combustion. . . .

"We have the new man on the locomotive now making student trips and as soon as he is fit to go out alone he is put on the extra list. He is then ready to be used as he is needed.

"After this he should still have to attend class instruction and pass examinations on the prepared lessons until he has finished the course in firing practice.

"As soon as he is through the course in firing practice he should start on the locomotive running course. . . .

"We will have from thirty days to one year to educate these men along the lines of the best methods of doing their work to the best interests of the company they work for.

"They will be ready to fire an engine from the start instead of probably never learning to fire. . . .

"In the end it will give us a body of firemen on our locomotives who are interested in their work, who know how their work should be done, and who are looking forward to better positions on the road. Men trained as these men will be, make the official over them look to himself and see where he stands, for they will have a thorough training in theoretical and practical combustion on the locomotive and the official over them will have to go several steps further on along the same lines to keep up with them.

"Then these men will soon be engineers and a new lot of firemen trained along the same lines will be on the locomotive and then think what you will have on your engines working for you.

"Men who have been trained as you would have them—men who are going to make such a showing in economy and general efficiency that every man who has had a hand in developing them will be proud of the fact."



Book Review.

Oxy-Acetylene Welding and Cutting, Electric and Thermit Welding.—This is the title of a new book by Harold P. Manly, Chief Engineer The American Bureau of Engineering. From the author's preface we quote as follows:

"In the preparation of this work, the object has been to cover not only the several processes of welding, but also those other processes which are so closely allied in method and results as to make them a part of the whole subject of joining metal to metal with the aid of heat. . . .

"In order that the user may understand the underlying principles and the materials employed in this work, much practical information is given on the uses and characteristics of the various metals; on the production, handling and use of the gases and other materials which are a part of the equipment; and on the tools and accessories for the production and handling of these materials. . . .

"Special attention has been given to definite directions for handling the different metals and alloys which must be handled. The instructions have been arranged to form rules which are placed in the order of their use during the work described and the work has been subdivided in such a way that it will be found possible to secure information on any one point desired without the necessity of spending time in other fields.

"The facts which the expert welder and metal-worker finds it most necessary to have readily available have been secured and prepared especially for this work, and those of most general use have been combined with the chapter on welding practice to which they apply."

Chapters treat on Metals and Alloys—Heat Treatment; Welding Materials; Acetylene Generators; Welding Instruments; Oxy-Acetylene Welding Practice; Electric Welding; Hand Forging and Welding; Soldering, Brazing and Thermit Welding; Oxygen Process for Removal of Carbon.

The book is well illustrated, contains over 200 pages, size 4½x6½ inches. Price, bound in cloth, \$1.00; in leather, \$1.50. Published by Frederick J. Drake & Co., 1325 S. Michigan Boulevard, Chicago, Ill.

WHY RAILROADS GO TO RECEIVERS*

By W. JETT LAUCK in *Pearsons Magazine* (Copyrighted)

In opposition to the demands of train service employes for an eight hour day and time and one-half for overtime the number of railroads in the hands of receivers is quite often advanced as an argument.

An article by W. Jett Lauck in *Pearsons' Magazine* which we publish in part herewith makes quite clear the causes for nearly all railroad receiverships and we would add that the practice of creating fictitious values upon which to compel their underpaid and overworked employes to earn dividends is not by any means confined to roads that are or have been in the hands of receivers but is a practice which is characteristic of railroads generally.

Mr. Lauck's article, based as it is upon official reports and absolutely authentic data, contains some very interesting information as to the methods of money wild financiers in building up vast fortunes for themselves at the expense of railroad employes and the public. Mr. Lauck's article is in part as follows:

Practically 42,000 miles, or one-sixth of the total railroad mileage of the United States, is operated by the courts. The proprietary corporations have been adjudged insolvent, and placed in the hands of receivers.

This condition of railroad affairs is

which has added to their operating costs. Along with this tendency, the transportation companies claim that they have had to pay constantly increasing prices for their supplies and materials and that local and state authorities have steadily imposed upon them heavier

¶ The railroads have constantly asserted that their receiverships are primarily due to unintelligent legislation, regulation and high wages.

one which should have the serious consideration of every intelligent citizen in our self-governing republic. The economic and political factors which have produced this situation involve the fundamental problems upon the correct analysis and treatment of which depend the economic and political welfare of the future.

Many alleged causes have been advanced to account for this wide-spread bankruptcy of transportation corporations. The railroads have constantly asserted that their troubles have been primarily due to unintelligent legislation and regulation. Originally they were opposed to all forms of legislative interference. In recent years, they have recognized the benefits as well as the inevitableness of public supervision and have come to favor the centralizing of regulation in the federal government because of the difficulties of adjusting themselves to the variations in legislation of the different states through which they may pass.

Expressed in general terms, the complaint of the transportation companies has been that they have been subjected to regulation often misgrudged, or the re-

burdens of taxation. They also declare that railroad employes have organized and through the sympathy of the public, have secured by collective bargaining, periodical advances in wages, which have had no economic justification, and have further added to their excessive operating costs. . . .

Railroad commissions, shippers, and railroad employes enter a general denial to these claims of the railroads. They assert that the transportation companies have not been operated with economy and efficiency and their revenues properly conserved. Furthermore, they declare that existing freight and passenger rates would yield more than adequate revenues if the finances of the transportation companies were properly managed, and financial resources were not wasted or dissipated. . . .

An impartial study of the operating and financial performance of American railroads with this division of administrative functions in mind, leads inevitably to two conclusions:

First, the actual operating management of our railroads has been superb. Increased operating costs have been offset by gains in operating efficiency, by the installation of improved machinery and equipment, by more economical methods, and by the development of greater productive efficiency, or productivity on the part of railroad labor. Where this has not been the case, it invariably is apparent that the financial management has interfered with the operating officials.

Second, the management of the financial affairs of our railroads has, as a rule, been as censurable as the operating management has been commendable. The widespread insolvency in our transportation system at the present time constitutes an indictment against the financial management—against those persons, banks, banking groups, and syndicates, which have had the control or direction of the finances of railroad corporations.

The financial difficulties of the railroads can be directly traced to the point where the revenue gains from operating efficiency have passed to the control of the financial administrators of the railroad corporations. Financiers, or groups

to take up current earnings by fictitious capitalization, but have gone a step farther, and hypothecated the future productive efforts of railway labor and operating management as well as the unearned increment which will arise from the development of trade and industry. By way of illustration, the same study already referred to shows that seven other western railroads alone have outstanding fictitious capital stock to the enormous total of \$209,000,000 awaiting dividends which may arise from future revenue gains.

Immense sums have been distributed by the railroads in the form of bonuses to stockholders and an enormous amount of resources have been wasted in payments of excessive commissions and fees to bankers and underwriting syndicates. An indication of the general significance of these financial practices may be gathered from the fact that during the restricted period 1900-1910, six leading eastern railroads alone distributed in stock bonuses to their stockholders the immense sum of \$101,732,378. These same roads within this decade also paid

¶ Well, here's the truth about it, based on official reports and authoritative data submitted in arbitration proceedings. Here's why railroads "bust."

of bankers and financiers who have controlled railroad finances, have capitalized operating efficiency and the productive efficiency of labor, or have wasted and dissipated the financial resources of the railroad companies which have arisen from these sources.

A recent study of Western Railroad finance showed that fourteen western companies alone had since their incorporation issued fictitious stocks to the enormous total of \$484,000,000. The dividends actually paid upon this watered stock during the fiscal year 1914 were \$43,167,000. This meant that operating revenues to the amount of \$43,167,000 which might have been available for legitimate capital requirements, for the added remuneration of labor, or for the benefit of the public in better service or lower rates, were absorbed by dividend payments on securities which did not represent the actual investment of a dollar, and which had been floated as an indefensible mortgage on the productive efficiency of labor and operating officials. The financial management of our rail-

to bankers and underwriting syndicates \$40,131,229 for handling bonds issued by them. During the same period, seven leading western railroads gave away slightly more than \$250,000,000 in stock bonuses, and almost \$10,000,000 in commissions to banking syndicates for handling their bonds. During the years 1890-1910, one company alone in addition to large cash dividends, was shown in a recent wage arbitration, to have given away the astounding total of \$317,000,000 to its stockholders. Another transportation company within the short space of two years gave to its stockholders \$98,130,000.

Another primary source of overcapitalization and financial dissipation appears from the history of railroad reorganizations, consolidations, and extensions. The reading public is familiar with financial transactions of this kind from recent developments in connection with the New Haven, the Rock Island, the Chicago Great Western, the Missouri Pacific, the Alton, the Frisco and other railroads. Some of these transactions are described below.

As a matter of fact, the railroads which are now in the hands of receivers furnish concrete examples of all the indefensible financial practices which have been mentioned. A brief consideration of a number of these companies makes it as clear as a pikestaff that their troubles have been due to financial mismanagement, and clearly proves that employees, state legislatures, and commissions are not the causes of the plight in which the transportation systems which are insolvent find themselves at the present time.

For an analysis of the financial history and management of the principal railroad systems which are now in the hands of receivers, it is unnecessary to utilize any less authoritative facts than those contained in the sworn reports of the railroads to the Interstate Commerce Commission, the reports and files of the Commission itself, and the annual reports of the railroads to their stockholders.

An investigation of the Interstate Commerce Commission, for example, has but recently served to direct public notice to the excesses which characterized the financial management of the Chicago, Rock Island and Pacific Railway Company, following the acquisition of a controlling interest in that property by the Moore brothers and Daniel G. Reid in 1901. This official document shows that in the acquisition of three railroads: the Burlington, Cedar Rapids and Northern; the St. Louis, Kansas City and Colorado; and the Choctaw, Oklahoma and Gulf, the Chicago, Rock Island and Pacific Railway Company, through the payment of excessive prices for these properties, wasted its resources to the extent of \$14,089,071. In acquiring the common stock of the St. Louis and San Francisco Railroad in 1902 and its subsequent sale in 1909, a further loss of \$19,534,000 was sustained. It is also shown by unpublished reports of the former Railroad Securities Commission that this company through its failure to dispose of its stocks and bonds at current prices during the period 1902-1910, gave away in stock bonuses and underwriting fees more than \$17,000,000. Otherwise expressed, the company by failing to secure market prices for its securities issued for cash increased its capitalization unnecessarily to the amount of \$16,573,215. Without attempting to set forth in detail every instance of financial maladministration exhibited in the history and management of the Rock Island System, it may be stated in brief that the facts which have been developed from authoritative sources indi-

able to reduce its funded debt some \$50,000,000 if its resources had not been recklessly dissipated. Had these resources been conserved, an annual saving in interest charges of \$2,000,000 and a large surplus for dividends on all its capital stock which represents invested capital would be available. The Rock Island, which is now operated by the courts, is a victim of financial mismanagement in its worst form.

As further illustrating the effect of financial mismanagement on the credit and resources of many of the carriers which are now in the hands of receivers, a few episodes in the financial history of the St. Louis and San Francisco may be briefly cited. While pursuing its policy of reckless expansion, the Frisco, in the acquisition of four railroads: the Fort Worth and Rio Grande; the Fort Scott and Memphis; the Chicago and Eastern Illinois; and the St. Louis, San Francisco and New Orleans, paid \$30,584,449 in excess of the value of the properties purchased. Fixed obligations to this amount were issued, which represented no addition whatever to assets or earning power. Already the Frisco has been deprived of the enormous sum of \$18,000,000 which has been absorbed in the payment of interest and dividends on these fictitious securities. In the purchase of other subsidiaries, the company's resources were wasted in the same indefensible manner. Inner groups of financiers also profited at the expense of the Frisco in these transactions to the extent of more than \$7,600,000. A grand total of at least \$56,000,000 was thus dissipated in the acquisition of new properties.

The report of the Interstate Commerce Commission shows further that the sum of \$30,665,750 was paid by the Frisco to bankers and syndicates in twelve years in discounts and commissions on the sale of its securities. "Within the widest possible range of reasonable charges to the public," reads the report of the Commission, "no transportation company constructed and living upon borrowed capital can long survive a situation in which it sells securities at 62½ cents on the dollar, and pays interest on the par value thereof. At 4 per cent the \$30,665,750 of net discounts and commissions carried by the Frisco represents an annual expenditure of \$1,226,630 for interest upon money which it never received."

Without considering any further financial excesses of the Frisco, if the company was now even in possession of the losses already described, it would be able to

annually in interest charges. With its fixed charges thus reduced, its net earnings as recently reported, would be sufficient for the payment of liberal dividends on its capital stock, leaving a fair margin for surplus. The present financial embarrassment of this company is clearly due to the delinquencies of the men who have prescribed its policies in the past.

The Missouri, Kansas and Texas Railway, another insolvent road, which comprises 3,865 miles, or more than 9 per cent of the mileage now operated by receivers, is still suffering from the effects of early financial mismanagement. During its early period of construction more than \$1,000,000 of bonds were issued by this company upon road which was never built at all. These bonds are represented in its present capitalization by first mortgage 4 per cent bonds and by preferred stock. To date they represent a loss in principal and interest of approximately \$4,000,000. The reorganization of the company in 1876-1880 added \$10,600,000 in bonds and preferred stock to its capitalization without the investment of a single dollar in the property. Up to the

veny was rendered certain after acquisition of control by the Gould interests. The reckless increase of securities by the Wabash Railroad in connection with securing control of the Wabash-Pittsburgh Terminal and the Wheeling and Lake Erie railroads, whether through fraud or error, was commercially unwarranted, and to the unprejudiced student of railroad finance, furnishes ample explanation of the financial difficulties which culminated in the appointment of receivers for the property in 1911.

The Missouri Pacific Railway Company, representing with its various subsidiaries a total of 7,235 miles of road, is a recent addition to the list of railroads which are now being operated by receivers. In 1876 this company bought in at foreclosure a line of railroad of 295 miles from St. Louis to Kansas City, Missouri, which had been made notorious through financial mismanagement and which had incurred a bonded debt of more than \$14,000,000, less than 50 per cent of which represented any investment in road or equipment. An analysis of the terms under which the consolidation of the Mis-

¶ Even now—and always—there's a cry for higher rates, with the same old excuse. Read this story and see from figures how much truth is in that excuse.

present time more than \$9,000,000 in interest charges and dividends have been paid upon these fictitious securities.

During the years 1881-1888 the Missouri, Kansas and Texas was exploited by the Gould group of financiers, who had acquired its control. Through the acquisition and sale of the International and Great Northern Railway in this period \$19,500,000 was added to the common stock of the Missouri, Kansas and Texas Railway, without any consideration being received in the form of assets or earning power. The total loss from other causes as the result of the Gould financial methods was estimated by an investigating committee of stockholders at \$6,000,000. It is evident that about \$30,000,000 of the capitalization of this road represents nothing more than past financial mismanagement. More than \$30,000,000 in interest and dividends has already been disbursed on these fictitious securities.

The Wabash System, comprising a total of 2,514 miles of railroad, was placed in the hands of receivers in December, 1911. This railroad at its organization in 1889

Missouri Pacific with a number of its subsidiaries was effected in 1880 also shows that \$10,000,000 more in fictitious securities was added to its capitalization by this merger. When the consolidation of the Missouri Pacific with a number of smaller properties was effected in 1909, the market had discounted all the overcapitalization and characteristically bad management of this line and was quoting its stock at about \$72 per share. The new company, however, paid \$100 per share in its stock for the securities of the old companies, which were worth about \$28 less per share on the market. This consolidation was thus the means of perpetuating some \$22,000,000 of fictitious capitalization of the old company. On the \$10,000,000 of fictitious securities added by the merger of 1880, \$9,700,000 of dividends have been paid, but the simple interest on these disbursements to date amounts to more than \$1,000,000, so that the total loss to the company's treasury on this account is some \$20,000,000. These facts are quite sufficient to indicate the fundamental difficulties of the Missouri Pacific Railway Company.

ident of the Cincinnati, Hamilton and Dayton Railway, another transportation company now in the hands of receivers, before the Interstate Commerce Commission in the 1914 Advanced Rate Case shows that the insolvency of this railroad cannot properly be attributed to either increased labor costs or state or federal supervision, but, on the contrary, is due to an indefensible scheme of consolidation, involving the merger of the Cincinnati, Hamilton and Dayton with the Pere Marquette Railroad and other properties in 1904.

"In 1904," testified President Willard before the Interstate Commerce Commission, "two particular things happened that will of themselves account for all the difficulty that has confronted that property (Cincinnati, Hamilton and Dayton) since then. . . . One was the purchase by the Cincinnati, Hamilton and Dayton of the Pere Marquette's 110,000 shares, for which it put out its own fixed interest-bearing obligations in the sum of \$13,750,000. The thing bought has gone, but the fixed charge is there. That is one thing that has happened.

"During the same year also . . . the Cincinnati, Hamilton and Dayton property converted a security upon which it was not obligated to pay interest and only paid dividends when earned, into a security upon which it was obligated to pay interest. These two transactions had the effect of adding about \$23,000,000 to the fixed interest-bearing obligations of the Cincinnati, Hamilton and Dayton Railroad for which it has nothing to show at the present time."

The ability of this railroad, as shown by its reports to the Interstate Commerce Commission, to add more than \$2,000,000 to its surplus while disbursing dividends on its watered stock, illustrates forcibly the prosperity which could have been achieved by the company under proper management. Its present unfortunate condition is the logical result of the disastrous contracts to which the company was committed by the indefensible scheme of consolidation of 1904.

Prior to the appointment of receivers for the Colorado Midland in 1912, this railroad was controlled by the Denver and Rio Grande, and the Colorado Southern through stock ownership. These companies for years persistently diverted traffic from the Colorado Midland to their own lines, preferring to rather than lose the traffic which would have been secured by this subsidiary under competitive conditions. The two controlling lines evidently secured their control not with any intention of developing the property but for the express purpose of eliminating competition. Under such circumstances a receivership was only to be expected

when these roads found they would have to relinquish their control, as was indicated by the precedent established by the federal courts in dissolving the Southern and the Union Pacific.

The Western Pacific Railroad is facing the difficulties usually encountered in placing a new line of considerable length in operation and developing traffic on it. This railroad was constructed from the proceeds of bond issues and was heavily burdened with fixed charges at the outset, stock being used for control and speculative purposes only. Such methods of construction necessarily handicap a railroad, and in connection with the undeveloped nature of the territory traversed by the Western Pacific, are explanatory of the financial difficulties which have resulted in the appointment of receivers for the company.

Another insolvent road is the Missouri and North Arkansas. The explanation of its weakness is apparent from a brief reference to the vicissitudes through which it has passed since its unjustifiable organization as an independent and isolated enterprise in 1882. The original company, known as the Eureka Springs Railway, was encumbered with a capitalization amounting to an average rate of \$81,000 per mile, and while operating under a friendly traffic agreement with the St. Louis and San Francisco, could barely avoid bankruptcy. In 1899, with interest on its first mortgage bonds in default, the disastrous attempt was undertaken of constructing an extension of 110 miles into territory in Arkansas already preempted by stronger systems. The inevitable consequence of this attempt to make a crippled, heavily-burdened railroad the nucleus for a larger system was realized in 1905, when interest was again defaulted on the first mortgage bonds. In 1912, after the reorganization and a further extension of 210 miles, apparently under the mistaken belief that if a small railroad without economic justification for its existence would not pay, a larger one under similar conditions would pay, the company was again placed in the hands of receivers.

The New Orleans, Texas and Mexico Railroad, another railroad now operated by the courts, is capitalized at an average rate of approximately \$114,000 per mile as compared with \$63,535 per mile for all railroads in the United States. In 1907 this company was acquired by the St. Louis and San Francisco, and subsequently used as a distributor of funds advanced by the Frisco for acquisition in southern Texas. Its mileage combined with that of the St. Louis, San

Francisco and Texas, another subsidiary of the Frisco, represents slightly more than 1 per cent of the total mileage in the hands of receivers. The two roads are part of the wreckage from the collapse of the ill-advised scheme of expansion of the parent company in 1913.

The St. Louis, Brownsville and Mexico, another Frisco enterprise which is now bankrupt, was constructed by a syndicate which made a profit of \$3,011,930 from land and cash donated by localities through which the road was projected, and from the sale of the railroad when completed to the St. Louis and San Francisco Railroad Company. The appointment of receivers for this road was rendered inevitable when the Frisco, which purchased \$10,000,000 of its mortgage bonds in 1910, became insolvent. . . .

The operating efficiency of the Chicago and Eastern Illinois under the manage-

financial mismanagement have contributed to the insolvency of the International and Great Northern Railroad. In 1908 its property and franchises were valued by the Texas Railroad Commission at \$30,365,047, as compared with a total capitalization and floating debt of \$45,600,413. Under the ruling of the Texas Commission, \$9,755,000 in common stock was cancelled, and \$2,961,000 in third mortgage bonds were replaced with \$1,422,000 in new common stock. The effect of this reorganization was to materially reduce the company's fixed charges, but in its weakened condition the road has suffered from an interruption of traffic with Mexico, from floods, and from local crop failures. During the financial stringency of 1914, the company, after a short period of solvency, was again placed in the hands of receivers. . . .

¶ Widespread insolvency among railroads is due to those persons who have controlled their finances—any doubt? Read this story.

ment of the Frisco was sacrificed to the payment of dividends until the road was physically a wreck and financially a bankrupt. In order to meet the excessive fixed charges incurred in the purchase of this property, it was essential that the Frisco should receive each year in dividends from the Chicago and Eastern Illinois six per cent upon the preferred stock, and ten per cent upon the common stock, a larger rate than the company theretofore had demonstrated its ability to pay. "The only inference to be drawn," reads the recent report of the Interstate Commerce Commission on this road, "is that the maintenance of the property was subordinated to the payment of dividends." In May, 1913, it became evident that the financial embarrassment of the Frisco would lead to a receivership for that company, and in anticipation of the impairment of the credit of the Chicago and Eastern Illinois, which would follow, and the latter company on May 27 was also placed in the hands of the receivers.

Overcapitalization and other forms of

*[There's only one answer to this condition—Government ownership. There's no more reason why a railroad should be privately owned than there is for the private ownership of wagon roads. A railroad is a necessity. No necessity should be under the control of speculative money-wild individuals however "respectable" they may be. The result is always against public interest. See what has happened to the railroads despite ever-increasing rates which you pay. "Regulation" has done no good. Can you think of one instance where "Regulation" has really regulated for your benefit? Well, then, why try it longer? The men who operate the roads (capable men in their jobs) see nothing ahead but further insolvency or Government ownership—they know that "Regulation" will never stop the men who manipulate the stocks. Let's fool about it no longer. Let the Government begin now to arrange to take over the roads. It's the only answer to their troubles.]

*Note by Editor of Pearson's Magazine.

Our Special Study Course

THE WESTINGHOUSE AIR BRAKE

(Part 8, Section 6a.)

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Later Forms of Equipment—Details—Operation, etc.

The L N Equipment

(Continued from March, 1916, Magazine.)

12. Operation of The Equipment—Diagrammatics of The Type L Triple Valve.—From Fig. 155 (March issue) it can be seen that it is not possible to show all of the ports and connecting passageways in the graduating valve, slide valve and slide-valve seat by any single section taken through the triple valve. Figs. 163, 164, 165 and 166 have therefore been made to show in a purely diagrammatic way the relation of the various parts toward each other for the different positions of the triple-valve piston; and the actual proportions and mechanical construction of the parts have been disregarded when necessary to make the connections and operations more easily understood. In each diagrammatic figure those parts that perform no function in that particular position or phase of operation, are eliminated, to make the necessary description more plain.

13. Charging.—Fig. 163 shows the positions assumed by the triple-valve parts when the reservoirs are being charged; it will be noted that of the emergency portion only the check valve and spring are shown in full, as the emergency valve and piston are not concerned in this position. Of the outer connections of the triple valve, *BP* is to the brake pipe, *BC* to the brake cylinder, *AR* to the auxiliary reservoir, and *SR* to the supplementary reservoir. The By-Pass Piston, 25, and the By-Pass Valve are elevated in vertical section, thus bringing all operative parts into a single plane.

Brake-pipe air enters the triple valve as indicated, and flows through passages *a*, *e*, *g* and *h* to the left face of the triple-valve piston, forcing the piston to the extreme right, as shown; this is the *Release and Charging Position*; thence the air flows past the piston through feed-groove *i* in the piston bush, to chamber *R* and the auxiliary reservoir as indicated. Brake-pipe pressure in passage *a* unseats the check valve, 15, and flows to chamber *Y* and thence through port *y* in the slide-valve seat and port *j* in the slide valve, to chamber *R* and the auxiliary reservoir; the check valve prevents any return flow of air by this route when the auxiliary reservoir has become charged equal to the brake pipe. In the position as shown, port *k* through the slide valve registers with port *x* in the slide-valve seat, permitting air from chamber *R* also to flow through these ports and *x'* and *x''*,

and through the passage beyond, to the supplementary reservoir as indicated. By these arrangements both the auxiliary reservoir and supplementary reservoir are charged at the same time and to the same pressure, through the two different channels mentioned.

The released state of the brake is shown in this position by the brake cylinder being connected with the atmosphere from *BC*, as indicated, through passage *C*, port *r* in the slide-valve seat, port *n* in the slide valve, the large

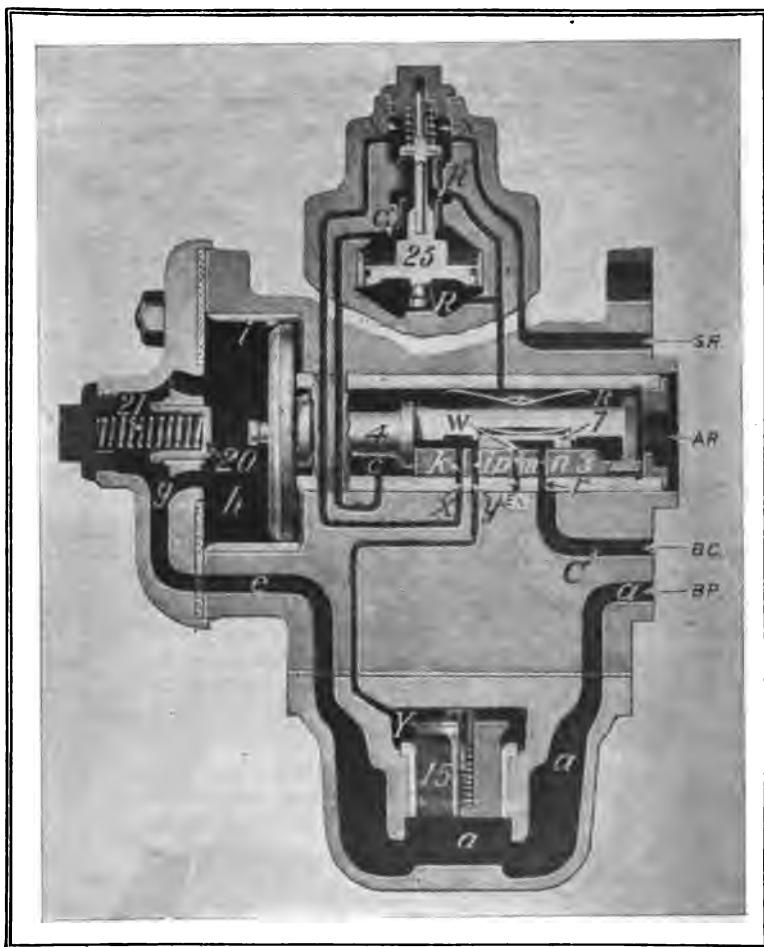


FIG. 163. TYPE L TRIPLE VALVE. RELEASE AND CHARGING POSITION.

cavity *W* in the face of the graduating valve, and ports *m* and *p* in the slide valve and seat, to port *Ex* leading to the atmosphere.

The following position will be explained in the assumption that the auxiliary and supplementary reservoirs are charged to an equalization with brake-pipe pressure, the triple-valve movement starting from the position of *Release and Charging*.

14. **Quick Service Application.**—Fig. 164 shows the triple valve in *Quick Service Position*. A service reduction of brake-pipe pressure has been made, reducing the pressure in chamber *h* on the face of the triple-valve piston, below that of the auxiliary reservoir in chamber *R* on the opposite side of the piston; the higher auxiliary-reservoir pressure therefore forces the piston in the direction of the lower pressure, the piston carrying with it the attached graduating valve (and, later, the main slide-valve); the first movement of the piston closes feed-port *i*, and the corres-

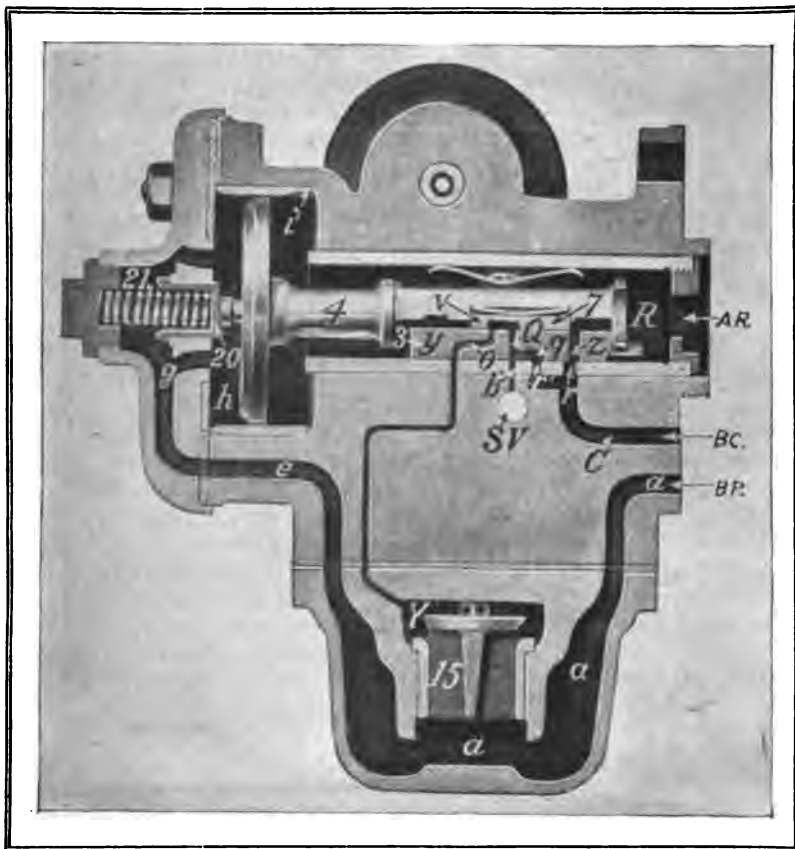


FIG. 164. TYPE L TRIPLE VALVE. QUICK SERVICE POSITION.

ponding movement of the graduating valve closes the ports *k*, *j* and *m* in the slide valve (note for the moment, Fig. 163), thus shutting off communication between auxiliary reservoir and brake pipe and between the auxiliary reservoir and supplementary reservoirs, and closing the exhaust passage from the brake cylinder to the atmosphere. The same movement opens port *z* and connects ports *Q* and *o* in the main slide-valve (See now Fig. 164), through the small cavity, *v*, in the graduating valve; the spider or lugs on the end of the piston stem then engages the end of the main slide-valve, which is carried along with the piston and graduating valve as the reduction continues; when the button on the triple-valve piston

comes into contact with graduating sleeve 20, the resistance of graduating spring 21 prevents further movement, and the parts are then, as shown in Fig. 164, in *Quick Service Position*. Service port z in the slide valve registers with the brake-cylinder port, r , in the seat, permitting air from the auxiliary reservoir to flow to the brake cylinder and apply the brakes. At the same time, the quick-service ports, o and Q , cavity q in the slide valve, and the small cavity v in the graduating valve, connect passage y leading from chamber Y in the check-valve case, with passage r' leading to the brake cylinder; this allows air from the brake pipe to lift the check valve and flow through the above mentioned ports to the brake cylinder; this constitutes the *quick-service* action of the triple valve, in that it causes a slight but definite reduction in brake-pipe pressure locally at each triple valve—the effect of a reduction made at the brake valve being thus quickly and uniformly transmitted from car to car throughout the train. The amount of air vented from the brake pipe to the brake cylinder through the quick-service ports is not great in amount, because, first, the ports and passageways are small; second, in the movement of slide-valve 3 to *full service position* (next to be described) the quick-service port, y , is restricted as it approaches this position, and is completely closed just before service port z is fully open.

15. *Full Service Application*.—Fig. 165 shows the triple valve in *Full Service Position*.

The amount by which the service port is opened, in any given case, depends upon the rate of reduction in brake-pipe pressure as compared with that of the auxiliary reservoir; if the former is at first rapid, as compared with the latter (which would be the case with short trains), the higher auxiliary-reservoir pressure moves the triple-valve piston with its attached slide valve and graduating valve, to the *Full Service Position*, as shown, in which the piston has moved graduating sleeve 20 a short distance from its seat, and by this movement of the slide valve automatically cutting out the quick-service feature where it is not needed. In *Full Service Position* the service port, z , is fully open, and the quick-service port, o , is closed (therefore not shown in Fig. 165); the closing of port o stops the flow of air from the brake pipe to the brake cylinder, and the quick-service action ceases.

In any case where the brake-pipe reduction is so rapid that the quick-service feature is of no advantage, the difference of pressure on the two sides of the triple-valve piston becomes at the same time sufficient to compress the graduating spring and automatically close the quick-service port as explained above; but if the brake-pipe reduction is less rapid, or slow, as in the case of long trains or moderate service reductions, a partial opening, only, of the service port is sufficient to preserve a balance between the pressures on the two sides of the triple-valve piston. The service port connecting the auxiliary reservoir with the brake cylinder is much larger than the quick-service port connecting the brake pipe with the brake cylinder, and this serves to effectually prevent emergency action being obtained when only a service application is intended; it also guards against the brake-pipe reduction being continued, which would happen if the quick service port remained open after the reduction has been stopped at the brake valve.

During the time slide-valve 3 remains in *Quick Service* or *Full Service* positions, as shown in Figs. 164 and 165, the cavity q , in the slide valve

connects the brake-cylinder port, r' , with port b leading to the safety valve—the attachment of the safety valve being at the point marked SV in the plate. The safety valve, known as the E-7, has already been described, and is ordinarily adjusted at 62 pounds; consequently, when the pressure rises above this point during a service application, the safety valve opens and prevents further increase in brake-cylinder pressure.

16. Lap.—The "lapped" position of the triple valve follows any graduated brake-pipe reduction, and holds the braking pressure restrained to

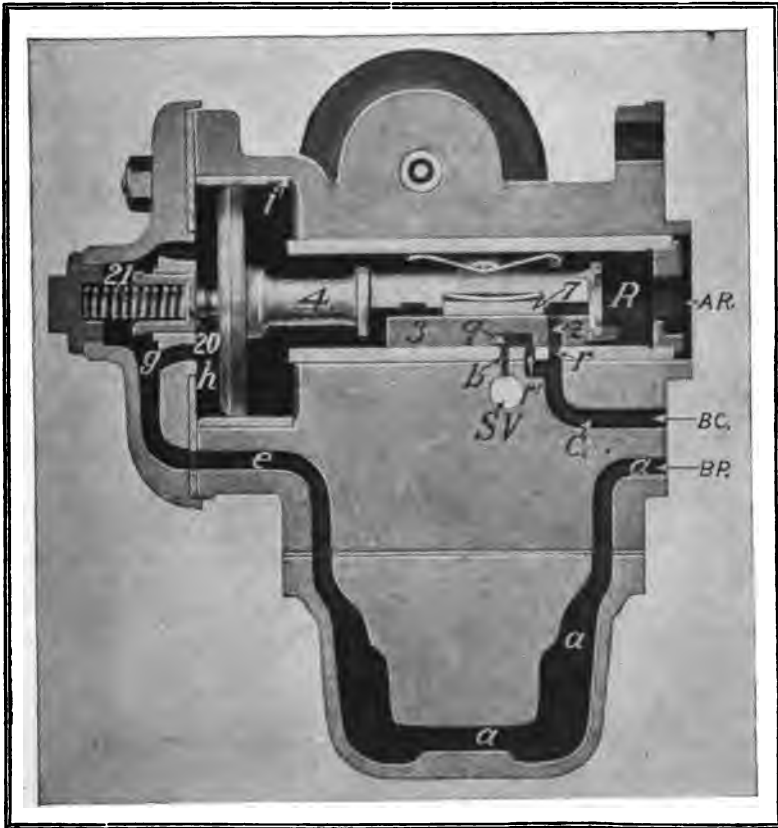


FIG. 165. TYPE L TRIPLE VALVE. FULL SERVICE POSITION.

the applied limit. It is effected by placing the brake-valve handle in its position of *lap* after a sufficient brake-pipe reduction has been made.

When the flow of air from the auxiliary reservoir to the brake cylinder has reduced the pressure on the reservoir side of the triple-valve piston slightly below that remaining on the brake-pipe side, the pressure in the brake pipe, assisted by the graduating spring, will move the piston and graduating valve to *Service Lap Position*. In this position all the ports are blanked by the graduating valve, and the flow of air to the brake cylinder stopped; further movement is prevented by the shoulder of the piston striking the end of the slide valve, 3; the slight difference of pressure which was sufficient to move the piston and small graduating valve, is un-

able to overcome the added resistance of the slide valve, hence there is no further movement.

During this time the slide valve, 3, has remained in *service position*—a movement of the piston and graduating valve being all that is required to lap the valve; consequently, when in this position, only a slight reduction in brake-pipe pressure is required to again bring the piston and graduating valve into *service position*.

It is evident that the exact position of the main slide-valve, 3, in *Lap Position* depends upon whether its previous position was *quick service* or *full service*; if the former, the lapped position assumed would be *Quick Service Lap* position; but if the valve had moved to *full service* position, *Full Service Lap* position would be assumed, in which the main slide-valve would still be in *full service* position, as in Fig. 165, but with the graduating valve moved back so as to blank the ports in the main slide-valve.

17. *Release and Recharge*.—The triple valve being in either *service lap* or *quick-service lap* position, and the pressure on both sides of the triple-valve piston being practically equal, if, then, the brake-pipe pressure is increased in order to release the brakes, the higher pressure on that side of the piston causes it to move the graduating and slide valves to the extreme right, to *Release and Recharging* position; this position is exactly the same, as regards the situation of the operative parts, as the position of *release and charging*, Fig. 163, and the charging (*recharging*, in the present case) of the auxiliary reservoir from the brake pipe, and discharge of brake-cylinder pressure, is exactly as has been already explained with reference to Fig. 163. But there is a difference, in that in the present position the supplementary reservoir, instead of drawing a charging pressure from the auxiliary reservoir, is now assisting in the recharge of the latter; the air which was prevented from leaving the supplementary reservoir by the former movement of the slide valve to *service position* (and which consequently remained at its initial pressure, while the auxiliary-reservoir pressure was being reduced), now flows from *SR* through ports x'' , x' , x and k , to chamber *R* and the auxiliary reservoir, thus obtaining its *quick recharge*.

During this operation (as well as while graduating the release of the brakes, as described under the next heading), the pressures on the brake-pipe and auxiliary-reservoir sides of the triple-valve piston are always in balance; this is a desirable feature, since it insures a quick response to any reduction or increase of brake-pipe pressure, irrespective of what operation may have occurred just preceding.

If the brake-valve handle is moved to running position and left there, the brake-pipe pressure will be fully restored and the triple-valve piston remains in *Release Position*, the brakes being thereby fully released, and the auxiliary and supplementary reservoirs becoming fully recharged.

18. *Graduated Release*.—If, after a graduated application of the brakes, the brake valve is placed in release position only long enough to permit sufficient air to flow into the brake pipe to move triple-valve piston 4 with the slide and graduating valves to *Release Position*, as shown in Fig. 163, and the brake-valve handle is returned to lap position, the flow of air from the supplementary reservoir through ports x and k to the auxiliary reservoir, continuing after the rise in brake-pipe pressure has ceased, will raise the pressure on the auxiliary-reservoir side of the triple-valve piston slightly above that on the brake-pipe side, and cause the piston and its attached graduating valve to move to the left to *Graduated Release Lap* position; in this position the graduating valve closes the exhaust port, m ,

thus preventing further flow of air from the brake cylinder to the atmosphere; it also closes port *k*, which prevents further recharging of the auxiliary reservoir from the supplementary reservoir, and port *j* and feed-groove *i*, which cuts off the supply of air from the brake pipe to the auxiliary reservoir. Thus the brake is only partially released and a portion of the air pressure originally in the brake cylinder still remains there.

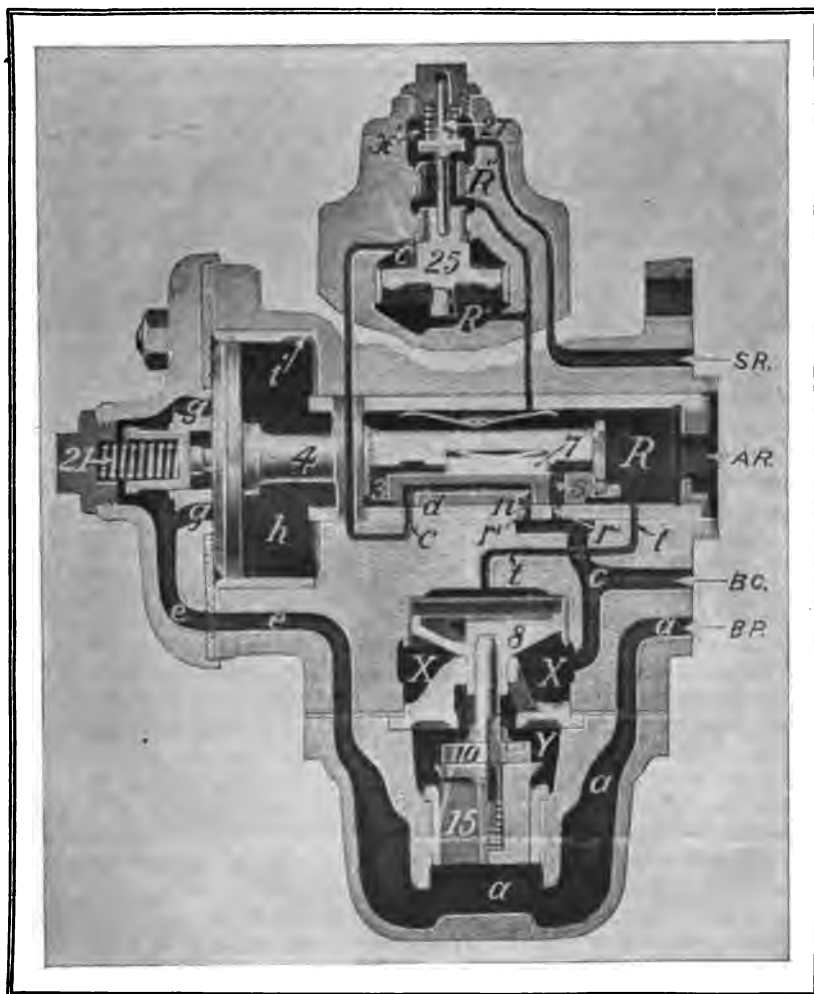


FIG. 166. TYPE L TRIPLE VALVE. EMERGENCY POSITION.

In this way the brake-cylinder pressure may be released in a series of steps or graduations, and the operation is therefore known as "graduated release." This operation may be repeated as desired, until the brake-pipe pressure has been fully restored, and the exhaust of pressure from the brake cylinder completed. The amount of reduction in the brake-cylinder pressure for any given "graduation off" depends upon the amount of air pressure that has been restored in the brake pipe; and the recharge of the auxiliary reservoir is similarly proportioned.

Graduated Release cannot be obtained after an emergency application, because then the air pressures in the supplementary reservoir and auxiliary reservoir are equal, while the graduated-release action is entirely dependent upon the supplementary-reservoir pressure being held in reserve during the braking operations.

19. *Emergency Application.*—Fig. 166 represents the triple valve in *Emergency Position*. In case a sudden stop within the very shortest distance is desired—as in case of impending danger—and the engineer's valve is placed in its emergency position, or the conductor's valve thrown fully open: or, when the train parts or an air-brake hose bursts—the sudden reduction of brake-pipe pressure continues more rapidly than the auxiliary-reservoir pressure, and the triple-valve piston is forced to the extreme left of its traverse, compressing the graduating spring, and the parts are then in *Emergency Position*, as shown. In this position air from the auxiliary reservoir enters the brake-cylinder passage, *r*, through port *s* in the main slide-valve, instead of port *z* as in service application. Port *t* in the seat is also uncovered by the end of the slide valve, admitting auxiliary-reservoir air to the top of the emergency piston, and this pushes the piston down, forcing the rubber-seated emergency valve from its seat; this permits the brake-pipe air in passage *a* to lift the emergency check-valve and, passing it, to flow through chambers *Y* and *X* to port *C* and the brake cylinder. At the same time, port *d* in the main slide-valve registers with port *c* in the seat; this allows air from behind the by-pass piston to flow through ports *c*, *d* and *n* to *r*, and the brake cylinder; as there is no pressure in the brake cylinder at this starting instant, the by-pass piston with its attached by-pass valve is forced upward (as it appears diagrammatically—inward, really), by the auxiliary-reservoir pressure acting on the lower (or outer) side of the piston; the air in the supplementary reservoir then flows past this valve into the passageway leading to the auxiliary reservoir, thereby adding to the latter the volume of the supplementary reservoir; this provides in effect an auxiliary-reservoir volume approximately three and one-half times the size of the one which supplies air to the brake cylinder in service application. Air from the supplementary reservoir continues to flow to the auxiliary reservoir until the pressures in the latter and that in the brake cylinder have risen nearly to that remaining in the supplementary reservoir; then the spring returns the valve to its seat and closes communication between the two reservoirs.

This action of the triple valve in emergency application permits the brake-cylinder pressure to rise within a few pounds of maximum brake-pipe pressure; and in this connection it will be noted that the brake cylinder is no longer connected with the safety valve, and there is no blow-down of pressure from the brake cylinder after an emergency application of the brakes. Therefore, not only is the emergency pressure considerably higher than that formerly secured by the use of the old standard "high-speed brake," but it is held without diminution until the brakes are released.

20. *Emergency Lap.*—As a sequence or the finish of the emergency operation just described, we have only to note the closing of the valves of the emergency feature; when the brake-cylinder pressure in chambers *X* and *Y* has become about equal to the remaining brake-pipe pressure and the pressure in the auxiliary reservoir, the spring upon the emergency check-valve forces the rubber-seated emergency valve upward to its seat, and the check valve downward, closing the latter and thus preventing any

leakage of air from the brake cylinder to the brake pipe. The closure of the by-pass feature, as described with reference to the preceding position, may be regarded properly as coming within the phase of "emergency lap." The triple-valve piston, and the main slide-valve and graduating valve of course remain in the same position as shown in Fig. 166 until the brake is released.

Examination Questions and Answers.

THE WESTINGHOUSE AIR BRAKE.

(PART 8, SECTION 6a.)

12. Q.—(a) Can all the ports and passages in the Type L Triple Valve be shown in their actual positions in a single view? (b) In what way is it here provided to show the entire construction in a single, plane view? (c) Does each diagrammatic view show every part and port of the triple valve?

A.—(a) No. (b) In the use of "diagrammatical" illustrations. (c) No; to avoid confusion, each diagrammatical figure shows only the interior parts and ports that are affected in that particular position. (Art. 12.)

13. Q.—(a) What does Fig. 163 represent? (b) What is this position termed? (c) What reservoirs become charged in this position?

A.—(a) The Type L Triple Valve in the position for charging the reservoirs and in which the brake cylinder is in a discharged state. (b) Release and Charging position. (c) The auxiliary reservoir and the supplementary reservoir. (Art. 13.)

14. Q.—(a) What is represented in Fig. 164? (b) In this position, what are the sources of air supply to the brake cylinder?

A.—(a) The Type L Triple Valve in Quick Service Position, assumed as the result of a quick-service reduction of brake-pipe pressure. (b) The principle supply is from the auxiliary reservoir, a smaller amount being supplied from the brake pipe. (Art. 14.)

15. Q.—(a) What is shown in Fig. 165? (b) In this position, what is the source of air supply to the brake cylinder? (c) Must the engineer use his brake valve in different positions to secure difference of triple-valve operation, as between *quick-service* and *full-service* positions? (d) Is the *safety valve* of the triple valve in connection with brake-cylinder pressure in both *quick-service* and *full service* positions? (e) To what maximum does the safety valve hold the brake-cylinder pressure at any kind of service application?

A.—(a) The Type L Triple Valve in *Full Service Position*. (b) The auxiliary reservoir, only. (c) No; he uses the service position in all cases of desired service application; if the train is a short one, the triple valves automatically assume the full service position; and on a long train they will automatically take the quick-service position. (d) Yes. (e) At 62 pounds. (Art. 15.)

16. Q.—(a) What position does the triple valve automatically assume, following the operation of either quick-service or full service? (b) What is effected in this position? (c) What induces this position?

A.—(a) Lap Position. (b) All ports are blanked, and the braking pressure is restrained to the applied limit. (c) The lapping of the brake valve, and consequent stop of further reduction of brake-pipe pressure. (Art. 16.)

17. Q.—(a) Explain the position of Release and Recharge. (b) What plate illustrates this position? (c) What, then, is the chief difference between the operation in this position and that of “*release and charging*,” as denoted in Fig. 163?

A.—(a) After a graduated, service application, when the brake pipe is recharged the triple valve takes the position of *Release and Recharge*, in which brake-cylinder pressure is released, and auxiliary-reservoir pressure restored. (b) Fig. 163. (c) “*Release and charging*” refers to the primary supply of air from the brake pipe to the auxiliary reservoir and supplementary reservoir, while holding the brake cylinder in communication with the atmosphere; in *Release and Recharge*, the partly depleted, *auxiliary reservoir only* is recharged, obtaining its air supply from both the brake pipe and supplementary reservoir, the pressure in the latter having been held in reserve during the service application of the brake; and the brake-cylinder air is exhausted. (Art. 17.)

18. Q.—(a) What is meant in reference to the position of *Graduated Release*? (b) What plate illustrates this position? (c) What is the difference, then between the operation of *Graduated Release* and that of *release and recharge*? (d) How is the operation of *Graduated Release* effected? (e) Can the operation of *Graduated Release* be repeated consecutively in grading down the braking pressure, when making a station stop? (f) Can a *graduated release* be obtained after an emergency application? (g) Why not?

A.—(a) The position into which the triple valve is moved when a partial release, only, of the brakes is desired. (b) Fig. 163. (c) In *release and recharge* the triple valve remains in release position until the brake-cylinder pressure is entirely exhausted and the auxiliary reservoir completely recharged; in *Graduated Release*, the triple valve stays in release position but momentarily, then recedes to the lapped position in which the further release of brake-cylinder pressure is stopped, and the recharge of the auxiliary reservoir ceases. (d) By placing the brake-valve handle in its position of lap, after the brake pipe has been recharged by a few pounds only; when the supply of air from the supplementary reservoir has then raised the auxiliary-reservoir pressure slightly in excess of the brake-pipe pressure, the triple valve moves to *lap position*, and also cuts off the air supply from the supplementary reservoir. (e) Yes, until all pressure is finally exhausted from the brake cylinder. (f) No. (g) Because in emergency application the supplementary-reservoir pressure is equalized with the pressure in the auxiliary reservoir; and to obtain *graduated release* the charge in the supplementary reservoir must be at its original maximum pressure. (Art. 18.)

19. Q.—(a) What is represented in Fig. 166? (b) How is this position secured? (c) When should it be made use of? (d) How does the triple valve function in this position? (e) How high does this action raise the brake-cylinder pressure? (f) In *Emergency Position* does not the safety valve blow down the brake-cylinder air to the minimum pressure?

A.—(a) *Emergency Position*. (b) By a sudden and heavy brake-pipe-pressure reduction. (c) In case of impending danger, only. (d) The entire volumes of auxiliary reservoir and supplementary reservoirs, together with the “quick-action” jet of air from the brake pipe, all equalize in supplying braking pressure to the cylinder. (e) To within a few pounds of the original brake-pipe pressure. (f) No; in emergency position the safety valve is entirely cut off from connection with the brake cylinder. (Art. 19.)

20. Q.—(a) What is the *Emergency Lap Position*? (b) What occurs in this position?

A.—(a) It is the sequence, or finish, of the *emergency position*. (b) The valves of the emergency feature automatically close, and after the pressures in the supplementary reservoir and auxiliary reservoir have equalized, the by-pass valve automatically closes; the triple-valve piston, slide valve and graduating valve remain in the *emergency position*. (Art. 20.)

Study Course in Electrical Railroading*

THE STREET CAR EQUIPMENT

Inspection—Bearings and Lubrication.

1. When starting a new car the motors should be tried one at a time to observe whether the revolution of the controller handle will move the car in the same direction with either motor. If it is found that the same movement of the controller handle does not move the car in the same direction for either motor, then it will be necessary to reverse the connections on the armature or field terminals of the motor that causes the car to move backward when the controller handle is in the forward position. Sometimes an open circuit exists in the car wiring and the car can not be started. The wiring of the circuits may be checked by trying each controller. If the car will start from one controller and not from the other, the fault may be found in the second controller. It is scarcely possible that both of the controllers will be crippled at the same time, although the writer has seen a parallel instance on a steam locomotive where both injectors were crippled at the same time and in precisely the same manner. The same might happen with electric controllers.

2. If the controllers do not give evidence of the open circuit the trolley pole should be tied down from the overhead wire. The front of the controller case should be removed and the controller handle turned to the first notch. One terminal of a magneto or testing bell should be placed upon the iron work of the car truck and the other terminal of the same bell should be attached to the terminal of the controller marked *G*. If the bell rings when its handle is turned, it is certain that the ground connection is all right through the controller. In the same manner all the terminals of the controller should be tested out with the marked terminals of the armatures and fields of the motors, until the terminal or terminals are reached where the bell will not ring. This will indicate the location of the fault, which can then be repaired or corrected. If it is found that all of the points ring up from the one controller, bring that controller to the off position and proceed in the same manner for the other controller. If both of the controllers and their circuits are found correct, look for the open circuit between the trolley and the fuse block

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or the circuit breaker. In doing such testing, the canopy switch or circuit breaker should be kept closed.

3. Street car motors are not the nicest looking of electrical apparatus, but they are built of the very best materials and in the most substantial manner, so as to withstand the most severe service to which any kind of prime mover is subjected. The one great aim of every street railway company is to keep the cars moving and as regularly as possible; secondary to which is the cost of operation. The cost of operation per car mile used to be very heavy because of the enormous repair account. Such an account will always prove a not inconsiderable item; but it can be kept very low, comparatively speaking, if equipment is regularly inspected by competent inspectors, and if all employes who have anything to do with the operation of the cars will familiarize themselves with the details of the system. Those men are always the most valuable who know the most about the business in which they are engaged. It is not only necessary to know when to turn a controller handle on or off, but just as well to know what happens when you are doing it; and if nothing happens when it should, or the operation is imperfect, it is the desirable man who knows what to do and can do it quickly.

4. Regular and frequent inspection should include the commutator, brushes, brush holders, controllers and trolley wheels. The commutators of all motors must be kept clean. Their surfaces should be kept as true as possible. As long as a commutator runs smoothly, without sparking, etc., nothing need be done to it, but the moment that sparking evidences itself the commutator and brushes should receive immediate and careful attention. Fine sand paper may be used to clean the surface of the commutator while it is revolving and if the application of such sandpaper is not effective and it is certain that the brushes have a good and positive contact, it is possible that the armature will need to be removed from the motor and the commutator trued in a lathe. Sometimes an application of a little parafine or commutator compound will be beneficial, but in general commutator compounds are to be avoided.

5. A very sharp tool must be used when turning down the surface of a commutator and only very thin cuts must be made from the surface. Commutator copper is tough, and unless a very sharp tool is used the metal might be burred somewhat, causing small pieces to lap over from one commutator segment to another. It is much better to make more than one cut than to attempt to make a deep cut. It is also advisable not to run the cutting tool all the way to the edge of the commutator, but to permit a narrow flange to remain at each edge. The turning can be finished by polishing down with fine sandpaper preceded with drawfiling.

6. The carbon brushes which carry the current to and from the motor armature windings should always make good and positive contact with the commutator. It is only necessary that they bear upon the commutator with sufficient pressure to keep them there at all speeds and over all kinds of track. The brushes are placed within brush-holders and held against the surface of the commutator with springs, the tension of which can be regulated within certain limits. The brushes should be removed from the brush-holders frequently and carefully cleaned, removing grit and dirt which may have collected. The brush-holder boxes in which the brushes have a sliding fit should also be cleaned at the same time in order that the brushes may be given perfect freedom of movement. The brushes should not be permitted to wear too short, because the springs can not then bear upon their ends properly, and

when they are removed from the brush-holders care must be exercised that they are replaced as found, because after running for a time they will not fit the commutator on the opposite side to which they had been running. The brush-holders can be adjusted up and down and within a small arc of a circle, and this adjustment should be effected as the commutator wears down, it being borne in mind that the lower end of a brush-holder should remain at a distance of about one quarter of an inch from the surface of the commutator.

7. With the controllers, their cases should be removed and all contacts examined and made secure. In fact, wherever there is a contact made by means of a bolt, nut or screw, it should be examined often and made tight. The constant jarring is very likely to loosen them and a loose joint of any kind will make all sorts of trouble. Since the controller is virtually a combination of a number of small switches, it follows that it will consist of a large number of moving contacts. Every time a car is operated these contacts make and break an electrical circuit, which, combined with the friction of movement, cause them to roughen, work hard and heat from sparking, all of which will wear them down rapidly. Such contacts should be cleaned regularly, all rough spots removed, polished and a very small amount of tallow placed on their surfaces to facilitate smoothness of movement and prevent them from becoming dry, harsh and cutting. These small parts require repairs frequently enough and their life can be materially increased with a little care.

8. At the top of the controller cylinder there is a small ratchet wheel. This should be lubricated, as well as the upper and lower bearings of the controller drum; but such lubrication must be just sufficient for the purpose and not in quantity sufficient to permit of its running down upon the controller cylinder.

9. Bearings and the proper lubricant to use are a matter of great importance. All street car motor bearings are babbitt lined. In many cases they are self-oiling, using a medium heavy lubricating oil, and in others so-called dope or grease is used in grease boxes above the bearings. To this grease is usually added a small amount of heavy lubricating oil. Bearings should never be allowed to get very warm. It is well after every day's run to add a little oil to the grease; stir it and push it through to the shaft below. At times all grease should be removed and the bearings thoroughly cleaned. In the case of self-oiling bearings it is only necessary to see that the oil chambers are kept filled with oil. Care must be exercised that dirt of every kind is kept out of the bearings and out of the oil chambers. The wearing of the bearings should be watched closely, because as they wear the armature will be lowered and approach the field poles on one side. Such wear can extend sufficiently to permit of the armature rubbing against the pole pieces, and such rubbing may destroy an armature that will cost a great deal to replace, whereas a bearing can be removed and rebabbitted at a small expense.

10. A gear case upon the side of each motor frame completely encloses the motor pinion and the gear wheel that is attached to the car axle. This gear case is practically water tight and will hold a goodly amount of grease to keep the gears lubricated. These gears as now made are cut steel and will last a long time if a sufficient quantity of the lubricant is kept within the gear casing. An examination should be made frequently to observe the wear of the gears and whether all bolts are tight, for the gear wheel which is mounted upon the car axle is a split-steel gear. Any loose motion of a pinion can be taken up on its own shaft by means of the nuts provided for

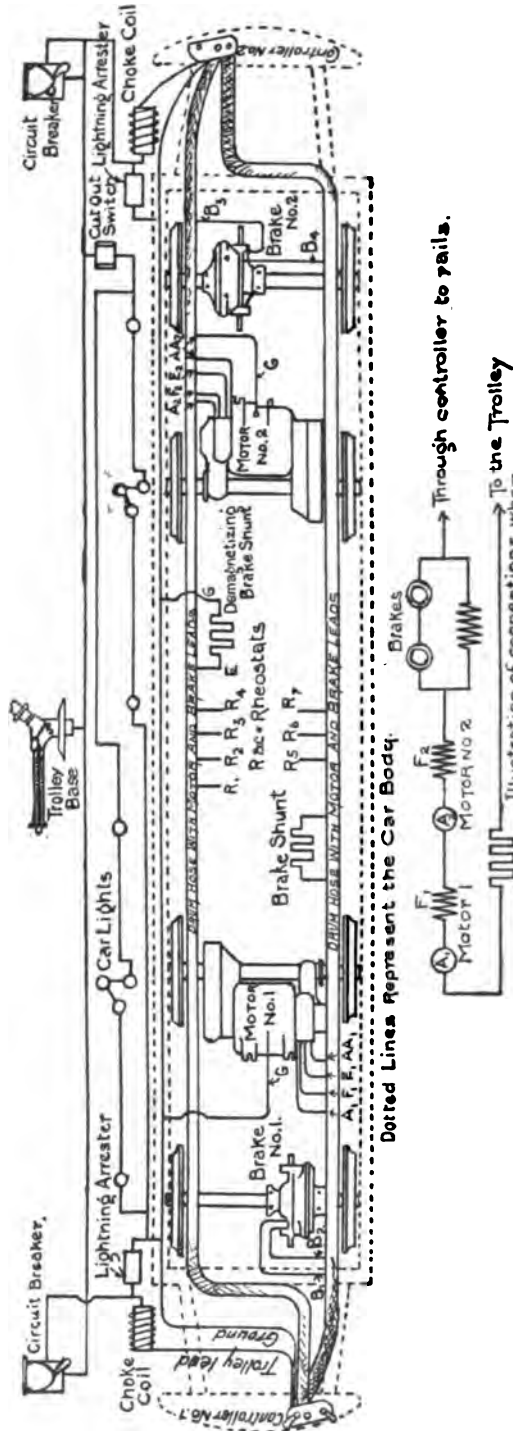


Fig. 1. Diagram of Two-Motor Car Equipment with Electric Brakes

the purpose. Both pinion and gear must be tight upon shaft and axle. If there be any motion, a worn feather or key may be the cause. Because of the fact that the gears are carefully and accurately cut, and that they revolve in a lubricant, they will run quietly. If they do not, they should not be operated until their faults are remedied. The amount of grease in a gear casing should be enough to keep the gears well oiled at all times. Frequent examination will reveal whether they are running with sufficient lubrication or not. Gear casings must be kept perfectly tight.

11. It is not presumed necessary to refer to the mechanical details of the handbraking mechanism forming the part of every street car equipment, as the readers are, no doubt, thoroughly familiar with such. What applies to steam railroad practice applies with equal force here. The adjustment of the brakes is practically the same. Hand brakes are found upon every car. Many equipments have the electric brake system, using the hand as an auxiliary. More numerous, perhaps, are those cars which are now equipped with individual air brake outfits. Each car has its own independently driven air compressor, the motor deriving its power from the trolley wire. Its operation is entirely automatic. The motor starts and stops as the air pressure in the main air reservoir falls or rises, the air pressure remaining within five pounds of the required amount constantly. In some very few instances a track brake is employed. This form of brake has been used as a pressure brake pure and simple, whereas other types of the same were magnetic in their nature, the shoe being held tighter and tighter to the rail as the magnetic attraction between it and the rail was caused to increase.

12. The life of a trolley wheel depends on the quality of the metal of which it is composed, of the care it has had, and of the number of miles it has traveled. Wheels should be oiled daily, and renewed when they are found to rattle and to have roughened materially where they come in contact with the trolley wire. If a wheel flashes badly it may be due to there not being sufficient tension between the wheel and the trolley wire. Such flashing is very injurious to the trolley wire and should be prevented at the earliest possible moment, because trolley wire is expensive.

13. Much that has been said about dynamos and motors in general applies to street car motors as well. Too much attention can not be given to the details of electrical apparatus and to street car work in particular.

14. As a part of this paper, a diagram (Fig. 1) has been prepared showing a system of car wiring in use in connection with a double motor equipment and electric brakes. This diagram will show the path of the current from the trolley wire through the motors to the rail return circuit. The trolley is placed in the center at the top of the car, and from this point the circuit divides, one circuit going to each end of the car. It is to be assumed that controller No. 1 is the controller that is to be used in operating the car and that controller No. 2 is cut out. The current will therefore flow to the left through the circuit breaker and the choke coil to the controller. When the controller is moved to one of the notches current will flow through the wires enclosed in the drum hose to motors Nos. 1 and 2. Now, the amount of current that will reach the motors will depend upon the position of the controller handle, because by means of the controller handle more or less of the resistance, marked R_1 , R_2 , etc., is put in series or parallel with the motors. The controller subdivides this resistance and also places the motors in series or parallel relation with one another, the line and the resistances.

series with each other and with the resistance. The second notch will have the resistance. The third notch will cut out the resistance entirely and leave the motors in series with one another and with the line, each motor then getting 250 volts approximately and the same amount of current in amperes, depending upon the work that is being done and whether or not the motors are dividing the load equally between them. The fourth notch will throw the motors in parallel with one another and in series with the resistance; the fifth notch will halve that resistance, and the sixth notch will cut out the resistance and leave the motors in parallel with each other and with the line, and each motor will then be getting the full line pressure, or 500 volts. All the while that these controller changes are being made the motors are increasing the power that they develop and, as the motors are variable speed motors, their speed will be increasing—this provided the dead load remains the same. For different conditions different controllers are used, some having more or less than six notches. The more notches the more subdivisions there are, the easier the car will start, and the more gradual the acceleration.

15. Each motor has its armature and field terminals connected to each controller through different leads. From the motors the current passes to the rails through the ground connection provided. If, however, as is usually the case, the current flows the other way—that is, comes from the power house through the rails, thence through the car equipment to the trolley wire thence back to the power house over the overhead feeder circuits—the direction of the current through the car wiring depends upon whether the trolley wire is made plus or minus at the power house. If plus, the current will return to the power house through the rails; if minus, vice versa. The reason for making a distinction is, that the electrolysis of underground piping is minimized if the current returns to the power house through the overhead conductors. In all systems of electric traction as now used, the rails form one side of the circuit. That is why the rail joints are connected together with heavy bands of copper, and why, still better, rails are sometimes electrically welded together at the joints or their electrical conductivity improved by the Thermitite or analogous process of welding.

Queries Answered

Meaning of E. M. F. and Difference Between Direct and Alternating Currents.

"I notice that you frequently use the letters E. M. F., first in paragraph 39, page 538, of the November, 1915, issue of the Magazine in the 'Study Course in Electrical Railroading.' Please explain what this means, also the difference in the alternating current and direct current. The average fireman knows very little about electricity and the plainer you can make this study the better we will be able to understand it."—H. D. T.

Answer.—You inquire as to the meaning of the abbreviation E. M. F., first noted by you in the November, 1915, number, paragraph 39, page 538. You may recall or note by reference, that an analogy was drawn in the Magazine articles, between the ordinary flow of water or steam in pipes and the simpler manifestations of electrical energy.

You undoubtedly understand what is meant by steam in a boiler or pipe at so many pounds pressure per square inch? Electrical energy is generally transmitted over wire conductors. At any point in the system, there is a certain difference in electrical *pressure*. This difference in pressure is not measured in *pounds* but is indicated instead in the form of electrical

units. The unit of electrical pressure is the *volt*. It has the same relation in electrical work as has pounds pressure of steam in steam work. The complete electrical term for volts pressure is Electro-Motive-Force, the abbreviation of which is E. M. F., to which you have referred.

As to an illustration of the difference between a direct current and an alternating current, use may again be had to the analogy of water flowing through a pipe under pressure. When water is flowing through a pipe continuously in the *same* direction it may be said to present the same conditions as a *direct* current flowing along a wire. If, however, means were provided to cause the water flowing through a pipe to periodically change its direction of flow (as from right to left and vice versa) we would have the analogous condition of an alternating current of electricity traversing a wire, i. e., a current of electricity alternating in its *direction* of flow and therefore represented by a *wave* form as distinguished from a straight line.

Technical Contributions

ELECTRIC TRACTION BRAKE EQUIPMENT*

By F. B. FARMER

Rules For Operating the AMM Brake-Equipment (With M-22 Brake Valve). Inspection, Maintenance and Lubrication.

In cleaning the brake cylinder and piston, special attention should be given to removing lint, freeing the leakage groove of any deposit, and thorough cleansing of the expander ring, packing leather, and piston. Do not use kerosene, gasoline or benzine on the leather as these light oils will remove the filler and render it porous. In lubricating the cylinder, special attention should be given to the thorough lubrication of the top of the cylinder and the inside of the packing leather under the expander ring. It should be particularly observed that the follower nuts are tight.

The best lubricant for the rotary valve of the brake valve is a good grade of graphite grease which should be applied very sparingly.

Under ordinary service conditions, the triple valve should be thoroughly cleaned and lubricated once in three months. The proper interval is best determined for each particular case by a careful inspection and trial. Where conditions are severe, and the triple valve is exposed to extremes of weather, dirt and so on, more frequent inspections will, no doubt, be

found necessary. Where the valve is protected and not subjected to hard usage the interval may be lengthened.

Never remove the movable parts of the triple valve while it is on the car. If the valve is not working properly, or needs cleaning and lubricating replace it by a valve in good condition. All cleaning and lubricating should be done at a bench, by a competent man, where the liability of damage to the internal parts of the valve is least. Any attempt to take the triple valve apart while still on the car is liable to result in a large percentage of valves being injured by careless handling or dirt getting inside the pipes or valves.

Following is the recommended practice with reference to lubricating the triple valve:

All oil, gum or grease should be thoroughly removed from the slide valve and its seat in the bush, using benzine or gasoline to insure this.

The slide valve and its seat and the upper portion of the bushing where the slide-valve spring bears should be lubricated with a high grade of very fine, dry, pure graphite, rubbing it in so that as much as possible will adhere and fill in the pores of the brass and leave a very light, thin coat of graphite.

To apply the graphite, use a stick in the shape of a paddle about 8 inches long

to one end. Dip the skin-covered end in dry graphite and rub on the surfaces specified. After rubbing, a light blow of the stick on the slide-valve seat will leave the desired very light coating of loose graphite. When the work is completed, the slide valve and its seat must be entirely free from oil or grease. Care should be taken when handling the parts after lubricating that the hands do not come in contact with the lubricated parts as the thin coating of graphite is easily removed or made gummy.

The triple valve piston ring and the bushing in which it works should, after thorough cleaning in gasoline and loosening of the piston ring, be sparingly lubricated by first pushing the piston to release position and applying a drop or two of oil to the circumference of the piston bushing, spreading it over the surface as uniformly as possible and then moving the piston back and forth several times to insure proper distribution of this oil on the wall of the cylinder. There should be no free oil left on the parts. Care should be taken not to permit any oil to get upon the gaskets or rubber-seated check valve.

PISTON TRAVEL.

The travel of the brake-cylinder piston should be adjusted to 4 inches (standing) as nearly as practicable, this with full automatic service application. This is important, for if the piston travel is too short a high braking power will be obtained when only a low braking power is desired, the equalization of the auxiliary reservoir and brake-cylinder pressures will occur sooner, and the time in which the motorman can perform the operation is greatly reduced. On the other hand, if the piston travel is too long a proper braking power is not obtained for a given reduction and the final "equalization" pressure is lowered. If some brake cylinders in a train have long piston travel and others short, a very uneven braking power will be developed for any given brake-pipe reduction; which will retard some cars more than others, and result in shocks and unnecessary strains on draw-bars. This is one of the principal causes of wheel sliding.

The correct operation of the brakes can be secured only by maintaining a uniform piston travel on all cars. The increase in the slack of brake rigging, due to the wearing away of brake shoes, must be constantly watched and taken up by means provided in the brake rigging, thereby maintaining the piston travel as nearly uniform as possible. By far the best means for accomplishing this

the Automatic Slack Adjuster. Where this is not done, proper inspection and adjustment must be made at sufficiently frequent intervals to prevent any material increase in piston travel. As this inspection and adjustment has to be made while the car or train is standing, it must be remembered that running travel in traction service is generally from $\frac{1}{2}$ -inch to 1-inch longer than standing travel, so that if a 5-inch running travel is desired, the standing travel should be adjusted to about 4 inches. If the Automatic Slack Adjuster is used, its pipe should be connected with the brake cylinder at the hole located $5\frac{1}{2}$ inches from the pressure head.

Piston travel should never be altered to obtain sufficient shoe clearance. This should be obtained by using a brake cylinder of proper size for the brake force to be developed, and through proper proportioning of the foundation brake gear. When inserting new shoes to replace those worn out, the brake slack should be let out first, and the piston travel adjusted properly after the new shoes are in place.

Before installing the triple valve and No. 14 double check valve, all the piping should be thoroughly hammered and blown out in order to loosen and remove all scale or foreign matter, and all fins and burrs tending to restrict the opening through the pipe removed. After the piping is complete, all the joints should be thoroughly tested under pressure with soapsuds and made air-tight. All the piping should be so installed that there are no pockets in which moisture can collect and freeze in cold weather.

Air strainers should be placed as close as possible to the valves which they are intended to protect. All *cut-out cocks* should be placed where they can be easily reached, but protected from being closed accidentally. Handles should be in such a position that they would jar open instead of shut. Particular attention should be paid to the location of the *flexible hose connections* and *dummy coupling chains*, to avoid kinking or chafing of the hose.

Practical Car and Train Tests.

In preparing the car or train for service and before making the following tests, follow carefully the rules given under the heading "Charging," as previously given:

SINGLE CAR SERVICE.

In single car operation the straight-air side of the equipment is ordinarily used and the automatic side is held in reserve as a factor of safety in the event

fore, in addition to the tests of the straight-air features, the operation of the equipment should also be tested in automatic emergency with the conductor's valve to insure that everything is in proper operating condition.

Test No. 1: When the system is charged and the governor stops the compressor, apply the brakes in straight-air service and return the handle to *Straight-Air Lap* position. The brake inspector or conductor should then proceed at once along the side of the car, noting whether the piston has moved out such distance as to indicate that the brakes are properly applied. If the brake releases after the service application, examine the three-way cock under the brake valve which is supposed to be cut out. Such a release is probably due to this cock not being properly placed in non-venting position. It may also be caused by a brake valve not being properly "lapped," by a leaky rotary valve, or brake cylinder packing leather, by the piston travel being so short that the piston did not travel beyond the leakage groove, by a leak in the brake-cylinder pipe, or by a leak in the straight-air application and release pipe or its branch to the double check valve. If the brakes do not operate properly during this test, the trouble should be located and remedied before proceeding with the next test.

Test No. 2: Following Test No. 1, after having noted that the brakes apply after a full service application, release the brakes by placing the brake valve handle in *Release* position. Leaving the handle in *Release* position, the brake inspector should see that the push rod has moved back to "full release" and that all brake shoes hang free from the wheels.

Test No. 3: While it is ordinarily safe to assume that the brakes will apply on an emergency application if they apply satisfactorily in service test No. 1, yet the brakes should be tested periodically by making an emergency application with the brake valve and also with the conductor's valve to make sure that no obscure causes exist which would interfere with this most important feature of the brake.

TRAIN SERVICE.

Test No. 1: When the system is charged and the governor stops the compressor, apply the brakes in service from the head car with a brake-pipe reduction of ten pounds, indicated by the black hand of the duplex gauge, and return the handle to *Automatic Lap* position. The brake inspector or conductor should then proceed at once along the side of the train, noting whether the push rod

of each cylinder has moved out such a distance as to indicate that the brakes are properly applied on all cars. If any brake releases after the service application, examine all the cut-out cocks under the brake valves which are supposed to be cut out. Such a release is probably due to one of those cocks not being properly closed, a leak in the auxiliary reservoir or its connections or open auxiliary reservoir drain cock. It may also be caused by a brake valve not being properly "lapped," by a leaky rotary valve, by a leaky brake-cylinder packing leather, by the piston travel being so short that the piston did not travel beyond the leakage groove, by a leaky brake-cylinder pipe or triple valve connecting pipe from the No. 14 double check valve, or a closed brake pipe or branch pipe cut-out cock may have prevented the brake from applying. If any improper operation is observed during this test it should be corrected before proceeding with the next test.

Test No. 2: Following Test No. 1, after having noted that all the brakes in the train apply after a service reduction, release the brakes by placing the brake valve handle in *Release and Running* position. Leaving the handle in *Release and Running* position, the brake inspector should again return along the side of the train to the rear car, examining all push rods to see that they have moved back to "full release," and that all brake shoes hang free from the wheels. Should any of the brakes fail to release or "stick," when the brake-valve handle is placed in *Release and Running* position, the trouble may be due to the feed valve not opening, a brake valve not being properly lapped, or to a feed valve back of the operator's car being set higher than that on the operator's car and a control pipe cut-out cock between the cars being closed. After having made sure that all the cocks in the train are properly open or closed, as the case may be, make a heavy brake-pipe reduction, after which place the handle in *Release and Running* position. If a first or second trial of this does not succeed in releasing the brakes, the brake rigging, triple valve, piping, etc., should be examined in turn and the trouble located.

Test No. 3: While it is ordinarily safe to assume that the brakes will apply on an emergency application if they apply satisfactorily in the service test, No. 1, yet the brakes should be tested periodically by making an emergency application with the brake valve and also with the conductor's valve, to make sure that no obscure causes exist which would in-

terfere with this most important feature of the brake.

To test for piston travel, make an automatic full service application (20

pounds reduction from 70 pounds brake-pipe pressure) and then inspect the travel.

(To be continued.)

AIR PRESSURE CALCULATIONS*

By JOHN HAMILTON

The brake cylinder pressure resulting from a reduction in brake pipe pressure up to and including one sufficient to cause equalization of pressure between auxiliary and brake cylinder can be found as follows:

Assume an auxiliary reservoir with a capacity of 1,624 cubic inches charged to a pressure of 75 pounds per square inch. What pressure will be developed in an 8-inch brake cylinder having an 8-inch piston travel with a 10-pound reduction?

The absolute pressure is 90 pounds and the capacity of the brake cylinder will be 450 cubic inches. The first step is to find the volume of air and its pressure that passes from the auxiliary to the brake cylinder. This can be done by calculating how much the volume of the auxiliary will have to be enlarged in order for its pressure to fall 10 pounds. The difference between these two volumes will be the volume of air that passes to the brake cylinder. The formula for expansion was found to be:

$$d = \frac{a \times c}{b}$$

Writing in the known values in this equation

$$d = \frac{90 \times 1,624}{80} = 1,827 \text{ cu. in.}$$

The original auxiliary volume was 1,624 cubic inches; therefore 1,827 — 1,624 equals 203 cubic inches. Reducing the auxiliary pressure 10 pounds is equivalent to increasing its volume 203 cubic inches. It can then be assumed that this volume of air at 80 pounds pressure is compressed into the brake cylinder. In other words, a reduction in auxiliary pressure from 90 to 80 pounds per square inch requires that 203 cubic inches of air must be allowed to pass to the brake cylinder.

The pressure developed by 203 cubic

inches of air at 80 pounds pressure in a brake cylinder having a capacity of 450 cubic inches can be found as follows:

The formula for compression was found to be

$$b = \frac{a \times c}{d}$$

in which *b* equals the pressure after compression, *a* the pressure before compression, *c* the volume before compression and *d* the volume after compression. The pressure after compression will then equal, if the known quantities be written into the above formula,

$$\frac{80 \times 203}{450} = 36 \text{ pounds absolute pressure or 21 pounds gauge pressure.}$$

If it is desired to use *x* to designate the unknown quantity in the proportion and not employ the formula, the solution will be as follows:

To find the number of cubic inches the auxiliary must assume to be enlarged in order for the pressure to be reduced 10 pounds; the proportion must be written

$$\begin{aligned} 90 : 80 &= x : 1,624 \\ 80 \times x &= 90 \times 1,624 \\ 90 \times 1,624 & \end{aligned}$$

$$x = \frac{90 \times 1,624}{80} = 1,827 \text{ cu. in.} - 1,624 \text{ cu. in.} = 203 \text{ cu. in.}$$

To find the pressure developed by 203 cubic inches of air at 80 pounds pressure in a cylinder with a capacity of 450 cubic inches the proportion must be written as follows:

$$\begin{aligned} 80 : x &= 450 : 203 \\ x \times 450 &= 203 \times 80 \\ 203 \times 80 & \end{aligned}$$

$$x = \frac{203 \times 80}{450} = 21 \text{ pounds gauge pressure.}$$

The rule usually given to cover problems of the above nature can be derived as follows:

- If *a* equals pressure before expansion;
- If *b* equals pressure after expansion;
- If *c* equals volume before expansion;
- If *d* equals volume after expansion;

*Continued from March, 1916, Magazine.

Then volume after expansion, or d , will equal

$$\frac{a \times c}{b}; \text{ then}$$

$$\frac{a \times c}{b} - c \text{ will equal the}$$

volume of air at b pounds pressure that is to be compressed into the brake cylinder.

Let s equal the pressure after compression into the brake cylinder. Writing the proportion to conform to the law governing the compression of air, the pressure before compression is to the pressure after compression inversely as the volume before compression is to the volume after compression. The pressure before compression is b , after compression is s ; the volume before compression is

$\frac{a \times c}{b} - c$, and the volume after compression is 450 cubic inches. Then

$$b : s = 450 : \frac{a \times c}{b} - c$$

$$450 \times s = \left(\frac{a \times c}{b} - c \right) b$$

$$450 \times s = \left(\frac{a \times c - b \times c}{b} \right) b$$

$$450 \times s = a \times c - b \times c$$

$$450 \times s = c (a - b)$$

$$s = \frac{c (a - b)}{450}$$

As c is equal to the volume before compression, or 1,624 cubic inches, and $a - b$ is equal to the difference in the pressure before and after expansion, which equals the amount of the reduction, or 10 pounds, and as 450 cubic inches equals the capacity of the brake cylinder, the rule as applied to the problem mentioned is written as follows: "Multiply the capacity of the auxiliary reservoir in cubic inches by the number of pounds reduction in order to find the volume of air at 1 pound pressure that is to be compressed into the brake cylinder. Divide this by the capacity of the brake cylinder and subtract 15."

The question might be asked in connection with this problem, why multiplying the capacity of the auxiliary in cubic inches by the number of pounds reduction will equal the volume of air at one pound pressure that is to be compressed into the brake cylinder.

It has already been shown that

$$\frac{a \times c}{b} - c$$

pressure that is to be compressed into the brake cylinder. What then will be the volume when the pressure is reduced to one pound per square inch?

Let s equal the unknown quantity, or the volume after expansion. Writing the proportion

$$b \text{ lb.} : 1 \text{ lb.} = s \text{ cu. in.} : \frac{a \times c}{b} - c \text{ cu. in.}$$

$$s = \left(\frac{a \times c}{b} - c \right) b \text{ equals volume of}$$

air at one pound pressure that is to be compressed into the brake cylinder. But this can be further simplified as follows:

$$s = \left(\frac{a \times c - b \times c}{b} \right) b$$

$$s = a \times c - b \times c$$

$$s = c (a - b) = 1,624 (90 - 80) = 16,240 \text{ cu. in.}$$

It can be shown that 16,240 cubic inches is the volume of air at one pound pressure by taking the actual volume, or 203 cubic inches of air at 80 pounds pressure and finding its volume when it is reduced to one pound pressure. Writing the proportion

$$80 \text{ lb.} : 1 \text{ lb.} = s \text{ cu. in.} : 203 \text{ cu. in.}$$

$$s = 203 \times 80 = 16,240 \text{ cu. in.}$$

Assume that a retainer is in use holding 15 pounds in the brake cylinder; at what pressure will the auxiliary equalize with the brake cylinder if the former is charged to 70 pounds pressure, has a capacity of 1,620 cubic inches, the piston travel being 8 inches?

The absolute pressures in auxiliary and brake cylinder are 85 pounds and 30 pounds respectively. The first step is to find the total volume of air in both the auxiliary and brake cylinder. In order to do this both pressures must be reduced to the same pressure per square inch, or to one pound per square inch. The volume the air in the auxiliary and brake cylinder would occupy, if reduced to one pound per square inch in pressure can be found as follows, the unknown term in the proportion being the volume after expansion:

$$85 \text{ lb.} : 1 \text{ lb.} = s : 1,620$$

$$s = 85 \times 1,620 = 137,700 \text{ cu. in. at 1 lb. pressure.}$$

Now considering the brake cylinder, the volume the air in it will occupy if reduced to 1 pound pressure per square inch can be found as follows:

$$30 \text{ lb.} : 1 \text{ lb.} = s : 450$$

$$s = 450 \times 30 = 13,500 \text{ cu. in. at 1 lb. pressure.}$$

The next step is to find the pressure developed if 13,500 + 137,700, or 151,200

were compressed into a space equal to the combined capacity of the auxiliary and brake cylinder, 1,620 + 450 cubic inches, or a total of 2,070 cubic inches.

Let s equal the pressure developed, and write the proportion to conform to the law governing the compression of air:

$$1 \text{ lb.} : s \text{ lb.} = 2,070 : 151,200$$

$$2,070 \times s = 151,200$$

$$s = \frac{151,200}{2,070} = 73 \text{ lb. absolute pressure—}$$

15 lb. or 58 pounds gauge pressure.

The formula $d = \frac{a \times c}{b}$ could be used

to find the volume after expansion in the above case and the formula $b = \frac{a \times c}{d}$

could be used to find the pressure after compression.

The application of the following rule will serve to solve problems like the above:

Add the product of the auxiliary volume and its absolute pressure and the brake cylinder volume and its absolute pressure. Divide the result by the combined volumes of the auxiliary and brake cylinder and subtract 15.



MOUNT STEPHEN AND KICKING HORSE RIVER, FIELD, B. C.,
CANADIAN PACIFIC RAILWAY

MOVEMENT OF TRAINS

By G. E. COLLINGWOOD.

Rule 218

When we place a stick partly in water we notice that the rays of light from the end of the stick which is in the water take a different direction than the rays of light from the end which is out of the water; this gives the appearance of bending at the point where the air and water meet. It is, of course, the light rays which are bent and not the object itself. Thus we find that a straight stick with one end placed in the water may appear to point in a direction other than that in which it really points. The same illusion is produced in a mental way when a train rule, with its many ramifications, is partly submerged when it is being considered.

In the conduct of this department the rulings of the American Railway Association have been followed in each case in which the Association has made a ruling, because that Association stands sponsor for the Standard Code of Train Rules. In cases in which the Association has not ruled, the rules have been given the meaning expressed by the wording, or, if not expressed, the meaning has been made to conform to the general principle of the rules, with a view to safe and efficient operation. Of course, it is understood that not all functions of a rule are in each case fully expressed by the rule, and the functions not clearly expressed must be determined by reason. That is to say, the complete construction of a rule is not developed by the rule but by reason. It is also true that the reason used in such a case must be in keeping with the general scheme of operation.

At the present time Rule 218 is attracting considerable attention because of a peculiar ruling which has just been handed down by the Association. To fully understand the case it is necessary to go back in the history of the Standard Code of Train Rules to the year 1887, when Rule 218 (then known as Rule 520) was adopted by the American Railway Association. The rule as then adopted read as follows:

"When a train is named in an order, all its sections are included unless particular sections are specified, and each section included must have copies addressed and delivered to it."

Under the above rule there was no question as to procedure. If no sections were specified all sections were included

by placing the word "train" ahead of the word "order," making the rule read, "When a train is named in a train order," etc. That is to say, from the year 1887 to the year 1906 there was practically no change in Rule 218. But during the time the rule was in effect it was found that sometimes the engine number of the first section was used and, in some cases, the conductor's name, of the first section, was also used. And gradually, as the demand for more accurate and reasonable rules increased, it became fairly plain that when an engine number was used or when the conductor's name was used, together with the schedule number, a specific train had been identified by the use of such engine number or conductor's name. For example, if No. 2 had an order to meet No. 1 engine 5 at B and No. 1 with engine 5 should arrive at B displaying signals for another section, No. 2 would clearly understand that No. 1 engine 5 was the train referred to in the order, the engine number identifying the train. But in face of this fact the rule included all sections, because it stated that unless particular sections were mentioned all sections were included. It did not seem to have occurred to the framers of the old rule that a train might be identified in any other way except by its section number; therefore, while the use of the engine number or the conductor's name clearly identified a certain train, still other trains were permitted to run on the order and assume superiority over another train.

Then reason awoke and questioned the judgment of permitting the rule to longer remain as it was. With a strong desire for a more consistent rule and with the above facts before the Committee of the American Railway Association, Rule 218 was changed in 1906 to read as follows:

"When a train is named in a train order by its schedule number alone, all sections of that schedule are included, and each must have copies delivered to it."

Could anything be more clear in statement than this rule? We think not! The above rule, which is still in effect, clearly requires that nothing but the schedule number can be used if it is desired that all sections of a schedule shall be included in an order.

The definition of "Schedule" is as follows: "That part of a time-table which prescribes class, direction, number and

Even the most superficial man in train service knows what the schedule number is. He knows further, that the schedule number is given for the purpose of identifying a schedule and also to identify a train which may be moving on the schedule. In view of this, is it not reasonable to conclude that the "schedule number alone" is not the schedule number and the engine number, nor is it the schedule number and the conductor's name. The word "alone" has a specific meaning and there should be no chance for doubt.

In connection with this, Rule 206 states that "Regular trains will be designated in train orders by their numbers, as 'No. 10' or '2d No. 10,' adding engine numbers if desired." But the use of the engine number is optional and its use cannot change the clear statement of Rule 218. In fact the optional part of Rule 206 is the reason for the exact wording of Rule 218. That is, if the rule did not permit the engine number to be used when desired, then there would be no use in using the word "alone" in Rule 218, or in fact the former rule could have been retained.

In face of the above facts the following ruling has been handed down:

"Question.—Referring to Rule 218, under the following order, is No. 10 designated by its schedule number alone: 'No. 10 engine 75 meet No. 9 at B'?"

"No. 9 being superior by direction, should it find No. 10 at B, displaying green signals, would No. 9 be right in proceeding, or should it consider the engine number only for identification purposes and remain at B until it meets all sections?"

"Answer.—When a train is named in a train order all sections are included. Therefore, in the absence of further train orders, No. 9 should wait at B for all sections of No. 10 (see Rule 218, Standard Code of Train Rules)."

The effect of the above ruling is peculiar. It sweeps away the specific wording of the rule as it stands today and gives it a different meaning than that which is expressed by the clear language of the rule. In short, it gives the rule the same meaning as it had prior to 1906, when the rule was differently worded and when that wording was objectionable.

Permit attention to be called to that portion of the question which states, "Or should it consider the engine number only for identification purposes?" Is that not exactly what a section number is for— for identification purposes? In running

an extra train, the engine number is depended upon fully for identification purposes. It identifies the train which is to be met. Why should this practice be changed? The extra train identification is mentioned to show that an engine number is complete identification for a certain and specific train and it would seem that when the identity of a certain train was established in a train order, other trains should not be permitted to use the order for movement in which they have no identity, still this is exactly what happens under the ruling quoted.

Unless the ruling is changed the rule itself should be changed to conform to the ruling.

It is now imperative that each road should rule on this point and elect what shall constitute the "schedule number alone," and in the meantime enginemen should depend upon Rule 105 and Rule 108 and take no chances.

Before closing, attention is called to the definition which states that the schedule is that part of the time-table which prescribes class, direction, number and movement for a regular train. We, therefore, have the book of rules for the statement that the schedule number is known on the time-table, and it is a known fact that the time-table does not contain the engine number; thus the engine number is clearly something separate and distinct from the schedule number alone.

The writer has on several occasions given it as his opinion that when a train was named in a train order by its schedule number and also by its engine number, such train was not named by its schedule number alone and, therefore, all sections were not included. But owing to the recent ruling of the American Railway Association, which ruling takes on the garb of authority, the writer wishes to state that he will conform to that ruling in future cases. However, he still feels that his former rulings were correct, and cannot understand why the plain language of the rule and also its intent should have been disregarded in this recent ruling. But the ruling has been made and while we have appealed the point, there is little hope of the ruling being changed; therefore, all enginemen are cautioned that the best plan is to get a ruling from their road on this point. If no ruling is forthcoming, then no chances should be taken.

Questions and Answers

Locomotive Running and Repairs

Answers by F. P. Roesch.

2579. Maine Central Railroad Mikado Type Locomotive.—"R. D. C." requests that we give dimensions and illustrations of Mikado type locomotive operated on the Maine Central Railroad. We regret to advise that we have been unable to find an illustration of this locomotive in our files. If, however, R. D. C. will kindly advise date locomotives were built, together with name of builder, we will try to obtain the information requested and publish in a future issue.

2580. Action of Water in Water Glass.—"I desire to get some information through our Magazine in regard to some water glass trouble. What will cause the water in glass to surge from bottom to top, and in going to top, water will part or look as if air was passing up through glass, only when engine is working. No sign of leak at glass. Our engines have arches in, and are boiler-washed according to law."—*P. E. N.*

Answer.—The trouble in this case is undoubtedly due to the location of the arch tubes in connection with the water glass cocks; that is, the lower cock is evidently located too close to or immediately above the point where the arch tube enters the door sheet. The circulation of water through an arch tube is extremely rapid, in fact, more so than at any other part of the boiler, on account of the arch tube being entirely surrounded by heat. This causes the water to rush through the tube with considerable velocity, and, of course, carrying with it bubbles of steam. When the engine is working steam the fire is naturally being forced and circulation is more rapid than with the throttle closed; consequently this rapid circulation through the arch tubes causes the water to be carried up through the water glass, and, as stated before, carries with it bubbles of steam which have the appearance of air bubbles. The correct remedy in this case would be either to change the location of the lower cock or else extend a pipe from this cock toward the front of the boiler, over the crown sheet, to a point where the water is not affected by the rapid current passing up through the arch tube. The writer has had considerable experience with water in water glasses acting in this

manner when the engine was working steam, and found that the trouble could be entirely corrected by simply inserting a pipe into the end of the lower cock and extending this about two feet forward over the crown sheet. In other cases it was corrected by simply moving the lower cock to a point equidistant between the arch tubes.

2581. Leaky Throttle or Dry Pipe.—"How can you distinguish the difference between a leaky throttle and a leaky dry pipe?"—*C. E. S.*

Answer.—A leaky throttle, the same as a leaky dry pipe, will, of course, leak continually whether the throttle is closed or not. The two leaks can, as a rule, however, be distinguished by the fact that a leaky throttle will only leak steam, while a leaky dry pipe will leak both steam and water. If the leak in the dry pipe, however, is in the joint between the throttle standpipe and the dry pipe, in order to distinguish which is leaking it is necessary to have a full boiler of water so as to raise the water above the leaking joint. When an engine is working a leaky dry pipe will have the effect of causing the valves to go dry owing to the water carried through the dry pipe with the steam washing off the lubrication; consequently, a continual jerk of the lever when the engine is working and a continual flow of steam from the cylinder cocks when the throttle is closed, would be a good indication of a leaky dry pipe. The best test, however, is as previously stated, to fill the boiler to at least three gauges, and if steam and water mixed is discharged from the cylinder cocks, it is an indication that the dry pipe or dry pipe joints are leaking. If only steam is discharged, it is an indication of a leaky throttle.

2582. Strange Injector Action.—"I am firing a switch engine carrying 165 lbs. of steam, equipped with a No. 9 Ohio and a No. 9 (type R) Simplex injectors; the Simplex was applied new about six weeks ago. With a full tank of water, it is necessary to leave the handle of injector in priming position an unusual length of time; but when the water in tank gets down to about six or eight inches, when put in priming position it primes at once. The Ohio injector works O. K. Please answer through Magazine."—*T. C.*

Answer.—If this question is stated correctly, we are at a loss to account for

the trouble. If our correspondent, however, made a mistake and that, instead of the injector being slow in priming with a tank full of water, it is slow in priming with the water low in the tender, the trouble is due to an air leak in the feed pipe or its connections. Or, if the engine is equipped with a syphon type of tank valve, it would be due to a leak where the two halves of the syphon pipe are connected inside of the tank. The priming action of an injector depends altogether upon the vacuum formed in the feed pipe, the atmospheric pressure on the water in the tank forcing the water up into the feed pipe to overcome the vacuum produced by the priming valve of the injector. It therefore follows that with the tank full of water, a lesser vacuum would be necessary on account of the water level in the tank and feed pipe being the same; or, in other words, the feed pipe would be practically full of water, and, consequently, the only vacuum necessary to produce would be that between the top of the water and the injector, which ordinarily is about five or six inches when the tank is full; therefore the injector should prime more readily. When the water in the tank becomes low, however, it would also be low in the feed pipe, and it would in that case be necessary to produce a vacuum in probably four or five feet length of feed pipe. Now, if there is a joint or union in the feed pipe, say half way between the injector and the bottom of the feed pipe, and this union is not tight, air would pass in through the leaky union, thereby assisting in destroying the vacuum, or making it harder to produce a vacuum; and we are inclined to believe this is the case in this instance.

2583. Setting Slipped Eccentric.—"Should you slip the right back motion eccentric on the road, how would you set it?"—*G. L. T.*

Answer.—Place the engine on either the forward or back center on the side where the eccentric is slipped, then place the reverse lever in full forward motion and scribe a mark on the valve stem at the edge of the gland, then place the reverse lever in full back motion and move the slipped eccentric until the mark scribed on the valve stem comes flush with the gland again, being careful to note, however, that the eccentric occupies a position almost opposite the go-ahead eccentric.

2584. Marking Valve Rod in Setting Slipped Eccentric.—"In what way does the mark made on the valve rod

while in forward gear aid you in setting the slipped eccentric? This is the right back-motion eccentric."—*G. L. T.*

Answer.—With an engine on the center the valve is supposed to occupy the same position with the reverse lever in either forward or back gear; consequently, if the back-up eccentric were slipped and the mark was made on the valve rod with the reverse lever in forward gear, this mark would indicate the correct position for both eccentrics; remembering, however, that for the go-ahead eccentric the reverse lever must be placed in forward gear, and for the back-up eccentric in back gear. Consequently, if the mark made on the valve rod with the reverse lever in full forward gear will indicate the correct position of the go-ahead eccentric, then when the reverse lever is placed in back gear and the slipped back-up eccentric is moved until this mark comes in the same place, it is evident that the back-up eccentric is now set in its proper position.

2585. Best Books on Air and Machinery.—"Will you kindly advise me what are the most practical and up-to-date books on air and machinery, as I have made application and am qualifying for a position as traveling engineer?"—*J. T. P.*

Answer.—This question is hardly a proper one to answer through these columns, as we cannot consistently recommend any particular book or books in view of the fact that so many good books treating on locomotive running and repairs are on the market. We believe, however, that one of the best educational means to be found at present, covering all parts of the locomotive, as well as questions relating to locomotive management, etc., is to be found in the *B. of L. F. and E. Magazine*, as this naturally brings everything up to date at all times. A few of the back volumes of the *Proceedings of the Traveling Engineers' Association* would also be an invaluable aid to one qualifying for a position as traveling engineer, as in the subjects discussed at their conventions, together with the discussions pertaining to the various subjects, the best thoughts of the foremost men occupying such positions are to be found. The *Traveling Engineers' Association* also publish a volume covering questions and answers pertaining to locomotive management, breakdowns, etc., which can be obtained from the Secretary of the Association. Among other first class books on this subject might be mentioned *Sinclair's Locomotive Running and Management*, *Swingle's Catechism of the Locomotive*, or some new volumes

recently put out by Cropley Phillips & Company, which is a revised edition of the mechanical or locomotive end of Kirkman's Science of Railways.

2586. Keying Up Main Rod.—"Please decide the following question in your next issue if possible: A says butt end of main rod should be keyed up on the quarter, B says on either center. Isn't the smallest part of pin on the quarter?"—*C. F. B.*

Answer.—B is correct. The butt end of the main rod should preferably be keyed up on either center, as in this position the butt end of the main rod would be keyed to the largest part of the pin. When the pin is on either quarter, the butt end would occupy the smallest part of the pin, and, consequently, if connected up in this position, it would pinch on the pin when passing over the centers. While the actual centers would not place the pin exactly in position where the main rod would be keyed up against its greatest diameter; that is, if the pin was badly worn, it is, however, easier to remember to key back ends of main rods on a center, than to say on the upper forward or lower back eighth which are the actual points where the main rod brass would engage the greatest diameters of the main pin. However, the difference is so little as to be negligible in actual practice.



The Westinghouse Air Brake.

Answers by F. B. Farmer.

1203. Release Affected by Piston Travel.—"With the brakes fully applied will the brakes having long or short piston travel release first?"—*J. L. H.*

Answer.—If the reduction has been sufficient to fully apply those with the longest piston travel, which equalize at a lower amount than those with shorter travel, those with the longer travel in the same vicinity will commence to release first, all else being the same. This is because to release requires that the brake pipe pressure be raised above that in the auxiliary reservoir, and as the short piston travel brakes equalized (fully applied) higher and with a less reduction than those with longer travel the auxiliary reservoir pressure with the former would be higher; hence, the brake pipe pressure would rise above that in the auxiliary reservoirs of the longer-travel brakes first and thereby move their triple valves to release position.

With a train of moderate length the difference in releasing will not usually

pressure rises so rapidly as to make very little actual difference in time of release, particularly so as the then slight difference in shorter-travel brakes commencing to release is in part offset by their higher brake cylinder pressure and smaller volume causing the air to discharge faster. If the brake pipe reduction does not pass the point necessary to fully apply the shorter-travel brakes the difference in piston travel will have no effect on the release.

1204. How Handle Brake Valve to Prevent Brakes Sticking.—"How should the brake valve be handled to prevent brakes from sticking?"—*J. L. H.*

Answer.—Speaking generally, do not make over a 20-pound service reduction, nor less than an 8-pound reduction from full pressure. If the desired braking power requires less than an 8-pound reduction add to it before releasing. With freight trains of moderate lengths the minimum reduction from full pressure before releasing should be 10 to 12 pounds and more with very long trains. Endeavor to have maximum main reservoir pressure and use release position a time proportionate to the length of train, varying from a couple of seconds with an ordinary passenger train to about 15 seconds with a long freight train. On return to running position wait 7 to 10 seconds, then make a "kick-off", a second to release and back to running position. The wait is to let the brake pipe pressure equalize and for any head brakes to apply, if they will, after the first return from release position, and the "kick-off" is to release any such that reapplied without again charging them higher than brakes farther back. After this do not continue "kicking-off," as when brakes are fully charged this will tend to cause them to apply and "stick."

If the brake pipe pressure is very low when release is desired, as after a burst hose, a break-in-two or the engine being cut off so long that the pressure leaked low, release position should be used longer, the only limit with a long train being to avoid charging it above standard pressure. If the brake pipe pressure cannot be raised promptly to and maintained above to point of brake equalization (50 pounds in a service application and 60 pounds in an emergency application from 70 pounds brake pipe pressure), then when this or a little more has been obtained lap the brake valve, obtain maximum main reservoir pressure and follow with the regular method of releasing. If the rise in brake pipe pressure is slow at the time it exceeds the

auxiliary reservoir pressure of any applied brake the triple valve with a leaky piston is liable to stick, while a quick rise at this time would release it.

1205. Driver Triple Valve Released After "Snap" Emergency.—"I would be pleased to have your opinion on the following question: We have here several engines equipped with the ordinary Westinghouse automatic brake—G-6 brake valve, plain triple on engine and quick action triple on tank—the action of which under the following circumstances has come to my attention. If the brake valve handle is thrown into emergency position and right back to lap in the shortest possible time, making what some enginemen call a partial emergency application, the triple on engine will kick off in about four or five seconds. This occurs with engine alone. There are no leaks whatever in rotary valve or between triple and auxiliary or from auxiliary itself on one particular engine.

"The travel of the driver brake pistons was rather long, and upon examination of the plain triple it was found to be in a rather gummed-up condition. The graduating spring was very weak. After cleaning and oiling the triple, shortening the travel of the driver brake pistons, and applying a new graduating spring the triple would not kick off after an application such as described above.

"My opinion of this action is as follows: When the emergency application is made the piston of the plain triple moves downward the full length of its travel and brings along its slide valve until the latter entirely uncovers the port to the brake cylinders. Air from the auxiliary then flows into the brake cylinders; and, by reason of triple being in a gummed-up condition it might remain in this position until auxiliary pressure was reduced somewhat below that remaining in the brake pipe, when its triple piston would move back to release position. I would be pleased to know if I am right in my supposition or, if not, what your explanation is of this case."—*H. P. K.*

Answer.—Your explanation is a plausible one. Like the description of the circumstances, it shows careful observation and thought. However, the writer believes the actual reason for the driver brake releasing was mainly the result of other features. As you plainly imply, the brake pipe pressure must be higher than that in the auxiliary reservoir for the triple valve to release. The quick or "snap" emergency described caused full application of the driver and tender brakes, the latter in quick action. The driver brake equalized at the lower amount on account of longer piston travel. At the instant the brake valve handle was returned to lap there were higher pressures than in the brake pipe

at two points which the rotary valve cannot control, namely, in the tender auxiliary reservoir and in the equalizing reservoir. The shorter travel of the tender brake and its triple valve having taken some air from the brake pipe explain why it equalized higher than the driver brake. The equalizing reservoir pressure was scarcely reduced at all during the short time in emergency position, and it is probable that the brake pipe was not entirely emptied.

Some wear would now allow the equalizing reservoir pressure to leak past its piston and into the brake pipe. Similarly the higher tender brake auxiliary reservoir pressure and brake cylinder pressure would leak into the brake pipe, quite rapidly if the check valve in the quick action triple valve were as defective at its bearing as these are often allowed to become on a tender brake. These two leaks would soon raise the brake pipe pressure above that remaining in the driver brake auxiliary reservoir, and its triple valve at once released.

It is probable that merely shortening the driver brake piston travel would have prevented the driver brake from releasing. If any driver brake cylinder leakage was stopped that helped by obtaining higher equalization.

1206. Cross-Compound Air Compressor.—"Is the cross-compound air pump of any advantage over the duplex pump, other than the saving of a small amount of steam to operate, and has it not a tendency to increase the temperature of the air by compressing it twice?"—*A. E., Member 535.*

Answer.—Its capacity is a little larger, but its saving in steam is more than a little. Both compressors compress the air twice to raise it to the desired pressure. This does increase the heating, at least theoretically, over single-stage compression, but in judging of what is best in this matter we must consider, first, whether this will cause excessive heating; second, steam economy; and, third, capacity for space occupied, having in mind clearances with the larger boilers. That the cross-compound compressor meets these requirements in a very satisfactory manner has been well demonstrated.

1207. Service Exhaust Without Preliminary Exhaust.—"With the G-6 brake valve and F-1 triple valve an application of five pounds is made and the brake valve is lapped. Soon there are four or five quick discharges from the service exhaust, but none other has been made from the preliminary exhaust (equalizing reservoir). This would not happen every

time an application was made. When it did occur the train pipe hand (black) would fluctuate as if there were a constant leak in the train pipe. The entire air equipment was gone over with soap-suds, but no leak of the slightest kind was found. How could the equalizing piston raise to give the exhausts at the service exhaust fitting with none made at the direct or preliminary exhaust port? And what caused the train pipe hand to fluctuate when there was no leak?"—*W. F. K.*

Answer.—Did the black hand of the air gauge show an increase or a decrease in pressure? If close observation showed an increase at each time before the service exhaust opened there was a leak into the brake pipe from some higher pressure. Some unusual piping arrangement might explain this. If the black gauge hand showed a decrease in pressure with the successive service exhausts there was a leak from the equalizing reservoir pressure. Soap-suds is best in seeking a leak hard to find. In using it include the equalizing reservoir plug, the pipe from it to the brake valve, the brake valve joint made by the four bolts, these bolts themselves (such a leak has been found to pass out along a bolt) and the pipe to the black gauge hand. The leak can be from the gauge tube, back of the dial, or along the stud that secures the brake valve to the bracket as this stud taps the equalizing reservoir passage in the brake valve, or where the gauge and reservoir tee is connected with the brake valve.

The equalizing piston cannot raise unless the brake pipe pressure is higher than the equalizing reservoir pressure, meaning that the latter must be reduced or the former raised. Watching the air gauge closely immediately after lapping the brake valve will disclose which fault exists. Then search for the cause that this shows exists. A cut rotary valve or so much lost motion that on lap the preliminary exhaust was not quite closed are improbable but possible causes.



Train Rules and Train Practice.

Answers by G. E. Collingwood.

916. Improper Order Which Is Much Used.—“The following order is given: ‘Engine 850 will run extra A to B and meet extra 860 west at B.’

“When extra 850 arrives at B it receives another order as follows: ‘Engine 850 will run extra B to C.’

“The question is this: Can extra 850 proceed, or must it meet extra 860 at

Answer.—Rule 87 provides that extra trains must clear the time of regular trains five minutes unless otherwise provided, and will be governed by train orders with respect to other trains. From this it is plain that an extra train need only protect against such extras as it is directed to protect against by train order. That is to say, when an extra train is originated it takes no action for protection against other extra trains unless it is directed to do so by train order.

In the case at hand, extra 860 is protected from extra 850 by being prevented by train order from going beyond B. There is really nothing in the order which affects extra 850, as its terminal station is B, and it cannot, in any event, go beyond that station, and it must head in at B and clear the main track at the first entrance switch where an inferior train would take siding at B. Therefore, the order to meet extra 860 at B is a violation of Rule 201, which expressly states that an order must contain neither information nor instruction not essential to such movement. So far as extra 850 is concerned, the order to meet extra 860 at B is not essential for the reason named above. It is essential that extra 860 hold an order to meet extra 850 at B providing that extra 860 is going beyond B; or hold an order which is the equivalent to a meet order. But so far as extra 850 is concerned, its order should state that extra 850 has right over extra 860 to B. This for the reason that it is improper to give a meeting order between trains unless they are actually to meet. However, such orders are issued every day and such action is in reality approved by the management; also the giving of meeting orders with an extra train at the end of its run is silently approved by the management by their permitting it as a practice. The above facts make it possible for the order to be used, and it must, therefore, be governed by the unwritten rules which govern the disposal of all orders which are held by a train when it reaches its terminal and which are not fulfilled. Extra 850 having arrived at B, must enter the first switch, and it immediately ceases to exist as an extra train, and all of its orders cease to exist for the reason that orders are issued because a train exists, and, therefore, such orders must cease to be in effect when the train for which they are issued ceases to exist. It does not matter whether extra 850 is at B one minute or one week before it receives another running order. When it does receive another running

quire that the train dispatcher protect this new extra against all opposing extra trains. He is not permitted to depend for protection upon an order which was issued to a former extra train. Extra 850 may properly disregard its meeting order at B with extra 860, as it is a new extra and is to be governed by Rule 87. It is true that the engine, whenever it is run, will be known as the same numbered extra, and this fact sometimes confuses train dispatchers, as well as trainmen, and for this reason; in such a case, it is always well to inquire concerning extra 860 as a matter of protection.

917. Regular Train Running Ahead of Time.—"A short time ago the following order was issued: 'First No. 83 may run ahead of time G to J.' Please advise how this order should be executed. What would this regular train be when it passed the station ahead of time?"—*Member 718.*

Answer.—The Standard Code does not authorize the use of an order directing a regular train to run ahead of its schedule time. In fact, such action is not consistent with standard rules and is exceedingly dangerous. The time-table alone authorizes the class, number and time for a train and such class, time and number are not authorized until a certain time; it follows that before that time there is no number or class authorized, and a train passing H ahead of schedule time would not be given any schedule time or class or any authority whatsoever. The practice should not be permitted. If it is desired that a train should move in advance of its schedule time it should be run as an extra train.

918. Flagging Rule Modified by Order.—"Please give your opinion as to whether the following order warrants a train in stopping on the main line or in yards and not protecting by flag. Also advise if the form of order below is permissible under standard rules.

"Order No. 2. 'All extras west wait at S until 10 p. m.'"

"The above order was addressed to No. 523. No. 523 operates partly over the main line and partly over the branch, S being the point where the branch connects with the main line, and the wait order, if observed, would prevent an extra from following No. 523 west of S.

"Crews which have received the above order have not protected themselves against west bound extras by flag, when stopping after leaving S. The question has arisen as to whether the order is a proper one, and if so does it warrant a departure from the flagging rule?"

which states that a passenger flagman must always appear on the ground sixty feet in the rear of the train after it stops."—*G. N.*

Answer.—Rule 201 states that for movements not provided for by time-table train orders will be issued. The rule also states that the prescribed forms must be used when they are applicable. That is, when any movement is to be made for which there is a regular form provided, the regular form must be used; but if there is a movement to be made which has no regular form to cover, then the dispatcher may improvise a form to meet the situation. When it is found necessary to make up an order to meet some situation care must be used to see that it conforms to the general theory of the rules.

The order quoted is proper and it is authentic information to No. 523 that no extra train will leave S before 10 p. m., and the crew of 523 may act accordingly. If there are no regular trains due, No. 523 need not flag after leaving S until 10 p. m., as the flagging rule only requires flagging when a train stops under circumstances in which it may be overtaken by another train. Therefore, if there is no other train to overtake No. 523 it need not flag under Rule 99, and the order may be accepted as authority with respect to following trains; providing that if No. 523 is a passenger train, then its flagman must go sixty feet to the rear of the train when it stops to conform to the special rule which requires such action, regardless of conditions.

There are only two kinds of trains: regular trains and extra trains. A regular train is authorized by time-table schedule, and the time of such schedule indicates the time the authority for the movement of the train begins, and other trains are to be governed accordingly. Extra trains are given their authority to use the main line by train order. It follows that if there are no regular trains due and if the register has been examined and there are no regular trains overdue and, further, if No. 523 holds an order that all extras west will wait at S until 10 p. m., No. 523 need not flag under Rule 99, when making regular station stops, but because of the fact that the special rule requires the flagman of a passenger train to go back sixty feet when his train stops, such action must be taken regardless of the fact that no trains are expected. That is to say, the order and the knowledge cannot be

919. Right of Track and Meet.—"No. 56 and No. 57 are trains of the same class. No. 56 is a train of superior direction. The following order is given: Order No. 1. 'No. 57, engine 436, has right of track over No. 56, engine 437, C. to P.' Order No. 2. 'No. 57, engine 436, meet No. 56, engine 437, at G.' When No. 57 arrives at G it receives order No. 3 as follows: Order No. 3. 'Order No. 2 is annulled.' Has No. 57 the right to proceed on order No. 1?

"Question two. If, after No. 57 receives order No. 3, it should then receive another order reading, Order No. 4, 'No. 56, engine 437, will wait at H until 7:40 p. m. for No. 57, engine 436,' and then upon arrival at H No. 57 should receive order No. 5 as follows: Order No. 5, 'Order No. 4 is annulled,' could No. 57 proceed?"—*Member 10.*

Answer.—Order No. 2 fixes a meeting point between No. 56 and No. 57 at G, but it does not supersede order No. 1 or in any way change the meaning of order No. 1. That is, No. 57 was made superior to No. 56 by order No. 1, and that superiority continues until order No. 1 is either fulfilled, superseded or annulled. When order No. 2 is annulled order No. 1 still continues in effect and No. 57 may properly proceed.

Order No. 4 is improper, because No. 57 is the superior train under order No. 1, and order No. 1 is still in effect.

Order No. 5 annulling order No. 4 would not change the authority of No. 57 to proceed, as order No. 4 being improperly given its annulment could not affect the right of No. 57 under order No. 1.

920. Rule 218.—"The following train orders have caused a great deal of discussion: Order No. 1. 'No. 36, engine 1100, will meet No. 5, engine 961, at A.' When No. 36 arrives at A it finds that No. 5 is displaying signals. No. 36 is given another order reading, Order No. 2. 'No. 36, engine 1100, will meet second No. 5 at B instead of A.' When No. 36 arrives at B it finds second No. 5 there displaying signals. Would No. 36 have to look out for third No. 5, or would it be the duty of third No. 5 to look out for No. 36? No. 36 has right by direction."—*C. H. B.*

Answer.—Order No. 1 names No. 5 by its schedule number and also by its engine number, and because of this the order can only affect the first section of No. 5. Rule 218 states that when a train is named in a train order by its schedule number alone, all of its sections are included and each must have copies of the order delivered to it. From this it can be seen that when a train is named by its schedule number and also

its engine number all sections are not included. In short, when the engine number is used in a train order such engine number identifies a particular train, and it follows that another section cannot use the order. That is, No. 5, engine 961, could not possibly refer to second No. 5 with some other engine.

Order No. 2 is improper for the reason that second No. 5 was not included in the first order and, therefore, there was no necessity to supersede any part of the first order as that order was fulfilled when No. 36 met first No. 5 at A.

It may be that your road is using the old Standard Code rule which was adopted in 1887. This rule states that when a train is named in a train order all its sections are included unless particular sections are specified. If this is the rule you are working under, then the addition of the engine number would not prevent the second section from using the order, and in such a case No. 36 would have to get clear expecting that third No. 5 would hold a copy of order No. 1 and that it would be on its way to A to meet No. 36. But in either case the train dispatcher is wrong in issuing the orders. If you are using the rule adopted in 1887 he is wrong in not superseding the meeting point at A with third No. 5, and if you are using the rule which was adopted in 1906 he is wrong in superseding order No. 1 to second No. 5.

921. Possible and Expected Speed.—"In our time-table there is a rule which reads as follows:

"The speed of a passenger train will ordinarily be that of its schedule, but in cases of delay may, in the judgment of the conductor and engineer, be moderately increased. Due regard being given to track, weather and other circumstances, but will in no case exceed a speed of 48 miles per hour."

"Train No. 3 is a local passenger train which makes all the stops. This train leaves its initial station fifty minutes late and is displaying signals for a second section. There are no telegraph or block offices for the purpose of spacing trains apart. The following questions have arisen:

"(1). How should second No. 3 govern itself?

"(2). If first No. 3 has the right to make up time has not second No. 3 the same right?

"(3). When is first No. 3 losing time? When it fails to make the schedule as indicated on the face of the time-table, or when it fails to make 48 miles per hour? We have no minimum time for passenger trains between stations.

"(4). The main question is this: When should first No. 3 be considered

as losing time? Both trains are subject to the rule quoted."—*A Reader.*

Answer.—Rule 91 provides that unless some form of block signals is used trains must keep at least five minutes apart, except in closing up at stations. Where there are no block stations to properly space trains apart the rule requiring trains to keep five minutes apart is very hard to execute—in fact almost impossible of execution. In absence of a proper method of execution trains must be governed by Rules 105 and 106.

(1). Inasmuch as first No. 3 is late, second No. 3 may assume that first No. 3 will make the limit of 48 miles per hour at points where it is consistent to do so, but owing to the fact that it cannot know this, it must approach all curves and other points where a clear view ahead cannot be had, at a rate of speed consistent with the conditions, expecting that it may find first No. 3 ahead. It should also approach all stations expecting to find first No. 3 making a station stop or just leaving the station at slow speed.

(2). Both trains are to be governed by the same rules and each train has equal time-table authority. In exceeding the speed, which is indicated by the time-table schedule, both trains must use judgment and care and neither train is permitted to exceed a speed of 48 miles per hour in any case.

(3). First No. 3 is losing time when it fails to make its regular schedule time as shown on the face of the time-table. The 48 miles per hour is the maximum speed and it is expected that any passenger train may make that speed, when, in the judgment of the conductor and engineman it can be safely done.

(4). Both trains are subject to the 48 mile per hour limit, but a train is not losing time when it is making its regular schedule time. When a train fails to make schedule time, it is losing time. When a passenger train fails to make 48 miles per hour it is not making its maximum speed, but the rule does not require the maximum speed to be made, except at places where it is safe to do so and then only when the judgment of the conductor and engineman justifies such speed.

922. Meeting Point by Train Order at End of Double Track.—"An inferior train is run to the end of double track for a superior train. The inferior train holds orders to meet the superior train at end of double track. When the inferior train arrives at the end of double track the superior train is not there. The inferior train then receives an order giving it right over opposing trains

on the opposite track against the current of traffic. Has the inferior train the right to go without the meeting order being annulled?"—*D. J.*

Answer.—An inferior train holding an order to meet a superior train at end of double track and later receiving an order to run against the current of traffic on double track from the meeting point to a point beyond the meeting point has no right to leave the end of double track until it meets the superior train, unless its order is superseded or annulled.

A meeting order cannot be understood otherwise than that the trains must actually meet to fulfill it. It follows that when the inferior train arrives at the end of double track the meeting order is not fulfilled, by reason of the inferior train having arrived there, as would be the case if the inferior train had been given a right of track order.

The explanation to a meet order states that the trains will run with respect to each other to the designated point and there meet in the manner provided in the rules. It will be noted that the explanation to the order states that the trains will meet. It is necessary that the trains meet to fulfill the order.

The meet order was not intended to be used under such circumstances. The right of track order is the one which should be used in such cases, as it is fulfilled when the inferior train arrives at the last station named in the order.

923. Cannot Accept Register to Fulfill Meeting Order.—"We have a branch leading off the main line at P. There is a register at P, but there is no operator on duty at P at night. Extra 75 received the following order: Order No. 1. 'Engine 75 run extra D to P.'

"The above order was issued at 7 p. m., December 7th. Extra 75 arrived at P at 11:55 p. m. and registered. At 12:10 a. m., December 8th, engine 303 was given the following order: 'Engine 303 run extra Z to D and meet extra 75 at P.' The dispatcher having no way to ascertain if extra 75 had arrived at P was compelled to make a meeting point at P for extra 75 and extra 303. What action should extra 303 take when it arrives at P at 2 a. m. and checks the register and finds extra 75 registered in? Can extra 303 accept the register and proceed, or should it have a check on extra 75 arriving at P on December 8th?

"If extra 303 can accept the register of December 7th for the arrival of extra 75, then what is to prevent extra 303 from going back to December 6th and there finding where extra 75 arrived, and using that check for a clearance?"—*A. E. E.*

Answer.—The question is based upon the use of the wrong form of train order by the dispatcher who started extra 303 from Z to D.

Instead of making a meeting point between the extras at P, the order should have given extra 75 right of track to P, in which case extra 303 could have accepted the register to fulfill the order and then could have proceeded on its way.

Some of our readers may think that the meeting order is no different than the right of track order, in such a case, but that is not the fact. The meet order provides that the trains must actually meet to fulfill the order, while the right of track order is fulfilled, to the inferior train, when it reaches the last point named in the order. It is evident that the train register cannot be used in any case of this kind to clear a train on a meeting order. The explanation which requires trains to actually meet under the terms of a meet order was thought by the committee to be a necessary understanding to the safety of operation. Our correspondent seems to feel that extra 303 could accept the register if it was on the same date on which the running order of extra 303 was issued, but this is not true.

There would be nothing wrong with extra 303 accepting the register at P, if the proper form of order had been used. Train rules are based upon common sense and a knowledge of conditions of the traffic and it should be plain to the crew of extra 303 that at 12:10 a. m., December 8th, when the running order was issued, the fact of the arrival of extra 75 at P could not be ascertained by the dispatcher. Applying the same logic to the case in which it is suggested that extra 303 might accept the register of extra 75 of December 6th, to clear extra 303 on the meeting order, permit me to point out that the crew should have judgment enough to know that if extra 75 of December 6th was the one referred to in the order, the dispatcher would have ample time to get the arrival of that extra from the day operator at P, and there would be no necessity for the meeting order.

In accepting the train register as proof of the arrival of an extra train it is only necessary to have the registered time seem within reason with the conditions, and the time the running order or right of track order was issued. If there are other arrivals of an extra train of the same number registered, that would be liable to mislead the crew on extra 303, it would be the duty of the train dispatcher to issue such instructions as

would make the desired movement plain. For example, in this case, if extra 75, after registering at P, had gone back and was to make another trip to P that night, the dispatcher should have informed extra 303 that extra 75 had registered into P about a certain time, or that it had left a certain station on its way to P on a former trip at a certain time, and that the order referred to a second trip. The order should have contained the information that extra 75, on second trip, would meet, or had right of track over extra 303 to P.

924. Right of Work Train.—"Order No. 1, 'Engine 627 will work extra 7 p. m. to 7 a. m. between A and B.' Order No. 2, 'Engine 813 will run extra A to B and return to A with right over work extra 627 extra 813 will wait at B until 4:40 a. m.'"

"Work extra 627 leaves A ahead of extra 813 but cannot make B by 4:40 a. m. Will it have to get more time against extra 813? Can the dispatcher start another extra out of B on the time given in the order?"—J. H. G.

Answer.—If the work extra cannot make B before the time expires it must get more time. The fact that extra 813 is behind extra 627 has nothing to do with the interpretation of the order or with the movement which is outlined in the book of rules. The dispatcher has not the right to start another extra train out of B on the time named. If another extra train is to be run it must be given another order.

Holding the above orders, the work extra has no authority to leave A ahead of extra 813, because extra 813 is superior to extra 627 on its trip from A to B as well as on its trip from B to A.

925. Unnecessary Order.—"Order No. 1, 'No. 10 meet extra 820 west at B.' When the extra arrived at B No. 10 was more than 12 hours late. But the extra was given an order reading, 'Extra 820 west has right over No. 10 B to A.' Was this order necessary?"—Member 672.

Answer.—An order issued to extra 820 after No. 10 was more than 12 hours overdue, giving extra 820 right over No. 10, was not necessary and there is some question that such an order might be held to apply to No. 10 of the following day. However, this feature is not liable to give any great amount of trouble as the extra would not be in a position to use the order on the following day, on the running order which it was executing at that time.

Rule 201 provides that train orders are to be issued for movements which are not provided for by time-table. The

movement indicated above is arranged for by time-table and the order was not given in accordance with the Standard Code. In fact it was improper.

926. Clearing the Time in a Time Order.—"Do the rules require an inferior train to clear the time of a superior train five minutes on a time order, or is it allowed to use all the time?"—*Member 549.*

Answer.—Under the rules a time order makes the schedule time of the superior train as much later as the time stated in the order, and any other train receiving the order is required to run with respect to the time as stated in the order as before required to run with respect to the regular schedule time. An inferior train must clear the time named in the order five minutes; a train of the same class in the inferior time-table direction would only be required to clear the time stated, as a five-minute clearance is not necessary between trains of the same class, safety between trains of the same class being secured by requiring that the train in the superior time-table direction must stop at scheduled meeting points with an opposing train unless the switches are right and the track clear; and in event that the expected train is not at the schedule meeting station, the train of superior direction must approach all stations prepared to stop until the expected train is met.

927. Only Part of Order Superseded.—"Order No. 10, 'Engine 5021 run extra A to N meet first 85 at G.' Later order No. 11 was issued, which read: 'Extra 5021 meet first 85 at E instead of G.' Which would have right to main track at E, also does 'instead of' supersede the whole order or only the take siding part of it?"—*J. Mc.*

Answer.—Order No. 11 only supersedes that part of order No. 10 which refers to the meet with first No. 85 at G. That part of the order having been superseded, becomes void and the meeting point as fixed by order No. 11 at E, is in effect.

Extra 5021 must take siding at E for

first No. 85 as first 85 is superior to the extra. It is true that before the meeting point at E was substituted, extra 5021 was superior by right to first No. 85 to G, but when the meeting point at G was superseded and the meeting point at E substituted, the right of extra 5021 to G was superseded and made to extend only to E.

A Form P order only supersedes that portion of an order to which it refers. Order No. 10 contained two movements: one that extra 5021 would run extra A to N and another that extra 5021 would meet first No. 85 at E. Order No. 11 only superseded the second movement.

928. Schedule Fulfilled in Sequence.—"Order No. 1, 'Engine 120 run extra A to Z.' When extra 120 arrives at H the following order is received: Order No. 2, 'Engine 120 run extra H to F.' When engine 120 arrives at F order No. 3 is received, 'Engine 120 run extra F to H.' When engine 120 arrived at H it continued to Z on order No. 1. Is this proper?"—*Member 619.*

Answer.—Order No. 1 gives engine 120 right to run extra A to Z. When order No. 2 is given, to run extra H to F, it does not supersede or otherwise affect order No. 1. Order No. 1 remains in effect for engine 120 to fulfill from H.

Order No. 3 simply gives the engine authority to run extra F to H.

Rule 220 provides that train orders once in effect continue so until fulfilled, superseded or annulled, and as order No. 1 has not been fulfilled, superseded or annulled, it remains in effect for the movement of engine 120 H to Z.

In fulfilling orders like No. 1 it is necessary that they be fulfilled in sequence, and this was done in the case at hand.

There is no danger in the movement outlined and no rule is violated. If engine 120 can lay at H two hours and then proceed to fulfill its schedule to Z, there is no reason in the rules or otherwise why it cannot use that two hours in going to F and return.



DISCUSSION OF CURRENT TOPICS

REPORT OF UNITED STATES COMMISSION ON INDUSTRIAL RELATIONS*

The National Erectors' Association and the International Association of Bridge and Structural Ironworkers

By LUKE GRANT

The following are extracts from the report of Luke Grant on the National Erectors' Association and the International Association of Bridge and Structural Ironworkers:

The International Association of Bridge and Structural Ironworkers was organized at a convention held in Pittsburgh February 4, 1896. Five local unions were represented—New York, Buffalo, Boston, Pittsburgh and Chicago. Each local union had three votes in the convention, which was composed of thirteen delegates.

Formed at a period when the use of structural steel in buildings was being developed, the organization had no fixed precedents to follow. The erection of structural steel was at that time just assuming the position of a distinct trade. In some of the larger cities of the country, a few steel buildings had been erected in the late '80s and the early '90s, but the industry may be said to have been in its infancy at the time the International Association was formed.

Local unions of bridgemen existed in some sections of the country for a number of years previous to the appearance of the first steel skyscraper. The bridgemen were more skilled in the framing of timbers than in the

*Continued from March, 1916, Magazine.

erection of steel, but as the use of steel as a substitute for wood became general, the same workmen readily adapted themselves to the changed character of the work and became "bridgemen" instead of bridge carpenters, as they had once been classed.

From bridge building to construction work, with the appearance of the first steel building, was a natural step for the bridgeman to take, and in Chicago, the birthplace of the modern steel building, the Bridge and Construction Men's Union was formed in 1891. Because of its having been the pioneer, the Chicago union became Local No. 1 when the International Association was formed.

Probably due to the fact that the trade of a structural ironworker does not require as high a degree of skill as some other building trades, the wages paid the ironworkers when they first organized, were much lower than the wages paid to other mechanics with whom they came in contact on a building. It was some years before the structural ironworker was recognized as a skilled mechanic by the more favored and better organized trades, and it required years of effort for the ironworkers to advance their wages to the level of other trades, or to a point commensurate with the hazardous character of the work they perform.

From the lowest paid trade on a building, the ironworkers through organization have advanced their wages in fifteen years well toward the top of the column of upwards of thirty unions in the building industry.

The dangerous nature of the employment is shown in the number of fatal accidents which constantly occur in the trade. For the fiscal year 1911-1912, as shown by the report of the secretary-treasurer of the International Association, 124 death claims were paid out of a total membership of 10,928. Of the 124 deaths occurring in the trade that year, 109 were due to accidents. This is 1 per cent of the total membership.

The figures are more striking if it is considered that out of a total of 124 deaths in the year, only 15 were due to natural causes. In other words, 87.9 per cent died as a result of accidents and 12.1 per cent from natural causes.

The citizen on the street corner, who is fascinated as he watches an ironworker on the end of a narrow beam twenty or thirty stories up in the air, is apt to wonder that the accidents are not more numerous than they are. The trade does not look inviting to the man on the street. For that reason only men endowed with physical strength and daring take up the work. Facing danger daily develops in the ironworker a sort of desperate recklessness, that the workman in a less hazardous occupation does not understand.

In following his occupation as a bridge builder, which constitutes a large part of the ironworker's trade, the workman is compelled to be away from his home much of the time. Railroad bridges have to be built many times miles away from any habitation. The calling is one that hardly attracts the home-loving married man.

When the modern steel building made its appearance, it was followed in the natural course of events by the large construction company, which took contracts for the erection of steel structures in all parts of the country. Workmen were sent by these companies from one city to another, so that the nomadic habits developed in the bridgemen were perpetuated in the structural ironworker. This condition does not exist to the same extent today that it did ten years ago, but it still exists.

The trade which a man follows has a powerful influence on his character. If his work is uncertain and occasional, it has a tendency to make him shiftless and irresponsible. If it is exceptionally dangerous, he is apt to be daring and reckless. If his calling requires him to travel, with only short intervals in any given place, he is not likely to develop in a high degree the social habits that tend to ideal citizenship. A man's mental attitude toward the world is, in no small degree, determined by his trade or calling, which creates his immediate environment.

Because of these things, which are a part of the structural iron industry and inseparable from it, the average ironworker is denied the opportunities for self-development that are enjoyed by the average skilled mechanic in other trades. These factors must be taken into account in seeking to

understand and explain certain actions and the forces and motives that lie behind them.

The National Erectors' Association.

The National Erectors' Association, against which the Bridgemen's Union has waged a continuous fight since the spring of 1906, was organized March 3, 1903, in New York City. The name adopted at the time the organization was formed, was the National Association of Manufacturers and Erectors of Structural Steel and Iron Work. The shorter title was adopted early in 1906 at the time the Association launched its "open shop" campaign in the structural iron industry.

Any individual, firm or corporation, engaged wholly or in part in the erection of iron and steel bridges or buildings, is eligible to membership. The membership is restricted to such firms as pledge themselves to the open shop principle; this restriction having been imposed after the open shop campaign began.

For a number of years the Association had no written constitution or by-laws and its form of organization was exceedingly loose. It was formed mainly for the purpose of dealing with the International Association of Bridge and Structural Ironworkers in matters pertaining to wages and hours of labor. Its members carried on work throughout a large territory and it was deemed expedient to have a national agreement with the union.

The advantage in having such an agreement appeared to be that uniform hours of labor and working conditions could be established throughout the country and a wage scale fixed for each locality, according to local conditions. Such an agreement was entered into a few weeks after the organization was formed.

At the initial meeting at which the Association was formed, there were fifty-four firms represented, including the largest fabricating and erecting concerns in the country. Soon after the New England employers withdrew for local business reasons, which left the membership at about forty firms. This membership with only a little variance has been maintained up to the present time.

On the expiration of the agreement with the union January 1, 1905, it was not renewed on a national basis. The reasons for this are not quite clear today, but it does not appear that either side made any special effort to maintain the national contract.

While the agreement was not renewed on a national basis in 1905, there was no indication that the firms composing the Erectors' Association meant at that time to discontinue their relations with the union. On the contrary, local agreements were signed for New York, Philadelphia and other cities which continued in force throughout the year 1905. In their main provisions these local agreements were as favorable to the union as had been the national agreement and more favorable than the agreement between the New York Local and the local contractors, many of whom were not members of the Erectors' Association.

The policy of the Erectors Association underwent a complete change in the spring of 1906. Conditions at that time appeared favorable for the inauguration of a policy that would break the power and influence of the union.

In the fall of 1905 the union had declared a strike against the American Bridge Company, by far the largest and most influential member of the Erectors' Association.

On January 1, 1906, the ironworkers in New York struck for an increase in wages. This involved members of the Erectors' Association who had not hitherto been drawn into the strike against the American Bridge Company, so that the time appeared propitious to deal the structural ironworkers an effective blow, as they were outside the reach of assistance from the other unions in the building trades.

The Erectors' Association saw its opportunity to establish open shop conditions on a national scale. A constitution was adopted and the Association organized on a firmer footing than it had hitherto been. Up to that time the only purpose which held the members of the Association together was that of dealing with the union. This was a weak link compared with the purpose of crushing the power of that union, so that for the first time

in its history the Erectors' Association became an aggressive force with a definite object in view.

The object in view is outlined in Article III of the short constitution adopted, which reads: "The object of this Association shall be the institution and maintenance of the open shop principle in the employment of labor in the erection of steel and iron bridges and buildings and other structural steel and iron work." (Constitution Erectors' Association, Appendix, p. 191.)

During the first few years of the open shop campaign, the assessments paid by members of the Erectors' Association were based on the number of men each employed. Payment on a tonnage basis was later adopted.

This proportion of 55 per cent union and 45 per cent open shop steel construction, is not evenly distributed throughout the country. The open shop firms control practically all the bridge work, where there are no other unions to assist the ironworkers by sympathetic strikes. The union, on the other hand, controls practically all the building construction work in cities where the ironworkers are supported by other trades.

The stronghold of the Erectors' Association in building work is in New York City, where under the existing relations between the Building Trades Employers' Association and the building trades unions, the latter are not permitted to call strikes on any work being done by a member of the employers' association. The structural iron contractors in New York, whether members of the Erectors' Association or not, refuse to make any agreement with the Bridgemen's Union. This has been their policy since 1906, so that the entire trade in that city is on the open shop basis, although a few general contractors employ union ironworkers exclusively.

In Pittsburgh a somewhat similar situation prevails as to the preponderance of open shop work in the district. Figures furnished by the agent of the Erectors' Association in that city showed 1,033 open shop men working during the week ending September 26, 1914, in the Pittsburgh district, and 415 union men. The business agent of the union in a report made to the international headquarters for the same period, placed the number of open shop men at 1,000 and of the union men at 400, so that it will be seen both sides agree as to the proportion of union and open shop men.

It is throughout the eastern portion of the country that the open shop campaign of the Erectors' Association has been most effective. Its influence appears, however, to be gradually extending westward. The Erectors' Association recently opened offices in Kansas City. In Chicago the Association never has obtained a foothold in building construction work. The Bridgemen's Union in Chicago works under an agreement with the contractors and the same is true in most of the large cities in the Middle West and the West.

The Erectors' Association maintains district offices and employment bureaus in New York, Pittsburgh, Cleveland and Kansas City.

[Following this several chapters are devoted to detailing the circumstances and negotiations bearing on numerous local disputes and conditions generally that obtained in the industry previous to the outbreak of open hostilities and tracing the history of the iron workers and their employes to show the causes leading thereto.]

The National Erectors' Association looked for a man to direct the open shop campaign and finally selected Mr. Walter Drew. He was a young attorney who had previously been the secretary of a Citizens' Alliance in Grand Rapids, Mich., and had given some study to the methods of labor unions and had written a good deal on the subject. He was thoroughly imbued with the open shop idea, and the injustices of the closed shop so-called, as he viewed it. He drafted a constitution for the government of the Association in which the open shop principle was emphasized and convinced the members of the executive committee that it was feasible and practicable to establish and maintain the open shop in the structural iron trade.

The American Bridge Company had, of course, been operating on the open shop basis since the strike against it was called some months pre-

Drew did not find it so difficult to bring the other members to his point of view. The New York employers were bitter against the union, while the ironworkers did not appear to have many friends among the other unions. The declaration for the open shop was made formally on May 1, 1906.

Conditions in the structural iron trade were in a rather chaotic state in the spring of 1906. Employers friendly to the union believed that the wage increase demanded was in excess of what trade conditions warranted and they were unwilling to pay it. A series of conferences were held between those friendly firms most of whom were general contractors, and the union representatives and finally a settlement of the local strike was reached on the basis of 60 cents an hour, or \$4.80 a day. Some six or eight firms agreed to the compromise and the ironworkers returned to work for them. The others, however, stood firm against granting any increase, or making any agreement with the union. In fact they refused to meet the union representatives to discuss a settlement and after a time the firms who had agreed to pay \$4.80 a day, returned to the former scale of \$4.50 and open shop conditions prevailed generally in New York City.

For the next year or two the open shop campaign was actively pushed by Mr. Drew. A great deal of printed matter was issued from the offices of the Association. It was a practice to put circulars in the pay envelopes of the open shop employes, advising them that they did not need a union card and if asked for one on any job, to notify Mr. Drew and their statements would be regarded as confidential. They were informed through these circulars that there was not the slightest possibility of any of the open shop firms recognizing the union, the dynamiting outrages occurring about that time having the effect of making the employers more determined in that respect.¹

Policies of Employers in Open Shop War.

After the National Erectors' Association announced its open shop policy on May 1, 1906, its members did not deviate from that policy to the extent of holding any formal conferences with union representatives, or entering into any agreements with them. But they had no objections to employing union men if they could find any willing to work for them. Neither did they hesitate to sub-let contracts to firms employing union men, if that plan appeared to offer any advantage.

As the open shop fight progressed and the non-union workmen increased in number and efficiency, the leading firms in the Erectors' Association became a little more strict in the matter of letting sub-contracts to firms employing union men under closed shop agreements. Preference was given to open shop firms and in some instances cash bonds were required to guarantee that the work would be done on the open shop principle.

In numerous instances, however, sub-contracts containing an open shop clause were awarded, with full knowledge that matter of letting sub-contracts to firms employing union men rules. If a union firm was the lowest bidder on a sub-contract, the members of the Erectors' Association were inclined to look at the business side of the proposition and wink at a violation of the open shop principle. An open shop clause in the contract probably eased their consciences, but they did not let their principles stand in the way of profits.

There were occasions when even the open shop clause was omitted in the awarding of sub-contracts, when the successful bidder was a responsible firm employing union men. The Snare & Triest Company was given sub-contracts in New York by the American Bridge Company and the Pennsylvania Steel Company and the open shop question was not raised. The firm employed union men exclusively on such contracts.

This firm erected two of the Chelsea piers on a sub-contract from the Pennsylvania Steel Company when the open shop fight was at its height in New York and employed only union men. The McClintic-Marshall Construction Company erected the other piers at the same time with open shop men.

The American Bridge Company sub-let the erection of the approaches to a bridge over the East River in New York to the Oscar Daniels Com-

pany, knowing that the firm employed union men. The work was completed under union rules.

It appears, however, that the American Bridge Company was stricter in the matter of sub-contracts than some of the other large firms in the Erectors' Association. The New York firm of Terry & Tench was the successful bidder on a sub-contract for the erection of the Madison Avenue Bridge in New York City in 1907. The American Bridge Company insisted on an open shop clause in the contract. Terry & Tench had no objections, it being the intention of the firm to accept the clause and employ union men exclusively as it had been doing up to that time.

Mr. Drew, the commissioner of the Erectors' Association, was asked for an opinion if such an open shop clause was enforceable. He said it was not, but that he would draw up a clause that would meet the requirements. He accordingly drew up a clause providing that an agent of the Erectors' Association be allowed to visit the work and hire or discharge men to insure the job being done under open shop rules. Terry & Tench would not accept such a clause and the contract was canceled.

The Pennsylvania Steel Company let a sub-contract for the erection of a viaduct to J. H. Greiner, a Philadelphia contractor who was employing union men. He was required to put up a cash bond of \$6,000 that the work would be done on the open shop plan. He did not wish to get into trouble with the union, while at the same time he wanted to get the contract. The matter was quietly arranged with the business agent of the Philadelphia union and Mr. Greiner started work with an open shop force. Gradually the open shop men were found to be "incompetent" and discharged. The union business agent saw to it that union men were on hand to fill the places. In three weeks the job was entirely unionized and it was finished before the Pennsylvania Steel Company knew of the arrangement. Mr. Greiner, however, did not get another sub-contract from that company or any other member of the Erectors' Association and soon afterwards joined the union and went to work at the trade.

The Strobel Steel Construction Company of Chicago took a good many sub-contracts from the American Bridge Company and at one time was a member of the Erectors' Association. It employed union men exclusively and when it persisted in this policy it was expelled from the Erectors' Association.

The National Erectors' Association never imposes any penalties in the shape of fines on its members for violations of the open shop principle to which they are pledged. They are expected to live up to the open shop rule on all work done by them directly, and as far as possible see that any work sub-let by them is carried on in the same way. Occasional lapses from the rule are overlooked, but if a firm persists in ignoring the rule so that it is apparent that it is not trying to observe it, that firm is dropped from membership.

Why Erectors Prefer Open Shop.

Assuming that the structural iron erectors who have adopted the open shop policy, have done so from choice, it follows that they must have had some business reasons for doing so. What are the reasons?

A great deal of literature has been issued by associations of open shop employers, tending to show that the fight is purely one of principle; that principle being the right of a workman to work where and for whom he pleases and under such conditions as he may see fit.

It is not necessary to waste time or space in discussing that plea. Until society provides a plan for assuring every man, who is able and willing to work, an opportunity of doing so, it is idle to talk about his sacred right to work.

Setting aside, therefore, the thoughtless and many times hypocritical plea of some open shop employers, that they are contending for a fundamental principle, the matter may be discussed from a purely business point of view.

If employers who are fighting for the open shop would frankly admit that they are doing so for business reasons to increase their power and profits, and if labor unions who are fighting the open shop would admit that they are doing so for precisely the same reasons, the public would hear less meaningless twaddle about abstract principles. No matter how many high-sounding phrases may be used in discussing the subject, in the last analysis it is a common, ordinary question of dollars and cents.

In the structural iron trade, New York City furnishes a good illustration of the effect of the open shop on wages. That city is the stronghold of the National Erectors' Association and the wages paid structural ironworkers are lower than in any of the leading cities of the country. They are lower than the wages paid in most of the other building trades in New York, where the unions are working under contractual relations with their employers.

Not only that, but the wages paid structural ironworkers in New York are 50 cents a day higher than the scale of the Erectors' Association for any other city in the country, which makes the difference between the open shop and the union scale still more marked.

The National Erectors' Association has not issued a wage scale since November, 1912, while the union scale has been raised in a number of cities since that time.

On the average the wages paid by members of the Erectors' Association are considerably lower than the wages paid by firms employing union men.

Why Unions Fight for Closed Shop.

To understand why some unions will stake their very existence to obtain a closed shop agreement, so-called, while other unions are ready and willing to accept open shop contracts, it is necessary to understand something of the peculiar conditions obtaining in the particular trade. It is necessary also to understand the meaning of the term "open shop" for it does not convey the same meaning in every instance.

The building trades unions, without exception, aim at having union or closed shop agreements with their employers. Whatever the actual wording of these agreements may be, they mean that the employer on his part agrees to hire members of the union, and the union on its part obligates itself to supply all the competent workmen needed in the particular line of work. Such agreements are not altogether one-sided, because the employer is assured of having an adequate labor supply at all times to meet his requirements.

These trade agreements mean that a committee representing the employers and a committee representing the workmen, have met in joint conference and drafted certain rules fixing wages and conditions of employment in that particular trade. They mean that both sides recognize the principle of collective, rather than individual bargaining.

Agreements between the railroad companies and the various railroad brotherhoods do not provide for the exclusive employment of union men. The railroad brotherhoods do not assume the responsibility of supplying all the competent men required by the railroads. These agreements are commonly known as "open shop" agreements, and the railroad brotherhoods are quite willing that they should be so regarded. But for all practical purposes they are as effective as the so-called closed shop agreements in the building trades.

Street railway companies frequently make open shop agreements with unions of their employes and the issue of the closed shop is seldom raised. Certainly that issue would not be regarded by the union officials as a sufficient cause for a strike, if it did not involve the question of discrimination against union men. If a street railway company was willing to make a contract with its employes and show no discrimination as between union

It is difficult for some to understand why one union will accept an open shop agreement while another will not. Is the building trades workman differently constituted from the locomotive engineer or the street car motor-man? Of course, he is not, but he is forced to adopt different tactics to obtain the same results, due to the different conditions in his trade.

Mr. Drew, Commissioner of the National Erectors' Association, says that the structural ironworkers never accepted the open shop principle in good faith, and like hundreds of others, he points to the railroad brotherhoods as conspicuous examples of unions that have accepted the open shop and prospered under the system.

The conditions surrounding the railroad trainman and the building trades workman are entirely different. It has been said that the contracts between the railroad companies and the brotherhoods are for all practical purposes union agreements, as effective as if they were closed shop contracts. The reason is this: The representatives of the railroads meet in conference with the representatives of the brotherhoods and agree on certain schedules of wages and hours for the different classes of men in train service.

Those schedules apply alike to union and non-union men in the different classes. There is no individual bargaining, or no individual cutting of wages once the schedules have been adopted. The adoption of the schedule has at once eliminated the competition of the non-union man. The union men, in other words, have set the standards of employment, which is all that a building trades union does when it makes a closed shop contract.

If the employer in the building trades made an open shop agreement, the union men would not be protected as are the railroad employes from the competition of the non-union man. The contractor might employ union men on one job and non-union men, at a lower rate of pay, on another job. Or he might, as he has done in the past, employ union and non-union men on the same job at different rates of pay and in this way break down standards, or prevent them from being established. The opportunities for doing so, in a trade where men are being constantly employed and discharged, are too many, and the building trades workman insists that the competition of the non-union man be eliminated by specific agreement.

It might be possible, of course, for a building contractor to agree to pay certain wages under an open shop agreement, but if he did that the main incentive for desiring an open shop agreement would be removed. He might as well sign a closed shop agreement and that is what he does. Besides trade union agreements are much like civil laws. Their enforcement depends upon the force of opinion behind them. It is well known that a law which is obnoxious to a majority of the people is non-enforceable. An open shop agreement in the building trades would be worthless in practice, no matter how well it may sound in theory. A closed shop agreement is enforceable only because of the organized strength of the workmen behind it.

A closed shop agreement does not mean that the building contractor or his foreman asks a workman on being hired whether he is a member of the union. He hires him and the union steward on the job sees to it that he has a union card, or that he makes application to join. The picture, sometimes painted, of the employer with tears in his eyes telling a workman that he would like to employ him, but cannot do so because he is not a member of the union, is purely fanciful.

The main purpose of the closed shop agreement in the building trades is to give the union power to control conditions, to establish and maintain recognized standards. The union cannot control conditions in the trade, unless it controls the men engaged in that trade.

But there is another reason. The high wages and short workday in the building trades have been brought about by organized effort. That will not be disputed. The union man therefore does not think that the non-union man, who has not contributed either money or work to improve conditions, should reap a reward that he does not deserve. The good conditions have been brought about in spite of the non-union man. Usually the non-union man has done his best to retard every advance that has been made. In the opinion of the union man his non-union competitor is not

treating his non-union competitor unfairly when he compels him to either join the union and contribute his share to its support, or get off the union job.

It may be said that the same line of reasoning applies to the non-union railroad employe. It does, but the railroad brotherhoods do not have to rely on closed shop agreements to build up and retain their membership. There are other conditions in connection with railroad work that are as impelling as the closed shop agreement in the building trades.

There are three good reasons why the railroad brotherhoods can afford to accept open shop agreements and prosper under them: The first reason has already been alluded to. It is that once the schedule of wages and hours has been adopted it applies to every employe in that line of service and there is no danger of the non-union man breaking down the established standard.

Another reason why the railroad brotherhoods grow in strength and influence without the aid of a closed shop agreement is found in the strict rules of discipline maintained by the railroads. An employe in railroad train service is suspended or discharged for a slight infraction of the rules. If he is a member of a brotherhood, he can appeal to a committee and if he has been unfairly treated, the brotherhood will insist on his reinstatement. If he is not a member he has to fight his own battle and the chances of his reinstatement are slim. The stricter the rules, the more incentive there is for employes joining the brotherhoods for their protection.

The third reason is the insurance features of the railroad brotherhoods. The occupation is a hazardous one and accidents are numerous. The brotherhoods provide insurance for their members at a much lower rate than they could obtain in any other way.

Those factors explain why the railroad brotherhoods do not have to rely on closed shop agreements. The employes bargain collectively under the open shop plan and are given protection by the brotherhoods, both with respect to security in their jobs and insurance against accidents.

There is another factor to be considered and that is the attitude of the employers. Although the railroad brotherhoods are frequently pointed out as examples of successful open shop unions, the railroad company is not a fair example of the open shop employer. All the large railroad systems in the country, with one or two exceptions, recognize the principle of collective bargaining and meet representative committees of their employes to discuss working conditions. This is not the policy of the average open shop employer.

The open shop employer in the structural iron industry, in the metal trades and elsewhere, does not recognize the principle of collective bargaining. Assuming that the open shop is in reality open, that is, that union men can find employment there without discrimination, such union men have no voice in making the conditions of employment. The wages and hours are fixed by the employer, so that the shop is to all intents and purposes non-union. The fact that some members of a union may be employed in that shop does not alter the situation in the slightest degree. If men cannot have a voice in fixing conditions of employment or bargain collectively for the sale of their labor power, they might just as well not be members of a union. Men join unions mainly for practical reasons. If the union cannot help them in a practical way they will not join it.

Open shop advocates who point to the relations between railroad companies and the various railroad brotherhoods to prove their contention, often fail to take the attitude of the railroad companies into consideration. If the railroad brotherhoods are to be contrasted with the unions in the building trades, or in the metal trades, the railroad companies should be contrasted with the employers in those trades.

Recognition of the union is not an issue among the railroad companies. The right of the brotherhoods to legislate for all the employes in their particular line of service is fully recognized by the companies. The railroad companies, therefore, are not open shop employers in the sense that the members of the National Erectors' Association and the Metal Trades Association are. Those associations do not recognize the right of their employes to bargain collectively. The employes are not permitted to set up the standards for all men engaged in their particular line of work.

On the contrary, these employers refuse to recognize the union in any way. They may employ a union man in the same way that they might employ a Catholic or a Methodist, but such employment would have no significance. That is the reason why union men commonly refer to the so-called open shop as a "non-union" shop, or as a shop that is "closed" to union men.

Spies in the Ironworkers' Union.

The employment of spies in labor unions is a common practice, especially with large corporations. Espionage is closely related to violence. Sometimes it is the direct cause of violence and where that cannot be charged, it often is an indirect cause.

If the secret agents of employers, working as members of labor unions, do not always instigate acts of violence, they frequently encourage them. If they did not they would not be performing the duties for which they are paid, for they are hired on the theory that labor organizations are criminal in character.

If they find that labor unions are not criminal organizations and that acts of lawlessness never are discussed in union meetings, they have nothing to report to those employing them. If they do not report matters which the detective agencies employing them can carry to corporations to frighten them, it follows that they cannot last long as spies, or "operatives" as they are professionally known.

The very nature of the business, therefore, makes it virtually necessary for the spy to do either of two things. Either he must make reports that are false, in which case discovery would be inevitable sooner or later, or he must create a basis on which to furnish truthful reports. The latter plan is the better suited to his purposes, and he governs himself accordingly.

Men who engage in this kind of work are not troubled with conscientious scruples. They should not be confused with real detectives, whose business it is to prevent the commission of crime, or bring the perpetrators to justice. Law and order are essential to the well-being of any community and every honest citizen believes in their enforcement.

But the union spy is not in business to protect the community. He has little respect for law, civil or moral. Men of character do not engage in such work and it follows that the men who do are, as a rule, devoid of principle and ready to go to almost any extreme to please those who employ them.

At the bottom of the whole system of espionage in labor unions, is the one word, GRAFT. The individual operative grafts on the detective agency employing him and the agency grafts on the corporation which pays the bills. In neither case is there honest value received for the money that is paid. The system is an incentive to the commission of crime.

In the structural ironworkers' organization, the spy system flourished for a number of years. Officials of the American Bridge Company and of the National Erectors' Association say the system has been discontinued, at least so far as the employment of private detective agencies are concerned.

While the identity of the spies became known in the unions in only rare instances, suspicion pervaded every local. Dozens of men were suspected although sufficient evidence against them could not be found to warrant bringing them to trial. The effect was utterly demoralizing on the unions. Honest men were deterred from expressing their views on questions of policy, because of the fear that they might be considered agents of the employers. Men mistrusted each other, as they did their officers. There is nothing quite as repugnant to the honest union man as the idea of being thought a spy.

In 1903, when Mr. Buchanan was president of the ironworkers' organization, he had occasion to see something of the espionage system. During the national strike in March of that year, Mr. Buchanan had no fewer than eight of these spies on his staff at one time. Eight men, drawing pay from the American Bridge Company and other iron erectors, secretly were reporting to Mr. Buchanan. In fact, he frequently wrote the reports which they sent to their employers.

If there were eight at one time who were "double-crossing" their employers, it is reasonable to assume that there were a number who were not. It gives some idea of the extent of the system even at that time, when the employers and the unions were working under contractual relations.

The American Bridge Company at that time and afterward, maintained an agency in the Frick Building in Pittsburgh under the charge of a man named Thomas H. Morgan. Mr. Buchanan in 1903 bribed a clerk in Mr. Morgan's office and obtained a list of members of the union who were supposed to be on the payroll of the company as secret spies. The list contained twenty-five or more names, among them being the names of some prominent officers of local unions. There were names of men on the list of whom Mr. Buchanan was suspicious but there also were a few names of men in whom he had the utmost confidence. That fact made him attach little importance to the list. He came to the conclusion that Mr. Morgan was carrying a padded payroll, or that the bribed clerk had given him a fictitious list.

That union spies were active in the affairs of the ironworkers' organization at that period, there appears little doubt. It appeared to be the business of Mr. Morgan and other agents not only to keep watch on union affairs, but to endeavor to control union elections. That money was furnished by employers to control delegates to the international convention in Kansas City in 1903, is commonly believed among union ironworkers.

The ironworkers felt that the existence of their union was being threatened from without and within. That did not justify the resort to physical violence and the destruction of property which marked the fight against the open shop, but it suggests an explanation for the attitude of mind which made such acts possible.

In a report to the Philadelphia convention in 1905 Mr. Buchanan said on the subject of spies in the union:

"Sadly enough I find in many of our affiliated locals some persons who are traitors to their cause. These people, however, are generally of the same type and are easily detected by those who use discrimination and judgment. They are people who take the side of the employer in nearly every case and when occasion demands, they charge dishonesty to those who support efforts to win, whether they are members of the rank and file, the local officers or the national officers.

"You must watch these people if you would not that they get the upper hand. They are regular in their attendance at the meetings; they are prompt to take the floor in defense of their masters; they talk louder and longer than any one else. They do their work in the meetings; they talk it upon the jobs, before the labor union convenes, after some of the members have gone home and by sheer physical force even drive persons to support their claim.

"You must watch these people if you would not that they be thrown out; their advice should not be taken. 'A house divided against itself cannot stand,' and if these people are allowed to have their way, you as a labor organization might as well disband. It cannot win a fight. It cannot make good the promises it makes its membership and it is a useless thing, not because the employers are too strong, but because the stealthy, scheming traitors to the cause are too numerous and too successful."

It is evident that the men Mr. Buchanan had in mind were those who openly espoused the cause of the employers and sought to discredit the local and national officers. Such men, however, are not the most dangerous in a union. The spy who is on the payroll of a detective agency, usually is loud in his denunciation of the employers. He aims at being among the most radical, so that he may be elected to some important office. If he openly sided with the employers he would not be apt to get elected. So he pursues a different line of policy for the purpose of getting elected and at the same time warding off suspicion as to his real purpose. Once elected to an important position he is much more valuable to his employer and can better betray the men he was elected to represent.

In the Dynamite Conspiracy trials in Indianapolis, it was shown by testimony that H. S. Hockin, a member of the Executive Board of the Inter-

national Association of Bridge and Structural Ironworkers, and the man who for three years directed the dynamite campaign in the destruction of bridges and buildings, was keeping L. L. Jewell, erecting manager for the McClintic-Marshall Construction Company, and later Detective Burns, informed of the movements of the dynamiters. Had he not occupied a position of influence in the organization, that would not have been possible.

The evidence in the trial does not show that Hockin became "conscience-stricken" until July, 1910, after he had been found out grafting on Ortie McManigal, by "holding out" from \$50 to \$75 on each job dynamited by the latter. This had been going on for about three years before the discovery was made. Within two weeks after Hockin's dishonesty was found out, he went to Mr. Jewell and informed him about the work of destruction.

Two months later, in September, 1910, Hockin informed Detective Raymond Burns of the identity of McManigal and J. B. McNamara.

While there is nothing in the testimony to show that Hockin had any connection with the employers or detectives until the summer of 1910, there is a strong suspicion in the minds of some union officials that he was a spy from the first and succeeded in getting elected on the Executive Board to better enable him to carry on the work of destruction.

In opposition to this theory is the fact that Hockin directed the work of dynamiting for three years without the perpetrators being discovered. Had he been in the employ of the erectors during that time, it would appear unlikely that the campaign of destruction could have been carried on successfully so long.

The facts in the case, however, are that McManigal and J. B. McNamara caused some ten explosions after their identity was known to Detective Burns and during the time they were being "shadowed." From that it does not appear that it always is the work of detectives to prevent the commission of crime.

The Dynamite Campaign and its Effect.

The arrests April 12, 1911, of Ortie E. McManigal and J. B. McNamara, the self-confessed agents of the structural ironworkers in the destruction of property by explosives, and the arrest ten days later of J. J. McNamara, secretary of the International Association of Bridge and Structural Ironworkers, as the directing head of the alleged dynamiters, threw the country into a form of national hysteria. The importance of the arrests was magnified out of all proportion with their actual bearing on the industrial situation.

This was largely a result of the spectacular and sensational manner in which the arrests were made; the confession of McManigal; the way in which J. J. McNamara was taken out of the State of Indiana in violation of the established legal procedure in such cases and the desire for publicity and notoriety on the part of the private detectives employed by the National Erectors' Association, who made the arrests.

Overshadowing every crime with which the alleged dynamiters were charged, was the destruction of the Los Angeles Times Building on October 1, 1910, through which twenty-one persons lost their lives. Through carefully planned publicity, the destruction of the Times Building was skillfully coupled up with the destruction of numerous bridges and buildings throughout the country, and in the public mind, the structural ironworkers were charged with the entire responsibility.

The International Association of Bridge and Structural Ironworkers, as an organization, had nothing to do with the Times explosion. J. B. McNamara pleaded guilty to having caused the explosion and he was, according to the evidence adduced in the Dynamite Conspiracy Trials, the same agent who caused numerous explosions on buildings and bridges for the structural ironworkers. That is the only connection between the structural ironworkers and the Times explosion.

While the same agent was employed, because of his expert knowledge of explosives, it does not follow that his employers were the same. Who did employ McNamara to blow up the Los Angeles Times has never been determined. No one except McNamara himself has been tried or convicted of the crime. The Times explosion, therefore, must be considered separate

and apart from the hundred other explosions and attempted explosions on buildings and bridges throughout the country.

Without in any way attempting to minimize the enormity of the crime which cost the lives of twenty-one human beings, it may be said on the most reliable authority, that it was not the intention of McNamara to take human life. The charge of dynamite used, was not of itself sufficient to wreck the entire building. The explosion did not stop the running of the presses.

According to the authority of Mr. Clarence S. Darrow, who defended the McNamara brothers and who knows the facts better, perhaps, than anyone else except McNamara himself, what actually happened was this: The charge of dynamite was placed near a number of barrels of printer's ink, which contains petroleum in large quantities and is highly inflammable. The force of the explosion burst the ink barrels and scattered the flaming fluid all around. The building was a fire-trap and the flames spread so rapidly that the men at work had no chance to escape. They were suffocated or burned to death.

While McNamara could not foresee the results of his work, he, of course took chances and it does not greatly mitigate his crime to say that he did not intend to take human life. Although he was a zealot, ready to do anything in his blind devotion to a cause, as he conceived it, he must have realized the grave possibilities of his act, if he was capable of reasoning at all.

Aside from the Los Angeles Times explosion, for which the structural ironworkers were not responsible, no loss of life attended any of the other explosions, extending over six years that the dynamite campaign covered in the war against the open shop in the structural iron industry. The destruction of property was not as great as commonly supposed, for the reason that buildings under construction are open and are not susceptible to serious damage from an explosion.

While the estimated loss caused by a few of the explosions ran into thousands of dollars, the average loss probably did not exceed \$1,000 for each explosion. Some of the larger structural iron firms carried dynamite insurance and the cost of the premiums was added to the contract price, so that in many instances there was little financial loss to the erectors.

They were, of course, compelled to employ additional watchmen and in other ways subjected to inconveniences and delays that were costly, but in dollars and cents the dynamite campaign appears to have cost the union more than it did the employers.

According to the testimony of McManigal, who turned state's evidence, and the union records introduced in evidence during the trial of the officers of the ironworkers organization in Indianapolis, the price paid by the union for each explosion was \$200 and expenses.

From February, 1908, to April, 1911, 70 explosions took place; 43 on jobs of members of the National Erectors' Association and 27 on work of independent contractors. Of the known explosions McManigal was the agent in twenty cases and J. B. McNamara in sixteen cases. In all about one hundred explosions, or attempts to dynamite, occurred from the beginning of the year 1906 until the end of the year 1911.

The Dynamite Conspiracy Trials, as a result of which twenty-two former officials of the ironworkers' union, in addition to the McNamara brothers, are now serving sentences in a federal prison, cost the organization at least \$150,000 as shown by the records, independent of what the ironworkers contributed to the defense of the McNamara brothers. If to this sum is added the price paid to the actual agents who wrought the work of destruction, together with their expenses, it will be seen that the average cost to the union of each explosion was about \$2,000, or twice the estimated cost to the employers. In addition the union is continuing to pay \$25 a week to each of the men in prison, except H. S. Hockin, so that from a financial point of view the dynamite campaign must be considered a failure for the union.

The tendency of the U. S. Steel Corporation and its subsidiary companies, has been to prevent the spread of organization among the employes. The tendency of the ironworkers and all other organizations of labor, is, and always has been to extend their sphere of influence. Therein lies the main reason for the clash of interests in this particular situation.

As labor unions are organized and exist for the purpose of advancing the

Erectors' Association prevents the ironworkers' union from exercising the functions for which it was organized. That means the destruction of the union in effect, if not nominally. It means that the union is reduced to a position where it is wholly incapable of protecting the rights of its members. Its existence under such circumstances is a matter of little importance to the employers.

The officers of the ironworkers' union knew what the open shop policy of the erectors actually meant. They knew if that policy succeeded, the union would lose to a like extent. That increased their determination to fight. Denied the opportunity of conferring with representatives of the Erectors' Association, or ending the struggle on the basis of a mutual agreement, they resorted to drastic measures. They found themselves over-matched and, believing the existence of their organization was at stake, they hit below the belt in trying to turn the tide in their favor.

If the union resorted to unfair and unlawful methods in the prosecution of the fight, the erectors were in a degree responsible. The system of espionage which they maintained in local unions, before and after the outbreak of hostilities, did much toward creating and preserving the spirit of hostility which made the destruction of property possible.

It has been shown that the employers maintained a system of espionage in local unions at a time when they were working under contracts with such unions. That does not indicate that they signed the agreements in good faith. If they did sign the agreements in good faith, why was it necessary to keep paid spies in the local unions? Why was it necessary to seek to influence elections in the unions?

That the employers had paid spies in the unions does not admit of doubt. That the system bred suspicion among the members of the union and hatred of their employers, is equally certain. If the employers were not bent on weakening or destroying the influence of the union, at the time they openly recognized it by signing contracts, why the employment of spies?

When the members of the union knew, or suspected, that these paid spies of the employers infested every local, were they not justified in believing that the employers were secretly aiming at the disruption of the union? Is it strange that they should resort to secret methods of retaliation?

Organization raised the wages of structural ironworkers almost 50 per cent in a period of fifteen years. It was natural that they should rally to the support of that union when they believed that its existence was threatened. It was natural that they should feel bitter toward the employers who were hiring secret spies to destroy that union.

The employment of spies by the employers was as indefensible as was the resort to dynamite and the destruction of property by the ironworkers, although the one was within the law and the other was not. The system of espionage was established years before the campaign of destruction began. It cannot, therefore, be urged in defense of the system that it was made necessary because of the outrages that were being committed.

Pernicious as was the effect of the spy system on the union, it did not justify the resort to violence and the destruction of property in the eyes of the law. But it went a long way toward justifying them in the eyes of the union ironworkers.

The employers say that the spy system has been discontinued. It probably has, because under present conditions the open shop erectors are not greatly interested in the union. They feel they have won the fight for the open shop and all they ask of the union is that it leave them alone.

The union ironworkers cannot accept that view. With from 45 to 50 per cent of the structural steel erection on an open shop or non-union basis, it is inevitable that the ironworkers will keep on trying to organize the men in the industry. They look upon the open shop, not only as a check on further progress, but as a menace to the retention of what has already been gained. They feel they must keep on fighting to prevent the spread of the open shop policy, or take a backward step.

Under such conditions there cannot be peace in the industry. Fear of the consequences may prevent a recurrence of violence, but it will not remove the cause. Fear of the law will not re-establish amicable relations between the companies and the union. Only the recognition by each side of the rights of the other can bring about a permanent peace.

Contributed

Railway Mail Pay*—To the Million and a Half Railway Officers and Employes of the United States of America.

Beyond doubt the railway men of the United States are aware of the fact that the Federal Government does not fully compensate the railroads for carrying the United States mail, but have not given the question the consideration it so richly deserves. It is certainly to the best interest of the railway employes that the company that employs them is properly compensated for all the transportation service it performs, because for obvious reasons the interests of the railways and their employes are identical: the prosperity of the railway means prosperity for its employes just as surely as shrunken earnings of a company means inability to pay the scale of wages that obtain on more prosperous lines.

This article is designed to impress the large army of railway men in the United States with the vital connection they have as railway employees in this very important matter in the full expectation that they will be brought to realize the true situation, and the urgent necessity for every railroad employee and every citizen who is directly or indirectly interested in the prosperity of the American railways to take a keen interest in this question and adopt such legitimate aggressive measures as seem best to secure for the railways just and reasonable compensation for handling the United States mails with safety and dispatch.

Briefly the situation is as follows:

The United States mails are carried by the railroads under contract with the government which provides that the mails shall be weighed quadrennially (once in every four years) and all the mail for movement during the succeeding quadrennial shall be paid for upon the basis of the quadrennial weighing, which arrangement is manifestly unfair because the continued growth of our country by leaps and bounds implies beyond question increase in mail tonnage and every railroad man who has had an opportunity to observe the mail handled knows of his own personal knowledge that the increase within recent years has been enormous and that there is no reasonable limit to

its further growth, especially since the government has entered into competition with the express companies by the inauguration of its parcel post service. This means that the railroads are carrying free the increased mail tonnage accruing between the four year weighing periods.

This same government of ours, by the medium of its Interstate Commerce Commission, required the express companies to lower their rates, which means that a large volume of traffic which the railways formerly handled in their time or quick dispatch freight trains is now moving by express and the government is handling (without fully paying for the service) by its parcel post, traffic that rightfully belongs to the express companies; hence it will be seen that the railways are the greatest sufferers, receiving as they do the usual percentage of the revenue derived by the express companies on a large amount of business that formerly moved by freight and from which the railways received all the revenue and being underpaid by the government for handling the parcel post, which traffic formerly moved by express and for which express service the railways were reasonably compensated.

The story is perhaps well known as to the exactions of the government in connection with their mail service; how they require splendidly appointed cars of certain dimensions and furnishings to be placed for the reception of mails in stations prior to the necessary time for making up trains, and in winter heated and made comfortable before the arrival of the postal clerks to "work" the mail before departure from terminals; how the railways are at constant expense in providing storage space for mails in their stations and trucks for handling between stations and trains; how railways are required to handle the mails between stations and post offices at terminals or at way stations when the distance is under eighty rods ($\frac{1}{4}$ mile); how the railways are penalized by fines when connections are missed under certain conditions and many other requirements that are calculated to increase the cost of mail handling to the railways or retard the movement of their trains handling passengers and express.

During the last holiday season the mails were enormously heavy, by far greater than ever before in the history of the country. It is reasonable to assume that the railways will not be paid for handling

*Published by request of G. F. Turley, Trainmaster, Scoto Division, Norfolk & Western Railway.

half of it, notwithstanding they had to not only provide in perhaps many cases additional space for handling it in cars or for storing and caring for in their stations mails that missed connection, as well as providing at their own expense large numbers of additional men to handle the mails. Cases of this kind came under the personal observation of the writer.

For years the railways of the country have endeavored to obtain from the government reasonable pay for mail handling and exemption from certain requirements which entailed expense, but without success. The "Moon Bill" now pending in Congress is designed to change the whole scheme of mail handling and to the very much greater embarrassment of the railways. The Post Office Department, realizing the justice of the contention of the railways for more frequent and equitable weighing regulations, but not acceding to their wishes, and knowing as well as any of us that the mail tonnage is bound to increase, propose in the aforesaid "Moon Bill" to stop the payment for mail handling on even the present unfair weight basis and adopt a "Space Basis." This, the railways for obvious reasons are opposing. The only fair way to pay for the service is upon the weight basis precisely as express and freight are handled. The "Moon Bill" is in other respects quite unsatisfactory to the railways in that it would clothe the Postmaster General with power to regulate mail pay and mail service to the great detriment of the railways at his pleasure and they would be powerless to prevent it. This bill also is designed to compel a railway to handle the mail whether they will or no at the option of the Postmaster General and at such rate of pay as he may choose to fix, provided it does not exceed an amount fixed by other provisions of the bill. The gross injustice done the railways by the Federal Government in the matter of railway mail pay is a blot upon its fair name, and every citizen of the republic should exert himself to give our Representatives to understand that immediate steps should be taken to erase the stain and put the mail pay question upon such a fair basis that the railways will be justly compensated for their service.

The government has always been reasonable in paying for service and material in other directions, and it is inconceivable that it should withhold from the railways that which is well and universally known to be their just due.

The Postmaster General is to be commended for his efforts to make his department self-sustaining so far as those

efforts are right and proper, but he is obviously wrong in seeking to exhibit a flattering balance sheet at the expense of the railroads.

It occurs to the layman that this question has not been brought to the attention of the President in its true light, otherwise he would make such strong representations to Congress as would result in the introduction of such a measure as would insure the railways proper compensation for their services, assuming that such a measure championed by the Chief Executive would be speedily enacted into law.

If the railroad men of the United States will realize the force of the arguments sought to be advanced in this article and by concerted action bring proper pressure to bear upon the Congress, there is little doubt but that the governmental ear will be opened and the governmental mind receptive to the just and very respectful contention of the railways resulting in the suppression of the iniquitous "Moon Bill" and the enactment of such legislation in spite of the Post Office Department as will insure the equitable and prompt settlement of the railway mail pay question.

The *American Railways* are asking only for a *square deal*.



The Cause of the Present Railroad Receiverships.

Suit was brought some few months ago by the receiver against the president and the directorate of The Chicago, Rock Island and Pacific Railway Company in the United States Court at Chicago to recover back from them \$7,500,000 wrongfully "taken" from that company.

This means \$7,500,000 the employes of the company earned only to be "appropriated" by these higher-ups.

The same state of affairs showed up about two years ago in the Frisco receivership, only there the amount was more than twice as large.

For a railroad employe to take a dollar is larceny, but for high officials to take millions is no crime to be prosecuted—only a civil suit to recover it back.

In the face of awful, tremendous, appalling loots by railroad officials and managements, that go to the very vitals of the roads, these same high financiers have the gall to be all the time pressing their demands for higher freight and passenger rates for the public, greater economy, more work and less pay, through the use of mammoth engines and the tremendously increased tonnage they haul, poorer conditions and more dangerous risks to the employe.

The general loot, for several years, practiced on the railroads of the country is what has swelled the mileage now in the hands of receivers to almost 50,000. The courts are the cities of refuge to which these outlaws have fled for protection and safety.

The railroads have been robbed be-

yond their ability to bear and the employes to earn. This is only another case of killing the fabulous goose that daily laid the golden egg. Why can not these thieves be satisfied by coming around once a day and robbing the hen roost, and let it go at that?

By A. A. GRAHAM, Topeka, Kas.



MARCH WINDS

By FRANK NEMICK, Member 189.

The wind in May may blow a gale
 And folks will sing with pleasure,
 They'll say, "Oh, beauteous May, all hail!
 Your breezes are a treasure!"
 But let the Zephyrs stir in March,
 The willows gently sighing
 Or move the branches of the larch
 And people start to crying.
 "Oh, here is March, with her wild ways,"
 The mourners sadly clamor.
 "We'll have to stand it many days
 So let us find our hammer."
 Throughout this month our hats take flight
 The winds are always blowing,
 And both in daytime and at night
 It's thawing or it's snowing.
 But me, I've got a notion queer
 That March is sadly slandered.
 I'm always glad when she is here;
 She's always up to standard
 Her cunning breezes softly blow
 The treetops gently rocking,
 And now and then they deftly show
 Snow! With roads a blocking.

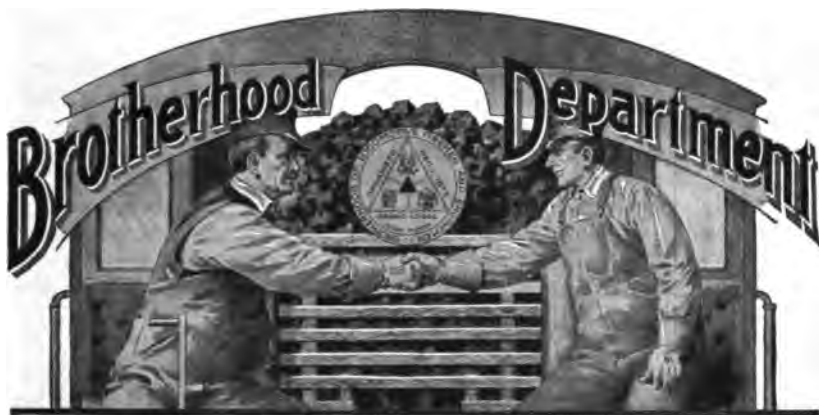
TRAILING ARBUTUS

By ADELBERT CLARK

There's a flower in the woodland
Where the pines and hemlocks grow,
Sweeter than the rose of summer,
Whiter than the flakes of snow.
'Tis the breath of God and blossoms
For the weary passer-by,
And it sometimes holds the blushes
Of a rosy sunset sky.

When the days are warm with sunshine,
You will find it blooming there,
And your soul will fill with gladness
And your lips will breathe a pray'r.
And I know that you will gather
Just a handful for some soul
That can never see the sunshine,
Or like you, can take a stroll.

O, those sweet and fragrant blossoms,
How they cheer the troubled breast,
How they scatter every sorrow,
Bringing hope and joy and rest!
God has made them for a purpose
And they blossom every year;
You will find them in the woodland
When the springtime days are near.



Communications intended for publication should reach this office not later than the 10th of the month to insure their appearance in the following issue. Write on one side of the paper only. All typewritten matter should be double spaced. Sign name and address in all instances, not necessarily for publication, but as evidence of good faith. Correspondents may, if they desire, use a nom de plume, but no attention will be paid to anonymous communications. The Editor and Manager reserves the right to revise or reject any communication if he deems it to the best interests of the Brotherhood to do so.

Obituary notices and resolutions and detailed accounts of events of a purely local nature can not be published. Pictures are published only when same are of general interest.

All orders for subscriptions should be sent to the Editor and Manager.

Members when changing their address should immediately notify the Magazine office. All changes for the Directory should reach this office previous to the 10th day of the second month of the quarter in which it is desired that such changes should take effect.

Inquiries for the address of or any information concerning another, should be made through the secretary of the lodge nearest the residence of the person making such inquiry.

THE VOTE ON THE EIGHT-HOUR DAY PROPOSITION

Overwhelming Majority in Favor of Presenting Demands

Members of Train Service Organizations Almost Unanimously Support Proposition on Eight-Hour Day and Time and One-Half for Overtime

The members of the four train service organizations, the B. of L. E., O. R. C., B. of L. F. and E., and B. of R. T., have voted on the question of presenting to the railroad companies a demand for an eight-hour day and time and one-half for overtime, and the vote has been overwhelmingly in favor of the proposition.

The demands were presented to the railroad companies on March 30th last, from which date the companies have thirty days in which to make a reply. This means that the movement for the eight-hour day in railroad train and yard service is now well under way.

An eight-hour day for railroad train and yard service employes ought to be a reality now and it would be had the various train service organizations taken concerted action sooner in the matter.

The wearisome drudgery of the long hours in railroad freight and yard service in the days of the smaller locomotives was a condition against which the men engaged in such services continually protested and from which they longed to be emancipated, but with the advent of the monster locomotives of today it has become a species of slavery that is positively intolerable.

Amongst the falsehoods being disseminated by the publicity machine of the railroads is one to the effect that the general officers of the different organizations are primarily responsible for the present movement and have been actuated by ulterior selfish motives in launching it.

There could be no more emphatic contradiction of such a statement than the overwhelming vote of the train service employes in favor of the eight-hour day and time and one-half for overtime that has recently been counted and this vote should certainly serve to put a quietus on the activities of the railroads in proclaiming this particular falsehood. But as to whether it will or not is, of course, problematical.

An Interesting Relic.

The Editor is in receipt of a copy of the "Locomotive Firemen's Monthly Journal," published by order of the Grand International Union of Locomotive Firemen under supervision of Henry Hoppman, G. M., and Wm. S. Devlan, Secretary, at Schenectady, N. Y., the date of issue being November, 1869. This little Magazine contains 16 pages, size $5\frac{1}{2} \times 8\frac{1}{2}$ inches, and is now quite an interesting relic. For the information of our younger members a little historical data may be in order.

The Grand International Union of Locomotive Firemen was instituted several years prior to the organization of our own Brotherhood. At the Fourth Annual Convention of our Brotherhood, which was held in Indianapolis, Ind., in September, 1877, resolutions were adopted inviting the local branches of the International Firemen's Union to consolidate with our Brotherhood, which, however, did not bear fruit until after our Fifth Annual Convention, held in Buffalo, N. Y., in September, 1878, when an amalgamation was effected.

The Editor is indebted to Bro. A. J. Kohler, of Division 548, B. of L. E., at Peru, Ind., for this copy and appreciates very much his kind interest in sending same. We quote from Brother Kohler's letter as follows:

"In looking over some old books and papers, I came across a copy of the Locomotive Firemen's Monthly Journal of the date of 1869. Thinking it would be interesting to you, and that you probably would appreciate it as a relic, I am sending it in this mail to you.

"I joined Lodge 141, B. of L. F., in March, 1883, remaining with them until July, 1893, when I joined Division 12, B. of L. E. At present, I am a member of Division 548, B. of L. E., Peru, Indiana. Filled official positions in Lodge 141 the greater part of my membership, serving as Master about four terms. I still have a very warm feeling for the B. of L. F. & E.

"This Magazine I am sending was subscribed for by my father, who was at the time in the employ of the P., Ft. W. & C. R. R. out of Fort Wayne, Ind., as engineer"



"Why Railroads Go to Receivers."

Elsewhere in this issue we publish an article from Pearson's Magazine, "Why Railroads Go To Receivers," by W. Jett Lauck. The facts contained in this article should be known to every railroad worker.

They should understand why it is that their wages are so much lower than they should be in proportion to the present living cost and why it is that so much hardship characterizes their employment conditions.

They should know that they are being forced to earn dividends on fictitious values known as watered stock and that through these fictitious values railroad magnates, financiers, bankers, etc., make millions of dollars in lump sums without the investment of even one cent and that these millions of dollars constitute increased obligations upon which dividends must be earned by railroad employes just as though the fictitious values from which they are derived were actual cash investments.

They should understand how it is that railroads are deliberately plundered by these high financiers through the "bonus" and other methods equally reprehensible.

Our members should study Mr. Lauck's article and be in a position to explain these receiverships. They should urge their friends to get a copy of Pearson's Magazine for February last and read this article. We would also recommend that they get copies of Pearson's for March and April. We would recommend that they take Pearson's regularly. Those desiring to subscribe for Pearson's should address Pearson's Magazine, 425-435 East 24th Street, New York, N. Y.

ORGANIZATIONS ESTABLISH PUBLICITY BUREAU

All Members Urgently Called on to Participate in Publicity Campaign

**Co-operation of Rank and File of the Four Organizations Essential in Combating
Efforts of Railroads' Big Publicity Machine and Their "Kept" Press
to Prejudice Public Against Us**

Labor Papers Reliable Friends

A publicity bureau has been established at Cleveland, Ohio, under the auspices of the four railroad organizations engaged in the Eight-Hour Movement—the B. of L. E., O. R. C., B. of L. F. and E. and B. of R. T.

The establishment of such a publicity bureau was absolutely essential in order to combat the publicity methods being resorted to by the railroad's great publicity machine.

Public opinion is a most important factor in such a movement as these organizations are now engaged in

The influence of public opinion if favorable will prove of material aid in establishing the Eight-Hour Day.

If the public knows the truth about the situation public opinion will be with us.

Some certain newspapers and other periodicals controlled by "Big Business," eager to defeat any movement for the betterment of Labor, are doing everything possible editorially and otherwise by misrepresentation and falsification to prejudice and poison the public against us. Other newspapers and magazines have espoused our cause and are rendering us valuable assistance, and other newspapers, while not controlled by corporate influences, are nevertheless printing the railroads' publicity matter with an apparent relish, and we hope they will be as liberal in printing our publicity matter.

The railroads' publicity machine and its newspapers, etc., are resorting to the most flagrant, palpable and shameless tactics to make it appear that our demands are unreasonable and unjustifiable and that in enforcing them we are entirely in the wrong, while in resisting them the poor, abused railroads are absolutely in the right and that the said railroads are being shamefully imposed upon by the "arrogant" railroad labor organizations.

These tactics constitute a deplorable demonstration of the efficiency to which these instruments of publicity have degenerated in the black art of expert lying and deceit.

Hence, it is up to us to combat these efforts by every honorable means at our command and our publicity bureau at Cleveland, Ohio, has been established for this purpose.

One thing, however, that is indispensable to the success of the work of that bureau is the co-operation of the rank and file of the membership.

We are sure that a large majority of the newspapers of the country desiring to treat us fairly will publish our publicity matter.

Others, again, will do so only if the combined influence of railroad employes in their locality is brought to bear on them.

The newspapers, however, that we KNOW will print this matter and print everything available that will help our cause are the Labor papers.

These Labor papers will be provided regularly by our publicity bureau with matter that the members of the four Brotherhoods should be familiar with.

This matter will reach these members weekly through the Labor papers, whereas it cannot reach them oftener than once a month through the official publications of the train service organizations.

Hence, it is very important that the members of the four train service orders subscribe for the Labor paper in their respective communities.

Thus will they not only be kept supplied at close intervals with matter issued by their own publicity bureau, but by the additional support thus given these Labor papers such papers will be encouraged to make a special effort in our behalf.

Of course, there are to be found now and then so-called Labor papers whose policy is not conducive to the success of the Labor movement—papers which seem to be influenced by interests that are served by dissension in Labor's ranks, and our members should be careful not to support such papers by their patronage.

Subscribe for the recognized official Labor paper in each community—the paper that is characterized by its unswerving loyalty to the cause of the working class.

Hold Meetings and Appoint Committees.

Every member of these four organizations should engage in this publicity campaign and meetings should be held and committees appointed to carry on the work as outlined in the circular issued by our Cleveland publicity bureau under date of February 26, 1916, and which is as follows:

"To the Officers and Members of all Divisions and Lodges of the B. of L. E., B. of L. F. and E., B. of R. T. and O. R. C. in the United States:

SIRS AND BROTHERS—It has been decided to establish a publicity bureau at Cleveland, Ohio, with Mr. Edward Hooker in charge. His address is 1311-12 American Trust Building. A campaign of publicity will be put in motion, and while we cannot hope to compete with the railroads and their subsidized press, with your assistance we can get our side of the story, with the true facts of the case, before the thinking public. This will be done by small handbills, placards, pamphlets, and other literature, for which we desire your co-operation in placing in the hands of your friends with requests to read and pass on. Hand them to your barber, butcher, grocer, banker, all those with whom you come in contact in your everyday business and social life.

What is everyone's business is no one's business. In order to get results in towns where there are one or more Lodges or Divisions of the different organizations, a joint meeting should be held, or a committee appointed, to plan for the distribution of this printed matter. Someone should be selected and assigned to do the work. Any expense incurred will be paid by the local Lodges or Divisions.

In addition to this, short statements bearing on the movement will be mailed out to the newspapers each day. A committee should wait on the editor or manager of the papers in your town and insist that our side of the story should be printed. After you have done this, write us the name of the paper and the address, so that we will be sure to get it on our mailing list. If each member will do a little towards helping to make the plan we have outlined a success, you will be surprised at the results we can obtain.

Yours fraternally,

L. E. SHEPPARD,
Acting President, O. R. C.
W. G. LEE,
President, B. of R. T.

W. S. STONE,
Grand Chief, B. of L. E.
W. S. CARTER,
President, B. of L. F. and E.



THE NEW HAVEN'S PRESIDENT AND THE EIGHT-HOUR MOVEMENT

Chicago Examiner States Interesting Facts in Reply to Argument of President Elliott of New Haven Railroad

"There Is a Vast Difference in the Cost of Production Between a Railroad Operated as a Railroad for the Benefit of Its Stockholders and of the Public, and a Railroad Operated as an Instrument of Stock Speculation by Stock Gamblers in Wall Street, Whose Eyes Are on the Ticker and Not on the Trains and Freight Houses".

In an address before the Chamber of Commerce of the United States at Washington, D. C., delivered on February 8th last, President Elliott of the New York, New Haven and Hartford Railroad Company, according to press reports, said amongst other things:

"No one can object to organized labor unless its acts injure the general welfare of the public. When it tries to boycott, in an effort to stop the wheels of progress, to be unfair in its demands, to be unwilling to have those demands considered calmly by unprejudiced people and to abide by the decision, then the mighty will of the people will be aroused and a means will be found to retain the good features of organized labor and eliminate the bad.

"The business and the welfare of the country are now confronted with concrete evidence of a great, and, at present, unregulated power of organized labor. Nearly 400,000 men, about the highest paid men in the railway service, ask that their wage day be eight hours instead of ten, and for any work over the eight hours that they be paid for one and one-half times the hourly rate for the eight hours. It is announced that they have decided to make this demand upon the railways this spring, and if it is not granted a strike will be ordered on all the roads in the United States and Canada, and, furthermore, that they will not consent to any form of arbitration."

"The money necessary to meet this demand could be obtained only by either a reduction of wages of other employes or by reduced payments of interest and dividends or by curtailing betterment expenditures needed by the public or by increased passenger and freight rates."

He admitted the ability of the "Big Four" unions to tie up the roads and asked: "Must not public opinion devise some means that will make impossible even the conception of a plan to paralyze the entire railway system of the United States?" Continuing, he said:

"Today Labor says: 'I can do with my own as I like, and if I want to stop work, that is my business.' Only a few years ago capital said the same about various unjust discriminations and unfair practices, and the public stopped it."

"Does not a man, when he elects to earn his living by working for a public service corporation, enter into a moral obligation to the public to keep that corporation at work pending a dispute over wages and working conditions until that dispute is settled in an orderly manner? Should that obligation be made not simply a moral one, but a humane, patriotic and even a legal one? That obligation would be no more an interference with human liberty than it is to insist that railways cannot vary rates. A way should be found to adjust such matters, and you and those you represent can be potent in finding the way.

"Another thing: This is a country of great distances, and rates, both freight and passenger, should be kept as low as consistent with good wages, good upkeep

of the properties, good and constant additions to the properties, and good returns to the capital in order that new money will constantly be invested in the business.

"If wages are raised and then rates are raised, and this process constantly continues, a condition will arise which will send the cost of living much higher than ever before, business of the country will be checked and development stopped, and such an outcome would be as bad, if not worse, for labor as for capital."

TO THE FOREGOING THE CHICAGO EXAMINER REPLIES EDITORIALY AS FOLLOWS:

President Elliott's Argument Against the Eight-Hour Law Is Not Conclusive.

(Copyrighted)

President Howard Elliott of the New Haven Railroad declares that if the demand of the railroad employes for shorter hours of labor is granted, it will increase the cost of living by limiting production.

Mr. Elliott may be right, and he may be wrong. But in any contingency this is not conclusive argument against the wisdom of granting this demand of the railroad employes.

Of course, if all other things remain fixed, to decrease the hours of labor would mean an increase in the cost of railroad business, which would have to be met by the public through increases in car fares and freight rates, or through a decrease in the quality of service which the railroad renders to the public.

But in this day of wonderful inventions, of wonderful organizations, of increasing general intelligence, it is not necessary to assume that all other conditions affecting the railroad business will remain fixed and unchangeable. There are a great many conditions which can be changed and which by changing will very strongly tend to offset this loss in the hours of labor.

First—During the last quarter of a century, since labor organizations began to demand a decrease in the hours of toil by workmen, their employers have met this demand by the same argument which Mr. Elliott now advances. In fact, the manufacturers, who are usually the employers involved, had even a stronger case than the railroad managers, because the legislature which proposed to reduce the hours of labor was always a state legislature, and the manufacturer was able to say that to reduce the hours of labor in the factories of the state would result in handicapping the industries of the state in comparison with the industries of another state where no such law was in force.

This is always a serious argument for the state legislature to consider. But the labor unions always met this argument with the contention that the human frame is like the soil; that the law of diminishing returns applies as forcibly to the workmen's body as it does to the tilled fields; that the more intensely you work it, the less in proportion you produce by it. They contended that by shortening the hours of labor you could speed up the workman and put more intelligence into his work, and, therefore, more economy and more productivity.

Nobody doubts that the labor organizations were right. The history of the shorter-hour legislation has proved it. Certainly there is a limit beyond which this rule will not apply, and the limit is not incommensurable; but we have not yet reached that limit. How far the rule will apply to the railroads is not certain. Probably the decrease in the hours of work will not be completely offset by the increase in the efficiency of the workmen. But it will have some effect. It will be one of the elements which will contribute to keep down the cost of operating railroads at the public expense.

Now, the railroads have not any such argument as the manufacturers in a state opposing a state law which would raise the standard of wages above the level of the standard of any other state, because this demand is upon ALL the railroads ALIKE, and is not giving any railroad an advantage over its competitor.

Second—Mr. Elliott assumes, naturally enough as a railroad manager, that the cost of operating a railroad in the other departments than labor will remain fixed and unchangeable. But Mr. Elliott assumes too much. If it remains fixed, it is UNCHANGEABLE; and if it remains unchanged, it will be the fault of the railroad managers. There is a vast difference in the cost of production between a railroad operated AS A RAILROAD for the benefit

ment of stock speculation by stock gamblers in Wall Street, whose eyes are on the ticker and not on the trains and freight houses.

Let us take, for example, this very railroad of which Mr. Elliott is president. The New Haven Railroad has within ten years lost, through waste, mismanagement and general lawlessness, from one hundred to two hundred million dollars. Now, that is part of the cost of operation under present business standards in the railroad world. The New Haven is not an exceptional but a typical case. The Boston & Maine has had the same history recently. So has the Chicago & Alton, which Harriman looted. So has the Rock Island and the St. Louis & San Francisco, the Missouri Pacific, the Santa Fe, the Union Pacific, and nearly all the railroads in the country.

They have been in bankruptcy several times, and huge profits have been made by those who put them in bankruptcy and who were given control of their organization. In the old days this mismanagement not only came out of the public ultimately, through an increase in the freight and passenger rates, but it used to come in the first instance out of the railroad employes themselves; for these wreckers of railroads, when their conspiracy was ripe, would apply to a friendly federal judge—a scalawag whom they had put upon the bench—for the appointment of a receiver, and the judge would appoint one of the conspirators receiver to run the road during reorganization.

The first thing that Mr. Conspirator and Receiver always did was to reduce wages on the roads. Naturally, the railroad men struck, but to strike was to be in contempt of court, because the receiver was an officer of the court. So the federal judge would issue an injunction against the workmen who struck, because the reorganizers were trying to recoup the money which they had stolen out of the pockets of the workmen. If the leaders of the railroad men had the audacity to continue the strike, they were thrown into jail for contempt of court.

Fortunately, public opinion has compelled the courts to stop this discreditable secret alliance with railroad looters, **BUT UNFORTUNATELY THE LEGAL PRINCIPLES UPON WHICH THE COURTS OPERATED HAVE NOT YET BEEN DISAVOWED.** We hope that Mr. Brandeis, when he takes his place on the Supreme Court bench, will help the court to disavow them, so that these things may not happen again, when the audacity of speculators rises to its old pitch.

Now, the New Haven Railroad has lost from one hundred to two hundred million dollars in a short period by aggrandizing schemes not unlike these in character. If that railroad were on its feet; if it had not lost this vast sum of money, and if it had not suffered the consequent loss of morale and efficiency, with their train of evils, the New Haven would be amply able to meet any increase in the cost of labor, through this demanded decrease in the hours of labor, out of its surplus prosperity. Therefore, another answer to Mr. Elliott's contention is that the railroads can change their methods; can operate a railroad as it was meant to be operated, **AS A RAILROAD**, and not as the victim of unscrupulous speculators. Mr. Elliott is himself trying to do this very thing and is meeting with considerable success. Mr. Heustis and the federal trustees are trying to do this very thing on the Boston & Maine, and are meeting with very great success. They have in a year converted a deficit into a surplus, and in a short time, if its condition improves in the ratio of last year, the Boston & Maine will be on its feet again merely by decent management.

Now, a change which will make it impossible for a repetition of these orgies of railroad speculation and wrecking will completely offset any increased cost of labor which may be involved in the demands of the railway employes, even if the increased efficiency of the labor does not help very much.

Doubtless Mr. Elliott will say that the railroad managers have learned their lesson; that the stockholders have been the most to suffer, and that these conditions will not return. But "when the devil is sick, the devil a monk would be, and when the devil is well, the devil a monk is he." These periods of depression, followed by periods of reaction, repentance and convalescence, have been the history of railroads since the first tie was laid on the first railroad. Unless the law makes these things impossible, either by a stringency of regulation which we have never yet seen, or by public ownership and oper-

stand another debauch, to see it fall into the hands of a new set of leeches, who will suck it again until it bleeds white.

Another condition which President Elliott assumes to be unchangeable is really not only susceptible of change, but the change, all intelligent men know, is coming rapidly. It is the evolutionary transition from private management of the railroads to public ownership.

This transition has already occurred in all the great nations of the world. The progressive countries of Europe and the only progressive communities of the East—Japan, Australia and New Zealand—have all taken the railroads away from their private management and made them great EXCLUSIVE public instrumentalities—as they ought always to have been.

This change would very materially affect President Elliott's argument against a reduction in the hours of labor on the railroads. The GOVERNMENT is not concerned with profits, but only with the greatest good to the greatest number. The GOVERNMENT does not look to the movement by the day on the stock market, but to the development of a generation in the whole country.

None of the huge private fortunes, the illicit accumulations of which out of the railroads have made the operation of railroads so expensive under private management, will be piled up under public ownership. Petty graft we may not hope to rid ourselves of under public ownership, but it will never be huge graft running into tens of millions in single instances and stolen by single individuals. It will never be respectable graft. It will never be a badge of social distinction. It will never serve as the foundation of an influential family. It will never be even safe graft. The Bill Tweeds of New York and the Abe Ruefs of San Francisco, and their counterparts in Boston, Chicago and everywhere, will go to jail when they are caught. These petty grafters will even go to the electric chair when, as recently in New York, they are caught mixing graft with murder. For petty graft whole communities will not be debauched and defiled. Whole railroads will not be wrecked.

With the leeching burden of private management, which puts private profit first and public service last, removed, we may expect the railroads to be easily able to give the employes an eight-hour day.

***Pearson's Magazine Our Friend—
A Publication Our Members
Should Read—A Subscription to
Pearson's Will Prove an Excellent
Investment.***

Pearson's Magazine is evidently making a special effort to help us in our fight for the Eight-Hour Day and Time and One-Half for Overtime.

In the February issue of Pearson's is an article by W. Jett Lauck entitled, "Why Railroads Go to Receivers," which through the courtesy of that magazine we reproduce in part in this issue.

Pearson's for April contains an article entitled, "The Truth About Railroad Wages," by W. L. Stoddard, who presents

conditions on the American railroads in a way that clearly controverts the contentions of the railroads' publicity machine.

Pearson's issues for February, March and April have other notable features of great interest to the workers and to all citizens who believe that the people should rule and not "Big Business"—the "privileged interests." Pearson's also contains very entertaining fiction by popular authors.

Pearson's Magazine carries the following courageous announcement:

"Owing to the economical mechanical form of production—or dress—of this Magazine, Pearson's is enabled to depend, for its support, solely upon the revenue obtained from its readers by the sale of copies.

"Revenue from the publishing of high

product of profit—but it is not essential to the solvency of this company.

“By the adoption of this unique policy, for a popular priced Magazine of serious purpose, even the temptation to become subservient in matters of editorial control or influence is eliminated and Pearson's Magazine remains in fact, as well as in theory, *A Free Press*.

“It is the purpose of this Magazine, in addition to offering to its readers wholesome entertainment, to disseminate the truth, in its fullest sense, in matters of importance pertaining to the government, the health, and the welfare, peace and comfort of the people of the United States.”

That Pearson's has been adhering to the purpose enunciated in the last paragraph of the foregoing announcement is a fact recognized by all who have been reading that excellent Magazine and in this particular it is unique—it is unique because in reality it is a **FREE PRESS** subservient to no mercenary interest and actuated by no ulterior purposes.

It is devoted to the great principles of humanity, liberty and justice, and it is indeed entitled to the patronage and support of persons who are interested in the maintenance of those principles. In exchange for its subscribers' money it surely gives them much more than full value received.

Pearson's is fighting for the great principle, “equal rights for all and special privileges for none,” and for the re-establishment of the political doctrine that the chief aim of government should be the greatest good for the greatest number.

We freely recommend Pearson's Magazine to all our members. It would be well that all train service employes subscribe for Pearson's commencing with its issue of February, 1916, as there are articles in its February, March and April issues they should not miss.

Address Pearson's Magazine, 425-435 East 24th Street, New York City. Yearly subscription rate \$1.50; special subscription rates to clubs.



HEADLIGHT RULE BEING HELD UP BY INTERSTATE COMMERCE COMMISSION

**Commission Opposes Clearance Bill, Its Objection Being the
Additional Work It Would, if Enacted, Cause That Body**

**A Dangerous Measure Sidetracked, Enactment of Which Would Prove Very
Detrimental To Some of the Most Important Statutes That Have Been
Enacted in the Interest of Railroad Employes**

FROM THE NATIONAL LEGISLATIVE REPRESENTATIVES*

It is a trite old saying that “The mills of the Gods grind slow.” On March 4, 1915, the bill which had been passed by both Houses of Congress to extend the locomotive boiler inspection law to include other parts of the locomotive and tender was approved by the President and became a law. By its terms it became effective September 4, 1915. During this period in accordance with the requirements of the law a proposed code of rules was prepared and a conference held August 23-25 between the representatives of the carriers and the employes and the Chief Inspector to discuss the rules. A further conference was held September 25th and an agreement reached upon all except the headlight and bell ringer rules.

* H. E. Wills, A. G. C. E., B. of L. E.; P. J. McNamara, Vice President, B. of L. F.

The matter was submitted to the Interstate Commerce Commission September 28th, and hearing was had which lasted five days including one night session.

On October 2nd an order of the Commission was issued approving the rules upon which agreement had been reached and permission was granted for the filing of briefs in review of the hearings on the headlight and bell ringer rules. The carriers filed their first brief, comprising eighty-one pages, November 2nd. On November 17th the employes filed their reply brief, covering seventy-five pages, and on the 27th the carriers filed their reply to the reply of the employes. The second carriers' brief covered forty-six pages. The International Acetylene Association asked for permission to intervene and file a brief which was granted. The matter was set down for argument before the full Commission on December 4th. A statement was read by the Chief Inspector of Locomotive Boilers, Brother Frank McManamy, and the argument for the respective parties made by the Acetylene representative, counsel for the carriers and President W. S. Carter and Grand Chief Engineer W. S. Stone.

On account of some matters submitted by the Chief Inspector carriers asked for permission to file a supplemental brief, which was granted. This third brief of the carriers was filed December 14th and consisted of twenty-four pages. The employes had permission and filed a reply to the reply of the carriers to the argument of the Chief Inspector December 24th, covering twenty-two pages. This was the final paper in the case and the matter was then left to the Commission for a decision.

The rule recommended by the Chief Inspector and supported by the organizations was for a headlight that would illuminate the track ahead a distance of 1000 feet under normal conditions, at the same time permitting the use of a less brilliant headlight under certain circumstances. The rule of the Chief Inspector also provided for two headlights on back-up engines. The carriers asked to have approved a highly technical formula which would permit the continued use of the poorest type of oil headlight now in service on any railroad in the United States, and the issue which the Commission has taken so long to decide is between these two rules.

From the number of communications of inquiry being received by the National Legislative Representatives, it is evident that the members in the various States are becoming anxious about the outcome of the matter before the Commission, especially on account of the effect the delay is having upon the enforcement of State headlight laws, and the members will no doubt be interested in knowing just as soon as possible what the final outcome will be.

Interstate Commerce Commission Opposes Clearance Bill.

It has become known that the Interstate Commerce Commission, responding to the request of the Committee on Interstate Commerce of the Senate for the views of the Commission respecting the Thompson-Decker Bill to require safe and sufficient clearance space between structures located along the roadways and locomotives and cars passing over the tracks of interstate railroads, is not prepared to recommend its passage. The sole reason assigned by the Commission for its objection to the enactment of this safety legislation is that the passage of the bill would add to the work of the Commission. It is pointed out that the bill proposes to extend the authority and duties of the Commission to fixtures including structures and obstructions along the roadways of the carriers and would, if enacted into law, impose extensive supervision, inspection and regulation in a field not heretofore covered by acts of Congress. The Commission asserts that it would require the employment of many additional inspectors, although the sponsors of the bill had not contemplated that this would be the case. The Commission expresses no opin-

ion, it is said, as to the question of public policy involved in the requirements of the bill and the question of liability for damages in consequence of any failure on the part of the railroads to perform their duties under it.

In view of the fact that the organizations have always favored the granting of reasonable powers to the Interstate Commerce Commission and have been largely instrumental in building up the safety appliance and boiler inspection divisions of the Commission and in securing appropriations for the appointment of inspectors, and have also favored the recommendation of the Commission for an increase in the number of Interstate Commerce Commissioners, the opposition to the bill for the reasons stated will no doubt surprise the members in whose interest the clearance bill was proposed.

Manifestly a measure like the clearance bill, which will tend to stop the needless killing and maiming of hundreds of the citizens of this country who ride on the railroads, should not be defeated because as an incident to its enforcement some additional work may be required of the servants of the public, and the bill will be pushed notwithstanding the objection of the Commission.

Dangerous Bill Sidetracked.

On March 1st, after a short parliamentary skirmish, the House of Representatives effectively put on the sidetrack, for the time being, at least, the bill (H. R. 12420), to codify, revise and amend the laws relating to common carriers of interstate and foreign commerce and within the District of Columbia, and combinations in restraint of trade, which was opposed by the organizations because of the menace to all of the laws that have been secured through Congress for the protection of the railroad employes that it contained.

Representative Watkins, Chairman of the Committee on the Revision of the Laws, which had reported the bill favorably to the House, called it up and Representative Mann promptly interposed an objection. As a result of this objection, under the rules the House automatically resolved itself into the Committee of the whole House on the State of the Union to consider the bill, and on a vote being taken, the Committee refused to further consider it; thereupon, the Committee arose and the House agreed to the action taken in the Committee of the Whole. Mr. Watkins failed to secure a roll-call—only four members rose in favor of a yea and nay vote.

The reason for the refusal of any considerable number of the Representatives to take up this proposed legislation at all was stated by Representative Mann as follows:

"I am informed that the bill makes a lot of changes in relation to safety appliances for railroads, provisions that we worked upon for years, that are entirely unjustifiable and which no codification committee ought to have made, and I am not going to allow the bill to be considered if I can help it."

This bill was introduced and printed in a document covering 567 pages. It was divided into 13 chapters and 382 sections. A copy of the bill was secured by the National Legislative Representatives and on an examination it was found to contain, in addition to a vast amount of other legislation, what purported to be the existing law governing passes to employes of railroads, safety appliance acts, locomotive boiler inspection and locomotive safety laws, the accident reports and medal of honor acts, ashpan law, hours of service act, the employers' liability act, the Newlands act providing for mediation, conciliation and arbitration and the labor sections of the Clayton act, all of which have been secured after years of persistent effort.

It was discovered that many changes, re-arrangements and alterations in these laws were made, some of which appeared to be very detrimental from the stand-

point of the employes, and the legislative representatives took prompt action to inform the Committee and Members of Congress of the objections to the bill, stating that they would strongly oppose any movement, under whatever form it might be attempted, that would weaken or introduce doubts and uncertainties into these laws that have been enacted for the protection of the railroad employes.

This bill and the result of the action taken in exposing its effect illustrates the fact that it is as important in matters pertaining to legislation to head off inimical laws and prevent the modification or repeal of those that have already been secured as it is to procure the enactment of further legislation.



Examination for Inspectors, Interstate Commerce Commission, Division of Locomotive Boiler Inspection.

The U. S. Civil Service Commission announces that there will be an examination held on May 3 and 4, 1916, for the purpose of establishing a list of eligibles from which to fill any vacancies that may occur in the force of Inspectors provided for by the locomotive boiler inspection law as amended March 4, 1915. Application blanks may be obtained from the Secretary of the U. S. Civil Service Commission, Washington, D. C., or from the Secretaries of the U. S. Civil Service Commission Boards for the various districts.



Sparks.

A bound volume of the Locomotive Firemen and Enginemen's Magazine for 1915 can be secured for \$3.50 prepaid to any point in the United States and to any point in Canada or Mexico for \$4.50, subject to duty. Send orders to John F. McNamee, Editor and Manager, Traction Terminal Building, Indianapolis, Ind.

The attention of our members is directed to the article entitled "Why Railroads Go to Receivers," by W. Jett Lauck, which in this issue we reproduce in part from Pearson's Magazine. Pearson's Magazine is proving itself our friend and is doing excellent work in placing before the reading public conditions and facts regarding train service employment conditions as they are and not as the railroads' publicity machine would have the public believe. Because of articles of special interest in the February, March and April issues we would suggest that our members subscribing for Pearson's have subscriptions begin with its issue of February last. Subscriptions should be sent to Pearson's Magazine, 425-435 East 24th Street, New York, N. Y. Pearson's gives special subscription club rates.

The second section of the first edition of "Sparks and Cinders," a book of poems by Brother J. Alex Killingsworth, is now on sale. This edition, while an exact duplicate of the first edition, will sell at 75 cents a copy. This is a price to meet the times. "Sparks and Cinders" will prove a valuable addition to the library of any Brotherhood man. Orders should be sent to J. Alex Killingsworth, 21 Myrtle Street, St. Thomas, Ont., Canada.

Every brother should keep a supply of

and be ready to hand one to any eligible non-Brotherhood man as opportunity permits. Do not stop with this, but explain to him the great advantages of membership in the "Tried and True." Tell him about our insurance and impress on him the importance of protecting his loved ones from possible want.

All changes of address in order to take effect with the next issue of the Magazine should reach this office not later than the 10th of the month prior to date of issue.

"The Angel of Easter," a beautiful new Easter song by Adelbert Clark, whose poems appear monthly in our Magazine and who is also the composer of "A Plea," can be secured for thirty-five cents per copy. Music by Canadian composer, W. Francis Firth. Send orders direct to Francis Firth Music Co., 23-25 Farmer Street, Detroit, Mich.

M. J. Wiltse has back copies of the Magazine from February, 1904, to October, 1908 (excepting three numbers in 1904), of which he is willing to dispose at a reasonable price. Interested parties communicate with Mr. M. J. Wiltse, 502 S. 7th Street, Montivideo, Minn.

We have for sale air brake charts in colors, together with printed descriptive matter, at the prices named below:

No. 6 ET Brake Equipment (12 charts in set), 30 cents.

P-C Passenger Car Brake Equipment (15 charts in set), 35 cents.

Empty and Load Brake (13 charts in set), 30 cents.

LT Automatic Control Equipment, 10 cents.

The chart on the LT Automatic Control Equipment will be included with any of the foregoing sets for 5 cents additional. Address all orders to John F. McNamee, Editor and Manager, Traction Terminal Building, Indianapolis, Ind.

It is to the interest of the public to help us in our Eight-Hour Movement.

First, because the success of that movement will help the even distribution of the increasing wealth of the nation due to mechanical invention and higher labor efficiency.

Second, because it is only through the success of movements of this kind that the masses of the people will benefit from this increased wealth instead of having it go to swell the dangerously large fortunes of the idle rich.

Third, because the Eight-Hour Day in railroad train service will increase the

A copy of the Catechism of the Electric Headlight, containing supplement on the Pyle National Equipment "E" with folders, can be secured for 50 cents. Orders should be addressed to John F. McNamee, Editor and Manager, Traction Terminal Building, Indianapolis, Ind.

Announcement is made elsewhere in this issue of the Eleventh Annual Missouri State Meeting to be held in St. Joseph, Mo., on May 2, 3 and 4, 1916. A large representation from lodges within the State is urgently requested and a cordial invitation is extended to members without the State to be present and to bring their wives.

The Cement Mill Workers Local Union at Mitchell, Ind., has issued a circular stating that there is trouble between the Cement Mill Workers Union and the Lehigh Portland Cement Co., of Mitchell, Ind., and setting forth that deplorable conditions exist in the cement industry at that place. According to the circular the Lehigh Portland Cement Co., has been unfair to its union workers.

Pearson's Magazine is a staunch friend to the train service employes in their movement for an Eight-Hour Day and Time and One-half for Overtime. Every train service employe should subscribe for Pearson's for it well merits our patronage. Pearson's gives special subscription club rates.

All notifications of changes of address, etc., to appear in the Directory should be in the hands of the General Secretary and Treasurer not later than the first of February, May, August and November, as the Directory is corrected up to the 10th of the months named.

Professor Scott Nearing, who will be remembered as having been dismissed from the University of Pennsylvania because of his sympathies for the working class, is to address the members of the B. of L. F. and E. and Ladies' Society at a meeting to be held in Crowe's Hall, corner Segur Avenue and Broadway, Toledo, Ohio, on Sunday afternoon, April 23rd (the current month). Every member who can possibly do so should attend. There will also be a joint meeting of Toledo Lodges at Crowe's Hall on Monday evening, April 10th, (this month). All brothers who can attend are urged to be present.

A piping diagram of the LT Automatic Control Equipment may be secured for ten cents. Send orders to John

F. McNamee, Editor and Manager, Traction Terminal Building, Indianapolis, Ind.

A set of twelve colored charts of the No. 6 ET Locomotive Brake Equipment in its different operative positions, together with descriptive matter and a piping diagram of the LT Automatic Control Equipment may be obtained for 35 cents. Send remittances to John F. McNamee, Editor and Manager, Traction Terminal Building, Indianapolis, Ind.

All brothers who can possible do so should arrange to attend the Missouri State Meeting to be held in St. Joseph, Mo., May 2, 3 and 4, 1916. See announcement elsewhere in this issue.

Contributors are requested when preparing communications for publication in the Magazine to write on one side of the paper only, and if matter is typewritten it should be written double space.

Train service employes should subscribe for Pearson's Magazine, that fearless publication that is doing so much to educate the public as to the justice of our demands for an Eight-Hour Day and Time and One-half for Overtime. Because of articles of special interest subscriptions should be started with February, 1916, issue. It may be purchased at news stands for 15 cents per copy, but a better plan would be to send your subscription direct to Pearson's Magazine, 425-435 East 24th Street, New York, N. Y. Subscription price \$1.50 per year; special subscription club rates.

To insure receiving your Magazine regularly it is necessary that you advise this office promptly when changing your address. A postal card is all that is necessary. Brothers who wish to keep a complete file of the Magazine will not overlook the importance of keeping us informed of their correct address.

Bound volumes of the Locomotive Firemen and Enginemen's Magazine for the year 1915 are now ready for distribution. These volumes are carefully indexed, nicely bound in half morocco, and will make a valuable acquisition to anyone's technical library. Price, prepaid to any point within the United States, \$3.50; to Canada or Mexico, \$4.50, subject to duty. Send all orders to John F. McNamee, Editor and Manager, Traction Terminal Building, Indianapolis, Ind.

A complete set of charts in colors on the Empty and Load Brake of the Westinghouse Air Brake Company (13 in

number), together with printed descriptive matter may now be procured for 30 cents. Address all orders to John F. McNamee, Editor and Manager, Traction Terminal Building, Indianapolis, Ind.

See announcement elsewhere in this issue of a lecture to be given by Professor Scott Nearing, that champion of the rights of the common people, to the members of our Brotherhood and Ladies' Society at a meeting to be held in Crowe's Hall, corner Segur Avenue and Broadway, Toledo, Ohio, on Sunday afternoon, April 23rd (the current month). A special effort should be made by every brother to be present. A Joint Meeting of Toledo Lodges will be held at Crowe's Hall, Monday evening, April 10th, (this month). All brothers who can possibly arrange to come are urgently requested to attend.

The article by W. Jett Lauck, entitled "Why Railroads Go to Receivers," and which we publish in part elsewhere in this issue through the courtesy of Pearson's Magazine, gives the causes for railroad receiverships in plain and unmistakable language.

Every brother should put forth his best efforts to secure the enrollment in the

"Tried and True" of every eligible non-Brotherhood fireman or hostler he may know, and endeavor to have him join without further delay.

In our March issue we published a statement from the National Legislative Bureau advising that the State Department of the United States Government warns all Americans that the United States Government will not be responsible for the safety of any American citizens who enter Mexico. To this statement we specially direct the attention of those who have made inquiry of the Magazine office as to the opportunities for employment in railroad service in Mexico.

Another new series of air brake charts is now ready. The set consists of thirteen charts in colors on the Empty and Load Brake of the Westinghouse Air Brake Company, and shows diagrammatically the triple valve and change-over valve in their various operative positions. Price per set of thirteen charts, including printed descriptive matter, 30 cents, prepaid to any address. Orders should be sent to John F. McNamee, Editor and Manager, Traction Terminal Building, Indianapolis, Ind.



Annual Reports.

I again call attention to this matter in order that no lodge will be denied representation at the coming convention, and I sincerely trust that all lodges that have not as yet sent in their report will see to it that it arrives without further delay.

Change in Beneficiary.

I have on many occasions called attention to the fact that whenever a member desires to change his beneficiary he must fill out the form on the back of his certificate, and this form must be certified to before a notary public. I have also called attention to the fact that we cannot issue a certificate naming as beneficiary a man's wife or mother unless we have the full Christian name.

for changes that do not comply with the instructions which I have aimed to give. This makes it necessary to take up correspondence and send out an additional form, and it costs, in all probability, twenty-five or fifty cents for the additional notary fee.

If our members would only take these things into consideration they could avoid many annoyances to themselves and, at the same time, avoid additional expense in having a new affidavit made.

Benevolent Assessments.

I call particular attention to the notice of Benevolent Fund assessment which appears in this issue of the Magazine, and you will understand that same is payable on or before the first day of May

assessment is in the sum of fifty cents (\$0.50), and is to meet the amount allowed to disabled brothers by the Board of Directors at their meeting which closed in the early part of March.

Correct Addresses.

We are receiving a great many complaints about mail going astray, and yet upon looking up our records we find the information which we have, as to the proper addresses of officers, is the same as appears in our directory. After considerable correspondence we discover that someone has given us an improper address and that is the occasion for mail going astray. Officers and members should be particular when notifying us of a change to make it as plain as possible, and in that way avoid the mistakes which creep in.

Lost Beneficiary Certificates.

We are receiving numerous requests for lost beneficiary certificate affidavits, and the records show that we send out anywhere from two to ten of these each day. It seems to me that members should not be so careless with their certificates, and I sincerely trust that every member who reads this article will look around and see if he has his certificate. Any member who cannot find his certificate should notify this office, and when he receives a new certificate he should put it away in some safe place so when it is necessary to have it it can be found without any trouble or delay.

These are important matters and this is one of the very important matters in connection with every brother's membership, and I trust this article will have its good effect in getting those members who are careless with their certificates to guard them more carefully in the future.

Readmission of Former Members.

Again I call attention to the fact that no one can readmit a former member into

the organization except the same is done through the Grand Lodge Office. We must have in this office an application for readmission of a former member, and with this we must have the application for beneficiary certificate. One will not do without the other, because we cannot act upon one without its being accompanied by the other, no matter which one is missing. I sincerely trust that officers sending in applications for the readmission of former members will see that both papers come in together; and again I say no person can readmit a former member except the General Secretary and Treasurer.

Old Timers Still Passing Away.

The claims paid March 15th include eight (8) more of the old members who have gone to the great beyond, and three (3) whose disability claims were paid.

Name.	Lodge No.	Years.	Months.
Gray, Patrick C...	52	28	4
Moore, Dennis J...	88	27	3
Smith, W. M.....	107	33	10
Davis, Harvey ...	166	24	8
*Parker, Harry L.	169	27	2
Anderson, J. F.....	197	32	..
Faley, Michael J...	215	13	8
Stull, Thomas ...	250	25	4
Stockhouse, Robert	253	30	11
Greenneger, E. H...	659	27	11
Snader, Theodore..	162	32	6

*Parker, Harry L.—Claim paid in 1902. Anderson, J. F., Stull, Thomas, and Snader, Theodore, disability.

The following will show the amount paid into the Beneficiary Department, as well as the age at death or disability.

Name.	Age.	Amount.
Gray, Patrick C.....	62	\$485.45
Moore, Dennis J.....	53	484.45
Smith, W. M.....	73	554.10
Davis, Harvey	60	442.45
Parker, Harry L.....	60	.....
Anderson, J. F.....	59	544.10
Faley, Michael J.....	58	266.80
Stull, Thomas	51	448.55
Stockhouse, Robert ...	71	526.45
Greenneger, E. H.....	55	503.10
Snader, Theodore	72	550.75

Forum

A Readjustment That the Preservation of Our Liberties Demands— Railroads' Publicity Work Rank Falsification.

Glancing back down the vista of time we see the specter of mighty empires pass before our gaze. They rise, conquer, glitter for a few hundred years and go down to dust and today are almost forgotten of man.

Why did they perish? They should have been as enduring as the families of men. When we seek for the cause of their decay we find that they were founded upon principles of injustice and that all power thus founded is doomed to a like fate.

Slavery was for thousands of years a world-wide institution. One of the greatest men of Ancient Greece, perhaps the greatest that ever lived, said civilization could not exist without it. 'Tis known today that it cannot endure with it.

We are made to believe that it has been abolished for all time. But 'tis not so. We have it with us at present in a new form in another name, industrialism.

All our forefathers bled and died for, all we hold dear is being taken from us. Washington and Jefferson started us right but we have drifted far away from the original ideas of the founders of this republic. We exchanged a British king for a thousand of our own making. A few hundred men who toil not reap the harvest from the labors of millions. These millions toil on in poverty, their families in want, their children growing up in ignorance so that a few men may possess a billion or a few hundred million, each. They are thus paving the way for the downfall of this republic.

Are we to sit idly by and see this, the grandest hope of human liberty perish from the earth? Is it better that these men gratify their selfish ambition or that the Republic should exist, a shining example for the teeming millions of earth that will succeed us?

The working men must rise in their might and demand that there be a readjustment or that they have a just portion of the wealth which they create. This can be done without violence or bloodshed. All labor organizations must take an active part in politics.

Private fortunes must be limited to one

many can not make an honest living for families by the sweat of their brow.

The greatest thing on this little earth of ours is mankind. The second thing of importance is the welfare of mankind here.

I now come to a question that concerns a vast army of workers of the nation, the railroad men. Within the last fifteen years the cost of living has advanced 60 per cent. The duties required of the men have increased in like proportion, while the increase in pay has been very slight. The roads are making more money than ever before, yet they say that it will bankrupt them to grant the men an increase in pay or any change for the better in working conditions. If the men were given their choice they would return to the conditions and pay of 1908 in preference to conditions and pay at present. The last raise in pay was nothing in comparison to the additional tonnage we haul and increase in size of engines and the advance in the cost of living which is steadily continuing to go up.

It seems that railroad managers will learn nothing by experience. Many of the difficulties of railroads today are the result of their dishonest dealings with the public and their employees. The course they are pursuing if persisted in will lead to government ownership.

The publicity work in which the railroads are engaged today in an effort to prejudice the public mind against our movement for an eight-hour day and time and a half for overtime is nothing but a widespread campaign of rank falsification and misrepresentation.

MEMBER, Lodge 247.



Reduce Convention Cost Without Reducing Representation — Best Brotherhood on Earth

The all-absorbing convention subject now before us seems to be the cost in dollars and cents of our Grand Lodge conventions, and thus far no one appears to have said or written a justifying word. Even those delegates who voted to increase their own compensation at Washington, or those other delegates at several conventions who apparently (if my information is correct) delayed proceedings that they might stay the longer on a good job, seem unwilling to say that

judiciously expedited, or that the rank and file have been given value for value received.

Several plans have been proposed to reduce convention representation and cost. The cost can be reduced by the conventions themselves without reducing the representation.

Bro. J. J. McManus, of Lodge 814, in his article in the February Magazine, gives us some real inside "dope" on the house-cleaning question. Now, if our conventions do cost too much for the results (and you notice the word if), why not begin applying the remedy right in the convention, being careful not to overlook the fact that there is no better Brotherhood on earth; none that has a higher standing, none that gives its members more for the money they invest or whose general officers are held in higher esteem. Let us also be not unmindful of the fact that these good things have come to us through big conventions, even if they have come with a rush at the end of some convention when just a few were present. They were the tried and true who voted, and the votes of such are worth the cost. If then, we really have the best organization, the price is right. The writer has for thirteen years gotten his money's worth and has no complaint to make.

How about you, dear reader? Would you, like him, keep away from our convention men who feel they must draw \$9.00 per day? Don't you look unfavorably upon the political staller? Would you not like to see the delegate sent home who is too indifferent to attend sessions? With such a regulation enforced would we not have conventions which could honorably and efficiently dispatch the business?

The writer has never been at one of our Grand Lodge conventions and may therefore be considered incompetent to judge or make suggestions. He has, however, been at larger conventions and has helped to create and operate the machine in smaller conventions. He has been under and on top of more than one steam roller, and therefore feels competent to sound a note of warning against the cutting down of representation to a place where it would be possible for an honored few to create a convention system the Brotherhood could not control.

Let that word "protection" sink in deep, brothers, for protection is not only ours to demand but to give as well, and any man who goes to a convention and draws \$9.00 a day just because he has the power to give the voting sign, or who

and prerogatives that are his by virtue of his being a delegate, may thus "take" protection but certainly does not give it.

So far as state or sectional conventions are concerned, it is safe to say that in the long run our members would find themselves paying more in convention cost instead of less should that plan be adopted. Last, but by no means least, any plan of this kind would tend to bring about sectional divisions which in turn would bring about factionalism and political divisions which would be deplorable because "United we stand" is a motto to which we must adhere absolutely to win.

We have the best Brotherhood on earth and we are proud of it. It, therefore, has been worth the cost and again we are proud of it. We firmly believe that our "charitable," "sober" thinkers will find a way to bring about and "protect" industrious delegates. No true Brotherhood man will object to paying an honorable wage for honorable service and the problem will be solved. It takes, however, agitation to bring about a reform.

FINANCIAL SECRETARY Lodge 178.



Closed Shop Only Fair to Brotherhood Men.

The question of the Open Shop vs. the Closed Shop has been argued considerably and I for one think it is time that we take a definite stand on this matter at the next convention. I have had a little experience with non-union men. In the yard in which I am working there are three switch engines. Two firemen in the yard are older than me in seniority and one is younger. My father is running one of the switch engines. My seniority entitles me to fire for my father and have a daylight job, but the rules will not permit father and son to work on the same engine. I went to one of these non-union fellows who works in daylight and asked him to take the job with my father so it would leave a vacancy on his engine and let me have a daylight job and all the satisfaction I got was, I don't give a — about you, and the fellow on the other daylight job said the same thing. Now both of these men belonged to our order at one time and dropped out because things did not go to suit them and I think this kind is the worst because there is no cause for them not belonging, and I think they ought to be made take what is left because they do not care for the fellow that does belong and we are paying for what they are getting.

A Referendum Vote on Schedules.

General chairmen are well paid to look after our interests and I believe that when a schedule is agreed on between these brothers and the officials of the company, such schedule or contract should be sent to the rank and file of the men for their approval so that if it contains any provisions they do not want it can be sent back for adjustment. I claim furthermore that the rank and file of the men should have the right to say how long it will take these brothers to make an agreement with the company. This thing of Joint Protective Boards spend-

ing so much time—sometimes as long as three months in coming to an understanding with the railroad officials causes the men at home to pay an enormous amount of money for protection over and above what they should have to pay.

In conclusion, let me emphasize that the men of the rank and file should have a vote on the matter of accepting, rejecting, modifying or revising the schedules or contracts agreed on between the Brotherhood's officers and the officials of the company.

C. E. CLARK,
Member Lodge 371.

ONLY OUR DUE

By GUS B. RIDGE
Member, Lodge 290

We railroaders ask for an eight-hour day,
And overtime then at time-and-half pay,
We think our request is a proper one, too,
In view of the hazardous work that we do.

Suppose we are called for a regular freight
And are ready on time but must leave an hour late;
Our train is composed of some eighty-five loads,
Which is just a fair av'rage for up-to-date roads

We get out of town, a few miles at the best,
Head in off the main for a train coming west;
Be held on the sidetrack an hour for this train,
Before she arrives and then pull out again.

Then just get our "eight-five" rolling once more
And then take the siding to clear Number Four;
'Tis thus we drag on o'er the long iron way,
And keep up this dragging for hours, night and day.

Let critics who think our demands are too great
Just make a few trips on an eighty-car freight;
Keep tab on the orders—keep watch on the train,
And see how the job exhausts muscle and brain.

If they knew of the hardships the firemen endure,
They'd agree that the job isn't one to allure;
The kind of the labor its duties demand
Is work, sir, that's harder than humans can stand.

You people who say we want more than our due,
Shovel coal for twelve hours, with a scoop, number two;
Keep a watch out the window, your eyes on the rails,
Keep your mind on your train, from headlight to tails.

Read the orders they hand you, keep the card in your head,
And in eight hours' time you'll be just about dead,
And convinced that we're asking no more than is right,
And for something for which you'd be ready to fight.

And, therefore, we're asking the railroads today
For a shorter work-day and fair overtime pay.
We are asking for what we consider our due—
More power, then, we shout, to the old "Tried and True."



S. E. Burns, 44
B. L. F. & E.

J. G. Wyatt, 220
B. L. E.

E. R. Sims, 408
B. L. F. & E.

C. C. Griffith, 18
B. L. F. & E.

L. McDonald, 707
B. L. F. & E.

F. L. Pierce, 40
Gen. Chairman,
B. L. F. & E.

H. Dennis, 40
B. L. F. & E.

C. T. Andrew, 8
Gen. Chairman,
B. L. E.

F. Sutcliff,
B. L. E.

P. R. Crystal, 19
B. L. E.

JOINT COMMITTEE, B. OF L. E. AND B. OF L. F. AND E., CHICAGO AND ALTON RAILROAD SYSTEM

The Out-of-Service Members.

After reading article in the December issue, by Brother Henry Zink, of Lodge 14, entitled "Shall the Out-of-Service Members be Barred from Holding Office," will say that I am of the same opinion as Brother Zink. The organization today is what the old-timers, and not the new members, have made it. Examine your records and see—it is the old-timer who is bringing in the new members.

In Brother Geer's article in the November, 1915, issue, entitled, "Pass the Offices Around," he says: "Out-of-service men are just as good Brotherhood men perhaps as any who belong to our order." Then he wants a law enacted requiring all officers to be in actual engine service. Why doesn't he advocate the enactment of a law to compel all out-of-service members, engineer members and hostlers to withdraw from the order and change its name to the Knights of the Scoop? If the members representing the rank and file of the good old "Fried and True" had not done their duty at past conventions, the order would not be what it is today—the best in the world.

The out-of-service member has to pay just as much dues as the man handling the scoop, with but one exception, viz., the Joint Protective Board assessments. Why should out-of-service members be compelled to pay legislative assessments when they derive no benefits from railroad legislation? Perhaps they have belonged to the order too long and are exempt from nothing, but these same out-of-service members worked from ten to forty hours per trip in their time, and for the paltry sum of \$1.40 per hundred miles, and fifteen cents per hour on switching and transfers; then compare your present scale of today and see if the old-timer and the out-of-service members have not done some good.

Our members should select men for their offices and boards as they see fit. Nominate good members, regular attendants, and let the best man win, be he an engineer, fireman or hostler, or an out-of-service member. Let all lodges have an attendance roll book at all meetings, and at the end of the year look through it and see who did and who did not attend meetings. I think such a record would convince Brother Geer that the average attendant is the hostler and out-of-service member.

Now, brothers, do not think I am "sore," I am but one of the old school of fighters of the good old Tried and

us your views on this subject, regardless of what your position is today. We have all handled the scoop in our time or we would not be members of this grand old order.

J. J. McCORMICK,
Member Lodge 331.



Help Our Veterans—A Paid Up Policy.

I have read with great interest the articles and contributions in the Magazine relative to helping our old members. I would like to see our next convention do something for them, although I know it is next to impossible to pay all the old members their beneficiary claims in full at the expiration of 25 or 30 years' membership in the order.

As I understand, there are over 2,000 members who have held continuous membership for that period of time. Our Beneficiary Fund is in excellent condition and we must so maintain it, but I believe that a new fund should be established and maintained that would insure our members a paid-up policy at the expiration of 25 years membership in our order. While we have not done this heretofore, we should take care of the future in this regard. I presume that a great many of our veteran members are out of active railroad service, and I know it is a real hardship for some of them to keep their dues paid up and make a decent living for either themselves or family, and our next convention should do something and legislate so as to relieve these loyal brothers who have shown their devotion to our order. If our order does not, I am afraid a great many of our old members will be thrown on the cold charity of the world. It is due these old veterans who stood by the order, during the Brooklyn Elevated, C. B. & Q., Lehigh Valley and Toledo and Ann Arbor strikes and made it possible for this order to be what it is today, and remember what these loyal brothers went through when our membership was less than 20,000 and no protective fund to help them. In fact, we had to borrow money to tide us over but, thanks to the loyalty of these veteran brothers, we weathered the storm and landed on the shore in safety. Regardless of the predictions of H. B. Stone [general manager of the C. B. and Q. railroad during the 1888 strike] I am glad to know that there are over 2,000 veterans that can look back and today say, "I helped to maintain one of the greatest labor organizations in the world." Our Country

fficers are to be commended for their efficiency and all they have done to build up our order. They are true veterans, and I recall with pleasure the contributions of Brother Carter, our International President, to our Magazine, which at that time made it a live Magazine but, like our grand order, our Magazine has also improved, stands for the best and is the best ever to help a brother while he lives. I know that the young generation of the B. of L. F. and E., growing up, whether firing or running a locomotive, will want to help the old veterans while they live.

FRED ZEPPENFIELD,
Member Lodge 166.



New Elective Office of "Auditor" Proposed.

One of the greatest difficulties with which the B. of L. F. and E. seems to have to contend is the securing of financial secretaries and trustees who will fill their offices. The checking of the books by trustees is far too important a matter to be slighted for several well known reasons. It is difficult to get men to do hard work even when well paid, and it is well nigh impossible to get men to assume unpleasant responsibility for the mere pleasure of doing their duty.

The duties of our financial secretaries, and the trustees as checkers, have become sufficiently complicated in detail from convention to convention as to require considerable attention, and most enginemen have not the time of their own to give. Getting four enginemen together at a stated hour is in itself no small task, even with the use of telephones. Then there are enginemen who have not been so fortunate as to secure the clerical educational advantages qualifying them for such work.

The best reason that I am able to see for so detailing and complicating this work is to save clerk hire in the Grand Lodge office and I am of the opinion that the Grand Lodge should do their own work. True, some lodges have out-of-service members whose time is all their own and who can be called upon for any task that enginemen cannot do. Enough said, however, about the out-of-service man. He makes another story well worth the telling to many lodges. After twelve years of experience as a financial secretary with trustees checking my books, I can see no good reason from the local lodge standpoint why, when John Smith pays his dues as a class A member and I write his receipt for the amount that the Grand Lodge should

make me divide that payment into four funds instead of two. Two dollars of the amount must go to the Grand Lodge and the remainder to the local lodge. If there were only one John Smith paying one month's dues, the task would be simple, but when you have one hundred of them paying twelve times, it gets complicated. One fund to the Grand Lodge and one to the local lodge would greatly simplify the work and trustees and financial secretaries would be more readily found. If this cannot be brought about consistently, I would suggest the creation of a new elective officer who might be called the auditor, and it would be his duty at specified times to make an audit of the books of the financial secretary and report in triplicate, one copy going to the Grand Lodge, one to the local lodge and one for his own files. His compensation could be determined by the size of his lodge and the penalty for not promptly reporting could be the withholding of the pass work from his lodge. He could make the detailed reports and from his reports could be made the annual reports.

E. M. QUALTROUGH,
Financial Secretary, Lodge 178.



Non-Service Members as Delegates to Grand Lodge Conventions.

I am at a loss to understand why it is that so much discussion is now going on in the Magazine in relation to non-service members being elected to represent their lodges as delegates to the Grand Lodge Conventions; why is it? Is it for the purpose of discussion, or is it for the purpose of depriving them of one of their rights and privileges as members of the "Tried and True?"

What caused that great "Tea Party" in Boston during the reign of King George the third? Taxation without representation. Then why should such an evil be created in our order? Do they (the non-service members) not pay their just portion of the taxes in the form of dues, assessments, etc.? To be sure they do.

Who has borne the heat and burdens of the day, as well as the brunt of the battles in the past history of our Brotherhood? Who fought for the order during the gloomy and trying days of the "Q." and Ann Arbor strikes, as well as those of lesser note? Who made it possible for the younger members of the order to have the improved working conditions and reap the many benefits they now enjoy?

Who now, to a very great extent, are the more regular attendants at lodge meetings, and by their presence as well as by their advice and council, aid in the up-building of the order? The non-service members.

Just because a member is out of service is, to my mind, no just or reasonable argument why he should be deprived of one of his privileges of membership. The argument that non-service members can not or do not take as much interest in the welfare of the order as do those in service, or that they will not legislate for the good of service members is absolutely without foundation. If they have not a live, active interest in the Brotherhood why do they attend lodge meetings? Why are so many of them elected to fill various offices in their respective lodges? Why do they pay their dues and assessments?

We have as members of our order lawyers, physicians, merchants, ministers of the gospel, manufacturers, and men who are in the employment of the Government of the United States and Canada. Shall they be deprived of their right to a seat in our conventions should lodges in which they hold membership see fit to elect them as delegates? I say most certainly not! In choosing such men as delegates, it is to be presumed that a majority of the members of their respective lodges regard them as specially fitted for that position by reason of their knowledge of debate and the rules of parliamentary law and practice, and perhaps as being gifted with a keener insight as to what will be brought up for consideration, or quicker to grasp the various problems as they arise.

I have often wondered if those who advocate debarring the non-service members from representing their lodges at conventions have ever taken into consideration the fact that should the non-service members be stricken from the Grand Lodge register, there would be a very material decrease in the membership of the order, as well as a corresponding reduction in the receipts of the various funds of the order.

What would they have the non-service members do? Just pay their dues and assessments, attend their respective lodge meetings, and hold the various subordinate lodge offices to which they may be elected? Brothers, do you think that that would be a "square deal" for those members? I for one do not, and furthermore I believe that a majority of the members in the order are of the same opinion, and that on thinking the matter over in the light of justice and reason a majority of our delegates will go on rec-

ord accordingly at our convention in Denver in June next.

Are the out of service members to become simply figureheads in the order? If so, then perhaps it would be advisable for those who are such strong advocates of the service delegates (only) to devise and to put into effect some plan by which the non-service members can and will be paid their beneficiary certificates in full, regardless of the length of time they have held their membership in the order. Then those service members will have said to the non-service members, we are done with you; we do not want you as members of the order. Notwithstanding the fact that you have given much of your time, and talents, as well, no doubt, some money towards the upbuilding and maintenance of the order, you are back numbers for the reason you are non-service members.

Are not non-service members often elected to represent their lodges in union meetings, state conventions, etc.? To be sure they are, and as they are eligible to election for those places, then why not to the Grand Lodge?

This question has been debated time and again in former conventions, as well as in the columns of the Magazine. Would it not be well for the coming convention in June to enact some definite law on the subject that will put a stop to all such discussions in the future? Then the non-service members will know just where they are.

EDWARD CHAMBERLAIN,
Lodge 218.



Educate.

I have been a member of the B. of L. F. and B. of L. F. and E. for more than twelve years and enjoy reading the Magazine as it is highly educational and contains a mass of information on various subjects that affect the thought and interests of those engaged in railway service, and particularly engine service. Departments are provided for in the Magazine that contain information and instruction pertaining to machinery, air brake and equipment, train rules and train practice, Brotherhood, Industrial, poetry, Ladies' Society, Miscellaneous, etc., all of which are appropriate and advance the interests of the members individually and collectively, and the employing companies derive benefit from better educated employees on account of increased efficiency.

To all of these I do not desire to enter any protest, but do desire to call attention to the fact that our Magazine does

not contain a department pertaining to a subject that is of most vital importance to each and every one of the members of the B. of L. F. and E., and that subject is "Political Economy," and by that I do not mean so much the discussion of the merits of the different political parties, but as an outline of my ideas would suggest the following: A department to be provided for in each issue of the Magazine, also a competent person to have charge of same, just as an expert furnishes information and articles

We advocate and practice co-operation in wage movements and in securing better conditions. Why cannot we practice it in other ways? If it is beneficial let us extend its scope. Literature is furnished to non-members to educate them to the great benefits to be derived by joining the B. of L. F. and E. Let us extend that education to a subject of great importance and broad possibilities; that is, "Political Economy," or one of the main issues of the so-called "Bread and Butter" question.



E. O. Houston, 243
B. L. F. & E.,
Secretary.

R. L. Myers, 243
B. L. F. & E.,
Chairman.

Lindsay Elder, 243
B. L. F. & E.,
Vice Chairman.

J. A. Burkhalter, 496
B. of L. E.,
Secretary.

J. H. Williams, 496
B. of L. E.,
Chairman.

John Higgins, 496
B. of L. E.,
Vice Chairman.

**JOINT COMMITTEE, B. OF L. E., AND B. OF L. F. AND E.,
MEMPHIS, DALLAS AND GULF RAILROAD.**

on machinery, air brakes, train rules, etc.

Our delegates in Convention assembled have by the enactment of laws provided for legislative representatives, legislative boards, State and National representatives and assessments are levied to reimburse the members serving in these different capacities, but our conventions have failed or neglected to provide for a way to educate the members so they may intelligently seek legislation that will benefit them or be in a position to know whether proposed laws are beneficial or not.

Several laws have been secured such as the 16-hour law, boiler inspection, safety appliances, headlight and full crew, and others have been introduced and some very obnoxious bills have been defeated because we or our representatives have been vigilant, and in a measure we and the great masses of people we serve were educated.

We receive many lessons in the school of hard knocks, but they affect perhaps only a few persons, and while our great order is only as great as its individual members make it, let us at least endeavor to educate ourselves through the columns of our Magazine and thereby place our-

selves in a better position to protect the things we have and perhaps secure more. Volumes could be written on this subject, but I do not think it necessary, and in conclusion will suggest that the local lodges and individual members consider the question of providing for and incorporating a new department on political economy in our official Magazine by the delegates at the 1916 convention.

Brothers, wake up. Let us organize, educate and work for the many betterments to which we are justly entitled.

MEMBER, Lodge 456.



Professor Scott Nearing to Lecture at Meeting of Our Order April 23rd, 1916—Toledo Joint Union Meeting of March 13th a Success

On Monday, March 13th last, Lodges 2, 63, 142 and 823 held a joint meeting at McCalla's Hall, Toledo, Ohio. Over one hundred were in attendance. Bro. Steve Stillwell, Vice-President of the Ohio Federation of Labor, made an excellent speech on the Eight-Hour Movement. Brother Stillwell is also a member of the State Building Trades Council and he said that if a contractor who could not write his check for a thousand dollars could afford to pay time and one-half for all time in excess of eight hours, the railroad corporations in this country could certainly afford to do so. He also called our attention to the fact that over two million men and women in North America were today enjoying the same conditions that we are now trying to get. He urged the boys to stand firm in the fight.

Bro. R. B. Ackerman, Chairman of the Ohio State Legislative Board, gave the members some excellent advice on legislative matters, reviewing the work of the last few years. Since we have been maintaining Brother Ackerman on a salary we are getting exceedingly good results in law enforcement through the Public Utilities Commission of Ohio.

The boys here do not want any change in the method of holding our conventions but want to see men elected who will tend strictly to business, and believe by so doing that expenses can be kept down within reason. It would in my opinion be very detrimental to the order to adopt a system that would tend to allowing a few men to run our conventions. No officer should get to thinking that the members who are out on the "battle line" don't know what they want and how their seniority lists should be made up.

There will be another Joint meeting

on Monday evening, April 10th, next, at Crowe's Hall, corner Segur Avenue and Broadway, Toledo, Ohio, and on Sunday afternoon, April 23rd, 1916, Professor Scott Nearing will lecture to members of our order and the auxiliaries in the same hall. Professor Nearing was discharged from the University of Pennsylvania because he upheld labor. Read your September, 1915, Magazine (page 329) and you will know the kind of a man he is. Every member who is in Toledo or who can possibly be there on either of these dates is urgently requested to be present.

Our lodges here are in pretty fair condition and gaining a few members each month, which we hope will continue.

MEMBER.



Some Provision Should Be Made for Our Aged Members.

For several months past there have appeared in our Magazine articles from brothers urging that some provision be made to help our aged members, some of which favored giving them the amount of their insurance to keep them in their old days. I think the delegates at our Denver Convention could devise some plan to assist the old timers who have stood by the Tried and True so long, who have helped to build up our grand organization and whose loyalty to it even in its greatest struggles has never wavered.

I have been a member of Lodge 13 nearly 35 years continuously and I am proud of my record. I wear a 25-year button of which I am also proud. I am nearing the 68-year mark and have been unable to work for nearly a year on account of bad health, but am trying to keep myself square with the order as long as I can. However, like many other old members, I find it difficult to do so. Now, then I ask you what is to become of the veterans when they are unable to meet their obligations? I think this is a serious question, brothers, and I hope you will take more interest in it. Our younger brothers, I appeal especially to you to use your best endeavors in behalf of our aged members in their declining years.

Now, brothers, in conclusion let me ask of you to instruct your delegates to give this subject some consideration and see if something cannot be done for the benefit of our aged members. Would like to hear from some other members on this subject.

ALFRED J. MAYER,
Member Lodge 13.

"SOMEWHERE IN FRANCE"

By J. ALEX KILLINGSWORTH, Author of "Sparks and Cinders"

She heard the band; she saw the boys
 Go marching down the street;
 She saw them swing along and heard
 The rhythmic tramp of feet;
 She saw the grand old flag she loved
 A-floating at their head;
 She heard the cheers bystanders gave,
 The kind things, too, they said,
 But somehow in her mother's heart
 Responsive chords were dead.
 She could not cheer; she had no heart,
 Her boy was there—'Tis said
 He was her joy—life seemed so good,
 So sweet, when he was near.
 The farewell words, the train was off
 With all her heart held dear.
 The days, the months, pass slowly by
 And each day brought its toll.
 The lists of dead, "In action killed,"
 Brought sorrow to her soul.
 "Somewhere in France," was all she knew—
 A line to mother, dear—
 "I'm well, but ah! the frightful sights
 We soldiers witness here.
 Don't worry; if I'm called to go,
 Remember life may be
 Well spent however short, just say,
 'My country, 'tis for thee'"—
 "Somewhere in France" he's resting now,
 A dreaded message read,—
 "A grateful country offers you
 Condolence for the dead."
 "Somewhere in France" her darling boy
 Is sleeping in his grave.
 The greatest gift a man can give
 His native land, he gave.
 The war shall end, the troops return;
 The tread of marching feet,
 With martial step, shall then be heard
 Resounding from the street.
 She'll see the boys go marching by;
 She'll see them swing along;
 She'll hear the cheers of welcome and
 The soldiers' battle song.
 But while the soldiers swing along,
 And while the horses prance,
 Her thoughts will be afar—they'll be
 With him—"Somewhere in France."

NOTE:—With sincere sympathy, these lines are dedicated to Sister Edith M. Lewis, President of Connaught Lodge, Ladies' Society, B. of L. F. & E., London, Ontario, whose brave son, Brother Corporal William Heber Lewis, of Beaver Lodge, 117, London, Ontario, gave his life for his country in the great world war now raging. His death was reported to have taken place on January 30th, 1916, in France.
J. A. K.



Top Row, left to right: A. T. Cassidy, 494, B. L. E.; Wm. Smithers, B. L. E.; V. G. Brewsagh, 811, B. L. F. & E., Vice Chairman Joint Committee; J. G. Beck, 181, B. L. F. & E.; C. F. Latschold, 425, B. L. F. & E.; W. A. Bowen, 769, B. L. E.
 Middle Row, left to right: Wm. Miller, 290, B. L. E.; Wm. Wm. Pratts, 608, B. L. E.; V. E. Latta, 657, B. L. F. & E.; E. N. Foster, 494, B. L. F. & E.; C. W. H. Morris, 256, B. L. E.; Len. Engle, 80, B. L. E.; J. E. Harris, 103, B. L. F. & E.
 Bottom Row, left to right: F. J. Kildy, 872, B. L. E., Vice Chairman B. L. E. Committee; G. S. Jones, General Chairman B. L. E. Committee; John Meeks, 879, B. L. E., Sec.-Treas. B. L. E. Committee; Chairman Joint Committee; J. P. Barrett, 412, B. L. F. & E., Vice Chairman B. L. F. & E. Committee; Secretary Joint Committee; Emil Erdman, General Chairman B. L. F. & E. Committee; F. F. Carson, 510, B. L. F. & E., Sec.-Treas. B. L. F. & E. Committee.

JOINT COMMITTEE, B. OF L. E. AND B. OF L. F. AND E., SOO LINE

A Word with Hostler Members.

The time is fast approaching when we should strenuously endeavor to better our working conditions. We should have more pay per hour for taking charge of these modern locomotives, handling same and cleaning fires which is done at many points by the hostler for 24 cents per hour. Working 12 hours per day, he makes \$2.88 with no time allowance for lunch. We earnestly think this should be rectified by allowing one hour overtime after 1 p. m. or 1 a. m. Our work has increased at least thirty per cent in the last two years in different ways.

First, by relieving 16-hour crews.

Second, by the greater care necessary to exercise in handling engines.

Third, because of the heavier type of engines.

Fourth, machinists and boiler makers are forbidden to handle engines in the roundhouse or on storage tracks, hostlers or the engineer only being allowed to move them (good point for the hostlers but more work).

Fifth, the greater amount of care with which an engine is to be moved and anchored about pit, shop and storage track due to liability law and compensation act that our superiors caution us about from time to time.

Sixth, the Interstate boiler and stay-bolt, machinery and air inspection alone has added more than 10 per cent to our work.

Seventh, at a great many large terminals they are handling 20 per cent more engines than two years ago with the same number of hostlers.

I think any hostler cleaning his own fires, coaling the engines, sanding and taking water and subjected to all kinds of weather, with the roundhouse foreman at his heels for 12 hours 7 days a week at 24 cents per hour, has very little chance to go to lodge and turn out next morning and go to work if he be a day man, and still less if he be a night man.

Let us see how we fared in the 1913 movement. At some points hostlers were getting \$65.00 a month; at one place \$2.20 was paid for 10 hours, and at another 25 cents per hour, etc., and since then \$3.25 for 10 hours or less only where main line movements are made, and 24 cents per hour for handling engines in and about the yard and storage tracks. It looks very much to me as though the award is not properly complied with. At this point there is at least 40 hostler members in engine service, and 6 of the 40 get \$3.25 per day. I think if

the 1913 movement all men in engine service other than engineers would be getting \$3.25 for 10 hours. As it was, it was left to the firemen to adjust. Will it be so again?

I have been a member for 16 years and have served as fireman, engineman, ash-pit foreman, road hostler and inside hostler, and have quite a few goat skins and scalps to my credit in the lodge room.

Hostlers handling engines and cleaning fires in yards, and storage tracks, or riding and handling engines on the main line for eight hours or less should receive \$3.25.

Any man responsible and qualified for the safe movement of a locomotive or ordered by his superior to move a locomotive or locomotives should be known as a hostler, and should receive the above rate.

Hostlers should be excused from making repairs, wiping locomotives, cleaning front ends or ash pans, filling lubricators or lamps and building new fires. There should be a noon hour or lunch period, such lunch period to be allowed for on the eight-hour day basis.

Brothers, I have been pondering over the above for some time and I believe it will fit the majority of cases as it covers all, or nearly all, the principle items of duty performed by us, with a reasonable rate of pay, and I hope that all members interested in this movement will buttonhole their general and local chairmen and stand by the eight-hour movement. Take an hour of your time and write them. I would like to correspond with any member on the above subject at any time soon. Get busy, this is your fight and you should get to the front.

MEMBER Lodge 11.



The True Brotherhood Spirit.

It is the duty of every brother to assist the officers of his own lodge as well as of the Grand Lodge to the best of his ability, by doing his duty as well as he can.

If one of your officers does not come up to your ideal standard do not stay away from lodge meetings and join a knocker's club, but go to him and in a friendly way show him wherein you believe him to be at fault; thus you may be the means of making a good officer as well as living up to your obligation of "brotherhood."

Remember that you owe it to yourself to attend the meetings of your lodge when possible and assist in conducting the busi-

ified with the candidate put in nomination for any office, offer yourself if you think a better one cannot be found, but for goodness sake do not stay away from the lodge during election time and later complain that things are not done to your satisfaction.

Remember you always have the privilege and the right to talk right out in meetings. Another thing we should try and show a little more of is brotherly love. Fraternity is something more than a name or a button to wear in the lapel of your coat. It signifies something deeper, broader, more intense, more full of real being than any mere name. Fraternity is a feeling which real men have had for each other from the very beginning of the civilization of the human race. Fraternity approaches in a measure that spirit of true brotherhood that religion teaches. There are many older orders than the B. of L. F. and E., but none of them have ever discovered a greater depth, a broader scope or a more magnificent vista than might be developed in this, our order, the one that gives us our pay check.

W. D. PHELPS,
Member Lodge 485.



Annual Missouri State Meeting.

The Eleventh Annual Missouri State Meeting will convene in St. Joseph, Mo., on May 2nd, 3rd and 4th, 1916. It is hoped this will be one of the best meetings yet held. Lodges all over the State are requested to send a full delegation as well as a number of visitors.

Members from out of the State as well are extended a cordial invitation to attend. Come and bring your wives.

E. G. RILEY,
Acting Secretary, Missouri State Meeting.



The Old Story.

I note that the railroad officials are beginning to sing the old song to the public by distributing pamphlets throughout the country, telling the people that the employes are going to make an unreasonable demand upon the railroads for higher wages, this for the purpose of poisoning the minds of the public who do not understand the situation as it is. They furthermore say our leaders have been quoted as saying they would not submit to arbitration. I don't wonder at that, as boards of arbitration have in the past seemingly proven unfriendly to labor organizations and I believe I can safely

say that nearly every fireman in the country will oppose arbitration. It has been clearly demonstrated that the earnings of the laboring men in America are buying titles for ambitious daughters of railroad magnates of our great country. If this keeps up, pretty soon the railroads of this country will be controlled by titled gentlemen of Europe. Some of the railroad presidents are quoted as receiving one hundred thousand dollars a year for their service. Now, Mr. Public, do you believe any one man is worth that much money to any company? I think if the salaries of railroad officials were reduced to what they are actually worth to the companies, and some one with an honest heart were to keep watch over the money earned by the railroads, the public would find that there would not be so many roads in the hands of receivers.

MEMBER, Lodge 830.



Proposed Legislation at Our Denver Convention.

I have a plan I wish to submit to the brothers through the Magazine for legislation at the coming convention. I believe it will save time and money and bring good results and will keep the membership in closer touch with the doings of the order. I believe the time is ripe for such a move as this:

Let the United States and Canada be cut up into districts with a central city for headquarters in each district, and put one of our Vice Presidents in charge of that district. For example, take New England say with headquarters in Boston or New York. Now this would cut down the expense of travel so materially that the amount thus economized would more than offset the cost of running an office at each central point and it would also give better service to the members, and above all it would be a big help to the general chairmen as they could get together on short notice and thereby reduce expenses to a minimum.

Under the present arrangement the office of Vice President is not a very desirable one, as a Vice President is like a man on the spare board, with no home, and on the road all the time, and I believe the plan I propose would enable him to give to those he serves the best that is in him and brighten his own condition.

Another thing I would like to see is a meeting set apart, say the first meeting of certain months, to be known as roll call meeting, at which every member should be present.

the secretary a postal, stating the reason for his absence, same to be placed on file.

There are members in every lodge who never attend a meeting but take a very prominent place at all the roundhouse banquets, and if this suggestion were put into effect we might get them out once a year at least anyhow. Let us try and get interest started.

I ask you to stop and consider what will happen to your order, that gives you your pay check and thereby keeps you in good standing in your other fraternities, if the co-operative spirit is not maintained—if you do not take a proper interest in its affairs.

W. D. PHELPS,
Member Lodge 485.



Delegates' Pay—Help for the Old Members—Traveling Auditors.

On February 27, 1916, we were agreeably surprised by a visit from our General Chairman, Bro. C. A. Tweedy of the I. C. R. R., who made a very good impression on the members.

Our convention time is drawing near and I wish to say I see no reason for paying delegates nine dollars a day. Why, the men that made this order what it is used to go to conventions and pay their own expenses, have a good time and return feeling fine, and have something to say for the good of the order. I believe in fair pay for a fair day's work.

I would like to say something in regards to the old members and their insurance.

I do not ask anything for myself, although I have served thirty-two years this April in the Brotherhood and can hold my own with any man, but inasmuch as there is a great deal said about this perhaps my opinion will at least be read. Now my idea is this: When a man is sixty-five years old and has paid his dues into our order for thirty years he can hardly hope to live ten years longer. Say he is carrying fifteen hundred dollars (\$1500.00); if we deduct ten years dues, which would be, say three hundred dollars (\$300.00) this would leave him twelve hundred dollars (\$1200.00) and we would have the use of the three hundred dollars for ten years. If anyone cares to figure this proposition they will readily see that it amounts to casting bread upon the waters, as the brother's relatives would hardly let his insurance lapse at that age any way.

Then another thing that should be con-

sidered by our next convention is the financial affairs of our lodges. No doubt there will be an effort made to add to our staff of Grand Lodge officers. I think we have sufficient Vice Presidents but there should be several traveling auditors at work all the time, for we all know that the average auditing committee is a farce. There is no doubt that a good many of our lodges are suffering from bad financeering, but if our local lodge officers knew that a Grand Lodge officer might happen in at any time and have look at their books there would be a great deal less of loose work done and our weak lodges would be made strong. Our Magazine is up to date and we would have a hard time improving on it. I hold malice toward none and good will to all.

W. W. SLABY,
President Lodge 502.



Flora, Illinois, Fifth Sunday Union Meeting.

The fifth Sunday Union meeting held at Flora, Ill., on January 30, 1916, was called to order at 2:15 p. m., by the chairman, Bro. Paul Naney, of Flora, Ill.

The meeting was opened with prayer by the Rev. F. M. Lindenmeyer of the First Christian Church. Rev. Lindenmeyer was a railway employe before studying for the ministry, and has a deep interest in the betterment of conditions of railroad men.

Bro. J. A. Culp, of Blue Island, Ill., Chairman of the Joint Labor Legislative Board and a member of the Brotherhood of Locomotive Engineers, gave a most lucid account of the laws supported by organized labor which were enacted during the Forty-Ninth General Assembly at Springfield, and explained the opposition of the labor organizations to certain other proposed laws. He also named several bills which, had they been passed would have been highly beneficial to humanity and were ardently supported by organized labor, but through misrepresentation of fact were defeated.

Bro. D. McCarthy, of Chicago, Ill., Chairman of the Illinois State Legislative Board of the Brotherhood of Locomotive Firemen and Enginemen, gave a most interesting and highly instructive address on the objects and purposes of organized labor and succeeded in giving to the audience much food for future thought.

Bro. W. Hall of Springfield, Ill., Legislative Chairman of the Miner's Union of America, told of the men's



Top Row, left to right: H. Smith, 234; R. A. Tufts, 685; F. G. Yelland, 172; B. McFarlane, 559; C. Howard, 747; F. Dwyer, 778; J. G. Stott, 334; H. A. Opsahl, 225.
 Second Row, left to right: D. P. Graham, 631; J. B. Reilly, 609; F. R. McDaniel, 656; M. Brian, 518; D. McAnley, 468; D. C. Little, 696; J. McClary, 337; W. H. Clarke, 825.
 Third Row, left to right: H. B. Crawford, 262; E. G. Eyder, 489; F. W. Nicka, 127, First Vice Chairman; H. H. Lynch, General Chairman; H. Richmond, 479, Second Vice Chairman; W. R. King, 476, Secretary-Treasurer; H. T. Britten, 806.
 Fourth Row, left to right: W. A. Kennedy, 735; J. Goss, 259; D. H. Currie, 521; F. White, 648; J. Howland, 550; J. A. Jones, 464.
 Bottom Row, left to right: W. Haddleton, 789; F. J. Buscombe, 821.

JOINT PROTECTIVE BOARD, CANADIAN PACIFIC RAILWAY SYSTEM, WINNIPEG, 1915

stales which confronted the men sent to our legislative halls. He gave unlimited praise to those who contended for the right, met the charge bravely and remained true to their convictions. He urged that such men, when they again ask to be returned to the legislature, be given undivided support regardless of what party they represent.

Bro. T. J. Condon, of Springfield, Ill., attorney for the Joint Labor Legislative Board and a member of the Brotherhood of Locomotive Engineers, told of the good accomplished by organized labor and its benefit to our country under the present economic and industrial conditions and based his remarks on forty years' personal experience in the ranks of organized labor.

A vote of thanks was accorded the band, and Hon. R. S. Jones for their aid in making the meeting a success.

After the closing prayer by Reverend Lindenmeyer, the meeting adjourned to meet again on Sunday, April 30, 1916.

PAUL NANAY,
Chairman of Meeting.



Vote for Sick and Accident Insurance Feature at Our Denver Convention.

I have been studying for some time how we should provide further financial assistance for ourselves when in needy circumstances.

The laws of our organization do not require in any case the provision of hospital, medical or financial assistance in any sum to those of our members who are so unfortunate as to be in needy circumstances. It has, however, been the Brotherhood's commendable policy for many years past to assist those of our brothers who were worthy and in need of assistance, financially and otherwise. In this good work it has, in most cases, necessarily been limited by the funds on hand in the local treasuries, and this has necessarily caused our members to protect themselves by joining other organizations or taking out very expensive insurance elsewhere. To overcome the disagreeable features referred to, and in an effort to make it possible for each member to provide for the day of adversity that is inevitable in the life of a railroad man, a sick and accident insurance modeled on a simple plan would help to protect and retain the membership of our order, and besides it would build up our organization generally. This is doubly true when we take into consideration the fact that this insurance could be

handled at actual cost or by a very economical plan.

Some insurance companies have arrangements with railroad companies whereby they write insurance over their lines and divide the policy premiums into four or five payments to be deducted from an employe's wages at the end of the month.

The assessments could be paid monthly the same as are the dues, if such an insurance feature is established by our Brotherhood. This would make the assessments much easier to pay by a majority of our members, especially during seasons of dull business.

In the case of some sick and accident insurance companies, if a person holding a policy turns in a claim before his policy is fully paid for, he will be advised that he will be given credit for the amount of his claim or the amount over and above full payment of policy, even if it is allowed at all. I personally know of a case where a claim was turned in with all necessary proof pertaining thereto, and the party was advised that inclosed he would find amount of full payment of policy, and that same was being returned to him as his claim had been disallowed. This, it seems to me, is sharp practice in taking advantage of an agreement.

If a man will read over closely the policy of some accident insurance companies he will notice a special clause, such as "Internal" and "External" injuries only, allowing half time for internal injuries.

If we had protection such as I have reference to, I don't believe it would be necessary to request men to join the order, and would venture to say that within a short time a large majority of our members would join in this protection.

H. M. POWERS, Lodge 8.



Now Is The Time.

The time is drawing near when it will be determined as to whether or not the railroad employes are to have shorter working hours. If it should come to a matter of arbitration, why have we not the same right to vote on whether or not to arbitrate? If this matter is arbitrated and, instead of a shorter number of working hours the employes accept a higher rate of pay, it will support the company's contention that we do not want shorter hours but more wages. It is common talk that if we do not get shorter hours at this time our chance will never be better, and failure would result



J. H. Castonguay
General Chairman

Albert Wells

F. McAuley
H. Roemer
Vice Chairman

A. S. McKenzie

P. E. Dorsey
R. E. Linden
Sec.-Treas.

R. McLagau

J. Dane
S. Jamieson

JOINT PROTECTIVE BOARD, CANADIAN GOVERNMENT RAILWAYS

in a decrease in membership in the several orders, so why not do as we were told would be done, when we were strong enough—stick together and fight for fair conditions of employment.

MEMBER.



Poor Attendance at Meetings.

Having a few times attended meetings of a certain lodge with a membership of one hundred and fifty, I was surprised to find not enough members present to fill the chairs of absent officers.

There are quite a number of members who on meeting nights seem to forget that they belong to the B. of L. F. and E. There are many who hold day yard engines and could come up to lodge every meeting night, but who simply don't take enough interest to attend and learn what is going on. It is high time that all such indifferent members would become alive to the great importance of taking a proper interest in the work of the Brotherhood particularly in view of all that depends on the success of our present eight-hour movement.

There are a few members here who have spoken to them the day before a meeting, and the only thing they would say is, "Sure, I will be up tonight," but when the time arrives for opening the lodge there is only a handful present. Instead of enjoying themselves or passing their time in other ways they should get to thinking things over and aim to be at lodge every meeting night. There are six nights during the week left for amusement and pastime.

The lodge room is a good place for a fireman to spend a few leisure hours on meeting nights.

MEMBER.



Better System Needed for Handling Grievances—Now Is Time When We Must Have United Action to Win.

I fully agree with the brother in the February, 1916, issue of our Magazine that the way of handling grievances as at present should be changed and members given quicker action on their grievances, especially in discharge cases. It is now over nine months ago that I was discharged by a superintendent for a so-called violation of a company rule, and when the local chairman under instructions of the lodge called on the superin-

tendent to have him live up to our contract with the company he flatly refused to comply with the contract. The case was then submitted to the general chairman who so far has not done anything definite.

Another case I would mention is that of a fireman who was discharged by the master mechanic and when an investigation was held by the superintendent he only reprimanded the fireman for lack of interest in his work, and that was only done to prevent the fireman from claiming time for time lost as per the contract, and as his case was just a trivial one (having lost but two weeks), on account of the trouble and time to appeal the case, it was dropped.

Now, brothers, the way grievances are handled puts too much power in the hands of the officials, especially in small lodges where the burden all falls on a few who take an active interest in the lodge, with the result that they soon become classed as undesirables by the officials and must give up their jobs or else not be so active in lodge affairs.

So on large systems it would give better results to all concerned to have a salaried representative of the men to handle all the grievances, as he surely could get better action as his bread and butter would only be at stake when he did not properly represent his men. All petty grievances could be held until he would make his regular round of visits, and if a penalty is attached to all violations of the contracts by any railroad official it would result in the abolishing of a good number of minor grievances. The way it is now, an official can (and some do) place the most ridiculous interpretation on an article in the contract existing between the company and employes and stand pat on it, and when employes appeal from his decision, it may be decided in favor of the employes in six months or one year's time due to red tape. In the meantime the employes have lost interest in it and it is dropped, with the result that the official has established a precedent which is just what he wanted. Brothers, the time has come when all must work more unitedly than ever before, as in view of the present move of the employes they will be harassed by the officials, more so the active employes than the passive ones. We must work shoulder to shoulder and all who are in off the road attend meetings regularly, drop all personalities, and work for the greatest good of the greatest number.

MEMBER.

Correspondence

LODGE 370—(J. C. Dry, Council Grove, Kan.) Our officers need our support and we should do all in our power to help them fill their offices in a way that will be a credit to both themselves and the lodge.

In the past it has come to my notice that the members who do not attend lodge are the ones who do the most fault-finding, and for the benefit of these brothers I wish to say that I don't think they have any room to complain regardless of how the business of the lodge is conducted.

Brothers, if we would all stay away from the lodge room what would the organization amount to? Let us attend meetings as often as possible. If we will all do this I am sure it will enable our officers to give us better results. Brothers, you can't expect your local chairman to handle your business and get the results that you want unless he has the backing of each and every member.

Now, brothers, let's get shoulder to shoulder and all pull for one cause, which we know is just.

At a recent regular meeting we enrolled the last non-brotherhood man that we had on this division, with the exception of one man, and he doesn't work one-third of the time. The brother that we have taken in has been here for some time, which shows that if we only put forth an effort we will get results in the end.



LODGE 386—(Member, San Diego, Calif.)—On Saturday evening, January 22, 1916, Lodge 386 tendered a banquet to the members of the Ladies' Society Lodge 377. Amongst the invited guests were Bro. G. W. Wrightson of Ravenna, N. Y., a member of Division 441, B. of L. E.; Bro. Geo. W. Davis of Denver, Colo., a member of Division 186, B. of L. E., and Bro. C. H. Barton, of Waterville, Maine, a member of Division 905, B. of L. E. Bros. R. V. and J. M. Dodge, members of Lodge 386, B. of L. F. and E., were also present. The Dodge brothers are amongst the very oldest men in the Brotherhood in point of membership. They have been members for over 40 years continuously. They were charter members of Triumphant Lodge 47, or

er Wrightson of the New York Central Railroad was the life of the meeting, being over 75 years of age and feeling as young as many of the new members of the local lodge. He led in the dancing, story telling and other features of the occasion. Brother Wrightson has the distinction of having pulled the train bearing the body of Abraham Lincoln, over his division in 1865. Bro. Barton and Davis added to the many pleasant features of the occasion. Bro. D. L. Marra, the veteran secretary of 386, is an old acquaintance of Bro. Davis, having worked with him on the Union Pacific Railway at Denver, Colo., in 1881 to 1890.

Lodge 377 of the Ladies' Society and Lodge 386 of the B. of L. F. and E. were well represented and the younger members greatly enjoyed the reminiscences indulged in by the old timers. The days of wood burners and hook motion engines were recalled, and even the days when it was necessary to stop the engine to open the cylinder cocks one at a time. It was well onto Sunday morning when the reluctant parting came.



LODGE 646—(Chas. Cunningham, Pitscairn, Pa.) Lodge 646 is doing good work this year in regaining the membership that was lost during the reduction in force. Credit is due the officers for their good attendance and the ambition they are showing in handling their work.

The members of Lodge 646, B. of L. F. and E., were entertained by Lodge 360, Ladies' Society, on February 3d last, it being the occasion of the anniversary of Lodge 360, Ladies' Society. The entertainment consisted of a musical program and a reading by Miss Drack, which was followed by a nice luncheon prepared by the sisters. A most enjoyable time was had by all those who had the pleasure of being present. Social meetings of this kind stir up enthusiasm and result in better attendance and a larger membership.



LODGE 829—(F. C. Williams, Douglas, Ga.) We are pleased to announce the appointment of Bro. M. T. Hollaway, of Lodge 829, to the position of traveling fireman on the Georgia & Florida Rail-

been interested in the workings of his lodge and ever ready to put his shoulder to the wheel for the good of the order or to help a worthy brother, and we wish him much success, knowing as we do that he will be fair with his fellow employes and at the same time have the interest of his employer at heart.



LODGE 134—(Member, Sherbrooke, Que., Canada.) Business has been rushing all winter. No whole month's salary has yet been drawn. This has caused much discontent.

I am much interested in reading the Magazine. I am only a young member and would like to be able to do more than read, but my experience does not permit it just now. However, I wish to let our brothers know that we are still alive. Our lodge is doing good work and

we are initiating new members and expect to have more in the very near future.

I appreciate and sympathize with the brothers in the United States in the great movement they are making for the eight-hour day. I believe that humanity has been calling for it long enough, judging from experience on our division, which is one hundred and thirty-two miles long. In general it takes from fifteen hours upward to make the run, which, in my opinion, is too much for any man, as in the first place our power is in bad condition and was the cause of many men being sick, and the long hours have also brought much discontent among our brothers. I believe we will have to take example from our brothers in the United States because experience shows that we are not making as much as we did, and the cost of living is very high, and I believe something ought to be done to overcome these conditions.



Official

Addresses Wanted.

Persons desiring to learn the address of or any information concerning a member or any other person, will please communicate with the secretary of the lodge nearest the residence of the person desiring such information. Upon receipt of a communication from the secretary of such lodge, requesting that a notice be published in the Magazine inquiring for such address or other information, same will be complied with. However, the Magazine cannot undertake to act as a collection agency, and must decline to lend itself to such purpose. Information should be sent to the person specified in the notice. The following inquiries have reached this office since our last issue went to press:

Paul G. Crause.—A member of Lodge 19. When last heard of in February, 1915, he was in Minneapolis, Minn. Any-

one having any information as to his whereabouts kindly communicate with J. S. Cottrell, Recording Secretary, Lodge 19, 527 Thirteenth St., Sparks, Nevada.

Jesse C. Clements.—Worked out of Wadsworth, Nevada, about 1903 or 1904 and is thought to have belonged to the Brotherhood. His sister is very desirous of locating him. Anyone having any information as to his whereabouts kindly communicate with J. S. Cottrell, Recording Secretary, Lodge 19, 527 Thirteenth St., Sparks, Nevada.



Lost Traveling Cards, Etc.

This office has been notified of the loss of the following traveling cards, receipts, etc., and the request is made that all members be on the lookout for them. Should they be discovered in the possession of persons not entitled to them they

should be forwarded to the owners or to the secretaries of the lodges that issued them :

Bro. W. W. Barnes, of Lodge 19, reports the loss at El Reno, Okla, of service letters from the Nevada Consolidated Copper Co., Ruth, Nevada; Nevada Northern Railway Co., East Ely, Nevada, and Southern Pacific Co., Ogden, Utah. If found kindly return to J. S. Cottrell, Recording Secretary Lodge 19, 527 Thirteenth St., Sparks, Nevada.



Acknowledgments.

Mrs. William C. Richardson desires to thank the Grand Lodge for the prompt payment of the claim of her late husband, William C. Richardson, also the officers and members of Lodge 214, B. of L. F. and E., of which he was a member, for their kind sympathy and assistance rendered her on the occasion of his death.

Mrs. Samuel Hamilton and son desire to thank the Grand Lodge for the prompt payment of the claim of their husband and father, also the officers and members of Lodge 362 for their kindness shown them during their sad bereavement.

The Home Account.

The following donations were received at the Home for Aged and Disabled Railroad Employes for the month of February, 1916 :

Grand Division, B. of L. E.....	\$2036.98
Grand Division, O. R. C.....	55.00
Grand Lodge, B. of L. F. and E.	40.00
B. of R. T. Lodges.....	40.00
O. R. C. Divisions.....	22.00
L. S. to B. of L. F. and E.	
Lodges	2.00
Refund from the City of Highland Park	22.58
James Costello, Division 270, O. R. C.	1.00
Alfred Lunt, Lodge 877, B. of R. T.	1.00
C. S. McKay, Division 119, B. of L. E.....	1.00
A Member of Division 249, B. of L. E.....	1.00

\$2222.56

Miscellaneous—Barrel of fruit from Division 12, G. I. A. to B. of L. E., Chillicothe, Ohio; quilt from Division 185, G. I. A. to B. of L. E., Chadron, Nebraska; quilt from Division 247, G. I. A. to B. of L. E., Grand Forks, North Dakota.

Respectfully submitted,
 JOHN O'KEEFE,
 Secretary-Treasurer and Manager.



ANNUAL STATEMENT
OF THE
Brotherhood of Locomotive Firemen and Enginemen
(Beneficiary Department)

For the Year Ending December 31, 1915

Published by direction of the laws of Illinois and in the form adopted by the Insurance
Department of that State.

<i>Balance from previous year</i>		\$3,061,949.76
INCOME.		
Received in assessments.....	\$1,477,575.10	
Payments returned to members.....	1,384.19	
Net amount received from members.....		\$1,476,190.91
Gross interest on bonds.....	93,754.21	
Interest on deposits.....	33,526.99	
Refund account legal expenses.....	18.75	
Refund account printing.....	269.18	
Refund account railroad fare.....	6.50	
Refund account Insurance Dept. fee.....	1.00	
Discount on bonds purchased.....	3,134.31	
		130,710.94
Total income.....		1,608,901.85
<i>Sum of both amounts</i>		\$4,668,851.61
DISBURSEMENTS		
Death claims.....	\$667,249.55	
Disability claims.....	251,725.00	
Total benefits paid.....		\$918,974.55
Salaries of Officers and Directors (8).....	6,680.00	
Salaries of Office Employees (14).....	19,558.00	
Salary of General Medical Examiner.....	4,000.00	
Traveling expenses of Officers and Directors.....	3,140.37	
Insurance Department fees.....	137.00	
Office rent.....	2,445.80	
Printing and supplies.....	9,135.83	
Postage, telegraph and telephone.....	4,780.12	
Legal expense in litigating claims.....	6,704.97	
Furniture and fixtures.....	61.25	
Taxes and repairs on real estate.....	1,487.40	
All other disbursements.....	4,691.64	
		62,772.38
Total disbursements.....		\$981,746.93
<i>Balance December 31, 1915</i>		\$3,687,104.68
LEDGER ASSETS		
Book value of real estate.....	\$183,669.59	
Book value of bonds.....	2,581,000.00	
Deposited in banks on interest.....	922,435.09	
Total ledger assets.....		\$3,687,104.68
NON-LEDGER ASSETS		
Interest due and accrued.....	\$50,088.30	
Assessments actually collected, not yet turned over to Grand Lodge.....	122,625.25	
		172,713.55
Total admitted assets.....		\$3,859,818.23
LIABILITIES		
Death claims due and unpaid (8).....	\$5,897.86	
Death claims adjusted, not yet due (31).....	42,200.00	
Death claims resisted (10).....	18,000.00	
Death claims reported, not yet adjusted (71).....	96,978.00	
		\$163,075.86

Disability claims due and unpaid (none).....		
Disability claims adjusted, not yet due (9).....	12,500.00	
Disability claims resisted (4).....	9,000.00	
Disability claims reported, not yet adjusted (19).....	23,000.00	
Total disability claims.....		\$44,500.00
Total unpaid claims.....		\$210,575.86
Total liabilities.....		\$310,575.86

EXHIBIT OF CERTIFICATES

	No.	Amount
Certificates in force December 31, 1914.....	24,538	\$115,982.000
Certificates written during year.....	5,513	7,063,500
Totals.....	30,051	123,045,500
Certificates terminated during year.....	9,239	11,563,000
Certificates in force December 31, 1915.....	20,812	\$111,477,500

EXHIBIT OF DEATH CLAIMS

	No.	Amount
Claims unpaid December 31, 1914.....	119	\$171,475.41
Claims incurred during year.....	480	656,340.00
Totals.....	599	828,325.41
Claims paid during year.....	479	667,940.55
Claims unpaid December 31, 1915.....	120	\$161,075.86

EXHIBIT OF DISABILITY CLAIMS

	No.	Amount
Claims unpaid December 31, 1914.....	68	\$107,500.00
Claims incurred during year.....	256	414,500.00
Totals.....	324	526,000.00
Claims paid during year.....	139	251,725.00
Balance.....	185	274,275.00
Saved by compromise.....		3,275.00
Claims rejected during year.....	153	221,500.00
Claims unpaid December 31, 1915.....	32	\$49,500.00

Benevolent Assessment No. 9

OFFICE OF THE GRAND LODGE, B. OF L. F. AND E.
PEORIA, ILL., April 1, 1916.

To the Officers and Members of Subordinate Lodges:

SIRS AND BROTHERS—You are hereby notified that Benevolent Fund Assessment No. 9, amounting to fifty cents (\$.50), for the month of May, 1916, levied in accordance with Article 13, Section 2 of the Constitution, for the purpose of paying benevolent claims allowed by the Board of Directors, is now due and must be paid to the Financial Secretary of your Lodge not later than May, 1, 1916, by all beneficiary members in good standing on April 30, whose names appeared on the rolls of membership on February 29, 1916.

Members admitted after February 29, 1916, are not liable for the foregoing assessment. All members who were expelled on May 9, 1916, and readmitted in accordance with Article 24, Section 1 of the Constitution, are liable.

Any assessable member failing or declining to pay this assessment will be subject to the same penalty as provided for non-payment of assessments levied by the Grand Lodge.

The Financial Secretary is required to make his returns for the above assessment to the Grand Lodge not later than May 20, 1916.



W. S. CARTER,
President.

A. H. HAWLEY,
General Secretary and Treasurer.

Beneficiary Statement—Continued

Lodge No.	Amount	Lodge No.	Amount	Lodge No.	Amount	Lodge No.	Amount	Lodge No.	Amount	Lodge No.	Amount	Lodge No.	Amount	Lodge No.	Amount	Lodge No.	Amount
858	68 20	879	138 60	700	161 15	721	28 60	742	81 35	763	82 50	784	84 65	805	88 05	826	47 30
859	174 90	880	133 10	701	136 40	722	62 15	743	213 40	764	88 05	785	168 30	806	92 96	827	42 35
860	171 05	881	109 45	702	91 80	723	59 40	744	81 90	765	118 25	786	60 50	807	121 55	828	55 55
861	78 10	882	86 80	703	52 25	724	29 15	745	72 05	766	86 85	787	.....	808	.....	829	50 60
862	66 00	883	.....	704	203 50	725	67 10	746	80 25	767	85 25	788	51 15	809	73 70	830	78 65
863	141 90	884	118 80	705	80 30	726	58 85	747	85 80	768	304 70	789	48 96	810	42 90	831	19 25
864	74 80	885	223 30	706	47 85	727	30 25	748	24 75	769	84 10	790	63 80	811	67 65	832	24 20
865	86 90	886	59 40	707	85 80	728	102 30	749	97 35	770	154 00	791	42 35	812	164 45	833	45 65
866	273 35	887	84 15	708	163 90	729	33 55	750	65 45	771	72 60	792	94 05	813	47 85	834	56 10
867	174 90	888	88 60	709	91 30	730	118 85	751	19 25	772	88 05	793	70 40	814	.....	835	96 55
868	118 85	889	30 25	710	67 65	731	91 80	752	71 50	773	90 75	794	56 65	815	129 25	836	163 45
869	81 40	890	111 10	711	117 70	732	53 90	753	41 25	774	185 90	795	70 95	816	.....	837	104 50
870	251 35	891	37 40	712	42 35	733	118 30	754	45 10	775	285 05	796	118 80	817	77 00	838	116 05
871	73 15	892	58 85	713	130 85	734	84 70	755	91 80	776	150 70	797	91 80	818	55 00	839	50 65
872	91 85	893	13 10	714	84 15	735	101 75	756	29 15	777	70 40	798	48 45	819	114 40	840	211 20
873	650 10	894	78 10	715	25 75	736	50 60	757	91 85	778	67 65	799	371 80	820	94 05	841	185 35
874	22 55	895	62 15	716	105 05	737	24 75	758	34 65	779	145 75	800	32 45	821	85 25	842	45 10
875	306 35	896	66 00	717	45 65	738	30 25	759	119 35	780	49 50	801	117 70	822	70 95	843	62 80
876	78 10	897	51 15	718	95 15	739	62 15	760	70 95	781	107 80	802	69 30	823	138 05	844	.....
877	125 40	898	186 45	719	157 85	740	114 40	761	101 20	782	265 65	803	110 00	824	119 35	845	.....
878	95 70	899	62 70	720	37 40	741	81 35	762	.....	783	144 65	804	135 60	825	27 50	846	.....

Received during month of February.....\$132,813.35
 Respectfully submitted, A. H. HAWLEY, G. S. and T.

Western Concerted Wage Movement

ASSESSMENT TO REIMBURSE PROTECTIVE FUND

ASSESSMENT No. 4, \$0.50.

PEORIA, ILL., April 1, 1916

All Members in Engine Service on the Following Railroads:

Atchison, Topeka & Santa Fe (Proper); Northern; Kansas City Southern; Kansas City Terminal; Louisiana & Arkansas; Mineral Range; Minneapolis, St. Paul & Sault Ste. Marie; Missouri & North Arkansas; Missouri, Kansas & Texas; Missouri, Oklahoma & Gulf; Missouri Pacific; Northern Pacific; Oregon Short Line; Oregon-Washington R. & Navigation Co.; Panhandle & Santa Fe; San Antonio & Aransas Pass; Santa Fe, Prescott & Phoenix; San Pedro, Los Angeles & Salt Lake; Southern Pacific (Atlantic System); Southern Pacific (Pacific System); Spokane, Portland & Seattle; St. Louis, Brownsville & Mexico; St. Louis & San Francisco; St. Louis Southwestern; Terminal R. R. Ass'n and the St. Louis Merchants' Bridge Terminal R. R.; Texas & Pacific; Trinity & Brazos Valley; Union Pacific; Union Stock Yards; Union Railway of Memphis; Wabash; Western Pacific; Wichita Valley; Wiggins Ferry, Yazoo & Mississippi Valley.

SIRS AND BROTHERS:—In accordance with the provisions of Article 25, Section 16, of the Constitution, you are hereby notified of Assessment No. 4, in the sum of fifty (\$0.50) cents. This amount is payable to the Financial Secretary of your lodge on or before the first day of May, by all members whose names are on the rolls in engine service April 30th. Any member liable therefor, failing or declining to pay will stand expelled the same as for non-payment of monthly assessments. Yours fraternally,
 W. S. CARTER,
 President.

A. H. HAWLEY,
 General Secretary and Treasurer.

Article 25, Section 16. (c) Upon the conclusion of such conference the President and General Secretary and Treasurer shall have authority to levy an assessment upon all members in engine service on the lines participating in the movement, of sufficient amount to cover the expenses so incurred, the same to be placed in the Protective Fund of the Brotherhood for the money originally advanced for the purpose.
 (d) Any member failing or declining to make payment of such assessment when levied,

Statement of Death and Disability Claims

PAID BY THE GENERAL SECRETARY AND TREASURER FROM JANUARY 31, 1916, TO FEBRUARY 29, 1916

Cl. No.	NAMES	Cl. No.	Death or Disability	DATE	Am't of Insur'ce	CAUSE
8024	Jos. B. Jones	83	Disability	Nov. 6, 1915	\$1,500.00	Amputation of foot
8037	Bernice H. Roberson	501	Death	Dec. 3, "	1,500.00	Boiler explosion
3475	Oscar N. Beeson (a)	818	"	Mch. 2, 1913	1,353.00	Asphyxiation
8043	Francis E. Blair	507	"	Nov. 29, 1915	1,500.00	Gun shot wound
8044	Oscar L. Hodge	6	"	Nov. 29, "	1,500.00	Derailing of engine
8045	Glen Farrar	258	"	Nov. 21, "	1,500.00	Falling from bridge
8045	Anson G. Francis	214	Disability	Jan. 10, 1916	1,500.00	Blind one eye
8045	Wm. H. Trout	244	"	Jan. 21, "	1,500.00	Blind one eye
8053	Wm. E. Feeney	265	"	Jan. 8, "	1,000.00	Paralysis
8055	J. B. Edward Good	180	Death	Dec. 10, 1915	500.00	Paralysis
8058	John Conners	211	"	Dec. 11, "	1,500.00	Cancer
8058	Thos. W. Shapley	216	"	Dec. 20, "	1,000.00	Typhoid fever
8059	Chas. L. Harsbarger (b)	453	"	Nov. 18, "	1,500.00	Consumption of lungs
8061	Michael E. Hannahan	588	"	Dec. 22, "	1,500.00	Chronic nephritis, etc.
8062	Ellis T. McMackin	690	"	Dec. 16, "	1,000.00	Appendicitis
8063	Clarence E. Snyder	680	"	Dec. 15, "	1,500.00	Typhoid fever
8068	Buford B. Gray	900	Disability	Dec. 3, "	1,500.00	Right eye enucleated
8067	E. E. White	240	"	Jan. 8, 1916	1,500.00	Bright's disease
8070	Chas. Johnson	1	Death	Dec. 16, 1915	1,500.00	Cerebral apoplexy
8071	Samuel Hamilton	863	"	Dec. 11, "	2,000.00	Shock (comp. fract. of leg)
8074	Iver V. Stenstrom	80	"	Dec. 21, "	8,000.00	La Grippe
8075	Edgar F. Williams	188	"	Dec. 24, "	1,500.00	Heart disease
8075	Wm. A. McCullum	163	"	Dec. 16, "	1,500.00	Collision
8078	Phillip L. Williamson	246	"	Dec. 10, "	1,500.00	Typhoid fever
8078	Wm. L. Heoney	285	"	Dec. 21, "	1,500.00	Apoplexy
8080	Lloyd M. Hammond	407	"	Dec. 25, "	2,000.00	Heart disease
8081	Chas. E. Covington	425	"	Dec. 25, "	1,500.00	Collision
8082	Elton F. Jones	473	"	Dec. 20, "	1,500.00	Typhoid fever
8082	Wm. S. Peetee	83	Disability	Jan. 18, 1916	1,500.00	Heart disease
8083	James S. Holmes	843	"	May 8, 1915	1,000.00	Amputation of hand
8083	Henry L. Davis	522	Death	Dec. 18, "	1,500.00	Falling bet. engine & tank
8087	Conrad Nelson	704	"	Dec. 16, "	1,000.00	Collision
8115	Jos. D. Skelton	3	"	Dec. 28, "	2,000.00	Bright's disease
8088	Ollie D. Burgess (c)	18	"	Dec. 6, "	175.00	Locomotor ataxia
8088	John J. Byrne	60	"	Dec. 23, "	1,500.00	Abscess of brain
8100	Wm. C. Richardson	214	"	Jan. 5, 1916	1,500.00	Heart disease
8101	Patrick Loftus	280	"	Dec. 7, 1915	1,500.00	Myocarditis-nephritis
8102	Wm. H. Fertig	251	"	Jan. 4, 1916	1,500.00	Heart disease
8103	Emmett H. Elias	414	"	Jan. 1, "	1,500.00	Falling from engine
8104	Frank Fish	523	"	Dec. 7, 1915	1,500.00	Derailing of engine
8105	John West	656	"	Dec. 19, "	1,500.00	Striking head on obstruction
8105	Chas. J. Funk	57	"	Jan. 6, 1916	1,500.00	Cerebral hemorrhage
8112	H. G. Buckner	455	Disability	Dec. 26, 1915	8,000.00	Amputation of hand
8118	W. S. Lindsley	37	Death	Jan. 11, 1916	1,500.00	Struck by train
8117	John W. Fox	58	"	Jan. 11, "	1,500.00	Sarcoma (abdominal)
8118	Walter J. Weber	59	"	Jan. 8, "	2,900.00	Bright's disease
8118	Joseph Bosse	119	"	Jan. 11, "	1,500.00	Peritonitis
8120	Wm. Klats	521	"	Dec. 30, 1915	1,500.00	Collision
8121	Lawrence E. Lagrue	521	"	Jan. 4, 1916	1,000.00	Collision
8090	Albert E. Eldson	677	"	Dec. 23, 1915	1,000.00	Collision
8073	David A. Loftin	677	"	Dec. 10, "	1,500.00	Boiler explosion
8084	Walter McHenry (d)	295	"	"	1,500.00	"
3468	E. L. Adkins (e)	261	Disability	"	750.00	Paralysis
8086	Herbert A. Flint	198	Death	Oct. 31, 1915	1,500.00	Blood poison
8086	Patrick Delaney	496	"	Nov. 24, "	1,500.00	Consumption of lungs
8084	Wm. A. Wing	556	"	Dec. 12, "	1,500.00	Collision
8106	Andrew Bae	15	"	Nov. 27, "	500.00	Crushed by cars

- (a) Claim No. 3475. Deduction of \$147.00 paid June 12th, 1914.
- (b) Claim No. 6081. Originally Class "A," \$3050.00 paid in Consumption Allowances.
- (c) Claim No. 628. \$225.00 paid into Court January 26th, 1916.
- (d) Claim No. None. Litigated and judgment rendered against us.
- (e) Claim No. 3468. Class "A," Litigated and compromised for \$750.00.

Summary for month of February, 1916.

Death Claims.		Disability Claims.		Total number of claims paid during month.....
No. Class	Amount	No. Class	Amount	Total amount paid during month.....
31-A	\$4,000.00	2-B	2,000.00	\$61,778.00
3-B	5,000.00	-C .....	.....
3-C	1,500.00	-D .....	.....
4-D	8,000.00	1-E	1,000.00	
1-E	1,000.00	1-Irregular	750.00	
1-Irregular	1,253.00			
1-Deduction	175.00			
46	\$67,023.00	10	\$14,750.00	

Pending Claims February 29, 1916.

96 death claims aggregating	\$132,325.00
26 disability claims aggregating	\$7,000.00
Total of 124 claims aggregating	\$139,325.00

Statement of Death and Disability Claims

FILED WITH THE GENERAL SECRETARY AND TREASURER DURING THE MONTH ENDING MARCH 15, 1916

No. of Claim	NAME OF MEMBER	No. of Lodge	Date of Filing	Character of Claim	Amount of Ben. Cert.	When Payable if Approved	Cause of Death	Cause of Disability
5388	Knut B. Lundberg...	303	Feb. 22, '15	Disab.	\$1500	Apr. 15, '16	.....	Bright's disease
5905	Thos. S. Means	378	Oct. 21, '15	Disab.	3000	Apr. 15, '16	.....	Blind one eye
5823	John Ehler	560	Oct. 29, '15	Disab.	1500	Apr. 15, '16	.....	Nephritis
5982	Roy E. Hangerford ..	770	Nov. 26, '15	Disab.	1500	Apr. 15, '16	.....	Paralysis
6209	Thos. J. Berrien	72	Feb. 17, '16	Death.	1500	Apr. 15, '16	Train striking auto	
6210	Burr W. Benson	121	Feb. 17, '16	Death.	2000	Apr. 15, '16	Pericarditis	
6211	Lee H. Fogg	179	Feb. 17, '16	Death.	500	Apr. 15, '16	Collision	
6212	Antone Reiser	292	Feb. 17, '16	Death.	1500	Apr. 15, '16	Pneumonia	
6213	Sidney Green	464	Feb. 17, '16	Death.	1000	Apr. 15, '16	Killed in battle	
6214	Lester M. Notestine ..	771	Feb. 17, '16	Death.	1000	Apr. 15, '16	Nephritis	
6215	Frank Townsend	489	Feb. 22, '16	Disab.	1500	Apr. 15, '16	.....	Consumption of lungs
6216	Gilbert Leslie	85	Feb. 22, '16	Disab.	1500	Apr. 15, '16	.....	Locomotor ataxia
6218	Jas. W. Irwin	400	Feb. 22, '16	Disab.	500	Apr. 15, '16	.....	Heart disease
6220	Geo. Freeman	45	Feb. 22, '16	Death.	1500	Apr. 15, '16	Appendicitis	
6221	Byron Arnold	164	Feb. 22, '16	Death.	1500	Apr. 15, '16	Cerebral hemorrhage	
6222	Geo. Robertson	296	Feb. 22, '16	Death.	1500	Apr. 15, '16	Myocarditis	
6223	Robt. W. Hamilton	449	Feb. 22, '16	Death.	1500	Apr. 15, '16	Bright's disease	
6224	Chas. J. Fortune	714	Feb. 22, '16	Death.	500	Apr. 15, '16	Run over by engine	
6225	Cornelius H. Crossan ..	235	Feb. 24, '16	Death.	1500	Apr. 15, '16	Falling from engine	
6226	Henry Baker	252	Feb. 24, '16	Death.	1500	Apr. 15, '16	Pneumonia	
6227	LeRoy Weigel	804	Feb. 24, '16	Death.	1500	Apr. 15, '16	Falling from engine	
6231	Ben F. Shandy	324	Feb. 24, '16	Disab.	1500	Apr. 15, '16	.....	Blind left eye
6232	Eugene E. Lovejoy ..	26	Mar. 1, '16	Disab.	1000	Apr. 15, '16	.....	Amputation of hand
6234	Ernest A. Wilhelm	107	Mar. 1, '16	Death.	1500	Apr. 15, '16	Heart disease	
6235	Napoleon Sainville	118	Mar. 1, '16	Death.	1000	Apr. 15, '16	Pneumonia	
6236	Jacob E. Forewood	214	Mar. 1, '16	Death.	1000	Apr. 15, '16	Consumption of lungs	
6237	John R. Cronin	242	Mar. 1, '16	Death.	1500	Apr. 15, '16	Derailing of engine	
6238	Chas. Romaine	548	Mar. 1, '16	Death.	1500	Apr. 15, '16	Struck by auto truck	
6239	Jas. W. Struble	777	Mar. 1, '16	Death.	1500	Apr. 15, '16	Pneumonia	
6240	Guy A. Waddell	79	Mar. 3, '16	Death.	1500	Apr. 15, '16	Oedema of lungs	
6241	John W. Owens	226	Mar. 3, '16	Death.	3000	Apr. 15, '16	Appendicitis	
6242	Frank N. Breault	285	Mar. 3, '16	Death.	1500	Apr. 15, '16	Crush'd bet. t'k & pit.	
6243	Wallace C. Bedford	384	Mar. 3, '16	Death.	1500	Apr. 15, '16	Collision	
6244	Jas. E. O'Boyle	423	Mar. 3, '16	Death.	1500	Apr. 15, '16	Locomotor ataxia	
6245	Patrick Lynott	27	Mar. 3, '16	Disab.	1500	Apr. 15, '16	.....	Bright's disease
6247	Wm. Hamilton	185	Mar. 7, '16	Disab.	1500	Apr. 15, '16	.....	Bright's & heart dis.
6248	Andrew Carrigg	283	Mar. 7, '16	Disab.	1500	Apr. 15, '16	.....	Amputation both feet
6249	Geo. W. Dent	718	Mar. 7, '16	Disab.	1500	Apr. 15, '16	.....	Amputation left foot
6250	Geo. E. Poshard	48	Mar. 7, '16	Death.	500	Apr. 15, '16	Crushed by cars	
6251	Geo. M. Grusenmeyer ..	62	Mar. 7, '16	Death.	1500	Apr. 15, '16	Collision	
6252	Wm. Lloyd, Jr.	493	Mar. 7, '16	Death.	1500	Apr. 15, '16	Nephritis	
6253	Ezra L. Butler	616	Mar. 7, '16	Death.	1000	Apr. 15, '16	Consumption of lungs	
6254	John W. Shelton	760	Mar. 7, '16	Death.	1500	Apr. 15, '16	Heart disease	
6255	Fred E. Wiesner	391	Mar. 10, '16	Disab.	1500	Apr. 15, '16	.....	Heart disease
6256	Otto J. Peterson	18	Mar. 10, '16	Disab.	1500	Apr. 15, '16	.....	Amputation of foot
6257	Wm. Anderson	45	Mar. 10, '16	Disab.	1500	Apr. 15, '16	.....	Bright's disease
6258	D. A. Burdett	544	Mar. 10, '16	Disab.	1500	Apr. 15, '16	.....	Heart disease
6259	Frank O. Smith	11	Mar. 10, '16	Death.	1500	Apr. 15, '16	Hemorrhage—opera'n	
6260	Geo. W. Crocker	100	Mar. 10, '16	Death.	3000	Apr. 15, '16	Auto wreck	
6261	Edwin E. Kaul	249	Mar. 10, '16	Death.	1000	Apr. 15, '16	Nephritis	
6262	Wm. A. Burkett	381	Mar. 10, '16	Death.	1500	Apr. 15, '16	Struck by train	
6263	Thos. M. Haugh	511	Mar. 10, '16	Death.	1000	Apr. 15, '16	Cerebral hemorrhage	
6264	Jas. P. Ridenbour	617	Mar. 10, '16	Death.	500	Apr. 15, '16	Consumption of lungs	
6265	Wm. A. Bitzer	10	Mar. 13, '16	Death.	1500	Apr. 15, '16	Gunshot wound	
6266	Napoleon B. Murf	186	Mar. 13, '16	Death.	500	Apr. 15, '16	Consumption of lungs	
6267	Philip Commisky	251	Mar. 13, '16	Death.	1500	Apr. 15, '16	Struck by engine	
6268	Wm. H. Card	262	Mar. 13, '16	Death.	500	Apr. 15, '16	Pneumonia	
6269	Robt. Ferguson	284	Mar. 13, '16	Death.	1500	Apr. 15, '16	Pneumonia	
6270	Peter Bruhl	363	Mar. 13, '16	Death.	1500	Apr. 15, '16	Paralysis	
6271	John W. Whittemore ..	460	Mar. 13, '16	Death.	3000	Apr. 15, '16	Consumption of lungs	
6272	Robt. H. Anglin	626	Mar. 13, '16	Death.	1000	Apr. 15, '16	Pneumonia	
6273	Edward McGinnis	696	Mar. 13, '16	Death.	1500	Apr. 15, '16	Derailing of engine	
6274	John B. Hilbert	763	Mar. 13, '16	Death.	1000	Apr. 15, '16	Derailing of engine	
6275	Arthur W. Roenig	888	Mar. 13, '16	Death.	1500	Apr. 15, '16	Abscess of stomach	
6276	Hezekiah Johnson	110	Mar. 13, '16	Disab.	1500	Apr. 15, '16	.....	Paralysis
6278	Elmer O. Browning	512	Mar. 13, '16	Disab.	1500	Apr. 15, '16	.....	Consumption of lungs
6279	Ben Ish	163	Mar. 15, '16	Death.	1500	Apr. 15, '16	Derailing of engine	
6280	Louis Kaester	167	Mar. 15, '16	Death.	1500	Apr. 15, '16	Derailing of engine	
6281	Samuel J. T. Shope	237	Mar. 15, '16	Death.	1500	Apr. 15, '16	Collision	
6282	G. A. Denzler	297	Mar. 15, '16	Death.	1500	Apr. 15, '16	.....
6283	Arthur W. Stockwell ..	337	Mar. 15, '16	Death.	500	Apr. 15, '16	Cerebro-spinal mening'	
6284	Frank Townsend	489	Mar. 15, '16	Death.	1500	Apr. 15, '16	Consumption of lungs	

Statement of Funeral Benefit Claims

FILED WITH THE GENERAL SECRETARY AND TREASURER DURING THE MONTH ENDING MARCH 15, 1916.

No. of Claim	NAME OF MEMBER	No. of Lodge	Date of Filing	Amount of Ben. Cert.	When Payable if Approved	Cause of Death
106	Mike Pitts	88	Mar. 1, '16	\$176	Apr. 15, '16	Pneumonia
109	Cyril Dumont	80	Mar. 7, '16	176	Apr. 15, '16	Gastritis
110	Hector McNeil	787	Mar. 7, '16	176	Apr. 15, '16	Pneumonia
111	E. E. White	340	Mar. 10, '16	176	Apr. 15, '16	Bright's disease
112	C. H. Edmonston	480	Mar. 13, '16	176	Apr. 15, '16	Paralysis
113	Otto C. Brauns	482	Mar. 13, '16	176	Apr. 15, '16	Heart disease
114	Jos. Desmond	348	Mar. 15, '16	176	Apr. 15, '16	Struck on head—club
116	Joel E. Corey	420	Mar. 15, '16	176	Apr. 15, '16	Pneumonia

Statement of Funeral Benefit Claims

PAID BY THE GENERAL SECRETARY AND TREASURER FROM JANUARY 31, 1916, TO FEBRUARY 29, 1916.

Claim No.	Lodge No.	NAME	Class	Amount	Cause of Death
101	807	Herman F. Cooley	Hon.	\$175.00	Paralysis
103	12	Jas. W. Hathaway	Hon.	175.00	Consumption of lungs
104	183	W. C. Page	N. E.	175.00	Heart disease

3 claims, aggregating \$525.00

Statement of Benevolent Claims

PAID BY THE GENERAL SECRETARY AND TREASURER, FROM JANUARY 31, 1915, TO FEBRUARY 29, 1916.

Claim No.	Lodge No.	NAME	Amount Carried	Amount Allowed
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No new claims.

Paid on claims previously published \$2,075.00

Statement of Consumption Allowances

PAID BY THE GENERAL SECRETARY AND TREASURER FROM JANUARY 31, 1916, TO FEBRUARY 29, 1916, UNDER THE PROVISIONS OF PARAGRAPH (b), SECTION 12 OF ARTICLE 12, OF THE CONSTITUTION.

Claim No.	Lodge No.	NAME	Amount
5999	604	E. C. May	\$50.00
6004	88	John E. Bowers	50.00
6008	91	Frederick Holin	50.00

3 Claims paid, aggregating \$ 150.00

Paid on Claims previously published 2,750.00

Total \$3,900.00

Beneficiary, General, Protective, Funeral Benefit and Local Assessments for the Month of May, 1916.

To all Members of Subordinate Lodges:

OFFICE OF THE GRAND LODGE, B. OF L. F. AND E. }
PRORIA, ILL., APRIL 1, 1916. }

SIRS AND BROTHERS—You are hereby notified that Beneficiary Assessment for the payment of death and disability claims, General Fund Assessment, Protective Fund Assessment, Funeral Benefit and Local Assessment, are now payable and must be paid to the Financial Secretary of your lodge on or before May 1, 1916, in the following amounts, viz.:

	Beneficiary Assessment.	General Fund Assessment.	Protective Fund Assessment.	Funeral Benefit
Class E Members.....	\$8 30	\$0 25	\$0 10	.....
Class F Members.....	2 75	25	10	.....
Class D Members.....	2 20	25	10	.....
Class A Members.....	1 65	25	10	.....
Class B Members.....	1 10	25	10	.....
Class C Members.....	55	25	10	.....
Non-Ben. Members		25	10	\$0 25
Honorary Members		25	10	25



Local Lodge Assessment in such an amount as may be determined by your lodge, but in no case to be less than twenty-five (\$0.25) cents.

Any member failing or declining to make payment, as above provided, will be subject to expulsion from the order as per Section 8, Article 19 of the Constitution, said expulsion taking effect May 2, 1916.

Yours fraternally,

W. S. CARTER,
President.

A. H. HAWLEY,
General Secretary and Treasurer.

Notice to Financial Secretaries.

OFFICE OF THE GRAND LODGE, B. OF L. F. AND E. }
PRORIA, ILL., APRIL 1, 1916. }

To Financial Secretaries of Subordinate Lodges:

SIRS AND BROTHERS—You are hereby notified to collect Beneficiary, General Fund, Protective Fund and Local Assessment (now due and payable on or before May 1, 1916), from all beneficiary members on the rolls of your lodge April 30, 1916, and *Funeral Benefit Assessment from all Honorary and Non-Beneficiary Members*. General and Protective Fund Assessments from all members in the following amounts, viz.:

	Beneficiary Assessment.	General Fund Assessment.	Protective Fund Assessment.	Funeral Benefit
Class E Members.....	\$8 30	\$0 25	\$0 10	.....
Class F Members.....	2 75	25	10	.....
Class D Members.....	2 20	25	10	.....
Class A Members.....	1 65	25	10	.....
Class B Members.....	1 10	25	10	.....
Class C Members.....	55	25	10	.....
Non-Ben. Members		25	10	\$0 25
Honorary Members		25	10	25

You will collect from all members Local Lodge Assessment in such an amount as may be determined by your lodge—in no case to be less than twenty-five (\$0.25) cents. All Grand Lodge Assessments to be forwarded on the forms furnished by the Grand Lodge, same to reach the General Secretary and Treasurer not later than the 20th of May, 1916.



Every member whose application for Beneficiary Certificate is approved by the General Medical Examiner during the month of April will be liable for double the above amount for Beneficiary Assessment for the month of May, according to class of certificate.

Yours fraternally,

W. S. CARTER,
President.

A. H. HAWLEY,
General Secretary and Treasurer.



Notice.

Communications intended for publication in the Ladies' Department of the Magazine should, in all cases, be addressed to the Editress, Agnes G. Strong, 527 Greene Street, Boone, Iowa.

Matter for the Grand President should be addressed to Mrs. Maude E. Moore, 15 Market Place, Stratford, Ontario, Canada, and that for the Grand Secretary and Treasurer to Mrs. Mary E. DuBois, 711 Story Street, Boone, Iowa.

Correspondents are requested, when sending communications for publication in the Magazine, to kindly write on one side of the paper only, and if matter is typewritten it should be written double space.



Notes.

Commonwealth Lodge 260 had an entertainment recently when they put on the sketch "How the Story Grew." The sisters were the actresses, and they sure made quite a hit.

Here is President Wilson's idea of a hero, expressed in a letter from him to Secretary Lane:

"The rescuer of the bureau of mines who braves the poisonous gases and saves a miner from death; the coast guard who at the peril of his own life saves passengers of a helpless vessel from

death; the surgeon of the public health service who stops a dreaded scourge in its incipency; the engineer who succeeds in reducing the hazards of industry to its men, and the man who brings about better conditions of living among people, I consider all types of the hero who will be best regarded in the near future."

"You don't realize what a nervous strain you are putting on a man in the cab," said a Southern Pacific locomotive engineer the other day to an Ashland automobile driver, "when you dash up toward a crossing just ahead of his train. There he is in his cab and he knows that he can't stop his engine. There you are in your auto speeding toward the crossing just ahead. You probably know that you are going to stop just at the edge of the track and look up and laugh at him. He doesn't. He doesn't know that you even see the train. He doesn't know but what you are going to try and dash across ahead of him. It's a joke, maybe, to you. To him it's a few seconds of the most intense agony. Why do you do it? When you see a train coming and know that you can't make the crossing and don't even intend to try to make it, why don't you slow down and give the engineer the assurance that his train is not about to hurl you into eternity?"

"I never thought of it in that light," said the auto man. "I guess we do those things in a spirit of deviltry. I'm

never going to harrow up another engineer's nerves."

"I wish they'd all quit it," said the railroad man. "It happens a dozen times a day."—Southern Pacific Bulletin.

The Sunday school teacher had talked eloquently, as she thought, concerning Saul and his choice as the first king of Israel. The next Sunday she asked the class, "Who was the first king of Israel?" John responded promptly, "Christopher Columbus," and noting her smile, explained in great confusion, "You know I'm from Canada, and we never study United States history up there."

Mrs. Sarah Van Alen Murray of New York City is not only doing a beautiful but an unusual work; that of providing real homes for friendless little children. She has a beautiful home, only half a block from Central Park, and in this home five hundred babies have found shelter, care and a home. She was left a widow with two children to support before she was 21. In order to support them she took training as a nurse. Part of her course was in an orphan asylum. Here her heart was touched and her sympathies aroused and she determined to devote her life to orphan children, and she has. Although wealth has come to her, she has not faltered in her purpose. "Great heart always loves a little child." She does not look for the attractive children, but takes them as she finds them, making them attractive and then secures better homes for them than they would otherwise have. Surely this woman has a woman's heart and a woman's soul.

Troublers of Trouble.

There is a quaint little proverb, familiar from our childhood, which conveys a wholesome truth: "Never trouble trouble till trouble troubles you." Have you not noticed that those who are most troubled are the troublers of trouble? A mastiff may not be vicious, but if aroused he will certainly bark and probably bite. Let the animal alone; there will be enough to do when he comes forth of his own will against us.

Acknowledgment.

George S. J. Goding, Jr., of Chicago, Illinois, desires to thank the Grand Lodge of the Ladies' Society for the prompt payment of insurance claim of his mother, the late Sister Mary E. Goding.

The Big Ten.

Below is given the membership of the ten largest lodges of the Ladies' Society of the B. of L. F. and E., as reported March 1, 1916:

1. No. 3, Hazel, Peoria, Ill.	173
2. No. 125, Charity, Jackson, Mich.	128
3. No. 81, E Pluribus Unum, Logansport, Ind.	120
4. No. 38, Hyacinthe, Ft. Wayne, Ind.	118
5. No. 60, Pride of 174, Harrisburg, Pa.	110
6. No. 10, Helpmate, Elkhart, Ind.	105
7. No. 142, Empire, Buffalo, N. Y.	102
8. No. 36, Autumn Leaf, Sayre, Pa.	97
9. No. 59, Easter Lily, Pt. Jarvis, N. Y.	92
10. No. 113, Fort Orange, Albany, N. Y.	81

What Counts.

"It isn't what you used to be
Or want to be that counts;
You cannot fill a ten-pound jar
By putting in an ounce;
It's just by what we give the world.
We're paid in large or small amounts;
'Taint what you were or want to be—
It's what you are that counts."

Politics in the L. S.

Surely there can be no place for politics in our Ladies' Society, a sisterhood that takes for its chief object and aim the rendering of assistance, encouragement of the brothers in their good work, extending the hand of charity and helping each other in time of need, and elevating our social and intellectual standing. Also to cultivate a spirit of harmony, to promote sociability, "individual growth in charity toward all," and in all to be as own sisters, in one great family, for have not our mutual vows placed this obligation upon us?

Does our Ladies' Society need government? Most assuredly, and it is because of that fact recognized that the founders of our order, and thoughtfully considered by every member of every convention, that we have our present constitution, by-laws, rules and regulations of the L. S., as essential as the solid foundation of principles, objects and aims upon which the L. S. is builded.

Just as our nation must have a head and corps of officers, so must our L. S. have its officers to govern and carry on the work of the organization. And in order to have the best form of government possible, we must look with care to the choosing of our officers.

It is the duty of each member of the order to perform to the best of her ability every duty assigned to her, and being true members each will strive to fulfill her duty, but we are not all fitted for the same duties. One of the chief requirements of a good officer should be self-control, self-government, for how can one hope to govern a society if one has not first learned to control oneself?

We have in every society those who are fitted to lead and those who are naturally retiring.

Notice a family of children; there are always one or two who become leaders, not necessarily bullies, but who have the ability to plan, organize and carry on the play of all the children associated with them to the great pleasure and satisfaction of all. Are we not all children? Isn't the L. S. our playground? Indeed, it is almost the only recreation of many busy mothers. If, then, there are those who can make our play more enjoyable, let us gladly welcome their leadership.

A real leader—and often she is entirely unconscious of her ability—is the broad-minded woman. We are naturally prone to see only one possible side to things. Our intimate friends and associates make up our world. We hold fast to our prejudices, finding therein our strength. The woman who thinks she is right and becomes hysterical when opposed is frequent, and so is the woman who cannot pull with those who are not within the narrow circle of her prejudices.

The political clique or ring is often seen in women's societies. It is also too often a fact that little social or political cliques are formed. A few weaker sisters become satellites around one dominating, strong-willed sister who must have her way regardless of the wishes or rights of others.

One may occasionally find a sister who forgets the principles and objects of the society and seeks only to satisfy her own ambitions.

If we feel that we are not honored enough, let us dismiss ambition and look for duty, remembering it were better to go unhonored, if our honors do not come to us unsought.

"We are in the world for what we put into it, not for what we get out of it." It is the performance of the little duties which prepare us for larger responsibilities, and if each strive to attain the highest in our order we shall be rewarded, although our efforts may seem to go unrecognized. By keeping self-

shall have added our little assistance in keeping the politics of our beloved sisterhood in accord with its high ideals, and shall grow in grace and ladyhood.

AGNES G. STRONG.



Joint Installation Exercises.

On Sunday, January 9th, Boston Lodge 57 and Commonwealth Lodge 280 held joint installation exercises. After the installation the sisters of Commonwealth Lodge served a dinner to the brothers of Boston Lodge. This was followed by speech making on the part of the brothers and sisters present. The lodges repaired to the lodge room after awhile and discussed various topics of the day and of the rail.

Equal suffrage received its share in the discussion. Another topic of interest was "passes." The brothers showed that they are quite wideawake, and most of them are in favor of equal suffrage.

HELEN F. LOUGER.



Absent.

BY ADELBERT CLARK

The days are all so dark and drear,

My dear, without you;

The roses will not bloom so fair,

Nor springtime days so blue.

The hours creep on so long and lone—

A month, seems each sad day

Without the sunshine or a song,

Since you have gone away.

I stand and watch the sunset's glow

With sorrow in my breast;

I watch until a star appears

And beckons me to rest.

I fancy that you sometimes come

The while I weep and pray;

But I am lone without you, dear,

Since you have gone away.

I look upon your pictured face,

When morning dawns a-new;

I strain my eyes and gaze into

The heaven's quiet blue.

I think of joys that I have had

In life's sweet summer day,

And dear, perhaps I've selfish grown,

Since you have gone away.



Entertain Grand Lodge Officers.

The past year has been a very successful one for Headlight Lodge 16, Boone, Iowa.

On the afternoon of January 16th we held our first meeting in the new year. Our officers being duly installed in their respective offices, were then already for another year's work.

Our worthy president, Sister Lulu Fisher, was re-elected again, this being her fifth term in this office. Our secretary, treasurer and collector were also re-elected, which certainly shows the appreciation of their work by the lodge.

Sister Fisher presented Sisters Watering and Booth each with a small token of esteem for excellent work done in the contest during the past year, also Sister Rasmus for her perfect attendance. This should be encouraging to all the sisters.

Our next meeting two weeks later was a real jubilee day, nearly all members being present. The Board of Grand Trustees, Sisters Elizabeth Smith, Lillian Youngs and May Henderson, being in the city on business, were guests and gave interesting talks. Mrs. Smith, chairman of the board, presented Headlight Lodge with an engraved bronze tray which is used for our penny collection. One new candidate was initiated. Sister Logan in behalf of Headlight Lodge presented our worthy president with a beautiful ring which showed our appreciation of her work during the past four years she has so ably filled the president's chair.

At the close of the meeting a two-course luncheon was served. The following evening Mary E. DuBois, Grand Secretary and Treasurer, and Agnes G. Strong, Editress, entertained at a theater party complimentary to the members of Headlight Lodge and the Board of Grand Trustees, after which refreshments were served at Richardson's ice-cream parlors, where covers were laid for thirty-six. A most enjoyable evening was spent which was appreciated by all.

We are now beginning a new contest, in which new members count ten and attendance at meetings five points each.

Best wishes for prosperity to each and every lodge.

LENA R. FISHER, Boone, Ia.



Michigan Union Meeting.

Rah, Rah, Rah,
Zip, Boom, Bah,
Michigan Union,
Ha! Ha! Ha!

Who are we, who are we,

Ladies' Society of B. of L. F. and E.

This yell was adopted at our first State Meeting held at Jackson, Michigan, February 16th. Nothing slow about us. I just wish I might have space in the Magazine to tell of all the good things we had that day. It was such a pleasure to have our Grand President, Maude E. Moore, with us, and to listen to the pleasing and helpful remarks. I was

indeed sorry that Sisters Strong, Schoenell and DuBois could not be with us. You don't know what you missed.

The exemplification of ballot, Wayne's better half, Detroit, we enjoyed very much. Exemplification of draping charter was impressive and beautifully done by Loyalty Lodge 338, Grand Rapids. Charity Lodge 125 exemplified the initiation and drill, taking up old pass and receiving new, calling the meeting to order and closing ceremonies, in a pleasing manner.

The address of welcome was made by our president, Sister Snoor, and the response by Mary E. Martin of Bay City.

Last but not least, the good things we had to eat and the ball given at Elks' Temple was a fitting close to a happy, helpful and enjoyable day. Everyone so enjoyed the day that we could not think of waiting a year before we convened again, so we all voted to meet again in September with Loyalty Lodge 338, Grand Rapids, as hostess. We will be there. "Nuf sed."

We are still having good times, and now that the State Meeting is over we are planning new drills and expect to be ready for whatever comes to us to do.

We have our social gatherings every month. Our "goat" is well trained for a new candidate to ride this month.

Be sure your lodge is not one in which things happen, but one in which things are done.

BELLE M. ADAMS, Jackson, Mich.



Twentieth Anniversary Elaborately Celebrated.

Leap Year Lodge 54, of Clinton, Iowa, celebrated the twentieth anniversary of their organization recently. The affair was a most elaborate one. The party was held in the Lincoln Lodge rooms. The banquet room was beautiful with its decorations of flags, artistically draped in every corner of the room. Streamers of red, white and blue were hung from the corners to the electric lights. The guests, numbering fifty, were seated at one long table. The centerpiece was a huge basket of red tulips. Red ribbons were run from the centerpiece to each place card, which were red hearts. An elaborate chicken pie dinner was served at 6 o'clock. Following the dinner hour, an impromptu toast program was given, much to the delight of all.

An interesting talk was given by the president of the lodge, Mrs. Will Stoltenberg, also by Mrs. James White, the only

charter member present. A toast was given by Emory Cole.

James White and Charles Potter, who were present twenty years ago when Leap Year Lodge was organized, gave brief addresses.

Short talks were given by many others—in fact everyone present expressed some word of interest for the Ladies' Society.

After dinner some played cards, while others enjoyed the evening dancing. When the guests left for home they voted it the best party in the history of Leap Year Lodge 59.

ETTA BARRON,
Magazine Correspondent, Clinton, Ia.



Thoughts.

Thoughts are noble monuments erected to our memory. Thoughts ever live on through ages; send out pure and noble thoughts to be recorded in God's Book of Life, that we shall be called on to face in the last day, judged by the most Holy One whether or not we may partake of the Tree of Life.

Live so that when you receive the summons to cast off the mortal garment you will do so with confidence and joy, knowing that you shall be revealed according to your good works and with the knowledge that your book of life is complete and ready to be judged.

Christ came with this beautiful message to mankind, "Peace on earth, good will to men." God's message to His sinful children was, "As ye sow so shall ye reap." Sow beautiful thoughts of love towards all mankind, thoughts of kindness and charity.

CLEO H. HOWARD.



Convention Topics.

As the time has drawn so near for the convention I suspect all of the resolutions on by-laws were sent in on time as required, and the new method of arrangement will save considerable time that previous conventions have had to lose on account of their preparation. Each year we are learning the value of lost moments, and step by step we are gathering up the old ideas and replacing them with new "up-to-the-minute ways" that are gratifying to every member who is a believer in progression. I trust every resolution has been made only after the most careful judgment of the lodge sending it in, and that each was made for the general betterment of the entire society rather than to help some particular branch. We are now so large

a family that we must consider the needs of all, much as a mother plans out the arrangement of her home to suit her increasing family.

Another important part of convention work is our ritual. We have already one that is filled with beautiful teachings of love and faith. Love for our sisters and faith in our Heavenly Father above. We can ask for little more unless it be for greater love and stronger faith. Before me lies the little book with its dark green covers. Opening it at random, uppermost is the Draping of Charter for deceased members. Quickly memory strays backward to our school of instruction held last fall at St. Louis, Mo. In their places are the awaiting instructors for their lesson. The Grand President, Sister Moore, is bravely and sweetly following her lines. To her it is more than a lesson, it is a reality; her eyes rest upon her duties at hand, but her heart is back in her home where the Angel of Death is hovering, and her dear father is saying good-bye. Those of us who knew her sorrow can do nothing but ask of Him who "doeth all things well" to give her strength to bear, to let her see the sunlight beyond the open grave. And across the alter stood our Grand Vice President, Sister Schoenell, with head bowed in sorrow over her recent loss. It was a sad place for them both, and hearts ached in silent sympathy for them while softly, tenderly the sisters sang:

"Lead kindly light,
Amid the encircling gloom
Lead Thou me on;
Keep Thou my feet;
I do not ask to see
The distant scene;
One step enough for me."

We well knew from two hearts at least it was a prayer, a cry for help to bear their hour of gloom. They had sacrificed sacred hours to their duty to the Ladies' Society. Could we ask more? Surely no one could have greater love for us than that.

IMOGENE BATES.



Lodge 377 Entertained.

The brothers of 386 entertained their auxiliary, Lodge 377, at their hall in the Pythian Castle. The early part of the evening was given to dancing and speech-making, and at 9:30 all were invited to the banquet hall, where a most delightful supper was served by the brothers of 386. All did ample justice to the many good things and gave the brothers great

praise, for they had prepared everything, served themselves, and it was a great success. Music and singing during the evening helped to make the time pass quickly. Col. R. V. Dodge, one of the oldest members in the B. of L. F. and E. in the United States, told some of his early experiences in railroad work. Both brothers and sisters were called on for a few words and all responded in a pleasing manner. At 11:30 good-nights were spoken, all going happy with many words of praise for the good time they had and hoping that they might again enjoy the hospitality of 386.

GRACE A. CHURCHILL,
San Diego, Cal.

● ● ●
My Home In Erin.

MRS. CHARLES POTTER

Oh! the fragrant breath of heather
Oh! the scent of gorse in bloom

On the green and sunny uplands by
the sea,

I can almost smell the roses

Climbing upward on the thatch

Of my far-off Irish home, so dear to
me.

I have sat in stately churches

With shining spire and dome

And heard their silvery chimes ring
far and wide;

But tonight I want to worship

In the little church at home

With my darling mother seated by my
side.

I want to see my father's face

And touch his soft gray hair;

And see him smile again, upon us all,

To hear my sisters' voices

As they sang, so sweet and clear,

In those happy days, now gone beyond
recall.

And though beneath Canadian skies

I've friends, and loved ones, too,

Dear ties! that bind me ever to her
shore;

I love her snow-clad mountains

Her fields of waving grain,

And loyal I shall be for evermore.

Yet sometimes o'er my spirit

A longing sad will come,

Again my far-off home I yearn to see,

For the green hills of old Erin

And the scent of gorse in bloom

On the green and sunny uplands, by
the sea.

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Letters from Friends.

FROM L. S. 20.—(*Cecile B. Graves, Susquehanna, Pa.*) It has been some time since we have heard from through the columns of the Magazine, but we are still very much alive and are working hard to gain new members this year.

On January 11th we invited Binghampton Lodge, also Sister Imogene Bates of Oneonta, to be present at our installation ceremonies. Sister Bates was unable to come, but five sisters from Binghampton came and we enjoyed their visit very much. After the lodge meeting adjourned we served dinner to which the brothers of 208 were invited, several of which attended.

We hold a joint meeting with the brothers every three months, which are always enjoyed.

On New Years' night we were entertained by the brothers at a roast pig banquet, both lodges and their families enjoying this feast. I would advise all lodges who do not have joint meetings to arrange for same at once, for we have found them the best means of promoting sociability and friendliness among the members, especially when there are refreshments. Now that we are starting upon the new year, let us try to live up to the teachings of our beloved order, and may our motto mean so much to us that it will be the basis of all our actions throughout the year. Let us resolve that we will be to one another a little kinder, to each others' faults a little blinder, and I am sure we will all be happier if instead of seeking our own happiness we will strive to make others happy.

I extend best wishes to all sister lodges for a happy and successful year and trust that they may have the same good fellowship and love for their members as Keystone Helpmate 20 now possesses.

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FROM L. S. 366.—(*Louise Colburn, North Pond du Lac, Wisconsin.*) Lodge 366 has been having fairly good attendance at meetings, which meetings are enjoyed by all.

January 4th we gave a banquet to which we invited the brothers of 412. After the banquet the brothers gave a dance and, needless to say, a thoroughly good time was had, and those not fortunate enough to be present surely missed a good time.

We have added one new member so far this year, and we hope this is just the beginning and that many more will be numbered with us ere the close of 1916.

We are anticipating a joyful time at our next meeting when we celebrate our second anniversary.

Our meetings are held the first Monday evening and the third Monday afternoon of each month.

L. S. 366 extends best wishes to all sister lodges and to our dear Editress.

FROM L. S. 304.—(*Una Frey, Rock Island, Illinois.*) Black Hawk Lodge 304 has not been heard from for some time, but thanks to the faithful few we are still in existence.

We hold our meetings the first and third Wednesday of every month at Industrial Hall, and we welcome any sister who happens to be visiting this way. 1915 was a backward year for Lodge 304 as we lost six members, some through moving away and taking out withdrawal cards, and others for non-payment of dues. Our "goat" was not in action much during the year; we feel on account of the general depression in business it was impossible to induce eligibles to join. We find much trouble in getting our members interested and the work falls on a few, where there is plenty of work for every one if they would only give a helping hand. How much more interesting it would be, how much more we could do, if every member would attend meetings regularly and put their heart in the work.

At the first meeting in January we held our installation of officers. Sister Lee was installed as president, Sister Fairman as vice president, Sister Frey as secretary, Sister Van Hooerbeek as collector, and Sister Shoning as treasurer.

Sister Lee is one of our newest members, but an old friend of the L. S. and one well fitted to serve as president, having had much experience in lodge work. Sister Van Hooerbeek is also a new member, and as our new collector I feel that she will fill this position satisfactorily.

Sister Smith, our retiring collector, has served us for five years, but on account of ill health would not accept the office again; however, we put her in as conductor and closed our ears to her objections.

Sister Hargus, our retiring president, served two years and her work was well done. To show our appreciation we presented her with a gold past president's pin with these words, "The members of 304 present to you this past president's pin as a token of esteem they hold for you. During your two years as president you held our little band together and your attendance is one we may all pattern after. Your trials were one and many and we take this means of thanking you through our beautiful motto, 'Friendship and Charity.'"

Sister Bateman was elected delegate. We think we have in Sister Bateman one who is capable of filling that position.

On October 29th the brothers of 39 en-

I was not permitted to be present, from reports it was a real banquet and everybody enjoyed themselves.

On the 18th of January we held a private dancing party, inviting the brothers of 39 with the privilege of bringing mother, wife, sister or sweetheart, everybody to dress in hard time togs. At eleven o'clock refreshments were served in hard time style. While there was not as many present as we expected, owing to the severe weather and sickness, all reported a good time.

We are planning on giving our first annual ball the first Tuesday after Lent, the amount we clear to be the running expenses for the year. Black Hawk 304 wishes all sister lodges a happy and prosperous year.

FROM L. S. 360.—(*Mrs. Mary Bell Cunningham, Pitcairn, Pa.*) United Sisters 360 has not contributed to the L. S. Department for some time, but we will be heard from now right along, as the sisters are taking renewed interest and we expect 1916 to be our banner year.

January 4th we held our annual installation of officers with United Brothers Lodge 646 and had a large attendance. After the installation there was recitations by the Misses Gibson and piano music by Sister Shearsmith, same being followed by a very nice lunch which appeared to be enjoyed by all.

Best wishes to sister lodges and Grand Officers for a happy and prosperous year.

FROM L. S. 268.—(*Louie Wright, Chanute, Kansas.*) We are glad to report L. S. 368 as being very busy and on the road to progress. We have been organized two years, starting with 20 charter members. We now have a membership of 39, just about double.

After our regular meeting on December 16th last a committee of five of our worthy sisters served a turkey dinner with all the trimmings, and needless to say a good time was had. A number of sisters responded to the call for toasts.

January 3rd we had joint installation of officers. A short business session was held, after which a chicken dinner was served. The tables looked beautiful with their bouquets of red carnations, our emblematic flower. Best wishes to all sister lodges.

FROM L. S. 195.—(*Valda C. Eeske, Spokane, Washington.*) Just a line to let you know that Spokane Lodge 195 is still on the working list.

We held joint installation of officers with the brothers on January 10th. At

was much enjoyed: Piano solo, Gladys McMillan; vocal solo, Irene Adaline Davis; reading, Blanche McMurrey; vocal solo, Mrs. W. G. Sisson; reading, Valda C. Eseke. Lunch and dancing finished the evening and a glorious good time was enjoyed by all.

We have forty-six members and a very good attendance at all meetings.

FROM L. S. 382.—(*Mary E. Vaughn, Ft. Worth, Texas.*) We are greatly interested in our little lodge which has been organized two years. We have had many social affairs for the benefit of our brothers and their families, also their many friends.

We feel that our little lodge is going to enlarge itself more in the future, as we are starting out the new year with fine prospects.

We will be glad to welcome any visiting sisters who may be in our vicinity. We meet on the second and fourth Wednesday afternoons of each month at two o'clock.

We wish success and prosperity to all in the year 1916.

FROM L. S. 297.—(*May Argenten, Fond du Lac, Wis.*) Lodge 297 is progressing rapidly. On November 22nd we celebrated in honor of our fifth anniversary by inviting the brothers to be with us. Cards formed the principal amusement for the evening, after which a delicious luncheon was served by the sisters.

On January 9th a public installation of officers with the brothers of 619 was held, the sisters installing first. The floor work was done in a very pleasing manner, for which many compliments were received. After the work was completed a grand march was formed, which was led by the presidents-elect to the dining room where a banquet was served, the tables being decorated in our lodge colors and flowers. A musical program was then enjoyed, consisting of Victrola music, vocal selections, vocal duets and several piano selections given by some of our well known musicians. Suffice it to say that all present had a most delightful time.

We extend a welcome to all sisters who may come our way.

FROM L. S. 35.—(*Effie Statham, Tyler, Texas.*) It has been some time since we have been heard from. We do not have many in attendance at lodge meetings as so many of our members have moved away and some of them our very

two during the past year but hope to do better than that in 1916.

We are having socials once a month at the homes of the members.

Several of our sisters are planning on attending our convention in Denver in June next.

We will be glad to welcome any visiting sisters that should happen this way. We meet the first and third Thursday of each month in the afternoon in the Woodman Hall, South College Street.

With best wishes to our dear Editress and all sister lodges for 1916.

FROM L. S. 81.—(*Elizabeth Blizzard, Logansport, Ind.*) A very interesting and active year has just passed for us and we are looking forward to another pleasant, busy cycle of time.

About half of our old officers gave up their honors and incidentally the responsibility attached to their stations, and we feel sure the work will be as capably and harmoniously carried on as during the past year. We would not wish for better work than that, and as the president of Lodge 81 I speak of the officers and members who not only did all the work assigned them but really hunted for work.

During 1915 we initiated 19 members, and since railroad work is so much better and all furloughed men recalled, we hope to continue adding to our members.

September was our visiting month and all of our resident members were called upon by one or more of their sisters. There were at least 250 calls made within the month.

In October the penny club gave an all-day quilting at the hall, and at noon about 100 sisters with their families enjoyed a chicken dinner prepared by our best cooks, while those skilled in needle craft quilted and knotted comforts. We realized \$10.00 from the quilt, which had been pieced at our monthly penny club meetings, besides enjoying a happy, gossipy, sisterly day together.

On November 5th we celebrated our seventeenth anniversary with initiation and refreshments, and on November 11th attended the State Meeting at Indianapolis, thirty-three strong. We are anticipating great pleasure in meeting our Indiana sisters again at Fort Wayne.

The watch party given under the auspices of the penny club was not largely attended, owing to a heavy rain and a general epidemic of gripe, but those present passed a most enjoyable evening.

Within two weeks in January we were called upon for sympathy for Sister Gray at the death of her husband, one of the oldest and most earnest members of

mother; for Sister Sheridan, at her brother's death, and Brother Dunkle of Lodge 53 on the death of our own Sister Dunkle. Sister Dunkle joined our lodge almost two years ago and is the fourth member lost by death since its organization. She was so gentle and loving, making friends at once by her smile and kind words. Her pastor complimented us on the beauty of our funeral ceremony, saying it seemed written especially for Sister Dunkle.

How thankful we of the States should be that our husbands and brothers are not called upon to bear arms as are those of our Canadian sisters. Our sympathy and love go to them.



FROM L. S. 63—(*Ethel M. Hueston, London, Ontario.*) Nineteen-fifteen was a very successful year for Lodge 63, a number of new members joining in the last few months.

On January 31st we held a joint installation of officers, when Ontario Lodge 468 and Beaver Lodge 117 were guests of the ladies. A dainty supper was served, followed by music and dancing and all had a most enjoyable time.

We are now busy making plans for a progressive euchre in the near future, the proceeds to be devoted to the work of the Red Cross.

Our hearts go out in sympathy to Sister Lewis, our esteemed president, over the loss of her gallant son, who so willingly offered his services for king and country and has since died in a military hospital in England of spinal meningitis. We can only commend our dear Sister Lewis to "Him who doeth all things well."



FROM L. S. 195—(*Magazine Correspondent, Spokane, Wash.*) The officers for 1915 have closed their books on one of the most successful years Spokane Lodge has ever known in all branches of the work. We never dreamed that we had placed so much in our treasury until our annual report was read and we realized how much we had paid out for flowers, presents and for charity.

Our new membership roll is something to be proud of in itself, for we have initiated eleven and one name still on file at the last meeting of 1915.

Social life has been our greatest achievement. Our afternoon teas have been very successful financially and socially, but our efforts have shown the brightest in the homes of the sick, and those kept in the confines of their homes, and who have in the past been neglected. The sisters out of town have not been neglected either, for when they lived too

far to send flowers, they received some token. Every possible effort has been made to let each sister know her membership has been appreciated. I am willing to confide to all sister lodges our secret in the past year; it is simple, and a good many will think they are doing the same, but you will find where you have overlooked something a great many times. It is that we have followed the by-laws strictly and have not allowed one more privileges than another, thereby hurting the feelings of none and having the good will of all.

We extend a hearty welcome to any who may be in Spokane, be it an hour or a week, to call on us. We would appreciate a call as it has been a long time since we had a visitor.

We meet the first and third Fridays of the month at Keller Hall, 921½ Sprague avenue.

Best wishes for all sister lodges for the coming year and good luck for the delegates in June.



FROM L. S. 365—(*Mrs. Walter Greer, Memphis, Tenn.*) Greetings from L. S. 365. We have about ten new members added to our membership roll and we are overjoyed and feel it will encourage and help us to a bigger and better effort this year.

We began the new year with joint installation with the brothers of 206 and 364 on the evening of January 5th, in the hall of 364. The meeting was called to order immediately after the installation ceremonies, with Bro. Clyde Gwyn in the chair. Several good talks were made by Wm. Kuhn, H. V. Reed and Dr. Duran. Bro. Kuhn's subject was, "Ladies, don't keep your husbands away from lodge meetings." A large number was present and enjoyed not only the speeches but the music and dancing. Little Mary Janice Spencer, daughter of Brother and Sister Von Spencer, sang one of her sweet little songs which simply captivated the house. She has a fine voice for one so young. After the program was concluded the sisters served a delicious luncheon, which was given by the brothers. We desire to thank the brothers for the courtesy shown their sisters and hope we can have another such meeting together.

We are meeting only once a month, every fourth Wednesday. Every second Wednesday we meet at the home of one of the sisters and have our social and card party, and in this way we make a nice little sum of money for our treasury. We always serve refreshments and have a good social time together.

Best wishes to all lodges and to our

FROM L. S. 344.—(*Anna E. Boyer, Aurora, Illinois.*) Lilly of the Valley Lodge has not been heard from for some time, but nevertheless we are still trudging on. We hold our meetings on the second and last Saturday of each month. The first meeting of the new year we installed our officers for the ensuing year, installing the same president for the second year.

On our last meeting day we initiated twelve (12) new members and the last of the year we initiated two new members, making us fourteen new members in the last two months.

On admitting our new candidates we had a dinner at twelve-thirty for all members, both old and new, and everyone had a very pleasant time, even the fourteen children that were present.

We still hold our social meetings every two weeks, paying ten cents each time, and in this way we hope to realize a neat little sum at the end of the year.

Best wishes to all sister lodges for a happy and prosperous year.



FROM L. S. 210—(*Cathryn Byrns, Elkins, W. Va.*) Tygarts Valley Lodge 210 has not been heard from for some time. We are small in number, and times being dull on the railroad has caused some of our sisters to move to other places. But we are not discouraged.

We closed the year 1915 with a fancy work sale from which we cleared a neat sum. A beautiful centerpiece which was the attraction of the occasion was purchased by Bro. O. T. Curtis. After our annual installation of officers we had a little social time when we had a handkerchief shower for our president, secretary and collector. We had a splendid talk from our new president, Sister J. K. Parsons, after which refreshments were served.

We extend greetings and good wishes to all sister lodges and a cordial invitation to visiting sisters to our meetings. We meet every second and fourth Wednesday afternoon at two-thirty in the Harvey Hall, Third Street.



FROM L. S. 246—(*Nellie Tracy, St. Louis, Mo.*) Frisco Lodge 246 is steadily pushing forward. On December 11th we gave our first ball, which was a success, and we want to thank the brothers of Adamant Lodge 414 who gave of their time and helped so splendidly to make our first ball a success. Shortly afterward the brothers gave a turkey supper. Everyone that possibly could be was in attendance, and it was one of the most enjoyable events of the year. for when

our brothers do anything they believe in doing it right.

At our installation of officers we had with us Sisters Mosley and Voelker from Missouri Lodge 151, who installed our newly elected officers for us. This was very much appreciated by us.

Sisters, let us try to attend lodge more regularly. Not only our officers but each and everyone of us has a part to do, and let us try to do it willingly. Let us speak kind, cheering words to each other and all hearts will be made happier by them. Let us live our obligation and ever keep before us the principles for which we are bound together, Friendship and Charity.

Our lodge meets the second and fourth Tuesday of each month and we are always glad to welcome visiting sisters.

Best wishes to the L. S. and B. of L. F. and E. and also our Edress.



FROM L. S. 173—(*Mrs. Esta McAdams, Bellefontaine, Ohio.*) Greetings from L. S. 173. It has been a long time since you have heard from our lodge.

We must confess that we have had a hard time to keep our lodge going, but we have started out to make 1916 our banner year.

We have had one candidate for this month so far and have more to be admitted soon. We have a social hour after each meeting. We are also planning on having two regular meetings a month; we think it will be more interesting.

We are looking forward with great anticipations to the State Meeting in Loraine, Ohio, and also the convention in Denver, which some of us want to attend.

We hold our meetings the second Wednesday of each month and visiting sisters will be welcome at any meeting.



FROM L. S. 114—(*Annie E. Bourgo, Pognonock Bridge, Conn.*) We have started the new year with two new members being added and our little band is working industriously for the good of the order. Sister Isabelle Reynolds, our instructor, has been with us recently and she has given us great help and instructed us in a great many things that we did not know.

As we have elected most all new officers this year we hope that they will be as prosperous as the old ones. May we all strive for peace and harmony in our work and be faithful to our obligation.



FROM L. S. 78—(*Fannie Templeton, Raton, New Mexico.*) After adjournment of our last regular meeting Sisters Moore and Allen served lunch, to

which we had invited several prospective members, and the remainder of the afternoon was spent in fancy work and a good time in general.

February 13th the brothers invited us to have a joint meeting with them. We were all very willing to accept their kind invitation as we always have such good times. There was quite a number of visitors present. After the meeting adjourned all were invited to the dining room, where a delightful lunch was served. It was appreciated by one and all. The remainder of the evening was spent in dancing. We are certainly proud of our brothers of 295. They are always so ready and willing to undertake anything we ask of them and we appreciate it.

We meet the second and fourth Wednesday of each month and usually have a fair attendance.

We have our penny drill at each meeting to replenish the flower fund. Lodge 78 sends greetings to all sister lodges.



FROM L. S. 308—(*Minnie Simons, Portland, Ore.*) Greetings from Rose City L. S. 308. Our first two years of existence was spent on the sidetrack, owing to the fact that so many of the brothers preferred to live a life of single blessedness, but when Cupid did get at the wheel he did some speeding and we were soon on the main line with our membership more than doubled.

We aim to meet with some sister one afternoon each month, enjoying a game of cards and each dropping a dime in the cup to help swell the treasury. Dainty refreshments are served by the hostess.

At our first meeting in 1915 Sister Hein offered a prize for the best attendance during the year. Our worthy past president, Sister Scott, also Sister Sheffer, had attended all meetings during the year and each was awarded a prize.

Our annual Thanksgiving dinner was well attended. The evening was spent at cards and dancing, quite a number of the brothers being out on the road.

We closed the year by adding two new members and two applications were presented. Our worthy president, Sister Cole, was presented with a past president's pin in appreciation of the excellent work she has done in the past year. A delicious luncheon was served in the banquet room as we bade farewell to the year 1915.

May success crown every effort of all lodges bearing that noble title L. S. of the B. of L. F. and E.



FROM L. S. 98—(*Mrs. Emilia E. ...*)

to all sisters. We have begun the new year with renewed interest in the work and we hope to add many new members during 1916. We have a good set of officers and if all members support them as they should we will meet with success.

Our sympathies were with our Grand President in the loss of her dear father, and we hope she will be well and strong and enjoy the best of health. Oh, how I wish we all could do, and we can at least try, and live up to the high ideal that our dear Edith asks and says in her editorials. I look for her greetings as eagerly as if it were a message from home. As sisters let us greet and act as sisters, and let us endeavor this year as never before to learn a lesson and practice it from these sweet messages, and in so many ways we will gain strength of character by it.

The sweet little poem, "If Mother Were Only There," recalls my old home memories.

We have had much sickness among our members. Sister Amanda Dair, better known as "Ma" by us all, was in the hospital for an operation, but hope she will be with us soon again.

We have enjoyed a dance, two social gatherings, and are now planning an oyster supper, and the brothers being noted for their fine cooking will serve this supper.

We wish every sister and all Grand Lodge officers and our dear Edith our best wishes for a prosperous year.



FROM L. S. 328—(*Elizabeth Hochberg, Leighton, Pa.*) Lodge 328 has been working hard since its organization. We are trying hard to build up both our lodge and our treasury. Although we are only a new lodge, we are getting along as well as could be expected under present conditions. Of late the attendance has not been what it should be, but I hope that our sisters will wake up and be active workers for the good of our order again.

On January 31st we had the pleasure of having with us our State Organizer, Sister Mary J. O'Malley, and words fail to express the pleasure and good derived from this kind woman's visit. She certainly tried her best to show us all our faults and shortcomings, and I hope the sisters have fully realized that the only way we will be able to forge ahead is to work hand in hand. We are anticipating a visit from Sister Lillian M. Youngs, member of the Board of Grand Trustees, soon.

Recently a delegation from White Star Lodge 328 visited Black Diamond Lodge 289 at Marsh Chunk and while there we

had the pleasure of having Sister O'Malley with us again. We certainly were treated royally. The lunch was fine and the time of our departure came all too quickly.

Although we have not been organized a half year as yet, God has called on us and the Angel of Death has severed the first link from our golden chain, taking from us Sister Kate Ruff, after an illness of only a few days' duration. She was a kind sister and a loving mother and wife. She leaves a husband and one daughter, also an aged mother and several brothers and sisters who greatly mourn her loss. May God in His infinite goodness and mercy help and keep Brother Ruff so that he will be able to guide and protect the child who has suffered the greatest of all losses, its mother. We sympathize with the dear ones bereft.

Not enjoyment, and not sorrow,
Is our destined end or way;
But to act, that each tomorrow,
Finds us farther than today.

Life is real! Life is earnest!
And the grave is not its goal;
"Dust thou art, to dust returneth"
Was not spoken of the soul.



Death Report.

Mary Vandermark, Lodge 57, St. Paul, Minn.; died January 30, 1916. Cause of death, diabetis. Amount of insurance, \$200.

Elizabeth M. Clark, Lodge 218, Albany, N. Y.; died January 23, 1916. Cause of death, endocarditis and dilation of the heart. Amount of insurance, \$400.

Bessie L. Matha, Lodge 36, Sayre, Pa.; died January 29, 1916. Cause of death, chronic valvular disease of the heart. Amount of insurance, \$500.

Mary E. Goding, Lodge 201, Chicago, Illinois; died January 19, 1916. Cause of death, hyper thyroidism goiter. Amount of insurance, \$200.

Kate M. Ruff, Lodge 328, Leighton, Pa.; died February 5, 1916. Cause of death, peritonitis. Amount of insurance, \$200.



MAY 1916

BROTHERHOOD OF

Locomotive Firemen and Enginemen's Magazine



TRADE MARK
REGISTERED

IN U.S.
PATENT OFFICE

Published Monthly at COLUMBUS, OHIO.



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(Mention the Bulletin)

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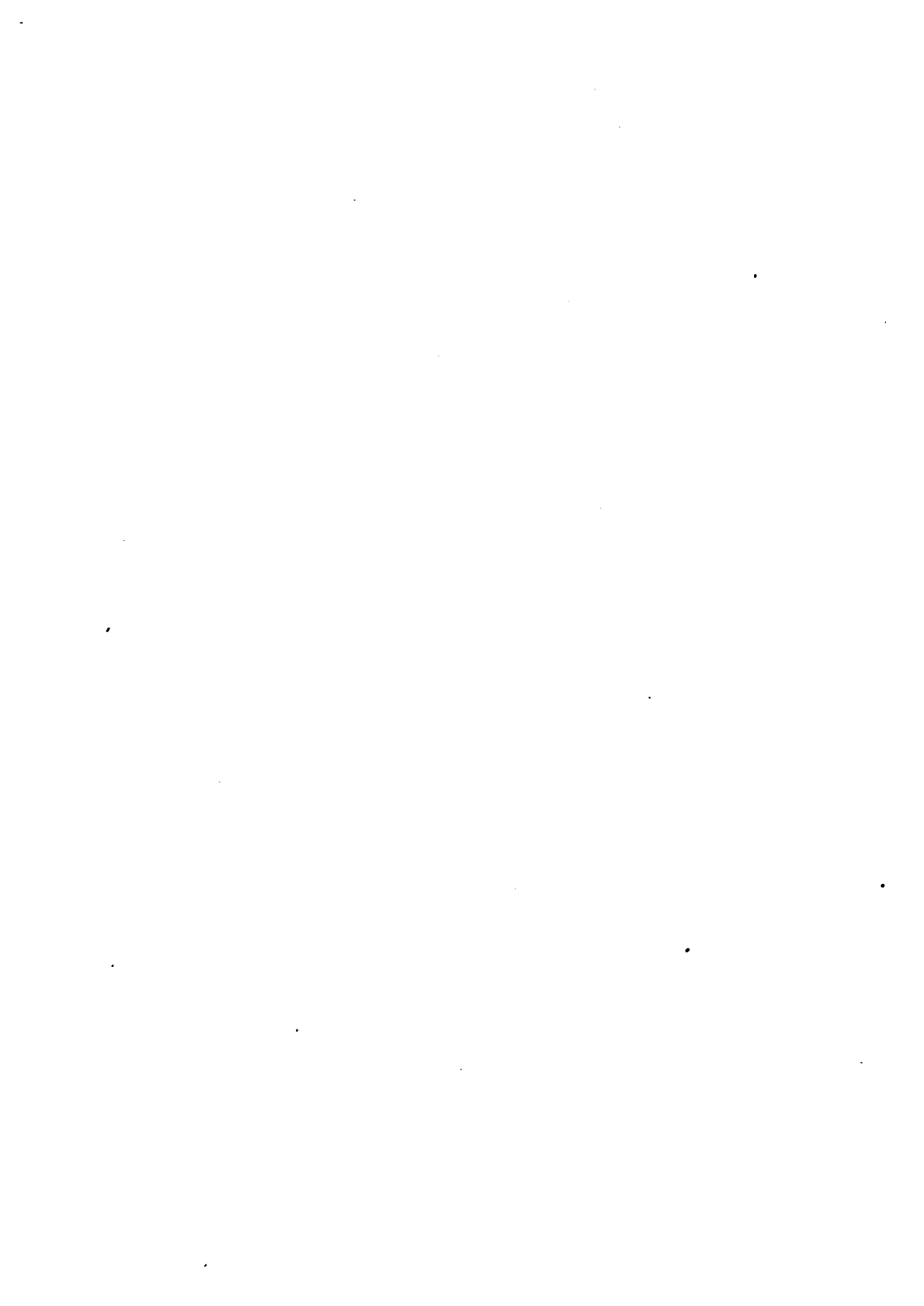


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PRESSURES

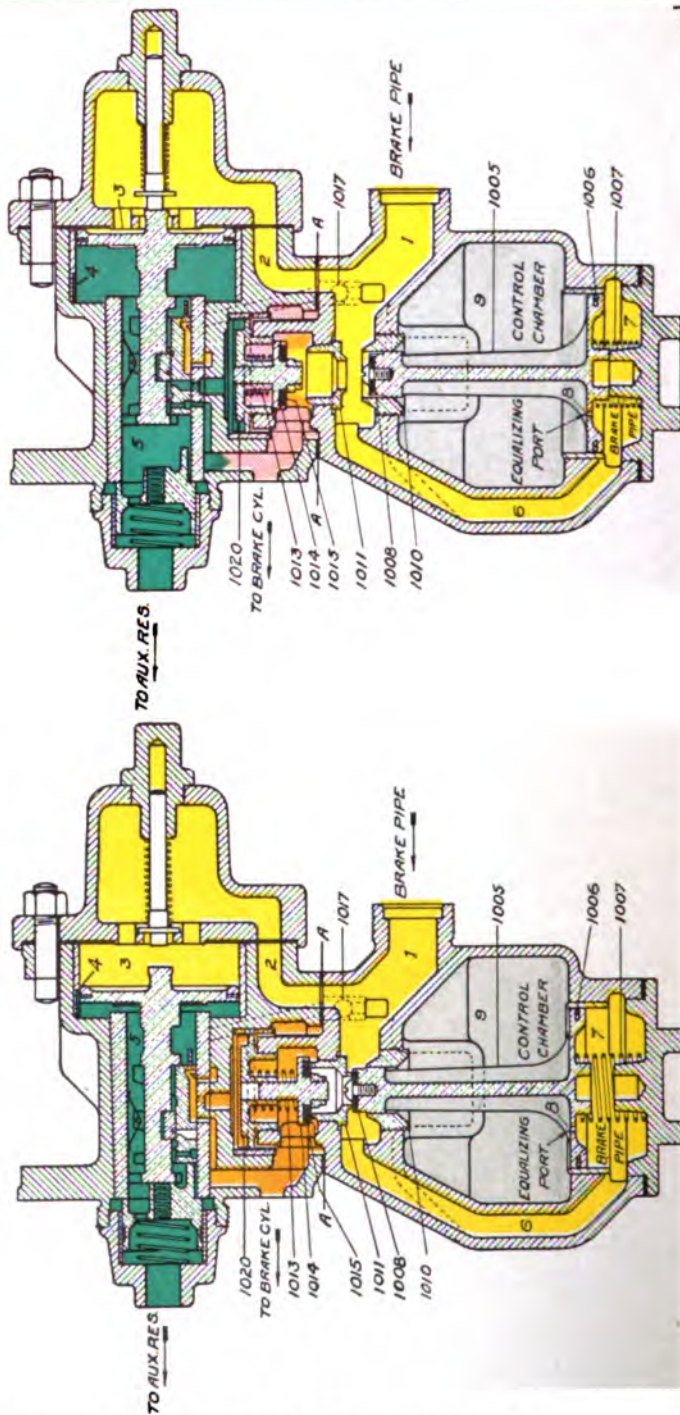


CONTROL CHAMBER

BRAKE CYLINDER

AUXILIARY RESERVOIR

BRAKE PIPE



Locomotive Firemen and Enginemen's Magazine Educational Charts

PLATE 107—NO KICKER EMERGENCY VALVE

(PITTSBURGH AIR BRAKE COMPANY)

As Applied to Westinghouse Type K Triple Valve. Left View—Full Release and Charging Position; Right View—Emergency Position.



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VOL. 60 NO. 5

COLUMBUS, OHIO,

MAY 1916

PLATE 107—NO KICKER EMERGENCY VALVE

(Pittsburgh Air Brake Co.)

As Applied to Westinghouse Type K Triple Valve

Full Release and Charging, and Emergency Positions

Plate 107 of the Locomotive Firemen and Enginemen's Magazine Educational Charts illustrates the application of the Pittsburgh Air Brake Company's "No Kicker" Emergency Valve to the service portion of a standard, *Type K*, Westinghouse Freight Triple Valve; in the view at the left the service portion is in **FULL RELEASE AND CHARGING POSITION**, and the Emergency Valve is in the closed or inactive position; at the right, both portions of the triple valve are in **EMERGENCY POSITION**.

In the ordinary types of quick-action triple valve the operation of the emergency feature is influenced by the service portion: that is, the service piston with its attached valves responding to a gradual reduction of brake-pipe pressure is moved only part way of its full traverse, admitting auxiliary-reservoir air to the brake cylinder but not causing the emergency feature to act; while as the result of a sudden, heavy, initial reduction of

brake-pipe pressure, the service piston makes a completely full stroke and incites the emergency portion to act, the latter venting a jet of brake-pipe air into the brake cylinder in addition to the supply furnished from the auxiliary reservoir; but to secure emergency-valve action the application must be made from the release position of the triple valve and to an empty brake cylinder (although *partial emergency* may be obtained after a 7- or 8-pound service reduction has been made).

When the service piston or slide valve of the common, quick-action triple valve is sticking, or in a dirty, gummy state, it frequently responds to service reductions with a full stroke, and this throws the brake on with emergency action; such a triple valve is termed a "kicker"; and if it goes on at emergency before the other brakes in the train are more than lightly applied, it will influence all of them to finish with emergency action. The substitution of the Pittsburgh Air Brake Co.'s "No Kicker" feature, in place of the ordinary quick-action, or emergency-valve elements, removes any possibility of such undesired emergency, as the *No Kicker* is self-operating, and has no dependency whatever upon the service feature; yet it possesses all of the characteristics demanded in the emergency operation of any triple valve—venting brake-pipe air to the brake cylinder, or to the atmosphere, as may be desired by the purchaser.

In its attachment to a Westinghouse *Type K* triple valve the check-valve case, check valve and spring, emergency valve, emergency piston and emergency-valve seat are removed (at the point indicated by the line A, A, Plate 107, the joint with the triple-valve body), and the *No Kicker* attachment substituted as shown; it contains a piston-operated valve, a check valve, two springs and a ball check valve.

In detail, and referring to the charts, the operating parts are as follows:

1. Emergency Control Piston 1005, having a countersunk equalizing port through its face, fitted with a standard packing ring, 1006, and a rubber seat, 1008, on the end of the piston stem. The piston-stem guide fits loosely in bush 1010, the extreme end of which has its diameter reduced for the purpose of minimizing frictional resistance.
2. Spring 1007, which assists in holding the piston, 1005, in its normal position.
3. Non-Return Check Valve 1014, with its standard seat, 1015, which prevents back leakage of brake-cylinder pressure.
4. Spring 1013, which holds check valve 1014 in its normal position.
5. Ball Check Valve 1017.

Fitting 1020, the top piece of the *No Kicker* feature, is somewhat loosely fitted in the bush in which the removed emergency-piston operated, so as to permit a restricted feed of air past it.

Operation

Release and Charging Position—Left View.—Brake-pipe pressure entering at the connection with the *No Kicker* body, as indicated at 1, flows through passage 2 in the service portion, to chamber 3; and the triple-valve piston having assumed its normal position for the office, the air passes it through feed groove 4 to chamber 5 and the auxiliary reservoir as shown. The brake cylinder, and the space above fitting 1020 are open to the atmospheric exhaust-port in the slide-valve seat, through the cavity in the face of the slide valve—all this as is usual in any type of Westinghouse triple

valve. Control chamber 9 of the *No Kicker* feature is also charged from brake-pipe air and to an equal pressure with it, through passage 6, chamber 7 under piston 1005, and the equalizing port, 8, which is drilled through the piston; this charging is assisted in a small degree by brake-pipe air entering chamber 9 around the upper, or valve end of piston 1005, which is loosely fitted in bush 1010.

Full Service Position.—This position is not represented in the charts, as the operation affects the service feature only. The brake-pipe reduction is so gradual that the pressure in control-chamber 9 of the *No Kicker* feature reduces equally with it, flowing through port 8 back to the brake-pipe air in chamber 7 and passages 6 and 1, the equalization being accelerated by the leakage past the upper, or valve end of piston 1005.

Quick Service Position.—This position is not shown in the plate, and so far as the *No Kicker* feature is concerned, is the same as described for the *full service position*—with one exception: the ball check-valve, 1017, seated in the passage indicated by dotted lines that connects the brake-pipe air with a port in the slide-valve seat, is, in the *quick-service position*, raised from its seat by the brake-pipe pressure which flows past it and through port connections made at this time in the slide valve and slide-valve seat, to the chamber above fitting 1020 and past its edges to the chamber above check valve 1014, and to the brake cylinder; if the triple-valve piston should stand at *quick service position* after equalization has occurred between auxiliary-reservoir, brake-cylinder and brake-pipe pressures, ball check-valve 1017 will prevent back leakage from the brake cylinder to the brake pipe. The rubber-seated check valve, 1014, prevents back leakage through the *No Kicker* portion.

Emergency Position—Right View.—When a sudden, heavy, brake-pipe reduction is made, the "service" portion operates as usual in the circumstance, assuming the position shown in the plate in which auxiliary-reservoir air is flowing to the brake cylinder directly, through ports in the slide valve and slide-valve seat, and also, at a restricted rate, past fitting 1020. At the instant the emergency application was initiated, the pressure in control-chamber 9 not being able to promptly equalize with such a rapid reduction, piston 1005 was forced downward, compressing spring 1007 and breaking the seal on seat 1011; this allowed brake-pipe pressure to raise check-valve 1014 and flow past it to the brake cylinder. The outside diameter of the flange, or shoulder on fitting 1020 is so wide as to provide only the same rate of flow of auxiliary-reservoir pressure as was possible around the loosely fitting piston of the former emergency device, thereby providing an emergency attachment that will produce equalization of auxiliary-reservoir pressure with that of the brake cylinder at the same rate at which equalization takes place with the old type emergency device.

This subject with an accompanying chart, will be continued in the following number of the Magazine.



United States Government "Safety First" Exposition.

The exhibit of the Interstate Commerce Commission at the United States Government "Safety First" Exposition held at the New National Museum, Washington, D. C., from February 21st to 26th, inclusive, indicates beyond doubt the beneficial results of federal safety legislation.

tem on exhibition was designed particularly to illustrate single track operation. Intermediate signals were shown between the block signals by means of lights, and the model was fully equipped with standard relays used with direct current operation and worked perfectly.

Failed material that had been the cause of quite a number of the accidents investigated by the commission on account of transverse fissures in steel rails, as well as failed car wheels and failed

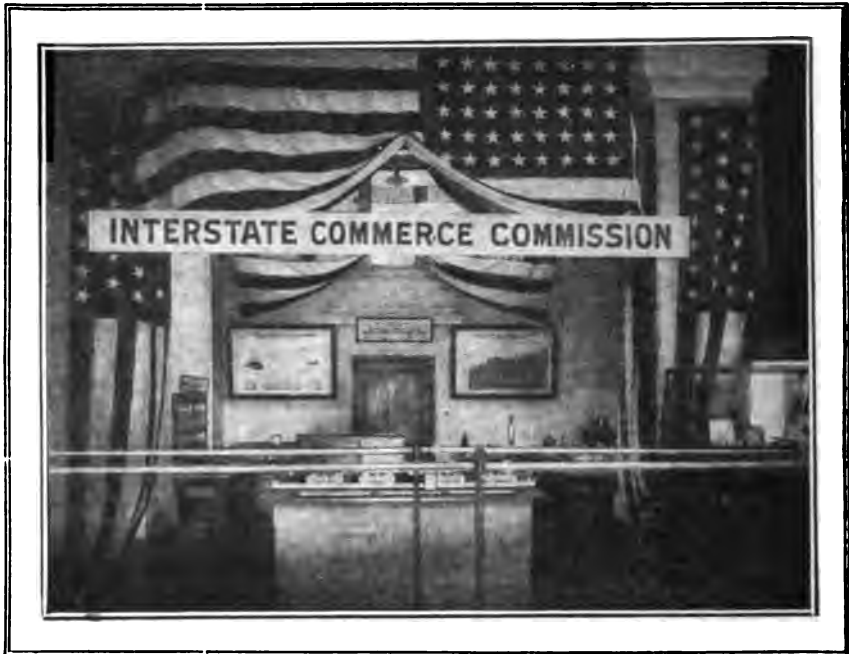


EXHIBIT OF THE INTERSTATE COMMERCE COMMISSION AT THE UNITED STATES GOVERNMENT "SAFETY FIRST" EXPOSITION, HELD AT THE NEW NATIONAL MUSEUM, WASHINGTON, D. C., FEBRUARY 21-26, '16.

Three perfect model cars fully equipped with all the safety appliances required by the commission's order of March 13, 1911, a small model locomotive boiler arranged so as to illustrate the water circulation, as well as a number of excellent charts graphically illustrating the remarkable decrease in the number of casualties to railway employees since the passage of the federal Safety Appliance and Boiler Inspection Acts, were on exhibition.

A model block signal system about twenty-five feet in length, illustrating the protection provided for by a block signal system, was in full operation. The model had two sidings and the sys-

tem on exhibition was designed particularly to illustrate single track operation. Intermediate signals were shown between the block signals by means of lights, and the model was fully equipped with standard relays used with direct current operation and worked perfectly. Failed material that had been the cause of quite a number of the accidents investigated by the commission on account of transverse fissures in steel rails, as well as failed car wheels and failed

bridge material, and material from failed locomotive boilers, were on exhibition. In addition to the failed material that has caused accidents a great number of test pieces that had been used in metallurgical work were also shown. Model couplers of a great many of the different types of couplers used on railroads, as well as emergency knuckles and other parts that are necessary in making repairs in case of the failure of the couplers, attracted a great deal of attention.

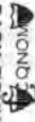
Two hundred stereopticon views illustrating many of the accidents investigated by the Division of Safety and Boiler Inspection division of the com-

Intruder Commerce Commission
DIVISION OF SAFETY

1895

1916

**BENEFICIAL RESULTS OF THE
FEDERAL SAFETY APPLIANCE ACTS**



CASUALTIES TO TRAINMEN
COUPLING ACCIDENTS; BLACK

1893



20,444
9,063
178,636

TOTAL CASUALTIES 47,395
COUPLING CASUALTIES 2,801
TRAINMEN EMPLOYED 311,990

1914



**TONS OF FREIGHT CARRIED ONE MILE
PER TRAINMAN EMPLOYED**

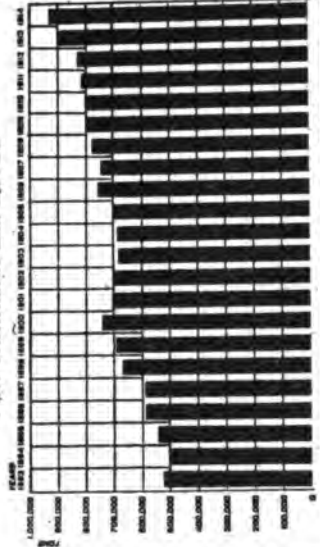


EXHIBIT OF THE INTERSTATE COMMERCE COMMISSION AT THE UNITED STATES GOVERNMENT "SAFETY FIRST" EXPOSITION, HELD AT THE NEW NATIONAL MUSEUM, WASHINGTON, D. C., FEBRUARY 21-23, 1916.

- Gas-Electric Motor Car, Midland Valley Railroad. (Electric Railway Journal, v. 43:1400; June 20, 1914.)
- (Railway and Engineering Review, v. 53:960-61; Oct. 11, 1913.)
- Description of car built by the General Electric Company.
- New Motor Cars for the Sunset-Central Lines. (Railway and Engineering Review, v. 53:1046; Nov. 8, 1913.)
- Five McKeen cars ordered.
- Coleman, F. C.
The Khedive's State Train. (Scientific American, v. 109:376; Nov. 15, 1913.)
- Lanchester, F. W.
Internal-Combustion Motors for Railways. (Engineering [London], v. 96:701-03; Nov. 21, 1913.)
- The Diamler Company's car.
- Petrol Rail Motor Car. (Railway Gazette [London], v. Nov. 21, 1913.)
- For the Buenos Ayres Western Railway.
- Gasoline Cars for Sunset-Central System. (Electric Railway Journal, v. 43:144; Jan. 17, 1914.)
- McKeen cars.
- McKeen Motor Cars for the Sunset-Central Lines. (Railway Review, v. 54:145; Jan. 24, 1914.)
- Benzol-Electric Train for the Khedive of Egypt. (Tramway and Railway World, v. 35:99-101; Feb. 12, 1914.)
- Sunset Central Motor Cars. (Railway Age Gazette, v. 56:752-53; Mar. 27, 1914.)
- McKeen motor car, model C.
- Rail-Motor for the Cyprus Railway. (Railway News [London], v. 101:789; Apr. 11, 1914.)
- Direct drive petrol car.
- Roland, K.
Die benzolelektrischen triebwagen der A. E. G. (Elektrische kraftbetriebe und bauwesen, v. 12:296-303; May 24, 1914.)
- First types and later models of A. E. G. benzol-electric cars.
- Trial Service of the Pieper Gas-Electric Car at Paris. (Electric Railway Journal, v. 43:1288; June 6, 1914.)
- Hall-Scott Motor Cars. (Railway Age Gazette, v. 56:1525-26; June 19, 1914.)
- Results of operation on the Yreka Railroad, California.
- Gasoline Motor Cars on Central New York Suburban Railroad. (Electric Railway Journal, v. 43:1400; June 20, 1914.)
- Cars of the McKeen type.
- Self-Propelled Freight-Passenger Car. (Electric Railway Journal, v. 43:1460; June 27, 1914.)
- McKeen cars for the Minneapolis & Northern gasoline motor Ry.
- Self-Propelled Convertible Freight and Passenger Car. (Railway Age Gazette, v. 57:215; Jul. 31, 1914.)
- McKeen cars for the Minneapolis & Northern gasoline motor Ry.
- Eight Gas-Electric Motor Cars for St. Louis Southwestern Railway. (Electric Railway Journal, v. 44:398; Aug. 29, 1914.)
- Built by the General Electric Company.
- Four Gas-Electric Motor Cars for the Illinois Central Railroad. (Railway Review, v. 55:391-92; Sept. 26, 1914.)
- Built by the General Electric Company.
- Four Gas-Electric Motor Cars for the Illinois Central Railroad. (Electric Railway Journal, v. 44:628; Oct. 3, 1914.)
- Built by the General Electric Company.
- Gas-Electric Motor Cars and Locomotives. (General Electric Company, Bulletin, No. 44300, Oct. 1914, 8 p. 8.)
- Josephs, L. C., Jr.
The Gas-Electric Car Characteristics and Operating Results. Schenectady, N. Y., General Electric Company [1914], 16 p. 4.
- Gas-Electric Motor Car With Long Baggage Compartment and 600-1200 Volt Motors. (Electric Railway Journal, v. 44:881; Oct. 15, 1914.)
- Built by the General Electric Company for the Portland, Spokane & Seattle Railway.
- Gasoline Motor Mail and Baggage Car. (Railway Age Gazette, v. 58:1485; June 25, 1915.)
- McKeen motor equipment on the Union Pacific in branch line service.
- McKeen, W. R.
The Value of Motor Cars on Railroad Systems. (New York Railroad Club, Proceedings, v. 25:4075-93; Oct. 15, 1915.)
- Discussion, p. 4093-98.
- Gasoline Motor Car on Rails in the Pacific Northwest. (Electric Railway Journal, v. 46:1080; Nov. 27, 1915.)

- White motor truck fitted for track service and in use on a branch line in Washington.
- Winalow, Alfred A.
Railway Motor Coach.
(Commerce Reports, Nov. 30, 1915, p. 838.)
- Cars built by Thomas Transmission Company [London], for suburban service on the New Zealand Government Railways.
- CARS FOR MAINTENANCE OF WAY FORCES.**
- A Gasoline Motor Inspection Car.
(Railroad Gazette, v. 27:312-13; May 17, 1895.)
- New Type of Motor Inspection Car.
(Railway and Engineering Review, v. 42:625; Aug. 23, 1902.)
Built by the Light Inspection Car Company, Hagerstown, Ind.
- A Light Gasoline Motor Inspection Car.
(Railway Age, v. 34:220; Aug. 29, 1902.)
Built by the Light Inspection Motor Car Company, Hagerstown, Ind.
- Pierre-Guédon, L.
Quadricycle sur les lignes de chemins de fer.
(Génie civil, v. 42:404-06; Apr. 18, 1903.)
Petrol-driven quadricycle and wagonette for inspection service.
- The Latest Application of the Gasoline Automobile Motor.
(Scientific American, v. 103:279; Oct. 17, 1903.)
Motor railway inspection cars.
Gasoline Inspection Cars for Railways.
(Scientific American Supplement, v. 57:23593-94; Mar. 19, 1904.)
Two recent types appearing in England.
- Sheffield Motor Car.
(Railroad Gazette, v. 38:271; Mar. 17, 1905.)
For inspection and track work.
- New Motor Cars.
(Railway and Engineering Review, v. 45:173-74; Mar. 18, 1905.)
Cars for maintenance of way forces.
- Motor Cars.
(Railway Age, v. 39:522-23; Mar. 24, 1905.)
For maintenance work.
- Section and Extra Gang Motor Work Car.
(Railway Age, v. 40:278; Sept. 1, 1905.)
- Oldsmobile Section and Extra Gang Motor Car.
(Railway and Engineering Review, v. 45:642-43; Sept. 2, 1905.)
- Draisine à pétrole pour voies ferrées.
(Génie civil, v. 48:130-31; Dec. 23, 1905.)
Inspection cars for the railways of Tunisia.
- Gasoline Motor Cars for Inspection Service.
(Street Railway Journal, v. 30:231; Aug. 10, 1907.)
- A New Gasoline Motor Car.
(Railway Age, v. 44:271; Aug. 23, 1907.)
An inspection car.
- A New Gasoline Motor Car.
(Railway and Engineering Review, v. 47:749; Aug. 24, 1907.)
For inspection and maintenance service.
- Gasoline Motor Car for Inspection Work.
(Railway Age, v. 44:785; Nov. 29, 1907.)
- A Gasoline Motor Inspection Car.
(Railway and Engineering Review, v. 47:1102; Dec. 21, 1907.)
A Fairbanks-Morse car.
- New Motor Velocipede Car.
(Railway Age, v. 45:520; Apr. 3, 1908.)
- Petrol Rail Motor Inspection Car, North-Eastern Railway.
(Engineer [London], v. 105:358; Apr. 3, 1909.)
- New Motor Inspection Car.
(Railroad Gazette, v. 44:521; Apr. 10, 1908.)
Built by the Buda Foundry and Manufacturing Company.
- Buda Motor Cars.
(Railway and Engineering Review, v. 48:869-70; Oct. 24, 1908.)
For inspection and maintenance work.
- Buda Railroad Motor Cars.
(Railway Age Gazette, v. 45:1369; Nov. 13, 1908.)
- Rockford Motor Cars.
(Railway Age Gazette, v. 46:683; Mar. 19, 1909.)
- Motor Section Cars on the Chicago, Milwaukee & St. Paul Railway.
(Railway and Engineering Review, v. 49:550-51; June 19, 1909.)
Editorial comment, p. 560-61.
- Railway Age Gazette [Editorial].
Gasoline Power Section Cars.
(Railway Age Gazette, v. 47:225; Aug. 6, 1909.)
- New Buda Motor Vollicipede.
(Railway Age Gazette, v. 47:302; Aug. 18, 1909.)
- Buda Motor Cars.
(Railway and Engineering Review, v. 49:927; Oct. 16, 1909.)
Passenger and inspection cars.
- Adams Motor Inspection Cars.

- (*Railway and Engineering Review*, v. 50:90; Jan. 22, 1910.)
- Adams Motor Inspection Car.**
(*Railway Age Gazette*, v. 48:217; Jan. 23, 1910.)
- Gasoline Motor Inspection Car.**
(*Electric Railway Journal*, v. 35:251; Feb. 5, 1910.)
- Fairbanks-Morse Inspection Car.**
(*Railway Age Gazette*, v. 48:509; Mar. 4, 1910.)
For the South Queensland Lines, Australia.
- Gasoline Motor Cars.**
(*Railway Age Gazette*, v. 48:583-84; Mar. 15, 1910.)
Fairbanks-Morse section cars.
- Rockford Motor Cars.**
(*Railway Age Gazette*, v. 48:584-85; Mar. 15, 1910.)
For maintenance of way service.
- Buda Inspection Car Number 100.**
(*Railway Age Gazette*, v. 48:640; Mar. 16, 1910.)
- Adams Motor Car.**
(*Railway Age Gazette*, v. 48:712; Mar. 17, 1910.)
- Rockford Economy.**
(*Railway Age Gazette*, v. 48:716; Mar. 17, 1910.)
Saving to be made by use of Rockford motor cars.
- Advance Power Company's Inspection Car.**
(*Railway Age Gazette*, v. 48:1023; Apr. 15, 1910.)
- The Advance Power Company's Motor Inspection Car.**
(*Railway and Engineering Review*, v. 50:384; Apr. 16, 1910.)
- Gasoline Section Motor Car.**
(*Railway Age Gazette*, v. 48:1480; June 15, 1910.)
Built by Fairbanks-Morse.
- Rockford Motor Cars.**
(*Railway Age Gazette*, v. 48:1474; June 15, 1910.)
- Buda Inspection Car.**
(*Railway Age Gazette*, v. 49:210; Jul. 29, 1910.)
- The Duntley-Rockford Motor Section Car.**
(*Railway and Engineering Review*, v. 50:1055-56; Nov. 12, 1910.)
- Twelve-Fourteen Horsepower Petrol-Driven Railway Inspection Car.**
(*Engineering* [London], v. 91:113; Jan. 27, 1911.)
An English car built for a two-foot gauge railway.
- New Motor Car.**
(*Railway Age Gazette*, v. 50:441; Mar. 3, 1911.)
Fairbanks-Morse car.
- Pressed-Steel Gasoline Inspection Car.**
(*Electric Railway Journal*, v. 37:385; Mar. 4, 1911.)
Built by Fairbanks-Morse.
- Number 23 Motor Car.**
(*Railway Age Gazette*, v. 50:623; Mar. 22, 1911.)
Built by Fairbanks-Morse.
- Velocipede Car Motor.**
(*Railway Age Gazette*, v. 50:620; Mar. 22, 1911.)
Built by Kalamazoo Railway Supply Company.
- Kalamazoo Motor Car.**
(*Railway Age Gazette*, v. 50:668; Mar. 23, 1911.)
For maintenance of way forces.
- A New Motor Car.**
(*Railway and Engineering Review*, v. 51:382-83; Apr. 29, 1911.)
- Motor Cars for Section Forces. Additional Motor Car Data.**
(*Railway Age Gazette*, v. 50:1165-70, 1427; May 19, June 16, 1911.)
With tables showing results of operation on 41 roads.
- Railway Motor Cars.**
(*Railway News* [London], v. 95:1128-29; May 20, 1911.)
Inspection cars built by Drewry Car Company, London.
- Bock, Fr.**
Power for Permanent-Way Work.
(*International Railway Congress, Bulletin*, v. 25:716-17; June, 1911.)
- Motor Inspection Cars.**
(*Railway Age Gazette*, v. 50:1538; June 19, 1911.)
Built by Fairbanks-Morse.
- Gasoline Inspection Car.**
(*Railway Age Gazette*, v. 50:1514; June 19, 1911.)
Built by Fairbanks-Morse.
- Roadmasters and Maintenance of Way Association.**
Motor Hand Cars for Section Use.
(*Railway Age Gazette*, v. 51:529; Sept. 15, 1911.)
Committee report to convention.
Same, *Railway and Engineering Review*, v. 51:815; Sept. 16, 1911.)
- Kofmehl, W. H.**
Using Section Motor Cars to Promote Efficiency.
(*Railway Age Gazette*, v. 795; Oct. 20, 1911.)
- The Use of Section Motor Cars on the San Pedro, Los Angeles & Salt Lake.**
(*Railway Age Gazette*, v. 52:101; Jan. 19, 1912.)
- Hamilton, P. H.**
Some Motor Car Kinks.
(*Railway Age Gazette*, v. 52:294; Feb. 16, 1912.)
Suggestions for care of track motor cars.

- Fairbanks-Morse All-Steel Motor Car. (Railway Age Gazette, v. 52:484; Mar. 15, 1912.)
 For maintenance of way forces.
 Mahana, C. G.
 Operation of Motor Cars in Cold Weather. (Railway Age Gazette, v. 52:498-99; Mar. 15, 1912.)
 Section Motor Cars on the Chicago Great Western. (Railway Age Gazette, v. 52:503; Mar. 15, 1912.)
 Improvements in the Rockford Motor Cars. (Railway Age Gazette, v. 52:607-08; Mar. 20, 1912.)
 Fairbanks-Morse No. 32 Section Motor Car. (Railway Age Gazette, v. 52:660; Mar. 21, 1912.)
 Gasoline Electric Tool Car. (Railway Age Gazette, v. 52:658; Mar. 21, 1912.)
 Rockford Spike Driving Car No. 6. (Railway Age Gazette, v. 52:657; Mar. 21, 1912.)
 Motor Railway Inspection Car. (Engineer [London], v. 113:489-90; May 10, 1912.)
 Petrol car for the North-Eastern.
 New Igniter for Motor Cars. (Railway Age Gazette, v. 52:1325; June 13, 1912.)
 New ignition system used on Fairbanks-Morse section cars.
 Motor Inspection Car for High Altitudes. (Engineer [London], Jul. 26, 1912.)
 Car used in South America.
 Don'ts for the Operation and Care of Motor Cars. (Railway Age Gazette, v. 53:1201-02; Dec. 20, 1912.)
 Rockford Motor Cars for Track Service. (Railway and Engineering Review, v. 52:1164-65; Dec. 21, 1912.)
 Walker, W. K.
 A "Home-Made" Motor Car. (Railway Age Gazette, v. 54:344; Feb. 21, 1913.)
 New Fairbanks-Morse Motor Car. (Railway Age Gazette, v. 54:737; Mar. 21, 1913.)
 New Rockford Motor Car. (Railway Age Gazette, v. 54:735; Mar. 21, 1913.)
 Motor Cars for Maintenance of Way Forces. A Study of the Service of Over Thirty-five Hundred Cars on Sixty Roads. General Satisfaction Where Properly Used. (Railway Age Gazette, v. 55:101-03; Jul. 18, 1913.)
 Motor Car Troubles, Their Symptoms, Causes and Remedies. (Railway Age Gazette, v. 55:298-99; Aug. 15, 1913.)
 Narrow Gauge Inspection Motor Car. (Railway Age Gazette, v. 55:523-24; Sept. 19, 1913.)
 New Free-Engine Motor Car. (Railway Age Gazette, v. 56:658; Mar. 19, 1914.)
 Riefel, F. F.
 Motor Cars for Use by Telegraph and Telephone Line Men. (Railway Review, v. 54:643-45; Apr. 25, 1914.)
 New Mudge Motor Cars. (Railway Age Gazette, v. 56:1548; June 19, 1914.)
 For maintenance of way forces.
 Officers' Petrol-Driven Inspection Car. (Railway Gazette [London], Aug. 7, 1914.)
 Railway Review [Editorial].
 Motor Cars for Section Use. (Railway Review, v. 55:508-9; Oct. 24, 1914.)
 Light Motor Car of Improved Design. (Railway Age Gazette, v. 57:1148-49; Dec. 18, 1914.)
 A two-passenger inspection car.
 New Mudge Motor Car. (Railway Age Gazette, v. 58:515; Mar. 16, 1915.)
 A New Motor Inspection Car. (Railway Age Gazette, v. 58:511; Mar. 16, 1915.)
 A car for four passengers.
 An Unusual Motor Car Trip. (Railway Age Gazette, v. 58:517; Mar. 16, 1915.)
 Journey of Mr. Houchins of Chicago, 1,700 miles on a motor hand-car.
 A Three-Passenger Inspection Car. (Railway Age Gazette, v. 58:602; Mar. 18, 1915.)
- ● ●
- Gold Medal Awarded the Hudson and Manhattan Railroad.***
- The gold medal presented by the Travelers' Insurance Company each year to the American employer who has done the most during the year to safeguard his employes and the public was given this year to the Hudson and Manhattan Railroad Company. The presentation was made at the annual dinner of the American Museum of Safety recently after a jury of award named by the museum had chosen the railroad to receive the medal "for achievement in accident prevention among its personnel and for promoting safety for the traveling public." The

* From Publicity Department, Travelers' Insurance Company, Hartford, Conn.

Travelers, though providing the medal, refrains from any part in the awarding of it.

The Hudson and Manhattan Railroad Company is better known as the Hudson Tubes, the celebrated twin tunnels built by William G. McAdoo, now Secretary of the Treasury, and Walter G. Oakman, with the financial backing of Pliny and Wilbur C. Fisk and the engineering skill of Charles M. Jacobs and J. Vipond Davies.

This has been made possible by an elaborate and almost infallible system of automatic signals, automatic train stops, and numerous safety devices in the cars.

In addition to this all the precautions that experienced safety engineers could suggest have been adopted for the greater protection of the employes, and these have been supplemented from time to time by new safety measures that were worked out as a result of continuous



OLD TIME LOCOMOTIVE "GRAFTON" AND TRAIN

The above picture, taken in the spring of 1872, shows the locomotive "Grafton" and train standing in cut at the summit in Newbury, N. H., on line of Concord and Claremont Railroad, now a part of the B. & M. R. R. The crew consisted of Geo. J. Wright, Engineer; Horace Perry, Conductor; Will Perry, Brakeman; Geo. Ordacy, Fireman; J. K. Lund, Express Messenger; Walter Bean, Mail Clerk.

(Courtesy of Bro. Jesse C. Muzzev, Lodge 485.)

These tubes carry a large proportion of the Jersey commuters in and out of New York every day, as well as large numbers of women shoppers from the Jersey suburbs and the not inconsiderable number of people who leave the Pennsylvania Railroad at Manhattan Transfer. They have been in operation for eight years and in that time have carried 400,000,000 passengers, or about four times the population of the United States; but in all that time there has not been a single loss of life attributable to train operation.

inspection and study of conditions in the car shops and power stations.

The system is operated between four distinct terminal points; and within a mileage of 7.91 miles there are fifteen junction points. Over this complex network trains operated at high speed would be extremely hazardous unless proper measures were taken to safeguard against accidents. In a year's time 660,000 passenger trains, or an average of 1800 per day, are operated in conformity with a regular schedule. During the rush hours trains are dispatched from

all the terminals under a 90-second headway with only one minute at the terminals for loading and unloading of passengers. This could not be done without separate platforms and stairways for loading and unloading. Practically all of the system is underground and artificially lighted, but there has never been

vises that requests for all papers cannot be granted, and that publications should be ordered by number and title:

Bulletin 86. Some engineering problems of the Panama Canal in their relation to geology and topography, by Donald F. MacDonald. 1915. 86 pp., 29 pls., 9 figs.



OLD TIME RAILROAD STATION AT BRADFORD, N. H.

This was the terminus of the Concord and Claremont Railroad, now a part of the B. & M. R. R., from July 4, 1850, to November, 1871, when the road was opened to Newport, N. H., and in the fall of 1872 to Claremont Junction.

(Courtesy of Bro. Jesse C. Munzay, Lodge 485.)

an accident in the tunnels which could be attributed to a lack of illumination. As to the efficiency of the block signal system, in the year ended June 30, 1915, there were only 54 cases of failure in 63,866,450 signal movements.



New Publications—Department of the Interior, Bureau of Mines.

A limited supply of the following publications is available for free distribution and may be had upon application to the Director of the Bureau of Mines, Washington, D. C. Applicants are asked to co-operate in insuring an equitable distribution by selecting publications that are of especial interest. The bureau ad-

Bulletin 89. Economic methods of utilizing Western lignites, by E. J. Babcock. 1915. 74 pp., 5 pls., 5 figs.

Bulletin 114. The manufacture of gasoline and benzene-toluene from petroleum and other hydrocarbons. 1915. 268 pp., 9 pls., 45 figs.

Technical Paper 93. Graphic studies of ultimate analyses of coals, by Oliver C. Ralston, with a preface by Horace C. Porter. 1915. 41 pp., 3 pls., 6 figs.

Technical Paper 129. Metal-mine accidents in the United States during the calendar year 1914, compiled by Albert H. Fay. 1915. 96 pp., 3 figs.

Miners' Circular 20. How a miner can avoid some dangerous diseases, by A. J. Lanza and Joseph H. White. 1915. 24 pp., 4 figs.

Our Special Study Course

THE WESTINGHOUSE AIR BRAKE

(Part 8, Section 7.)

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Later Forms of Equipment—Details—Operation, etc.

The P C Equipment

1. Why the Limit Has Been Reached in the Size of Brake Cylinders.—

When the weights of modernly constructed passenger cars had become generally in excess of 125,000 pounds, and the 18-inch (in inside diameter) brake cylinder was furnished as the largest desirable size, it was felt that while the limit in size of the brake cylinders had been reached, yet with the continually increasing weights of the steel passenger-equipment cars it had become necessary that a higher brake-piston power should be developed. Any heavier cylinders, and the larger triple valves that would be required, would concentrate too much weight for suspension at any one point under the car, and its emergency pressure would be too severe if applied through a single piston rod; without exceedingly large application and release ports (which are undesirable), a larger cylinder would be too slow in application and release, and there would be an excessive loss of braking pressure through the leakage groove; a quick-action triple valve with its slide valves and piston so proportioned as to be adapted to brake cylinders more than 18 inches in inside diameter, would be so large that the greater frictional resistance of these parts would lessen the sensitiveness of the triple valve in graduated application and in its release movements. It would also be hard to manufacture a dependable packing leather for a piston of 20 inches or 22 inches diameter. With such sized cylinders correspondingly large auxiliary reservoirs would have to be used, and this would require such large feed ports (to provide for uniformity in the time rate of pressure recharge) that the heavy absorption of air by such reservoirs on three or four cars in the forward portion of the train would so restrict the increase of brake-pipe pressure when recharging after an application, as to delay the release of the brakes on the cars toward the rear in the train.

2. Experiments With "Double" Equipments.—On cars requiring more piston power than that afforded by an 18-inch cylinder, the experiment was made of using two sets of air-brake equipment—"Double PM," or "Double LN," as the respective type of equipment might be. Usually, in "double" equipment both cylinders are arranged to have their pistons push with unanimity on the one interconnected system of foundation brake gear; in such cases, if it is necessary to cut out one triple valve when defective

truck is applicable with its usual power, thus increasing the tendency toward wheel skidding and flattening.

The more undesirable features of the "double equipment" are the multiplicity of parts, involving a corresponding increase in the possibility of brake-cylinder leakage past the piston packing-leathers and through the leakage grooves, back leakage through the feed grooves in the triple valves, and two triple valves eventually to become defective instead of one; together with the increased volume of air required by the two auxiliary reservoirs. In the PC Equipment all these objectionable features are eliminated, and although this equipment includes two brake cylinders, only one is used at service application, the other cylinder being held in reserve to supply the additional power required at emergency application.

3. **Why Cylinder Size is Reduced in PC Equipment.**—With 110 pounds brake-pipe pressure and the cars equipped with the older styles PM (with high-speed reducing valves) or LN equipments, no greater brake-cylinder pressure than 60 pounds can be obtained at service application, because the reducing or safety valves are adjusted at that pressure; a 24-pound brake-pipe reduction will provide that cylinder pressure, and there is then remaining in the auxiliary reservoir 86 pounds—an excess, that cannot be used in the brake cylinder, of 26 pounds. But if we should cut out the reducing valve or safety valve, we could use this reserved excess of air; equalization between auxiliary reservoir and brake cylinder would give about 85 pounds at full service application, and this if retained in a smaller cylinder would supply the required service power for the same car, or in the original brake cylinder would supply the maximum service power for a much heavier car. And that is the way it is done in the PC Equipment, in which there is no reducing valve nor safety valve—no blow-down of brake-cylinder pressure at all.

Yet, while this arrangement provides for maximum service braking pressure in a lesser sized cylinder, the whole resources of the auxiliary reservoir must be employed at full service application, leaving no reserve of higher pressure to be used for increasing the braking power at emergency application; therefore, a second brake cylinder to operate as an emergency feature, and with its own reservoir for air pressure supply, is provided. An improved type of triple valve, called a Control Valve, is supplied, which in addition to graduating the service applications, governing the operation of the emergency cylinder, providing for recharging the reservoirs, etc., contains several functions altogether new, that will be described in detail further along.

4. **Parts of the Equipment.**—Figs. 167 and 168 each represent the air-brake parts comprised in the PC Equipment, and the method by which the pistons of both cylinders are arranged to push harmoniously against the levers of the foundation gear. In Fig. 167 the cylinders are attached so that the pistons push in opposite directions, while in Fig. 168 they are arranged to both push in the same direction, but the effect is the same in both cases.

In these plates the names of the parts are indicated, as follows:

The Control Valve, which corresponds in a general way to the triple valve of the old-style passenger-car equipment, or more closely to the distributing valve of the "ET" locomotive brake. It operates to control the admission of air to and the release of air from the brake cylinders.

Two brake cylinders (one for service, and both for emergency applica-

tions), with pistons and rods so connected through the brake levers and brake beams, to the brake shoes, that when either piston is forced outward by air pressure this force is transmitted through the system of gear to the brake shoes and applies them to the wheels.

Two supply or storage reservoirs denoted as the Service Reservoir and Emergency Reservoir, respectively.

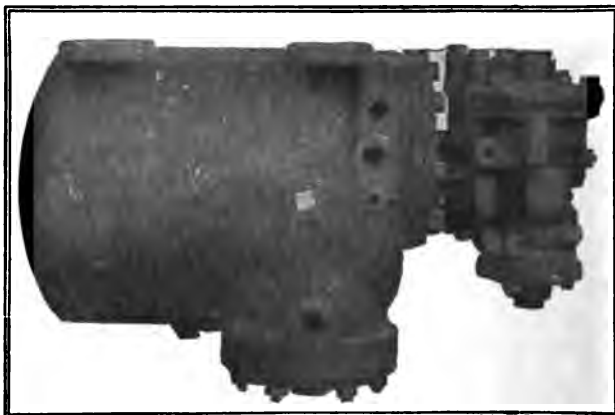


FIG. 169. NO. 3-E CONTROL VALVE. SIDE VIEW

In addition to which there are the usual fittings, cocks, hose couplings, etc., that are the same as found on all standardly equipped passenger cars, and that have been heretofore described.

5. Novel Functions.—*Graduated release and quick recharge*; these functions have been carried on from the Type L triple valve, but in the present case the air supply to assist in recharging and to provide for release graduations is obtained from the emergency reservoir.

Certainty and uniformity of service action, secured by increased sensitiveness of the valve parts to the slightest brake-pipe reductions, which at once closes the feed grooves, after which a continuation of the reduction to the proper amount is necessary to move the parts to the positions for service application.

Quick rise in brake-cylinder pressure, provided for by insuring a prompt movement of the parts, and direct and unrestricted passages from reservoirs to brake cylinders during applications.

Uniformity and maintenance of service brake-cylinder pressure against improper piston travel and ordinary leakage during a stop, provided in a



FIG. 170. NO. 3-E CONTROL VALVE. FRONT VIEW

manner similar to the operation of the application portion of an "ET" distributing valve.

Predetermined limiting of service braking power: This is fixed by the equalization of the pressure and application chambers of the Control Valve; after such equalization occurs, further brake-pipe reduction causes the moving parts to travel slightly beyond the service position to the "over-reduction" position, when a portion of the air remaining in the pressure chamber flows to the reduction-limiting chamber, these two chambers also equalizing if the brake-pipe reduction is carried far enough; but during this time the application chamber remains at the first equalization pressure, and the brake-cylinder pressure is maintained accordingly.

The sizes of these air chambers are so proportioned that the service equalization will provide a maximum brake-cylinder pressure of 86 pounds—and this is the pressure upon which the braking power calculations are based,

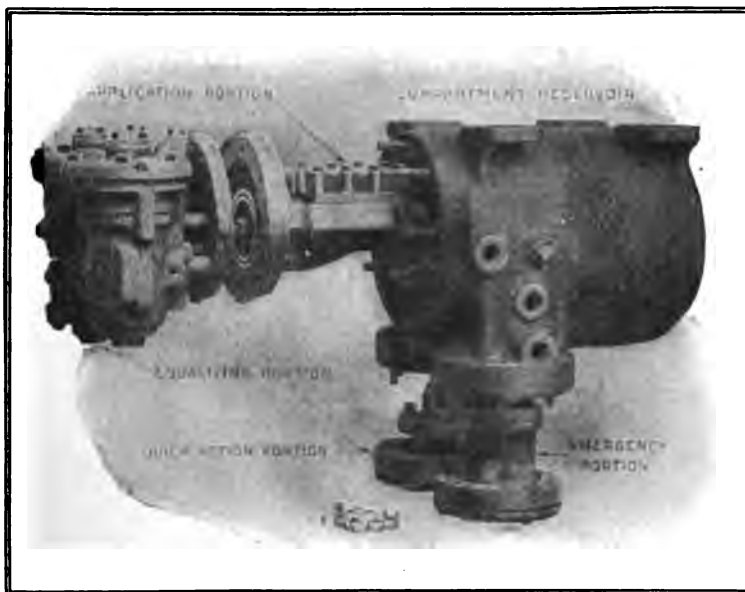


FIG. 171. NO. 3-E CONTROL VALVE, SHOWING THE DIFFERENT PORTIONS OF THE VALVE

instead of 50 pounds as with previous equipments. This brake-cylinder pressure is secured by a 24-pound reduction from 110 pounds brake-pipe pressure, and this is exactly the same reduction required with former types of equipment on high-speed-braked trains to get the maximum service brake-cylinder pressure (60 pounds, at which the reducing valve is set to discharge). This guarantees uniformity in service operation when cars with PC and former equipments are mixed in the same train.

Automatic emergency application effected by an overdrawn service brake-pipe reduction: If the brake-pipe reduction is continued below the point at which the pressure chamber and reduction-limiting chamber equalize, the parts move to emergency position, even though it be a service reduction or the result of brake-pipe leakage, and this causes both the quick-action and

emergency portions to operate, starting serial quick-action throughout the train and obtaining emergency brake-cylinder pressure.

Full emergency braking power at any time: As the operation of the emergency and quick-action portions is dependent only upon the movements of the parts to emergency position, and as this can be caused at any time

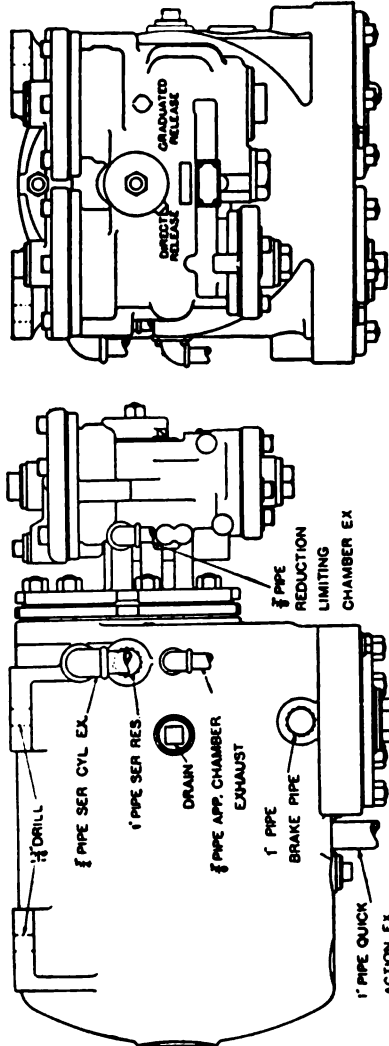


Fig. 172. No. 3-E Control Valve

by making an emergency brake-pipe reduction on the engine or in any part of the train, it is plain that full emergency braking power can be obtained at any time, irrespective of a service application already made.

The service and emergency features being separated permits the necessary flexibility for service applications, without impairing the emergency feature of the equipment.

The higher service equalization pressure, permitting the use of a smaller sized brake cylinder, proportionate to the weight of the car, as well as the possibility of using a lower total leverage ratio.

Less sensitiveness to the inevitable fluctuations of brake-pipe pressure, which effect light applications of the brake; this insures against brakes creeping on, with the consequent burning of brake shoes, heating of wheels, delays to the train, etc.

Maximum rate of increase of brake-pipe pressure possible for the length of train, when the brake pipe is recharged, insuring a prompt release of all brakes.

Increased sensitiveness to release, a feature made necessary on the long trains of the present time, in which the cars have very large reservoirs to recharge.

Provision for cutting out the graduated-release feature: This is made possible in the construction of the Control Valve. When PC Equipment is to be handled in the same train with cars not equipped with a graduated-release brake, it is best to cut out the graduated-release feature until all

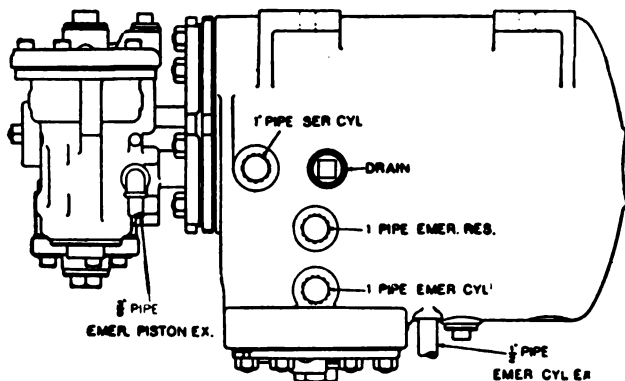


Fig. 173. No. 3-E Control Valve

cars are supplied with this type of brake; to do so, all that is required is the loosening of a bolt and turning the "direct and graduated-release cap" on the front of the Control Valve head until the desired position is indicated, the bolt then being retightened (See Figs. 170 and 172).

6. The Portions of the Control Valve.—The No. 3-E Control Valve consists of an *equalizing portion*, an *application portion*, an *emergency portion* and a *quick action portion*.

Fig. 169 shows a side view of the Control Valve, complete; Fig. 170 is a front view showing the direct and graduated-release cap; Fig. 171 shows the other side of the Control Valve, with the application, quick-action, and emergency portions partly withdrawn; Figs. 172 and 173 are outline views, showing both sides and front of the Control Valve, with the pipe connections indicated.

The valve portions are attached to the *compartment reservoir* which is bolted to the underframing of the car; all pipe connections are made directly with the reservoir portion, so that no pipe joints need be disconnected for the removal of any of the operating portions of the Control Valve.

The compartment reservoir contains the Pressure Chamber, Application Chamber and Reduction Limiting Chamber.

The *equalizing portion* is very similar to the corresponding portion of the distributing valve of the "ET" locomotive brake equipment, or a plain-style triple valve, and is directly affected by the variations of the brake-pipe pressure, controlling the charging of the reservoirs, service or emergency brake applications, and the release of the brake.

Similarly, the *application portion* resembles both in construction and performance the application portion of the "ET" distributing valve, controlling the flow of air from the service reservoir to the service brake-cylinder. It has no influence over the emergency reservoir nor the emergency cylinder.

The *emergency portion* contains a double piston and a slide valve that controls the flow of emergency-reservoir pressure to the emergency cylinder, and the release of same to the atmosphere.

The *quick-action portion* corresponds in general design and manner of functioning to the quick-action portion of a triple valve; it operates only when the brake is applied in emergency, and vents brake-pipe air to the atmosphere.

Examination Questions and Answers.

THE WESTINGHOUSE AIR BRAKE.

(PART 3, SECTION 7.)

1. Q.—(a) What is the largest accepted size of brake cylinders? (b) Why are larger ones not desirable?

A.—(a) 18 inches in inside diameter. (b) Too much weight and delivery of power would be concentrated at a single point on the car's underframing; application and release would be too slow; excessive loss of brake-cylinder air through the leakage groove and past the piston packing-leather; it would necessitate a triple valve with impossibly large air ports and frictional surfaces—the feed groove permitting excessive back leakage of air from the auxiliary reservoir; it would be hard to provide dependable packing leathers for such large pistons; and the auxiliary reservoirs would have to be of such large volume that the absorption of brake-pipe pressure would be too rapid to permit prompt brake release throughout the train. (Art. 1.)

2. Q.—(a) On cars requiring more piston power than can be obtained from an 18-inch brake-cylinder, how is the greater power secured? (b) How many types of two-cylinder equipment are there? (c) Into how many styles is the "double" equipment divided? (d) What are the objections to the "double" quick-action brake equipment? (e) Are these undesirable features eliminated in the PC Equipment? (f) Does not the PC Equipment embody two brake cylinders, also?

A.—(a) By the use of two brake cylinders instead of one. (b) Two: the "double" types of equipment, in which each car is supplied with two complete sets of quick-action brake equipment; and the PC Equipment, which is regarded as a single braking unit. (c) The air-brake parts may be either "double PM" or "double LN" styles; and there are two different arrangements for the delivery of piston power to the foundation brake gear: in one (the usual method), the pistons of both cylinders are arranged to push in concord on the one common set of gear; in the other, the brake

gear of each truck is actuated by an individual air-brake equipment. (d) The multiplication of air-brake parts, and the necessarily large volume of air required by the two auxiliary reservoirs. (e) Yes. (f) Yes; but only one brake cylinder is used in making service stops, the other cylinder being held in reserve to assist in supplying the higher emergency braking power. (Art. 2.)

3. Q.—(a) Why, with PC Equipment, can a smaller brake cylinder be used than would be possible on the same car with single-cylinder equipment? (b) At emergency application of the PC brake, does the service cylinder afford a higher piston power than at full service application? (c) How is the higher emergency power secured? (d) Does each brake cylinder have its individual auxiliary reservoir? (e) Why is no “reducing” or “safety” valve used in connection with the service brake-cylinder? (f) Why is none used to blow down the emergency cylinder pressure? (g) What takes the place of the ordinary triple valve, in the PC Equipment?

A.—(a) Because, with single-cylinder equipment the maximum cylinder pressure is 60 pounds, at which the reducing or safety valve is adjusted; while with the PC Equipment in which there is no blow-down of brake-cylinder air, a pressure of 86 pounds is obtained at full service application, and it is upon this higher pressure that the braking power of the car is calculated. (b) No. (c) By the supplementary operation of the emergency cylinder. (d) Yes. (e) Because the maximum pressure obtainable in the service cylinder provides the precise braking power indicated for the weight of the car. (f) Because in modern practice it is found desirable and safe to retain the maximum braking pressure at emergency application to the finish of the stop. (g) The Control Valve, which combines supplementary functions with those of a quick-action triple valve. (Art. 3.)

4. Q.—(a) What are represented in Figs. 167 and 168? (b) Name the parts exclusively those of the PC Equipment.

A.—(a) The air-brake parts that comprise the PC Equipment; in Fig. 167 the cylinders point in opposite directions, while in Fig. 168 the cylinders point in the same direction. (b) A service, and an emergency brake cylinder; a service and an emergency reservoir; and the Control Valve. (Art. 4.)

5. Q.—What are the novel functions provided by the Control Valve?

A.—Graduated release and quick recharge; certainty and uniformity of service action; quick rise in brake-cylinder pressure; uniformity and maintenance of service brake-cylinder pressure; predetermined limiting of service braking power; automatic emergency application effected by an over-drawn service brake-pipe reduction; possibility of obtaining full emergency braking power at any time; flexibility of braking operations, in the separation of the service and emergency features; the higher service equalization pressure which admits of the use of a smaller brake cylinder; less sensitiveness to fluctuations of brake-pipe pressure; at recharge, the maximum rate of brake-pipe-pressure increase; increased sensitiveness to release; provision for cutting out the graduated-release feature, when the car is associated with other cars that have not that feature. (Art. 5.)

6. Q.—(a) Of what does the Control Valve consist? (b) What is shown in Fig. 169? (c) What in Fig. 170? (d) What in Fig. 171? (e) What in Figs. 172 and 173? (f) Why are all pipe connections made directly with the main sections. (g) Name the chambers contained in the com-

partment reservoir. (h) To what may the equalizing and the application portions of the Control Valve be compared? (i) What operations are controlled by the emergency portion? (j) To what may the quick-action portion be compared?

A.—(a) An equalizing portion; an application portion; an emergency portion; and a quick-action portion. (b) A side view of the Control Valve, complete. (c) A front view of same. (d) The other side of the Control Valve, with the application, quick-action, and emergency portions partly withdrawn. (e) Outline views, showing sides and front of the Control Valve, with pipe connections indicated. (f) To permit removal of the valve portions without having to make any disconnections of the pipes. (g) Pressure chamber, application chamber and reduction-limiting chamber. (h) To the corresponding portions of the distributing valve in the "ET" locomotive brake equipment. (i) The flow of emergency-reservoir pressure to the emergency cylinder, and its release therefrom. (j) To the quick-action portion of a triple valve. (Art. 6.)

(To be continued.)



TONNAGE ON THE CRIPPLE CREEK SHORT LINE, COLORADO—TWENTY-ONE MILES OF 4 PER CENT. GRADE, COLORADO SPRINGS AND CRIPPLE CREEK DISTRICT RAILWAY

(Courtesy of Bro. Aaron E. Smith, Lodge 679.)

Study Course in Electrical Railroading*

POWER TRANSMISSION

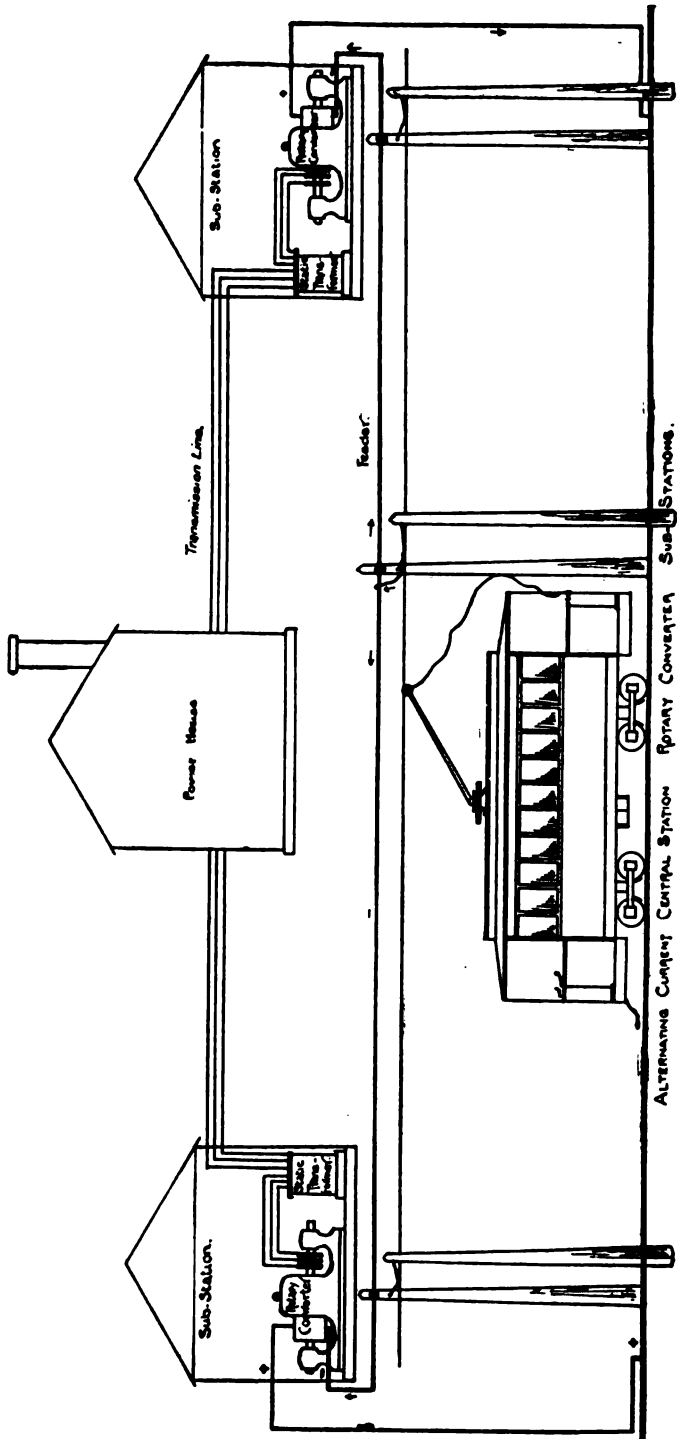
The Problem of Distribution

1. The trolley wire takes its current from the overhead wire, which is called the trolley wire. The size of this wire varies from No. 0 to No. 000 Brown and Sharpe gauge. It must not be understood, however, that the trolley wire carries all of the current for the entire length of the line, i. e., that it carries all of the current for all of the cars that may be operating on the line at the same time. It may only carry the current for the cars at the points where such cars are operating. In observing the construction of any overhead electric railway lines, it will be noticed that on the same poles from which the trolley wire is suspended, one or more very heavy and insulated copper wires or cables are strung. If the details are sought, it will be observed that about every dozen poles a wire will be brought out from the heavier cable and attached to the trolley wire proper. The reason that this is done is to avoid carrying too much current on the trolley wire, for when the cars come along they will draw current through the taps from the feeder cable. The current may therefore come from one or two such taps for the same car, and, flowing both ways, meet at the trolley pole. The natural result of this method of construction is to increase the current carrying capacity of the overhead line while keeping down the size of the trolley wire.

2. In cities where the districts are crowded, and there are a great many of the feeders which supply the trolley wire with current, it is the practice to cut the trolley wire into sections and insulate one section from the other. This is done so that if any one section breaks down it will not affect the entire system. In the power station there is always erected a large marble or slate switchboard, upon which are mounted the switches, and circuit breakers which control the different feeders or circuits which supply the trolley wire with power. This individualizes the system, giving any particular section of the road greater stability of operation.

3. It is always an advantage in any system of electric traction to have the power station located near the center of the system. The problem of distribution of power is very much simplified when this is done. It is much easier to feed from a center outward than it is to feed from either end and traverse the entire distance. Central distribution means that it is not necessary to place as heavy wiring on the poles in order to get the required amounts of power to the different sections. It also means that, with any given size of wire, a much better service can be maintained. This is because it is easier to maintain the full pressure of current at all points in the one case, whereas if it is necessary to carry the entire power all of the way to the end of the line greater cost of construction is entailed, while at the same time the service can not be as good.

* By Elwood Grissinger. Reprinted from past issues of the Magazine.



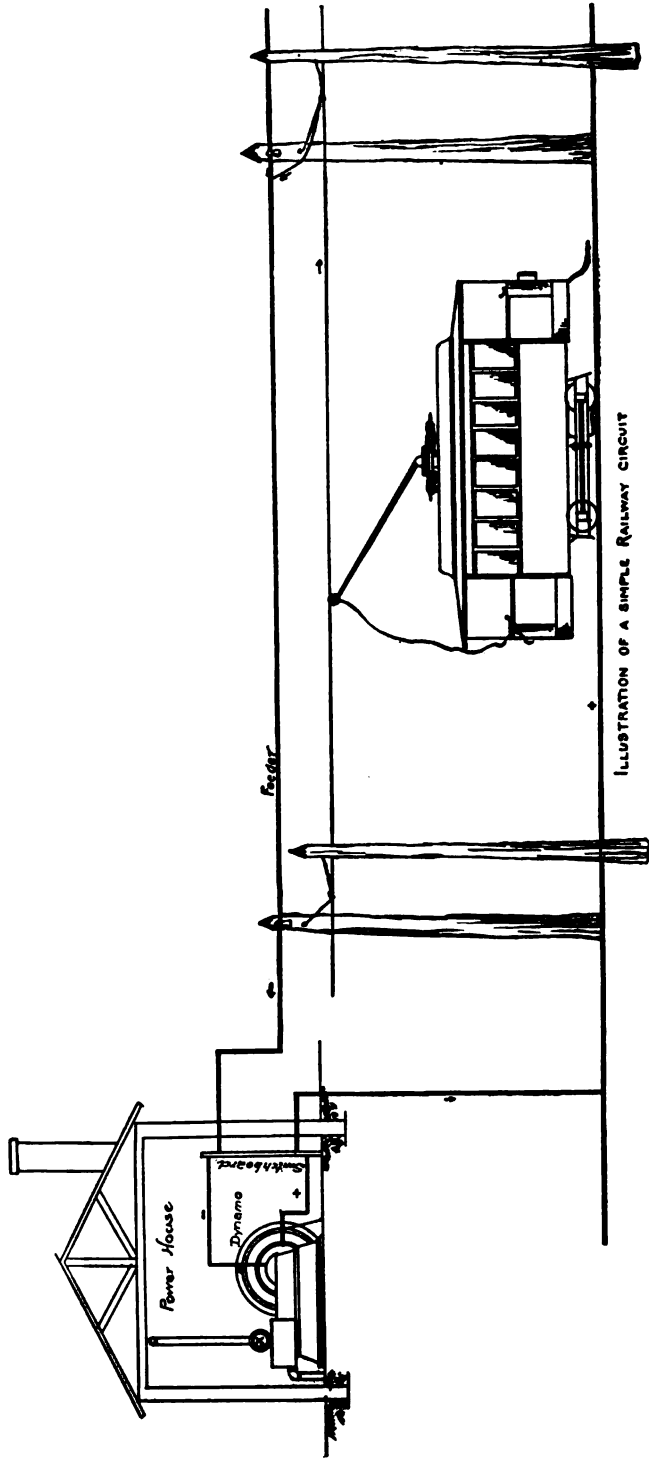
Showing General Arrangement of Feed Wire, Trolley Wire and Apparatus—Power House at Center of System

4. The distance over which a direct current at the usual pressure of 550 volts can be carried varies with the amount of power it is desired to transmit and the size of wire that will be employed. If it were required to transmit 500 horsepower ten miles, the initial pressure being 550 volts, and it was desired to have a pressure of 500 volts delivered at the end of the line ten miles away, it would be found that the cost of the line copper necessary to do this would be so great as to make the undertaking prohibitory. Therefore, if we want to carry any great amount of power to any appreciable distance, we are compelled to adopt other methods than that of one power station producing the usual electrical energy for street car purposes. We can build more than one power station which will deliver power into the same line. These power stations can be placed at each end of the line, or one station can be in the middle and the other at either end. Another method is to place one station or power plant at one end of the line, send the current it generates along toward its destination, and at points along the line, where it is found that the electrical pressure drops to a lower value than it ought to have for good and satisfactory service, install what is termed a "booster set." The function of a booster set is to increase the electrical pressure any pre-determined amount above that at which it is received. What such a combination usually does in practice is to receive the total energy that comes along and increase its voltage or pressure by an amount equal to that which it lost in transit, plus the amount of additional pressure necessary to deliver the power under proper conditions at the remotest point from the station where such booster set may be installed. A booster set may be operated with a steam engine; or what is much better, and generally made use of, is to connect the boosting unit with a motor, the motor deriving its current from the power line. This makes a very simple and efficient arrangement for cutting down the size of the line copper, while also improving the electrical pressure delivered at the different points along the line. The carrying of electrical energy in large quantity over wide areas introduces many problems and frequently the booster method offers many disadvantages.

5. In an early article of the series it was pointed out that the higher the pressure of a current of electricity the farther it could be carried. Therefore, it was sought to find a means of increasing the pressure. This was readily accomplished, but, when it was, how was a current at such a high pressure to be utilized when it was obtained? It has not been commercially practicable to build direct current machinery that would handle a current under a pressure of 700 volts or over and this makes extremely hazardous working in more ways than one. Some engineers have recently put forth arguments in favor of direct current systems to operate at approximately 1,200 volts, but the practicability and reliability of such a system are yet to be demonstrated. The transmission of electrical energy in large amounts over great distances is today commercially possible when the alternating current system of generation and distribution is employed.

6. It may be recalled that another article of the series pointed out that every form of dynamo in use generated an alternating current, i. e., that current generated in the armature of every dynamo is alternating in character and will remain so unless it is commutated by means of a commutator fitted with the customary and necessary brushes.

7. The modern systems of power transmission on a large scale employ the alternating current system of generation at the power station. The



Showing General Arrangement of Feed Wires, Trolley Wires and Apparatus—Power House at End of System

elaborate and extensive systems of the Manhattan Railway Company, the Interborough Railway Company, the New York, New Haven and Hartford Railway Company, and the street car systems and power service of Buffalo and Niagara Falls are examples of the modern method of power transmission.

8. These systems have a large central generating or power plant in which are installed large alternating current generators which may generate alternating current at a pressure of 2,200 volts, as at Niagara Falls, or at 11,000 volts as found in some of the stations at Niagara Falls and at other points. These generators are driven by water turbines at Niagara Falls, and have an individual capacity of 5,500 horsepower in some units, and 11,000 horsepower in others. Some of the generators in the New York power stations are of 10,000 horsepower capacity, and deliver electrical energy in the form of alternating current at a pressure of 11,000 volts. At Niagara Falls, and as is the case in all central power stations, all of the generating units deliver their power into the same circuits, unless it is desirable to divide the output differently, for commercial reasons.

9. Two thousand two hundred or eleven thousand volts pressure is not sufficient for the conditions imposed when transmitting large amounts of power over great areas. The development of generators shows that it is not practical to build them for the generation of currents at a higher pressure than 11,000 volts. The pressure can be increased above 2,200 or 11,000 volts by using a simple and efficient piece of electrical apparatus termed the "static converter." These useful devices have no moving parts. They are virtually a pressure raising or a pressure reducing valve, as the case may be, for if they can be used to raise the pressure they can also be utilized for the purpose of reducing the pressure as well. They can be made to increase an alternating current pressure to any amount, depending only upon the insulation of the wires and the apparatus necessary to transmit the power. In one of the installations at Niagara Falls and in some other installations in this country, current is received from the alternating current generators and stepped up in pressure to 60,000 volts. The current is transmitted by means of specially constructed overhead transmission lines at this apparently enormous pressure, and where it is desired to utilize a sufficient portion for industrial or other purposes, it is carried into what are termed "sub-stations."

10. The sub-stations will have electrical apparatus installed in them of such form and kind as the conditions surrounding the use of the power will require. In any event, the pressure will be reduced from 60,000 volts to the proper working pressure through the medium of the pressure reducing devices above mentioned, and this pressure may be 350, 440, 1,100, 2,200, 4,400, 6,600 or some other commercial and standard pressure. The reduction of the pressure does not, however, change any of the other characteristics of the current as received. The current is still alternating current. Street cars in nearly every instance require a direct current at a pressure of approximately 550 volts. Wherever the current is to be employed for the purpose of operating street cars, additional transforming apparatus must be installed, and this additional transforming equipment is termed "rotary converter." It is a rotary, because it has a rotating member, and it is a converter because it changes the characteristics of the current which it receives. If it receives an alternating current at a pressure of 350 volts,

it will deliver a direct current from its other side at a pressure of approximately 550 volts.

11. The rotary converter is a machine that looks very much like the ordinary direct current generator, only a smaller machine for the same output. The difference most noticeable is, that on one end of the machine there will be seen collector rings with copper brushes bearing upon them, and upon the other end of the rotating member there will be found the usual direct current generator commutator with carbon brushes. What happens when the machine is in operation is, that an alternating current is taken into the rotating member through the copper brushes and collector rings, passes through the windings of the rotating member and is commutated on the commutator. If the alternating current that is taken into the rotor has the correct proportionate pressure, the direct current that is taken from the machine will have a pressure of 550 volts.

12. The Manhattan Railway Company, for example, has installed alternating current generators of a nominal capacity of 5,000 horsepower each. These large machines are each direct connected, without the use of belts, to compound condensing engines using steam at a pressure of 150 pounds. The capacity of the power station when running all of its equipment is 100,000 horsepower. All of these machines feed into the same general system of switchboard equipment and from there into static transformers which increase or decrease the electrical pressure as may be required at various points.

13. From the main switchboard this current is transmitted underground to the sub-stations throughout the city. There are about a dozen of these sub-stations, and in each of them will be found high-pressure switchboard panels, such panels delivering the current to the static transformers which reduce the pressure from 11,000 volts to approximately 352 volts alternating current. It is then carried to the rotary converter switchboard panels, which deliver the energy to the rotary converters, and these transform the current from alternating current to direct current for delivery through suitable switchboard devices to the third rail.

14. The motor equipment upon the cars of the elevated road are quite similar to those found upon the surface roads, about the only difference being in the size of the units. The starting devices and method of motor control embody the latest ideas pertaining to the art, the system of motor control being that known as the multiple unit plan. This arrangement permits the coupling together of any number of cars, all of which or any number of which may be equipped with motors and individual controlling sets. All of the cars in a train may have motors and controlling devices, or only a part of the train may be so equipped. The connections between the cars of the train are such, however, that all cars fitted with motors can be used to assist in the hauling of the complete train, no matter what the position of the individual cars may be in the train with respect to the whole. Moreover, the train can be operated as a unit, starting and stopping the entire train and operating all of the motors in the train from any one of the motor cars wherever such car may be placed.

15. The braking mechanism of all modern electrically equipped lines is that of compressed air. The operation of such type of brake is familiar to all readers and explanation of the same will not be offered. Air under pressure is obtained by means of the usual air compressor outfit, except that such outfit is driven by an electric motor instead of a steam unit. Each

motor car, or each car having motors mounted upon its trucks, has its own motor driven air compressor mounted beneath the car. The motor is of the low-speed type and is direct connected to the air compressor. An electro-pneumatic starting and stopping device is used in connection with each such air compressor outfit and this starting device is so connected that it will automatically start and stop the motor within the limits of air pressure to be maintained in the air reservoir. When the air pressure falls below a pre-determined amount, the motor will automatically be placed in operation, and, similarly, when the air pressure in the reservoir exceeds a pre-determined amount the motor will be stopped automatically. The source of power supply is the same as that of the motors upon the car.

16. The commoner method of delivering current to the cars is that recognized as the overhead system, the cars carrying an overhead trolley. Two other methods are in use in this country to some extent, known as the underground conduit and the third rail systems, in connection with either of which the cars make use of an under-running current collecting device. The third rail is placed at the side of the track, elevated some six or eight inches above the same, and mounted upon insulators of sufficient strength to support it. At intervals along its length taps are made into it with copper wire attached to the feeder circuits, the same as with the overhead system of distribution. These taps are made for the purpose of properly distributing the current and, while the rail is much larger than the usual trolley wire and therefore has a larger sectional area, it is to be noted that a steel rail does not have as good electrical conductivity as does copper wire, and it must therefore have a much larger cross section than if it were copper in order that it may carry the same amount of power economically. The steel rail is cheaper to install, though, and by tapping into it at intervals will answer the purpose quite satisfactorily and will wear much longer than copper. The collection of the current from the third rail is accomplished through the medium of a shoe that is a part of the car truck. This shoe travels with the car and is so supported that it makes a yielding contact with the rail at all times, taking up for any inequalities in the alignment of the third rail. The shoe will maintain contact with the third rail under almost uniform pressure, notwithstanding any lateral movement of the car truck or its change in elevation and position when rounding curves. The current travels from the collecting shoe to the controlling devices on the cars, from whence it is disposed of to the motors as the man at the throttle elects. From the motors the current seeks the rails of the road-bed or the overhead trolley, as the case may be, and completes the circuit to the power house or to the sub-station.

17. The two cuts accompanying this article are intended to show the general arrangement of feed wires, trolley wires and apparatus that go to make up the different methods of transmitting power to street car motors. The direction of the current passing is also shown, having assumed that the trolley wire in each case was made negative, meaning that the current flowed out from the power house to the rails and returned through the trolley wire. This arrangement is generally adopted in practice.



Technical Contributions

ELECTRIC TRACTION BRAKE EQUIPMENT*

By F. B. FARMER.

Rules For Operating the AMM Brake Equipment (With M-22 Brake Valve).

Hints to Motormen and Conductors.

CUTTING OUT BRAKES.—It is very important not to cut out the brake on any car unless it is absolutely impossible to operate it safely. Small leaks are not sufficient cause for thus reducing the braking power on the train. After cutting out the brake on any car (by closing the double cut-out cock in the branch pipe), release its brake by opening the auxiliary reservoir drain cock and *leaving it open*.

SWITCHING CARS.—In setting cars out of a train, first close the brake-pipe and control-pipe cut-out cocks ahead of and behind the couplings to be separated, then separate them by hand, and attach the dummy couplings. Never allow the hose couplings to be jerked apart by the separation of the cars, since this inevitably results in defective hose and consequently in unsatisfactory brake operation.

Before setting the hand brake on the car set out of the train, be sure that the air brake has been released.

RAIL SANDING.—Whenever it is necessary to sand the rails this should be done, if practicable, before the brakes are applied, for the reason that if the brakes are set and the wheels begin to slide, the application of sand* will not—in all probability—cause them to revolve again, and flat spots are almost sure to result. In such an event the best practice is to partially release the brakes at the moment of applying the sand, after which a higher brake-cylinder pressure can be used without causing wheel sliding. If sand is used the rails should be well and continuously sanded until the stop is made or the brakes released.

UNEXPECTED BRAKE APPLICATIONS.—Such applications may be due to the use of the conductor's valve, the train breaking in two, a bursted hose, or a broken pipe. In such an event the motorman should at once place the brake-valve handle in *Automatic Lap* position, and leave it there until the train stops or the danger is past.

CONDUCTOR'S VALVE.—Should the conductor find it necessary to set the brakes, the cord or handle of the conductor's

valve should be pulled down as far as possible. This valve must be closed, of course, before signalling the motorman to go ahead; otherwise brake-pipe pressure will continue to escape and the brakes cannot be released.

BRAKE-PIPE RUPTURE.—In event of the brake-pipe hose bursting it may be replaced by an extra hose, if carried, or by one taken from the front or rear end of the train.

CONTROL-PIPE RUPTURE.—Should a control-pipe hose burst, it should be replaced by an extra hose, if carried, or by one taken from the front or rear end of the train. Should it be impossible to replace the burst hose, or if the control pipe is broken, close the control-pipe cut-out cock next ahead of and behind the point of rupture and *close the main reservoir cut-out cock on that and all succeeding motor cars*. The cars behind the break will then be supplied with air from those ahead through the brake pipe only; and, while the operation of the brakes will be modified in many ways, the train may be handled over the road to the end of the run or repair shed without difficulty. Care should be exercised while releasing, since there can be no graduation of the release of those brakes behind the closed control-pipe cut-out cock.

If the control-pipe branch pipe breaks between the double cut-out cock and the triple valve, close the double cut-out cock, release the brakes on that car by opening and leaving open the auxiliary reservoir drain cock, and proceed as usual.

If the control-pipe branch pipe breaks between the double cut-out cock and the control pipe it is, in effect, a control-pipe rupture, and the instructions given above under that heading should be followed.

General Hints.

To gain time, adapt the brake-pipe reduction, or application of brakes, to speed. For example, for high speed make a relatively heavy application, and graduate off when a short distance from the stop. To handle train smoothly, make application sufficient and soon enough so that if held on, the train would stop a car length or so short of the mark. Then

*Continued from April, 1916, Magazine.

as the stop or mark is approached, graduate the pressure out of the brake cylinder so that little remains when stop is made. If on a level, complete the release; if on a grade, hold until the signal to start is given, then release. As the pressure has been graduated down so that

little remains in the cylinder, it will be seen that the start can be made promptly. When a somewhat heavy service application is warranted, make it in steps, close together, so passengers will not note a sudden change in the riding of the cars or experience shocks.

MOVEMENT OF TRAINS

By G. E. COLLINGWOOD

The Revised Standard Code of Train rules.

The Committee on Transportation of the American Railway Association has now completed the revision of the Standard Code of Train Rules including the diagrams of Hand, Lamp and Train Signals, Block Signal and Interlocking Rules. The Committee has had these subjects under consideration since July, 1911, and we may reasonably expect that the rules as now revised represent the very best thought for the government of train movement up to the present time.

The established practices have not been departed from nor added to, in the revision just completed, except where experience has clearly indicated that greater safety and increased expedition to the traffic would follow. The Committee has received many suggestions for changes and additions which it considers unquestionably valuable in localities where their usefulness has been tested, but as they were considered inadvisable and unsuitable by a very large majority of the members of the Association, as applied to their particular operating conditions, the Committee has not thought it wise to incorporate them in the revised Standard Code of Train Rules which is intended for universal adoption. In fact, the Committee has adhered to the rules and practices which have stood the test for the past thirty years and which have been found safe and practicable.

In the opinion of the Committee, it is conducive to the best operation of the railroads that the rules of the Standard Code should be confined as nearly as practicable to the enunciation of principles, and that details of a local character should not be included therein; however, the Committee in making its original recommendation stated that its

purpose is to maintain as far as possible the identity and integrity of each individual rule, so that the number and text of each standard rule shall be the same on every railroad. When additional rules are inserted to cover local requirements they should be designated by a suffix, as 110(a), 110(b), etc.

The Train Rules were adopted by the convention without objection; in fact, one of the members paid them a high compliment by challenging anyone to produce a situation or a combination in railroad operation, which was not the product of a trick, or trap, which could not be answered immediately and positively and finally by the Committee from the rules as submitted. The Block Signal Rules were subjected, however, to serious objection, a full account of which will appear when those rules are brought up for discussion through these columns.

Rules for Single Track will first be considered. Under the heading of "General Rules" there has been added a new rule known as Rule F, as follows:

"F. Accidents, detention of trains, failure in the supply of water or fuel, or defects in track, bridges or signals, must be promptly reported by wire to the proper official."

A new paragraph has also been added to Rule A, as follows:

"Employes whose duties are in any way affected by the time-table must have a copy of the current time-table with them while on duty."

There are no other changes under the above heading.

Two new definitions have been given which will be of service. They are as follows:

"Motor.—A car propelled by any form of energy."

"Train Register.—A book or form which may be used at designated sta-

tions for registering signals displayed, the time of arrival and departure of trains and such other information as may be prescribed."

The definition to the word train has been changed to read, "An engine, or motor, or more than one engine, or motor, coupled, with or without cars, displaying markers."

The use of the motor has raised the question as to what a "motor" is under the rules, and while some of the roads have defined the word, in one way or another, still it is better to have the word defined so that uniform practice will prevail.

The addition to the definitions of the term, "Train Register" is a step in the right direction. Rule 83 requires that a train must not leave its initial station on any division, or a junction, or pass from double to single track, until it has ascertained whether all trains due, which are superior, or of the same class, have arrived or left. This information has been secured in various ways heretofore. Some roads depend upon an operator to advise trains under the conditions as indicated by the rule, but many roads consider this unsafe because of the frequent change in operators. Other roads require the train dispatcher to issue a clearance, and some roads use the train register. The great majority of roads use the train register and it is only just that the method be made a part of standard rules.

The next rule in which the principle of operation has been changed is Rule 11. The new rule reads as follows:

"Rule 11. A train finding a fusee burning on or near its track must stop and extinguish the fusee, and then proceed with caution prepared to stop short of train or obstruction."

The old rule simply indicated that a fusee burning red must not be passed until burned out and that a green fusee was a caution signal.

Under Hand, Flag and Lamp signals we find a new signal, as follows:

"(b) Held horizontally at arm's length, when train is moving. Indication—Reduce speed."

This method of slowing up a train has been in use among trainmen for years and it is well to have it incorporated in the rules and recognized as a necessary and a proper signal.

The indication of signal 14(k) has been amplified by the explanation that if not answered by a train, the train displaying signals must stop and ascertain the cause. Many roads already

have such a provision, but the standard rule did not formerly contain such instruction.

Two new whistle signals have been added. Rule 14 (n), two long and one short sound of the steam whistle is to be given when approaching meeting points. This is provided for in Rule 90. Rule 14(o) one short and one long sound of the steam whistle is a signal to inspect train line for a leak.

Rule 15 has been changed to give a different indication than that given in the old rule. It reads as follows:

"Rule 15. The explosion of two torpedoes is a signal to reduce speed and look out for a train ahead or obstruction. The explosion of one torpedo will indicate the same as two, but the use of two is required."

The old rule used the explosion of one torpedo as a stop indication, but the new rule does away with that indication and makes the torpedo indication simply a caution signal. In our opinion this is a wise provision, as that is the exact office of a torpedo in any case as it was not depended upon to hold a train.

Rule 14 now shows 15 steam whistle signals for different purposes as against 13 in the old rule. The two new signal indications are good and will be found serviceable. As a matter of fact there was a list of 22 signal whistle indications given to the Committee with a strong letter urging their adoption. Some of the indications were good but most of them were such that they could be better taken care of in other ways. Besides so many indications would be confusing and possibly some more important indication would be misunderstood because of its similarity to other indications in such a large list. We agree with the Committee in declining to put so much steam whistle noise in Rule 14.

Rule 4, the time-table rule, was not changed at all, although a recent ruling of the Committee makes it important that some principle of date correspondencies should be adopted. The Committee has been given credit for being able to answer any practical question on train operation from this new set of rules, but after the Committee has made the ruling that the words "day of leaving" refers to the days of the week on which a schedule is good, I am of the opinion that any ruling the Committee could make with respect to the correspondencies of dates would not be based upon Rule 4 but upon the judgment of the Committee.

Questions and Answers

Locomotive Running and Repairs

Answers by F. P. Roesch.

2587. Rattling of Reverse Lever.—“What causes the reverse lever to rattle when the engine is hooked up, with a wide open throttle? It does not rattle with a light throttle or in full gear with the throttle wide open. The supply of valve oil is liberal.”—*H. D.*

Answer.—The trouble in this instance is undoubtedly due to a water seal forming in the oil pipe with the engine hooked up close and a wide open throttle, due to the fact that the pressure at the lubricator is less than the pressure at the steam chest; consequently the flow of steam from the lubricator, through the equalizing tubes and through the oil pipe, is arrested on account of being balanced by the over-pressure in the steam chests, and at the point where it is arrested the steam will condense into water, which water is held up in the oil pipe by the pressure of steam under it. As oil from the lubricator feeds by gravity, and as it is lighter than water, it will naturally float on top of the water until equalization in pressures has been restored by closing the throttle. You doubtless understand that with the reverse lever hooked up close and the throttle wide open, steam pressure will naturally build up in the steam chest to practically full boiler pressure; this owing to the fact that the steam ports leading to the cylinders are not fully opened with each revolution, consequently the cylinders do not take the steam out of the steam chests as fast as it is being supplied through the dry pipe. When only a light throttle is being worked, the cylinders will take the steam practically as fast as it is being supplied to the steam chests, and, consequently, the steam-chest pressure does not have a chance to build up, thus leaving the steam pressure in the oil pipes, which comes from the lubricator, greater than the steam chest pressure, thereby continuing a constant circulation of steam through the oil pipes, which carries the oil with it and keeps the valves lubricated. When the reverse lever is in full gear and the throttle wide open, the steam ports are open long enough so that steam-chest pressure does not have a chance to build up; in other words, practically the same conditions prevail, so far as pressure is concerned, between the oil pipes and the steam chest as when working a light throttle with the reverse

lever hooked up. In a case of this kind, when the engine is being worked in a short cut-off with a full throttle and the reverse lever begins to jerk, it is only necessary to momentarily close the throttle or simply to ease off on the throttle for a short distance, so as to restore an equalization of pressures between the steam chest and oil pipe, and allow the oil, together with the water seal, to be forced into the steam chest, thereby lubricating the valves, after which the throttle can again be opened wide if desired. If, however, an engine will not run with a wide open throttle in a short cut-off without the reverse lever jerking, it is evident that either the steam pipe connecting to the top of the lubricator is too small, or else the steam valve to the lubricator is not fully opened.

2588. Pound of Boiler Check.—“What causes the boiler check to pound on its seat almost continuously, as though there was a boilermaker inside trying to drive the case out with a heavy hammer? Injector is in the cab, and the pipe, after leaving the injector, has a short, hard curve down to running board about four feet, then another hard curve leading to check, where it has an easy curve up to the check.”—*H. D.*

Answer.—The hammering in this instance is not due, in our opinion, to a hammering of the boiler check itself, but to what might be termed a “water hammer” in the injector feed pipe, caused by the excessive friction set up on account of the short curves in the branch pipe; these short curves restrict the flow of water to a certain extent and would be apt to cause the hammering referred to. Of course, it might be possible that the short curves restrict the flow of water sufficiently to break the full volume passing from the injector into the boiler. This would have the effect of causing the check to seat momentarily every time the solid stream of water was broken, and to again lift when the branch pipe became filled. This theory is not very plausible, however, as it is doubtful if an injector would work satisfactorily under such conditions without throwing out water or steam or both from the overflow during the intervals when the stream of water is broken. We are therefore inclined to believe that the first theory, namely, the short bends in the pipe, is the correct explanation of this hammering.

2589. Benefit of Left Lead Engine.—“What benefit is derived in a left lead engine over a right lead? We have two Porter narrow gauge engines that are left lead and two Baldwin engines that are right lead.”—*W. F. K.*

Answer.—There is no particular benefit derived from having an engine left lead instead of right lead in so far as power and working of the engine is concerned. There might be some benefit, however, derived in the up-keep of the engine, due to the fact that a left lead engine will pound first and pound hardest on the right side, while a right lead engine will begin pounding first on the left side; and, naturally, if the pound is on the engineer's side he will, of course, look after it sooner than if it was on the fireman's side, as the pound would be more annoying to the engineer under such circumstances, and probably the engineer would key up the main rods or look after the wedges when they began to need attention if the pound was on the right side instead of waiting until the pound becomes so pronounced that it will jar the fireman off the seat box and cause him to call the engineer's attention to it. This is not intended as a slam at the engineer, but it is human nature to look after things that annoy us, quicker than we would look after things that annoy some one else; and it is also a fact that with a left lead engine the engineer would naturally notice the pound sooner, because it is on his side, than he would if it were on the opposite side, as is the case with the right lead engine. For this reason, it might be advisable for railroad companies to specify left lead engines in preference to right lead.



The Westinghouse Air Brake.

Answers by F. B. Farmer.

1208. Quick Action From Sluggish Feed Valve and Overcharge.—“I have asked several air experts the following question, but none could answer it, never having heard of it before. No. 6 ET brakes have crept on, caused by a sluggish-working feed valve. They are released with the independent brake valve, but soon creep on again. This time you place the handle of the automatic brake valve in full release position to kick off these brakes, and instead of being kicked off they go into emergency. When we place the handle of the automatic brake valve in full release we put air in front of equalizing piston, which should hold equalizing piston in release position. In the case I have just described what caused the defect?”

“In the writer's opinion there are three defects that will cause the brakes to

creep on: one, especially on new equipment, being the train pipe leaks, coupled with feed valve supply valve being stiff and not sensitive enough to supply train pipe leaks. Then, the brake pipe air in chamber *p* of the distributing valve being reduced, the equalizing piston moves to the right and port *z* in the equalizing valve *31* registers with port *k*, causing automatic service application of the distributing valve. By placing the handle of the independent brake valve in full release we release the brakes, but shortly after the independent brake valve has been in running position the brakes creep on again. Now, we will put the handle of the automatic brake valve in full release position, to charge the train pipe and thereby raise the pressure in chamber *p* (not to release brakes), then return handle to running position, and the brakes are released. By so doing we put the distributing valve in release position (Automatic. Refer to ET Instruction Pamphlet). If, after brakes have again applied, crept on, taking it for granted it was due to causes just described, that the handle of the automatic brake valve was placed in full release, and that brakes go into emergency, what would cause this?”—*W. F. K.*

Answer.—We must assume, in the absence of advice, that if it was a light engine the distributing valve had a quick-action cap; otherwise that car brakes were coupled. The early part of the question states that quick action occurred on the first use of release position of the automatic brake valve, but the latter part infers it may have been on a second use of this release position. However it may be, quick action cannot occur without the brake pipe pressure being reduced below that in the auxiliary reservoir, or its equivalent, the pressure chamber of the distributing valve. Release position of the automatic brake valve, which increases brake pipe pressure, cannot do this. Hence, quick action either occurred at the instant of going to release, a mere coincidence, or a short time after returning from release to running position.

The only explanation is that the brake pipe was not supplied for a time. If the feed valve did allow the brake pipe pressure to vary considerably this and just ordinary brake pipe leakage could explain in case the equalizing portion of the distributing valve had undue resistance to its application movement or if the same was true of the main parts of a connected triple valve. If release position were used long enough to slightly overcharge the distributing valve pressure chamber or the auxiliary reservoirs of head car brakes the brake pipe pressure would have to fall farther before the feed valve would open and supply it.

There is less liability of undesired quick action from a defective distributing or triple valve with an ordinary service reduction than with the slower fall from unsupplied brake pipe leakage.

While not connected with the subject, it should be noted that to use the independent brake valve to release the engine brakes when they "creep on" is wrong. It leaves the distributing valve equalizing parts on lap, being the same as leaving the handle of the automatic brake valve in holding position, and the brakes will creep on again if there is any leakage into the application cylinder of the distributing valve. Instead the engine brakes should be "kicked off," moving the handle of the automatic brake valve to release for a second, then back to running position. But back of all of this trouble is the too general failure to make this "kick-off" within seven to ten seconds of the first use of release position to release the brakes after an intended application. With this done regularly there will be practically no cases of brakes creeping on if the feed valve is kept in good operating condition.

1209. Compressor "Jiggles."—"Will you kindly explain, through the medium of The Locomotive Firemen and Enginemen's Magazine, the peculiar action of a Westinghouse 94-inch air pump? With the steam supply throttled so as to make the pump work very slow it will, while making and just before completing the up-stroke, stop and "jiggle" when the oil cup on the air end is opened. Now, when the oil cup is closed the pistons will complete the up-stroke, reverse and go to work again. I would like to ask what makes the pump jiggle, not short-stroke, as I understand it. Also, explain why closing the oil cup will remedy this, cause the piston to complete its stroke and reverse. I understand the working of the pump fairly well."—B. W.

Answer.—With the steam supply closely throttled, by either the steam valve or the governor, and with the air cylinder oil cup open it requires very little pressure under the steam piston to cause the up-stroke as there is nothing to overcome but the weight of the parts and friction. It follows that the pressure holding the reversing valve to its seat is then no greater than that which is lifting the pistons. When the reversing valve is lifted at the completion of the up-stroke and the main valve has thereby been shifted to cause the down-stroke the mere weight of the pistons and the steam action starts them down quickly. This, with the close throttling, so weakens the steam pressure above the steam piston and back of the reversing

valve as to allow the weight of the latter and of its reversing rod to pull the reversing valve to its lower position and thus reverse the main steam valve. Under such conditions the rapid reversal at the upper end of the stroke would continue.

Closing the oil cup would start compression on the up-stroke. This would require a higher steam pressure to complete the stroke and would thereby insure enough at the beginning of the down-stroke to hold the reversing valve to its seat until the increase in pressure under the air piston and consequent higher pressure above the steam piston and against the reversing valve insured the latter against movement until pulled down by the reversing rod at the completion of the down-stroke.

Very close throttling of steam and heavy lubrication of the steam end have caused "jiggling" with the oil cup closed. Similar throttling and moderate steam end lubrication have also caused it with a fairly well-worn compressor, yet the trouble was stopped by merely enough more throttle to allow the governor to control the compressor.

1210. Feed Valve Piston Spring.—"I am a subscriber to the B. of L. F. and E. Magazine and would like to learn, through its columns, whether the use of a spring identical with the graduating spring in a P-1 triple valve is or ever was recommended for a piston spring in any style of slide valve feed valve?"—J. C. A.

Answer.—No. With the B-3 and the B-4 feed valves, respectively single and duplex and having the short, plain supply valve, the piston spring is the same as the graduating spring in Westinghouse freight triple valves. With the C-6, and B-6 feed valves, respectively single and duplex and having a supply valve with a port through it, the piston spring is stronger and is the same as is used in the brake pipe vent valve, a locomotive device which aids the brake valve in starting desired quick action on the cars when emergency position is used.

1211. Main Reservoir Connecting Pipe Broken.—"The accompanying rough diagram shows the air pump on the left side of the engine and discharging into the rear of the main reservoir on the same side and forward of the pump; a connecting pipe leading out of the front end of the same reservoir, across the engine and into the front end of the main reservoir on the right side of the engine; and the brake valve connected to the rear of this reservoir. Assuming that the engine is equipped with No. 6 ET 94-inch pump and SF type of governor, if the connect-

ing pipe between the main reservoirs were broken so that it would have to be plugged is there any way of getting air to the brake valve so as to retain control of the train and have sufficient main reservoir and brake pipe pressures to bring the train in?"—*T. G.*

Answer.—Speaking practically and from the information given there is not. This is not to say that it is impossible to figure out a devious plan that might appear to solve the problem differently, but the writer thinks of nothing practical.

However, such breakages do occur and are almost invariably inexcusable on the part of some responsible party. Reservoirs and piping can be so applied (including clamping) as to entirely avoid such breakage if given ordinary inspection and indicated repairs. It is being done. How to accomplish it is the thing that is really worth while.

About two years ago the writer learned from the conductor of a passenger train he was riding on that on the previous, opposite trip, such a pipe failure as described had necessitated using hand brakes to the terminal—contrary to the law. Before we reached the terminal the pipe broke in the same place, where it entered the front end of the left reservoir. The broken piece was a nipple with a few threads left. Plans had been made to go in with hand brakes, but by turning the nipple it could be entered into the union (it would not start into the reservoir) and we then quickly connected up and went in with air brakes.

But the real trouble was a stiff connecting pipe, unclamped, between two reservoirs that could vibrate when the engine was running. Extra strong pipe nipples, provision for a little flexibility in the pipe and proper clamping has stopped the breakage that was all too common on this one lot of engines.



Train Rules and Train Practice.

Answers by G. E. Collingwood.

929. Two Questions.—"A is terminal (line running west from A). East bound trains are superior to west bound trains of the same class.

"(1) Order No. 35, 'Engine 202 run extra A to M and meet extras 30, 203 and 205 east at B.'

"Order No. 36, 'Extra 202 west hold main line and meet extras 203 and 205 east at C instead of B and meet extra 30 east at D instead of B.' At D the siding is on a curve and both extras headed in. Trainmaster held extra 30 east to be in error. Should not order No. 36 have been sent thus: Order No. 36, 'Extras 203 and 205 east will take

siding and meet extra 202 west at C instead of B and extra 30 east meet extra 202 west at D? Or, 'Extra 202 west will meet extras 203 and 205 east at C instead of B and meet extra 30 east at D instead of B. Extra 202 west hold main line at C?'

"(2) On the same road a crew was tied up at M on account of law. When called they received this order: Order No. 5, 'Engine 29 run extra M to O and return to A.' I cannot see how this is used or wherein it is in any way proper."—*L. L. C., Member 218.*

Answer.—Order No. 36 is so worded that extra 202 west has right to hold main track at both C and D, because no particular point is designated.

It will be noticed that the words, "hold main line," are coupled with the words, "extra 202 west," and it follows that whatever movement is made by extra 202 under the order is governed by the words, "hold main line."

Order No. 36 is improper in that the regular form, as outlined by the Standard Code of Rules, is not followed. That is to say, the order should have read, "Extra 202 west meet extras 203 and 205 east at C instead of B and extra 30 east at D instead of B. Extra 202 hold main track at C and D."

(2) The order is proper. Standard rules permit a train to be run extra from one point to another and return to some certain station. This is known as the second example of Form G. Under this example the train must go to the second point named in the order before it can return to the last station named.

930. **Annulling a Schedule.**—"Can a train be annulled over part of a division and brought to life again for the balance of the division?"

"Order No. 13, 'Train 71 of December 12th has arrived at D and is annulled D to H. Jones will run train 89 D to H and No. 71 H to Z.' Order No. 19, 'Run extra D to H and run No. 89 H to Z.' No. 71 and No. 89 are trains of the same class and left A on same date. An extra train in the opposite direction had orders to D against No. 71 but nothing against No. 89, and got tied up between D and H for No. 89 and the dispatcher took this manner of getting trains moving."—*A Member.*

Answer.—It is entirely proper for the dispatcher to annul a schedule between two stations and then restore it beyond those points. The Standard Code provides for such a movement and it was the only method by which the dispatcher could get the trains started.

A train dispatcher who is able to handle extra trains safely can be trusted to handle a case of this kind so that no trouble can arise, and, of course, if a

train dispatcher is not able to handle extra trains safely, he is not competent. The only restriction in regard to restoring a schedule is that it must not be restored over any one portion of the road after it has been annulled over that particular portion of the road.

931. The Meaning of the Word "Annulled."—"Please advise what the last word in the second clause of Rule 220 refers to. The word 'annulled.' Does it refer to the annulment of an order or the annulment of a train?"

"A first class train running from A to R; if an extra leaves R with a meet at H with this first class train and when the extra arrives at H it receives the annulment of the first class train from A to H, may it leave H?"—*Anxious.*

Answer.—The word "annulled," which is the word mentioned by our correspondent, refers to the annulling of a schedule. In the case of which he speaks, when the extra train receives the annulment of the first class train its orders to meet the first class train at H become void, as does also the schedule of the first class train.

The clause referred to reads as follows: "Orders held by or issued for or any part of an order relating to a regular train become void when such train loses both right and schedule as prescribed by Rules 4 and 82; or is annulled." Rule 4 is the rule which governs the taking effect of a time-table and Rule 82 provides that regular trains twelve hours behind their schedule time lose both schedule and train orders.

932. Yard Engine as Work Extra.—"Please answer the following: 'Work extra 6423 will work 1 p. m. to 5 p. m. between A Junction and one mile north of B; all second class and extra trains will protect against work extra 6423.'

"B is a storage track one-half mile beyond yard limit board. Yard engine will work between A Junction and yard limit board in yard for two or three hours before making the trip. When should flags be put out or taken down?"—*F. M. L.*

Answer.—It is assumed that engine 6423 is a yard engine and that it leaves the yard to do work at outside industries. Engine 6423 should display white signals and markers whenever it is working within the limits named between the times mentioned. If the engine works in the yard part of this time and outside of the working limits it should take down its signals, as it is not working under the work orders. In other words, engine 6423 has not been directed to work extra except between A Junction and one mile north of B, and when it leaves these limits it is not a work ex-

tra but a yard engine. The engine does not require orders to work within yard limits.

933. Some Recent Examination Questions.—" (1) No. 2 is an east bound and No. 1 is a west bound train. East bound trains are superior by direction. The following orders are issued: 'No. 2 meet No. 1 at C.' On arrival at C 1st No. 1 is there with signals and No. 2 receives another order reading: 'No. 2 meet 2nd No. 1 at E.' Should the words 'instead of C' have been used in the second order, or is the order correct?"

"(2) Does any schedule have life when the time for its departure on the new time-table, from its initial station, is prior to the time the new time-table takes effect?"

"(3) No. 539 going west receives an order giving it right over 1st No. 534 D to B and right over 2nd No. 534 B to A. No. 539 takes siding at C to meet No. 4, a superior train, and flagman gets off No. 4 and tells No. 539 that 1st No. 534 is coming to C for No. 539 under flag. No. 539 remains clear for 1st No. 534 and when it goes it whistles signals. Has 539 a right to leave C against 2nd No. 534?"

"(4) No. 1 due out of its initial station at 7:10 a. m. on old time-table; new time-table takes effect at 6:59 a. m. showing No. 1 due out of its initial station at 6:30 a. m. (March 20th). When can No. 1 run?"

"(5) No. 3 due out of its initial station at 11 p. m. March 20th; new time-table takes effect 12:01 a. m. March 21st, showing No. 3 due out at same time and all points correspond as required by rule. Can No. 3 assume the new time-table at 12:01 a. m.?"

"(6) No. 1 is due to leave its initial station at 6:30 a. m. on a new time-table, but the new time-table does not take effect until 6:45 a. m. The old time-table shows No. 1 due out of its initial station at 6:45 a. m. Can No. 1 run on the date the new time-table takes effect?"

"(7) Can any schedule take effect from its initial station when it is due to leave its initial station before the new time-table takes effect?"

"(8) Division extends from A to D. No. 536, a second class train, runs from A to D. No. 536 receives, at B, an order stating that No. 536 is annulled from B to C. Will 536 require orders to resume schedule at C or may it continue as 536 from C to D?"

"(9) 'Engine 1 run extra A to B and meet No. 2 at B.' When extra 1 gets to B it receives another order to run extra from B to C. No. 2 has not left C. Has extra 1 a right to leave B without further orders against No. 2?"

"(10) No. 340 is a first class east bound train of superior direction. No. 437 is a west bound train of same class. Order No. 9. 'No. 340 will meet No. 437 at B, No. 340 take siding.' Order No.

14, 'No. 340 will meet No. 437 at C instead of B.' How will they meet?

"(11) No. 34 runs from A to Z and is a train of superior direction. Operator at A receives the following order: 'No. 34 will meet No. 3 at B.' The operator repeats the order and gets 'OK' but before he gets 'complete' the wire fails. Has No. 34 a right to go when No. 3 becomes 12 hours late? In case No. 34 received a run late order under the same conditions at A could it proceed when the time named in the order expired? In either of the above circumstances, if No. 3 was wrecked west of C, could the dispatcher have the right to run the wrecker against No. 34 without further orders?"

Answer.—(1) Rule 218 states that when a train is named in a train order by its schedule number alone all sections of that schedule are included and each must have copies of the order. It follows that the second order did not supersede the first order which fixed a meet with all sections of No. 1 at C. This is for the reason that the second order did not contain the words "instead of C." Therefore, should No. 2 receive the two orders mentioned it should not leave C because the first order, not having been superseded, is still in effect and requires that No. 2 meet all sections of No. 1 at C. Rule 220 provides that orders once in effect continue so until fulfilled, superseded or annulled. In the case mentioned No. 2 would hold two orders to meet 2nd No. 1, the first one to meet No. 1 (which includes the second section) at C and the second order to meet 2nd No. 1 at E. In such a case No. 2 should refuse to move.

(2) Yes, providing that the old time-table authorized the schedule before the new time-table took effect, and also providing that the schedules correspond as required by Rule 4, and that there was a train authorized by the old time-table prior to the new time-table taking effect.

(3) No, the right of track order against 2nd No. 534 applies only between B and A and cannot be used for a movement from C to B. So far as 2nd No. 534 is concerned, it may pass over the territory in which No. 539 holds right, providing it has a time order or other order or schedule authority which will permit it to move against a superior train. A right of track order is not absolute; it simply reverses the rights of the trains concerned. 2nd No. 534, in this case, was simply superior to No. 539 between B and A while No. 539 remained superior to 2nd No. 534 between B and C.

(4) No. 1 of the old time-table, not being due to leave its initial station at

the time the new time-table took effect, would not be a train authorized by the old time-table and, therefore, must depend on the first sentence in Rule 4, which states that each time-table from the moment it takes effect, supersedes the preceding time-table, and its schedules take effect at the leaving time at their initial stations. This can only mean the leaving time after the new time-table takes effect, and it follows that No. 1 cannot leave its initial station until 6:30 a. m. March 21st. No. 1 of March 20th cannot run.

(5) No. 3 can assume the new time-table at 12:01 a. m. In case No. 3 is not ready to leave its initial station until, say, 1 or 2 a. m. March 21st, it can still leave its initial station on the new time-table. That is to say, that it is not necessary that No. 3 actually leave its initial station on the old time-table; all the rule requires is that the old time-table "authorize" the train, which is quite different from actually starting the train.

(6) No. 1 cannot run on the date the new time-table takes effect, for the reason that the old time-table is superseded before it can authorize No. 1. No. 1 must, therefore, depend for its existence on the first sentence of Rule 4, the same as in case (4).

(7) Yes. In case it is authorized by the old time-table and corresponds as required by Rule 4, the same as explained in (5).

(8) When No. 536 left A it held right to that schedule from A to its terminal station, D. That is, it was authorized by rule or custom to fulfill that schedule from A to D, just as certainly as though it had been given a train order to do so and, such authority having only been taken away from that train between B and C, it was permitted to proceed from C as 536, unless that authority was also taken away from it in the regular manner by train order. In such a case if it is the dispatcher's intention to deprive a train of a certain schedule, from any station to its terminal station, then the order must so state; but the fact that the train has been deprived of its schedule from B to C does not destroy its authority to use that schedule from C to D. To illustrate further, suppose that the train representing schedule No. 536 received an order at A to run as No. 536 A to D, it can be readily understood that such an order would not be fulfilled until the train arrived at D. Likewise, when trains are permitted to assume schedules at initial stations, their authority to use

such schedule is as absolute as if such authority was given by train order.

(9) No. extra 1 cannot leave B until No. 2 arrives at B unless it has time to make the next station and clear No. 2's time, because No. 2 being a schedule train is superior to an extra. If extra 1 has time to make some other station for No. 2 it may do so, as the order sent to extra 1 with initial station at A and terminal at B cannot govern extra 1 between B and C.

(10) Orders once in effect continue so during the life of the train to which they are issued unless they are fulfilled, superseded or annulled. The first order contained two provisions and the second order superseded only one of those provisions; therefore the order must be considered as being in effect, and No. 340 must take siding at the meeting point with No. 437, that being the intention of the provision.

(11) No. No. 34 cannot go when No. 3 becomes twelve hours late; neither can No. 34 proceed in the second instance, when the time stated in the order is up, for to do either is to act upon the order, which action Rule 214 specially forbids.

The Standard Code provides two forms of train orders (the "19" and the "31" order) leaving it discretionary with each road to use one or both as it may see fit. It is probable that your road uses the "31" order, otherwise, "complete" would have been given when the order was repeated. Roads which operate under the "31" order, do so, knowing full well that trains are liable to be tied up in case of wire failure. Roads which wish to avoid tie-ups on account of wire failure may do so by using the "19" order, under such regulations as will assure its delivery just as certainly as the delivery of the "31" order is assured.

It is improper to run trains against a hold order, or against a train which is delayed by wreck, under standard rules, as all concerned must have copies of the order.

934. Both Orders in Effect.—"No. 671 is a west bound train and received the following train orders: Order No. 5, 'No. 671 will wait at C until 4:38 a. m. for extra 754 east.' Order No. 9, 'No. 671 will take siding and meet extra 754 at D.'

"No. 671 arrived at C at 4:10 a. m. Should No. 671 remain at C until 4:38 a. m. and fulfill the wait order, or can it proceed regardless of the time at C?"—*H. J. M.*

Answer.—The answer to this question is to be found in the first paragraph of Rule 220 which reads: "Orders once in

effect continue so until fulfilled, superseded or annulled." Therefore, if the time named in the wait order had not expired when No. 671 arrived at C, it would have to wait at C and fulfill the order. That is, it would have to wait at C until 4:38 a. m., after which it could proceed to D to meet extra 754.

In such a case the dispatcher should have annulled order No. 5 to avoid a delay to No. 671, but as he failed to do so the crew of No. 671 had no choice but to wait at C and fulfill the order, Rule 220 being very plain upon this point.

It is probably true that No. 671 could have disregarded the wait order with perfect safety in this particular case. However, it is found best in the long run to adhere strictly to the rules, as such practice is always safe and sound and makes for good habits of railroading.

One train order does not supersede another train order unless it contains the words "instead of," and then it only supersedes that portion of the order to which the words refer. There are cases in which it is desirable to use the wait order in connection with the meet order. For example, supposing that extra 754 had work which had to be done on the main track at D, in such a case the wait order would give the extra authority to use the main track at D until the time stated, when without the order the extra would be required to remain idle until No. 671 arrived at D.

935. Recent Rulings of the American Railway Association.—Inquiries from members of the American Railway Association respecting practice under standard rules have been submitted to the Committee and replies made as follows:

"(1). *Question.*—Kindly advise me, if in the event a train is due in a terminal within thirty minutes of the departure of another train out of such terminal in opposite direction, whether or not the rules require such time of departure and arrival to be shown in bold type. If rule is not thirty minutes, kindly advise the limit, if any specific rule on this subject."

Answer.—Paragraph 3, Rule 5, Standard Code of Train Rules, reads as follows:

"Schedule meeting or passing stations are indicated by figures in full-faced type."

The Committee has always held, in cases similar to the one mentioned, that the time should be identical, in order to require its being shown in full-faced type.

"(2). *Question.*—Under Form E, Example (4)—

'No. 1 wait at 'N' until 10:00 a. m.
'P' until 10:30 a. m.
'R' until 10:55 a. m., etc.'"

Must an entire train dispatching district be covered by the order? If not, can an opposing train receiving the order at "U" use until 10:50 a. m. to make "T" or "S"?

Answer.—It is not the intention that an order in this form should necessarily cover the entire district, but only such portion of it as may be desirable.

The order gives opposing trains receiving a copy the right to run to any intermediate station between the point where the order is so received and the point or points named in the order, where the time is earlier, as before required to run with respect to the schedule time of the train. If the schedule time of train No. 1 at T or S were earlier than 10:55 a. m. an opposing train receiving the order at U could use this time to go to T or S the same as though the regular schedule time at T or S was 10:55 a. m., and the opposing train would clear this time at T or S the same as it would clear the regular schedule time of No. 1, and, of course, should be clear at T or S as many minutes before 10:55 a. m. as required by the rules.

"(3). *Question.*—Are full-faced passing points positive, and must the train to be passed wait indefinitely for the following train? If so, what form of order should be used to move it ahead of following train?"

Answer.—When the trains are of the same class, the train to be passed may proceed on its own schedule. When the train to be passed is of an inferior class it can be moved only by train order (see Rules D-85 and D-86, Standard Code of Train Rules), unless the road is operated under Standard Train Rules Governing the Movement of Trains Against the Current of Traffic (see Rule D-261, Standard Code of Train Rules). If train is to be moved by train order Form B should be used.

"(4). *Question.*—Referring to Rule 218, under the following order is No. 10 designated by its schedule number alone: 'No. 10 Engine 75 meet No. 9 at B'?

"No. 9 being superior by the direction, should it find No. 10 at B displaying green signals, would No. 9 be right in proceeding, or should it consider the engine number only for identification purposes and remain at B until it meets all sections?"

Answer.—When a train is named in an order all sections are included. Therefore, in the absence of further train or-

der, No. 9 should wait at B for all sections of No. 10 (see Rule 218, Standard Code of Train Rules.)

"(5). *Question.*—Eastward trains move A to Z. If a work extra on the eastward track between B and C receives an order that all eastward extras will wait at B until a specified time, may the work extra move against the current of traffic until that time, keeping clear of regular trains?"

Answer.—This order gives the extra ample authority to move against the current of traffic within the limits of time named, properly clearing the time of regular trains. (See answer of Committee, as published in Proceedings of Fall Meeting of the Association, 1910.)

"(6). *Question.*—No. 1 of preceding time-table, 'Daily'.

No. 1 of new time-table, 'Daily, except Sunday.'

New time-table takes effect 12:00 noon, Wednesday.

"May No. 1 of Wednesday of preceding time-table assume Wednesday's schedule on the new time-table provided they are alike in all other requirements?"

Answer.—No. 1 of Wednesday on preceding time-table can assume the new schedule of the new time-table.

"(7). *Question.*—What is the meaning of the words, 'day of leaving,' in the Standard Rule No. 4?"

Answer.—The words "day of leaving" refer to the heading of the column where, under the number of the train usually appears the wording "daily" or "daily, except Sunday," etc. Unless a schedule on the preceding time-table corresponds, so far as this heading is concerned, with a schedule on the new time-table it cannot retain its train orders and assume the schedule of the corresponding number on the new time-table.

In answering question (4) the Committee has made use of language which does not express what the Committee had in mind. That is, the first sentence of the reply states that when a train is named in an order all sections are included. Under such a ruling if first No. 1 is named in an order all sections would be included. This, of course, is not intended. We are expected to give to the first sentence of the reply the same meaning as though it read, "When a train is named in train order by its schedule number alone all sections are included."



DISCUSSION OF CURRENT TOPICS

DECISIONS UNDER THE HOURS OF SERVICE ACT

An Employee Must Not Be Required or Permitted to Remain on Duty After Sixteen Hours Except as Provided in Hours of Service Act

Member of Engine Crew in "Pusher Service" Subject to Call Considered on Duty During Release Periods

In the case of the United States of America, plaintiff, vs. Atchison, Topeka and Santa Fe Railway Company, defendant, in the District Court of the United States in and for the Southern District of California, Southern Division, decided November 24, 1915, it was held:

1. The hours-of-service act not only imposes upon the carrier a negative obligation, forbidding it from requiring or permitting an employee to remain on duty, but also imposes an affirmative duty to relieve such employee, after 16 hours of service, unless prevented from so doing by one of the excuses specified by the proviso of section 3 thereof.

2. It is incumbent upon the carrier to show by proof that excess service of its train employees could not have been prevented by the exercise of that high degree of care consistent with the purpose of the act in the matter of its equipment and the practical operation of its road.

3. A train may be operated to a point, having due regard to all the circumstances and surrounding facts, where the train crew can be relieved or allowed to take the rest required by the statute, but may not be required or permitted to continue to the end of its run, although but for some delay due

to one of the excuses specified in the proviso, it would have been able to complete its run within the 16-hour period.

The decision, which was prepared by District Judge Bean, is in part as follows:

The motion for a directed verdict in this case raises the question as to whether the defendant company has accounted by its testimony for the excess service. It is admitted that the crews on these several trains were actually on duty in excess of the time limited by the statute. The burden is therefore upon the defendant to show that that excess service was justified by the exception contained in this act. This act provides that it shall be unlawful for any common carrier, its officer or agent, subject to this act to require or permit an employee subject to the act to be or remain on duty for a longer period than 16 consecutive hours, and whenever any such employee of such common carrier shall have been continuously on duty for 16 hours, he shall be relieved and not required or permitted to again go on duty until he has had at least 10 consecutive hours off duty: *Provided, however*, that this requirement shall not apply in case of casualty or unavoidable accident or the act of God, nor where the delay was the result of a cause not known to the carrier or its officer or agent in charge of the employees at the time the employees left the terminal and which could not have been foreseen.

The purpose of this statute, as the title plainly imports, is to promote the safety of employees and travelers upon railroads by limiting the hours of service of employees, on the theory, I assume, that experience has shown that by excessive periods of duty the employees become fatigued and careless, or more or less careless, thus causing accidents leading to injuries and destruction of life and property. The statute therefore should receive a construction to carry out the purpose intended by Congress.

Now, therefore, it appears that the train crew has been on duty more than 16 hours consecutively. It is incumbent on the carrier to show by proof that the excess time could not have been prevented by it by the exercise of that high degree of care in the matter of its equipment, the operation of its road, consistent with the purposes to be accomplished by this act and the practical operation of the road. And, as I understand the statute and construe the decision of the Court of Appeals of the Ninth Circuit, and especially in what is referred to as the *Salt Lake Case* (220 Federal, 737), the carrier is required to relieve the crew at the expiration of 16 hours or as soon thereafter as it can do so by the exercise of the degree of care to which I have alluded. I suppose that it could continue the service so far as might be necessary to permit the train to be operated to a point, having due regard to all the circumstances and surrounding facts, where the train crew could be relieved or allowed to take the rest required by the statute; but I do not understand that it may permit or require an employee to continue to the end of his run, although but for some delay due to a matter referred to in the proviso or covered by the proviso in the statute, he would have been able to complete the run within the time specified.

Now, I know this statute is susceptible of different constructions, and that in some instances it has been held that where the delay is due to one of the causes specified in the exception that it in effect suspends the operation of the statute as to that particular run and that the carrier may permit the employee to continue to the end of his run. But I do not concur in that view of the statute, and I feel constrained to follow what I understand to be the decision of the Court of Appeals of this circuit and to hold that the defendant in this case has not shown a legal excuse for the admitted excess service.

Under these views, the motion for the directed verdict will be allowed.

In the case of the United States of America vs. Pennsylvania Railroad Company, in the District Court of the United States for the Western District of Pennsylvania, decided December 24, 1915, it was held:

A member of an engine crew in "pusher service," whose periods of work are comparatively short and therefore quite often repeated and who has during the day periods during which he is relieved from the performance of

work and from supervision over engines, cars, or other instrumentalities, but is not relieved from the duty of attendance subject to call, is on duty during the time covered by such release periods, within the meaning of the hours-of-service act (34 Stat. L., 1415), because he is under duty of remaining within call when needed for further service.

The case was submitted upon a stipulation of facts, and attached to and made a part thereof was defendant's General Notice No. 491 (marked "Exhibit A"), which was in effect during all the times mentioned in the said stipulation of facts, all of defendant's employees mentioned therein being governed by such notice [General Notice No. 491], same being as follows:

EXHIBIT A.

RENOVO, June 18, 1914.

Pusher enginemen and firemen at St. Mary's and Kane will in future be called for their initial trip of each separate day's service 1 hour before required to report for duty, which means approximately 1 hour and 30 minutes before leaving starting terminal, and will, after the completion of their initial trip, remain at bunk room, relieved, but not released, subject to call for each succeeding trip until released after final trip of each separate day's service.

Pusher men desiring to go to meals after completion of initial trip must obtain permission from yardmaster at Kane, or engine-house foreman at St. Mary's, to do so. The amount of time that men may take for meals in such cases will be stipulated by person granting the permission.

JOS. H. GUMBES, Superintendent.

Posted at 8:50 p. m., June 18, 1914.

The opinion of the court was rendered by District Judge Orr, as follows:

This is a proceeding on the part of the United States to recover from the Pennsylvania Railroad Co. fines for violating the Hours-of-Service Act (34 Stat. L., 1415). There is no dispute about the facts of the case, and it is unnecessary to dwell upon them at any great length. There are 10 separate causes of action in each of which the defendant is charged with permitting an employee to remain on duty longer than the period fixed by the act. In each cause of action during the period of employment therein stated there appears to have been granted to the employee a period of relief from the performance of work. If the period of relief in each case had been from the performance of duty, as well as a period of relief from the performance of work, there might have been no violation of the act, because the excess service charged in each case did not equal the period of relief. The period of relief, however, was a period in which the employee was required by rule to be subject to call. In other words, during such period of relief the employee was not free to go where he pleased or do what he pleased, because he was under the duty of remaining within call when needed for further service. Such periods of relief varied, in the cases now under consideration, from 35 minutes to 2 hours and more. At certain places where periods of relief were granted the employees were required to remain in the rest-house or bunk-room, and at another place where there was no rest-house or bunk-room they were required to state where they could be found when needed. During these periods of rest none of the employees were required to have supervision over engines, cars, or other instrumentalities of travel. The system by which these periods of relief were granted and the men controlled during the same was apparently adopted by the company in good faith and without any attempt to evade the provisions of the statute. The services required of the men upon duty may be included in the term "pusher" services—that is, the assisting of other trains which by reason of the loads being hauled or the condition of the engines needed additional assistance in the shape of motive power. When such pusher services would be required could not reasonably be definitely anticipated. The trips required were comparatively short and therefore quite often repeated. The difficulties in properly arranging such services is no excuse for the violation of the law, and yet should be taken into consideration in fixing the penalties for such violation. The railroad company seems to have acted in good faith and without harsh-

longer than the excess service. However, such periods of relief, to be credited upon total service, should have been periods of freedom instead of periods of restraint.

In view of the foregoing, the court fixes the penalty in each of the 10 causes of action at \$25, and will enter judgment against the defendant for the gross sum of \$250.



THE POOR RAILROADS

Interesting Statement of Profits Made in Transportation and Other Industries

"Profit is the Root of All Evil"

By ARTHUR E. HOLDER, in *Machinists' Monthly Journal*

Under the heading "Profit is the Root of All Evil," Arthur E. Holder in the *Machinists' Journal* of April, 1916, presents some interesting facts regarding railroad profits in an article which in part is as follows:

Probably the greatest leader and most successful organizer of men this world has ever known was the good old Roman, St. Paul, who it will be remembered was converted to Christianity during a very severe thunderstorm on one of the sand plains of Asia Minor. Paul was a man of many parts. His trade being a tent-maker, he was naturally a first-class mechanic and a vigorous spokesman for the tentmakers' union before the capitalists of his day and generation. Paul was also noted as a first-class agitator, a philosopher, statesman, orator, pamphleteer, and a fighter of no small renown. . . .

In one of his letters to Timothy (*I. Timothy*, 6:10) he said, "Profit is the root of all evil." . . . Unfortunately, however, it is not printed in modern Bibles in the way that Paul wrote it. It was perverted by the early translators . . . who changed his memorable words to read, "The love of money is the root of all evil." . . .

PROFIT-TAKERS NEVER SATISFIED

However, not much benefit can be derived by quibbling over errors of translators or definitions of particular words. It is enough for us in this work-a-day world to learn that the profit-takers of the United States are our real masters, politically, economically and socially. They never seem to have enough. They are never satisfied. If the workers toiled for nothing and paid for their own board and lodging, the profit-takers would still be dissatisfied and shriek for more. They

have a bad faculty of crying the same sad song that their capital is being wasted; that their work people do not appreciate them. They sometimes go into hysterics and say: "If labor does not behave we will take our capital and run to the farthest ends of the earth." If any safety laws or labor measures of benefit to the people are enacted which call for the smallest item of expense from the profit-takers, they make "Rome howl" with their anguish. One would think, to read the editorial columns of their papers, that the United States was going to the demnition bow-wows every time some poor toilers or railroad men show a desire for another half of one one-hundredth per cent increase in wages. The profit-takers are always present in large bodies at State legislatures and at the Federal Congress looking after the interests of themselves and other kindred dollar chasers, and when it comes to the selection of a judge of a court they stand together with wonderful unanimity.

They surely do not propose to pay for anything that they can avoid and they do not propose to neglect to take everything in sight that is not securely nailed down.

For the benefit of the readers of the *JOURNAL*, I have clipped financial items from the daily newspapers for eighteen days, and have collated herewith a few gems of interest to show where the producer's money goes, and how the profits go to the "masters of the bread."

MAMMON'S UNHOLY PROFITS

January 25, 1916—Union Pacific Railroad net earnings for December were \$1,024,434, after taxes had been paid.

For first six months of the fiscal year the net increase was \$2,960,199.

The Atchison, Topeka and Santa Fe Railway increased its net income

\$3,886,138 the first six months of the fiscal year over the net income for the same period in 1914.

January 28, 1916—The First National Bank of New York City has a capital of \$10,000,000. Its net earnings during the year were \$7,164,000. After paying 50 per cent dividends (\$5,000,000) it placed \$2,164,000 in the surplus. This bank made over 71 per cent during the year on its stock and over 28 per cent on its combined capital and surplus.

The Liberty National Bank made 62.6 per cent on capital; the Chatham and Phoenix, 37.3 per cent; the Bank of New York, 28.4 per cent; the Chase, 23 per cent; the Hanover, 27.7 per cent; the Harriman, 28.6 per cent; the Second National, 32.3 per cent; the Importers and Traders, 27.5 per cent, and so on up-town and down-town profits came tumbling into New York banks.

Net earnings for the New Haven Railroad for October increased \$654,969 over a year ago.

Net earnings for Norfolk and Western for October over \$1,000,000, and 56 per cent increase in revenues is shown for January, which approximates \$4,700,000.

In October Reading put away a surplus of \$1,446,703 over October, 1914, after all charges of regular dividends, interest and taxes were paid.

The Lackawanna Railroad is a regular gold mine. Its regular returns average 37 per cent per year. In October its net earnings (after taxes and all expenses and dividends were paid) over last October were \$617,000.

The New York Central reports a balance of \$19,729,360 for ten months ending October 1, which equals 8 per cent on its watered stock.

January 28, 1916—Chesapeake and Ohio revealed a net increase of \$571,000 for the month of December. The net increase for the year was \$2,675,000.

Net increase for December of the Illinois Central was \$306,000. For six months, \$614,000.

For December, 1915, the Philadelphia and Reading Railway Company realized a net operating profit of \$978,698 over December, 1914. Profit for six months shows increase of \$3,340,060 over 1914, but the non-union machinists on the Reading get no increase.

Initial dividends declared by Briggs-Seabury Ordnance Corporation on its three classes of munitions stock: 1st and 2d classes, 2½ per cent and 3 per cent, respectively, for six months ending March 1, 1916, and common stock 2½ per cent from January 15 to March 1, or at rate of 20 per cent per year.

Sears, Roebuck and Company made 17.56 per cent net profit on business for 1915. After all deductions and allowances a surplus of \$10,141,428 is shown, with cash on hand, \$6,798,239—

ous year. Its net sales for 1915 were \$106,223,420.

January 29, 1916—Consolidated Gas Company of New York earnings for 1915 were 11½ and 12 per cent, as compared with 10.2 per cent in 1914 on stock amounting to \$14,000,000. A year or so ago the Supreme Court ruled that a "reasonable return for this company should be 6 per cent." Old Conso. is sure making good. How happy our New York brothers should be over the prosperity of their "Gas Lords."

Munitions to the amount of \$2,000,000,000 have been ordered from twenty-one leading American corporations.

Fourth quarter earnings of United States Steel Corporation reached \$51,232,782, about \$6,000,000 more than for second quarter in 1907. \$105,000,000 surplus cash in the banks. Plants working full time on new profitable orders. Only regular 5 per cent dividend paid by U. S. Steel Corporation on common stock, but Bethlehem declared a 30 per cent dividend.

Disbursements as dividends and interest for February will exceed \$130,000,000. Dividends on industrial stocks, \$33,762,833; on steam railways, \$27,857,321, and on street railways, \$4,114,000. "Outlook for investors very good."—Sure.

Chicago Milwaukee and St. Paul Railway Company increased net operating income \$1,378,000 for December, and a net increase in income of \$5,125,000 for first six months of fiscal year.

The net gain of Wabash System for December was \$610,000 and for six months, \$1,410,000. This left surplus of \$1,327,000 after all charges were paid. Time for machinists to get busy.

January 31, 1916—Southern Railway Company increased revenue in December, 1915, \$914,722 or 17.31 per cent over 1914. For six months revenue increased \$1,611,217 or 4.92 per cent, as compared with 1914.

Pennsylvania Railroad, during 1915, increased its operating income on lines east, \$12,769,880; on lines west, \$9,457,907. Net increase on lines east for December 1915, \$4,644,806 over December, 1914; on lines west, \$3,310,429 over 1914.

February 1, 1916—American Can Company increased net earnings \$726,000 and put away surplus of \$653,000. Earnings are equivalent to 7 per cent on preferred stock and 5.20 per cent on common shares as against 2.40 per cent in 1914.

Erie made 4 per cent on both classes on preferred stock and 4.7 per cent on common shares, 1915. Net increase in business for 1915 was \$6,778,000 or 11½ per cent over 1914. Net increase in 1914 was \$6,160,000 or 65 per cent. Who said the Erie could not "come

The net profits of Great Northern Railroad will exceed 12 per cent for year 1915. In 1914 it was 7.93 per cent. In 1907 it was 13.92 per cent.

February 3, 1916—Net profits of Republic Iron and Steel Company in 1915 were \$4,396,000 as compared with \$1,989,000 in 1914. Surplus increased from \$183,000 to \$2,328,000. No wonder the foreign laborers at Youngstown, O., wanted another penny an hour.

Net gains for the month on leading railway systems, like the Burlington, Norfolk and Western, L. & N., C. & N. W., ranged from \$558,000 to \$1,107,000. The Burlington had maximum gain.

Canadian Pacific Railway increased earnings for last ten days in January \$853,000, making a total gain for the month of \$2,472,000.

February 5, 1916—Thirteen companies organized by Chas. W. Morse have capitalizations of \$200,000 to \$500,000. His Frederick Steamship Company has paid 100 per cent dividends. Charley was the "Ice Man" whom Taft pardoned to save his life when confined at Atlanta. Bill now says "Charley is not a dead one." No, indeed, not by a sight.

February 7, 1916—Net operating revenues of Louisville and Nashville Railroad Company for seven months ended January 31 were \$3,331,243 more than a similar period previous. Increase for January, 1916, was \$910,278 more than January, 1915.

Pacific Mail Steamship shares, \$5 par value, sold up to 17½. Offer of \$12.50 a share for minority holdings extended to February 28. This is the company which said "the Seamen's Act would ruin it."

February 8, 1916—Great Northern net earnings for January were \$965,564 over a year ago. Net increase for seven months was \$6,043,000.

February 10, 1916—New York Central Railroad realized net increase for December, \$2,428,741. For the year 1915, \$19,507,387.

Lackawanna Steel Company increased its net earnings \$4,396,000. Company is reported to be earning 30 per cent on its stock. Foreign laborers in its employ get 13 cents an hour and work 12 hours per day.

Net business gain of Atlas Powder Company for year 1915 amounted to \$4,156,185. Net income for 1915 was \$1,671,762 as compared with \$474,150 in 1914. Put away surplus of \$1,447,344 after dividends of 35.80 per cent were paid.

Net earnings of Winchester Repeating Arms Company for last year, \$4,852,094, or 465 per cent on capitalization of \$1,000,000. Domestic orders, \$11,500,000; foreign orders, \$8,500,000. Its stock, par value \$100 per share, is now selling at \$2,500 per share. Company contemplates an increase of capital to \$30,000,000. "Oh, you water."

February 11, 1916—Net earnings of Hercules Powder Company increased nearly \$1,500,000 after deducting all expenses. Surplus put away amounted to \$4,517,794, or equal to a 64 per cent dividend on its capital stock.

Cambria Steel and Ordnance Company, with Midvale Steel, will earn about \$30,000,000 this year, it is predicted. It is expected that Cambria Steel alone will show profits of \$10,000,000.

February 12, 1916—Total receipts of Baldwin Locomotive Works for 1915 were \$22,083,011; war orders brought \$2,743,077; locomotives and ordinary products approximated \$19,339,934.

After payment of interest charges and dividends the company put away a surplus of \$1,427,816.

Net increase of receipts for 1915 over 1914 was \$8,467,011. . . .

Since the Supreme Court "busted" the Standard Oil Trust, in 1911, its subsidiary companies have paid \$450,000,000 in dividends. . . .

February 16, 1916—The General Motors Company reported for the six months ended January 31 gross sales of \$74,000,000, an increase of \$37,142,608 over the corresponding period of 1915. Undivided profits were \$13,000,000, an increase of \$6,553,468. After deducting \$524,482 for preferred dividends the balance of undivided profits for the period, \$12,475,518, was equal to 75.5 per cent on \$16,508,793 common stock, or at the annual rate of 151 per cent.

This concern reported in September, 1915, that it had paid 50 per cent cash dividend and doubled its common stock without any cash payments, that equalled 150 per cent, which is 300 per cent for the year.

Of course, Paul never dreamed that profits would ever pile up in the way these reports portray. . . .

If Paul had lived till now and been able to earn \$5 a day as a tentmaker, 300 days in the year, and if he could have saved it all it would have only amounted to \$2,850,000—not a drop in the bucket for some of our big, brazen trust lords.

WHY FATIGUE IS THE REAL CAUSE OF MANY ACCIDENTS

By DR. LEONARD KEENE, HIRSCHBERG, A. B., M. A., M. D. (Johns Hopkins)

Published in the Birmingham News and the Indianapolis Star.

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Have you ever thought how much your tired feeling affects your boss' income and your own advancement? Every time you yawn, according to researches made by English psychologists, you not only "dry up a drop of blood," as popular superstition puts it, but you also "dry up" many a hard-earned dollar.

Moreover, your yawns and your weariness prevent your own advancement and progress, as well as check the output of your employer.

A firm of calico cloth printers stated that they had tried to run their mill fifteen hours a day and had so much spoiled work that they were compelled to shorten the hours to save money and material, ruined by the tired-out workers. They gradually cut down the hours from 15 to 14, to 12, to 10, and finally to the American labor standard of eight hours. It was found that a maximum amount of work was obtained in this period.

Moreover, it was discovered that better and more labor resulted, the profits and earning power increased, and decidedly less accidents and mishaps followed.

At a certain iron foundry a forty-eight-hour week was introduced, and the production actually became augmented above the fifty-four-hour week of the previous week. A chemical firm thereupon tried the effect of three shifts of employes of eight hours each. The output equaled the previous output of ten hours work, and the individual worker's earnings—all piece work—equaled the previous earnings. There really occurred an addition of 33 per cent. increase of both output and wages per hour. The effects of the eight-hour work on health and sobriety were remarkable, and the cost of production fell to one-third a ton of roasted iron ore.

In a glass factory, a nine-hour day, reduced to eight hours, caused the men to earn by piece work 16 per cent. more than they had previously made. Furthermore, they were healthier, happier and seldom broke material or suffered injury—common events previously.

Accidents, with regard to causes, may be divided into internal and external sources. The former are due to human errors and tissue disturbances within the

control of knowledge and deed. The external factors may be more conspicuous.

Seek "First" Cause.

In the origin of many accidents, recent investigators find the psychological condition of the victim perhaps one of the most important elements.

In brief, you are responsible nine times in ten for the unhappy consequences to yourself. If a live wire touches you, if an automobile injures you, if you are hurt on a street car, boat or railroad, in your home or at work, the human factor present in you or the one in charge has more than much to do with the catastrophe.

In fine, the most conspicuous cause is the one usually blamed, while a not easily seen cause is really to blame.

A dangerous physiological state, such as fatigue, is shown to be responsible for many wounds, injuries, deaths and other accidents, from the fact that these things increase at the end of the work hours, after long vigils, loss of sleep and lack of food, than at other times.

July Safest Month.

True enough, recklessness and explosions due to mechanical defects cannot always be laid at the guilty door of tiredness, but some one has done something wrong somewhere.

Dr. Bogardus recently sought the causes in 2,203 accidents in Illinois. Only one-seventh of them were discovered to be beyond the control of those injured. That is to say, external and mechanical origins, in the present state of human knowledge, were only to blame once in every seven injuries.

It is the worker, the carrier or the bystander's fault six times in seven when all occupations, trades and vehicles are concerned, but in street car accidents and some lines of endeavor, such as cotton trade, it has been found by the Federation of Master Cotton Spinners—men who might be expected to give a different report—that 93 per cent. of all accidents have a human side to them. This means that the victim's fatigue, negligence, need of eyeglasses or of better hearing, or some other physiological disorder, is present as a large agency of the calamity.

While it is, perhaps, a large part of the truth that fatigue causes most of the accidents, it is also proved that the earning power, output and number of accidents are also traceable to excitement, emotion, spasmodic efforts, eyesight and illumination.

The industrial commission of Wisconsin has found that a steel plant, merely by a change of its system of lighting, increased its product in quality and amount as well as the ambition of its employes fully 10 per cent.

In the city of New York, where the number of fatal accidents each month in

. . . industrial plants are on record, it was found that the smallest number of accidents occurs in July and the other daylight months, the largest number in January and the dark days. Furthermore, the accidents per man are higher at night and on dim days. Fatigue of the eyes from the strain here plays a definite part.

The conclusion to be drawn from all this is that rest and sleep and health on the part of the individual and a selfish supervision and care of the worker upon the side of the "bosses" is the pathway to safety.



MY RELIGION

What is the law of Nature? Is it to know that my security and that of my family, all my amusements and pleasure, are purchased at the expense of misery, deprivation, and suffering to thousands of human beings—by the terror of the gallows; by the misfortune of thousands stifling within prison walls; by the fears inspired by millions of soldiers and guardians of civilization, torn from their homes and besotted by discipline, to protect our pleasures with loaded revolvers against the possible interference of the famishing? Is it to purchase every fragment of bread that I put in my mouth and the mouths of my children by the numberless privations that are necessary to procure my abundance? Or is it to be certain that my piece of bread only belongs to me when I know that everyone else has a share, and that no one starves while I eat?—*Tolstoi.*

Labor Affairs in the United Kingdom—Women in British Industry.

The labor situation in this country shows increasing shortage of supplies of workmen. Every fit unmarried man between the ages of 18 and 41 is now, by the operation of the Military Service Act, enlisted in the army unless he has obtained exemption for one or another of the legal reasons or is working in an industry which is reserved from enlistment or occupies a post where he is certified as indispensable. A very large number of married men are also on the point of entering the army as recruits under Lord Derby's scheme. There are rumors also that the age for entering the army is to be raised to 45. If this be a fact there will be a further drain upon the supply of workers and probably upon the necessarily more responsible workers.

Rates of wages do not rise so substantially as one would have thought in view of the scarcity of workpeople. Taking the nation as a whole, the average rise in weekly wages is not more than one dollar per individual, and as for each such individual the cost of living has increased probably double that amount, the net gain is hard to see. Certain highly skilled workers, such as fitters in armament works and similar men, are probably earning from two to three times their ordinary wages. This, however, is mainly because of the lot of time they are putting in and also because they are working at such a pressure and rate that they are furthermore earning special bonuses. In the case of one such man who came within my experience his weekly wages have recently averaged \$80, which is more than four times his customary rate in the old days.

No doubt the big influx of female labor has tended to prevent wages rising as much as might have been expected. The great majority of these women have of course gone into the munition works owing to the enormous expansion of that class of industry due to the war.

In the railway service many thousands of girls and women are now used. We find them in the ticket-selling offices, as porters on the platforms and about the depots, also operating elevators and standing guard over the escalators or moving staircases that are replacing elevators to a large extent. In road transit they are also found in increasing numbers as guards (known in America as conductors)

on street tramways and motor omnibuses. In certain provincial towns they have also taken the places of the motormen and drive the electric trams. In office and retail store work they have replaced male labor to an astonishing extent and it is doubtful whether they will ever be removed from these posts, so fit have they shown themselves. Even in banks, those ancient homes of conservative tradition, we now find girl bank clerks. Girls even are now employed upon what is called the bank walks, whereby is meant the occupation of carrying money and valuable securities from bank to clearing house or to other banks. Everywhere the woman manifests herself.

In only one case has the growing employment of women led to trouble of an acute character. Owing to the want of laborers in and about the docks and wharves at Liverpool the experiment was tried of introducing a hundred strong women to dock labor and longshoremen's work. They were employed from 7 a. m. to 5 p. m. and paid \$1.35 a day and performed their work efficiently. The men dock laborers, however, refused to continue working with the women after a day or so. They did not strike: they simply went off and got work in other sheds, etc., where men were wanted. The dockers' union supported their movement because it was argued that the risk of accidents to others was increased by the presence of these largely unskilled women. Although no such accidents occurred the employers of the women had to withdraw them before a week was out and there are now no women dock laborers in Liverpool.

General Secretary J. E. Williams of the National Union of Railwaymen states that women employed on the railways are eligible for membership in that union but at the present time are restricted to one particular scale.



Industrial Items of Interest.*

House Passes Burnett Immigration Restriction Bill, 307-87.—By a vote of 307 to 87 the house passed the Burnett immigration bill, with the literacy test, on Thursday, March 30.

The literacy test provides that immigrants over 16 years of age must read at least 30 words in some language or dialect, including Hebrew or Yiddish, chosen by the immigrant. Exceptions to this test are made in the case of an immigrant's father or grandfather over 55 years of

*Exclusive correspondence to the Locomotive Firemen and Enginemen's Magazine.

*From A. F. of L. News Letter.

age; his wife, his mother, his grandmother, or his unmarried or widowed daughter.

Exception to the literacy test is also made where an immigrant flees from religious or political persecution. The latter exception includes "persons convicted, or who admit the commission, or who teach and advocate the commission, of an offense purely political."

The question of immigration restriction by a literacy test has been favorably voted on by almost every congress since 1896. On three occasions the proposal has been vetoed—by Presidents Cleveland, Taft and Wilson. In 1897 the house passed the bill over President Cleveland's veto, 193 to 37. This was 37 votes more than the necessary two-thirds vote. The senate failed to act, owing to a rush of business and congress adjourning a few hours after the house vote.

In 1913 the senate passed the bill over President Taft's veto, 72 to 18, but the veto was sustained in the house by a few votes. On February 4, 1915, the house sustained President Wilson's veto, 261 to 136. If any four of the 136 that voted to sustain the President had voted with the majority a two-thirds vote would have been secured and the bill passed.

The last vote in favor of immigration restriction—307 to 87, recorded March 30, last—indicates the increasing demand by the people for this legislation.

The bill is now in the senate. Its passage by that body is conceded if its advocates can overcome the small minority that will take advantage of the rules of the senate to keep the bill from being voted on.

Trade unionists and other friends of this legislation are urged to write their two United States senators and insist that the Burnett immigration bill be voted on at this session of congress.

Cleric-Economist Favors Immigration Bill; Say Opponents Are Selfish and Sentimental.—Rev. John A. Ryan, D. D., formerly of Minnesota, but now professor of economics, Catholic University, Washington, D. C., has declared in favor of the Burnett immigration bill. If this legislation is adopted by congress, he says, "we shall have sufficient legislation to improve the quality, provide for assimilation and protect the standard of life that is required for decent living."

Rev. Ryan's statement, which includes a history of immigration legislation, has been published by the Weekly Press Service of the Social Service Commission, American Federation of Catholic Societies, and is, in part as follows:

The lowered standard of living is the main justification for restriction, and it is probably the reason behind the greater part of the agitation. Between two-thirds and four-fifths of the adult males of the country receive less than \$750 a year, and real wages have declined from 10 to 15 per cent since 1890. The great majority of the new immigrants go into the unskilled industries, thereby overstocking the market for that kind of labor, and bringing down wages. They do not become farmers, as so considerably occurred with the old immigration. The supply of unskilled labor should be reduced. The immigration commission was unanimous on this point.

Among methods of restriction suggested are: The requirement of a contract enabling the immigrant to command living wages; the restriction of the arrivals from any country to a certain per cent of the average emigration from that country during the preceding period of ten years; the division of the immigration countries in groups, and the granting of the privilege of sending immigrants to only one group in one year; and the literacy test. The first three are difficult of administration, while the last was recommended by eight of the nine members of the immigration commission as the best single method of restriction. It would exclude about one-third.

The opposition to restriction is sentimental, or superficial, or selfish. The sentimentalists want America to be kept a haven for the oppressed, but charity begins at home, and we want to keep it a genuine haven, instead of developing a proletariat; and we want to keep it an example of genuine democracy and of a better distribution of wealth than exists in Europe. Thus we can serve humanity better than by enabling a comparatively small proportion of the oppressed of Europe to better their condition very slightly.

The superficial objectors find fault with the literacy test because it does not guarantee character, something that it was not meant to do. It is primarily a method of affecting quantity, not quality. Others denounce it as the outcome of bigotry, but this factor is relatively unimportant in the movement; besides, the device ought to be judged on its merits. It is regrettable many . . . will not consider more the economic argument for restriction. Others object that the country needs to be developed. If that means that a large group will be worse off than before, the objection is baseless. All the rough work generally done by unskilled foreigners would be done by Americans if they were paid sufficient wages. The immigration commission declared there is a constant oversupply of unskilled labor.

The selfish persons are those who wish to increase production and profits through cheap labor, at less than living wages. They would prefer Chinese and Japanese laborers if they could get them. They do not deserve serious consideration.

Contributed

"Preparedness."

In view of the present agitation in the interest of "preparedness" let us make a comparison of the modern soldiers of the day.

First, we have our regular army and the state militia. For enlistment in either branch of the service the applicant must be a young, unmarried man physically perfect or almost so. After enlistment in the regular army he must necessarily be withdrawn from the useful pursuits of life and placed as a burden upon the taxpayers and producing citizens at large.

Next we see him attired in a natty, neat-fitting, khaki or blue uniform, armed with the tools of destruction instead of production, and daily trained in the art of legalized murder. He goes away with his regiment and, regardless of the fact that he was only in some training camp, and never smelled powder except from the blank cartridges of mimic warfare, the public still clinging to the hallucinations of a dead past, look upon him as a hero.

On the other hand, if he really sees active service and is so unfortunate as to be wounded he is then the idol of his countrymen, and automatically becomes the ward of his government. A pension is granted him for life and by law certain privileges are extended to him that are denied the average citizen. If he should be killed, his dependents, if he has any, are cared for in the same manner by his government, and all of this for the doing of an act or acts that would be a crime if done by a private citizen.

Second, we have the soldier of industry. All that is required of him is that he be honest, industrious and trustworthy. The railroad man truly represents this class of soldier, and in his every day life he is engaged in the greatest battle the world has ever known. He, too, wears a blue uniform and brass buttons, but it is not furnished by his government. He is armed with the tools of production and not destruction, and he has paid for his own training to learn how to produce things that create a still higher and better civilization. Not only is he self sustaining but in addition he contributes substantially to the sustenance of society in general. His is one of the most hazardous of occupations and calls for the highest degree of courage and self-control; it is his training, his high class efficiency, mental and

eling public and sudden death or great bodily injury and that makes possible the safe transportation of the billions of dollars worth of the property of commerce that annually passes over our railroads, yet no songs of praises are dedicated to him.

There is no pomp or glory in the battle he is fighting, and when he falls it is not by a small puncture of a steel jacketed bullet that either mercifully kills or passes through bone and flesh with the minimum of damage. No, he meets his fate under the grinding wheels of the cars or the crushing, scalding weight of a hundred-ton locomotive. After the accident does his government step in and say to his dependents that they will be cared for? But why ask the question, for the answer is common knowledge, and the soldier who has fought a good fight to make a better and happier world is denied his reward, and the widow and orphan must take up his burden where he was forced to lay it down.

Make a comparison of the two classes of soldiers and choose between them. Which is to be desired, those who build up or those who tear down? Then take your stand regarding "preparedness." Resolve to exert your every effort towards decreasing the regular army to the minimum and recruiting the modern industrial army to the highest strength it can attain. Arm them with the latest equipment for the production of the necessities of life, yes, even some of its luxuries. Educate them to use the equipment and train them in efficiency, rewarding them with a fair share of what they produce, thus enabling them to raise and educate a still greater and better trained army to succeed those who have gone before, and so on from generation to generation. Ignorance, brute force and greed have always created war, while intelligence, always in the ascendancy, has repaired the damage and stood for peace. When we have thrown aside the old order of things and adopted the new, then indeed we will be "prepared" and who will dare attack a nation so fortified? Rather will they be following our example or knocking for entrance at the gates of our country and begging to be allowed to become a part of a civilization where war is unknown.

L. E. GOODRICH,
Chairman Kansas Legislative Board,

Labor Conditions in Alaska—The Alaskan Government Railroad.

Have read the article in the March Magazine regarding the postal employes at Fairmont, West Virginia, and I wish to call attention to a little dispute the workmen are having with the Alaska Engineering Commission. Prior to the advent of this Commission into this territory no one with the single exception of the Guggenheim syndicate had ever had the audacity to ask his fellowman to work for less than 50 cents per hour, and the said Syndicate is at present producing copper at their Bonanza mine at a cost of four and one-half cents a pound, a world's record for cheap production, and they are paying less wages than is paid by the large copper producers of Arizona and Montana. [Copper is now selling at 26 cents per pound and over. "Some" profit for the non-working Guggenheim bunch. What!—Editor.]

At about the time the appropriation was made for the Government railroad in Alaska, myself and others realizing the possible consequences of an influx of labor into this territory, endeavored through our Chamber of Commerce to impress upon the mind of the Secretary of the Interior that if this work was let by contract that the temptation would be very great for the contractors to flood this country with cheap labor, and suggested to him that in the event that it was decided to let the work by contract that a clause should be inserted in the contract providing for a minimum wage to be paid to all classes of employes. As it turned out the Commission decided to build the road themselves and proceeded to establish a wage of 37½ (thirty-seven and one-half) cents per hour, and 50 cents for mechanics, and what construction work was done last year was done on this basis. However, the men awoke during the winter, organized themselves into one large union, made application for admission to the American Federation of Labor and later went on a strike, demanding 50 cents per hour and, strange to say, the Department is sending a committee in there to investigate the matter, and we are in hopes that by the time the road is completed the question will be adjusted; the men having agreed to resume work during the investigation of the Commission.

Now, brothers, why is it necessary or why is it permissible for a great government like ours to come into a frozen country like this and on a great public work employing thousands of men proceed to reduce the wages of their employes below that standard which has

been established and recognized for many years and which, goodness knows, is small enough. It seems to me that this is a question of vital importance to the railroad Brotherhoods for in a very short time this road will be in operation and it is up to us to see that it is operated by Brotherhood men, and of course we also want them to receive the best wages possible, for whatever one gets in this country he will earn it all, and then some, for if this Commission can reduce the standard of pay for one class of labor and get by with it they will no doubt be just as successful in other attempts.

In years to come the piece of track between the Matanuska coal fields and the coast will employ quite a number of transportation men and we want a living wage established while the industry is yet in its infancy.

I earnestly trust that the four allied Brotherhoods may have the very best of success in their struggle for an eight-hour day.

JOHN S. HECKEY, Member 407,
Box 168, Valdez, Alaska.

***Willing to Serve as Soldiers but Not as Strike Breakers.***

I cannot refrain from making comment on the new issue "preparedness" which is being discussed in almost every newspaper, magazine, etc.

In an open letter addressed to Governor James E. Ferguson, Austin, Texas, and which was published in the Houston Chronicle of February 10, 1916, Major Ingham S. Roberts, retired, Texas National Guard, referring to the all-pervading subject of military training, says in part:

"As one of your retired officers in the Texas Guard, after having served twenty years and not now being on the active list, I take leave to address you on the question of preparedness, as it relates to the Texas-Mexican border, and can do no better than call your attention to this incident in Texas history to prove to you how necessary is acknowledged respect for a nation's flag in the security of the lives and property of its citizens abroad.

"Since retiring from the Guard (and it was not at my desire), and when it looked as if troops for the invasion of Mexico would be required, Judge Wren of Houston, an officer on the active list, started to organize a battalion of troops for the service of the country. And although retired as a major, with twenty years' service behind my retirement, I voluntarily offered my services as a private, and for several weeks drilled as such for the organization. At the time I knew that it was most difficult to get eligible young men to enlist in the Guard.

but was agreeably surprised to discover that the character and physique of the young men who offered for service was of front rank quality and caliber. They were enthusiastic and perfectly willing to devote to the cause of country and state the necessary time for military training. After drilling for several weeks the organization, through its officers, attempted to secure guns and uniforms so that they might perfect themselves as a military organization. Of course, they were refused the equipment and uniforms by the National and State governments, not because they were Americans willing to do their duty and perfect themselves for the service of the country as soldiers, but because there is no provision in the law for such service except in the National Guard.

"Lieutenant Wren, in command of the organization, assembled his men, and, after stating that it was impossible to obtain the equipment, asked for an expression from the members as to their desire to join the National Guard. The organization was almost unanimous in its refusal. As the members expressed it: 'They were willing to serve as soldiers, but not as policemen or strike-breakers; that if they joined the National Guard, they would be subject to such duties as should be performed by sheriffs, state rangers, policemen and constables—a service that really requires no military training.'

"In this organization, gotten together by Judge Wren, were union men and non-union men, bank clerks and lawyers, and, in fact, men from every walk in life. And from my experience, I can only state that I do believe that if the oath of enlistment were so modified that a man could exempt himself from police and strike duty, the government would have more applicants for enlistment in the National Guard than the most extreme and ardent advocate of preparedness could desire, whether within or without military circles."

I think that every labor organization as well as our own, should carefully consider the suggestion of Major Roberts relative to a change in the enlistment oath required of members of the National Guard. Take for example the Colorado strike situation, where Labor was defeated. Who did it? The militia. Then why should not we, the working class, try in some manner to prevent the use of the military force of State or Nation for such a purpose? With the present oath which it is necessary to take in order to join the militia, a man would have to, in many cases, take up arms against his fellow worker, and think what this would mean were it necessary to enforce the movement for an eight-hour working day through a nation-wide strike.

Of course we must have national defense, and no doubt many of the laboring class would be proud to join, but it is not right for the laboring class to join the militia and, in case of strikes, be compelled to act as strikebreakers, thereby serving Capital and helping to defeat organized Labor. Therefore, all subordinate lodges, locals, etc., of labor organizations should draw up suitable resolutions and forward same to their respective Congressmen, Governors, and other proper officials, asking that the oath of enlistment be such as to exempt the militia from strike duty and thereby avert any future repetition of the Colorado deal.

MEMBER, Lodge 662..



Out of the Depths.

The summer suns have scorched the grass above the graves of the martyrs of Ludlow, the winter snows have covered them like a mantle of mercy and, lured forth by the springtime sun, the tender grass and delicate flowers cover on this second memorial day the lowly resting places of those fallen soldiers of the common good. A mighty world war has thundered and roared across a continent and millions of brothers and sisters of the humble toilers of Ludlow have found their last resting place on the war torn breast of mother earth, since the crack of the Mauser and the shriek of the Gatling gun on the mountain side at Ludlow opened the last and final war of the great class struggle.

A score of workers died in Ludlow a year ago last April. Millions have since been slain in Europe, the fruitful bosom of mother earth has been saturated with blood and future historians will find no words with which to write the horrors of these fateful years. So damnable and cursed have these years been that were not our feet firmly fixed on the solid rock of scientific knowledge every intelligent, thinking, feeling man and woman would have been driven raving mad with the horrors of it all. The whole blind, upward struggle of humanity has followed a path slippery with human blood. So these martyrs were compelled to yield their blood in giving life to greater liberty and justice for the working class.

In the past no wrong, no oppression, no system of human exploitation has been killed by the concerted intelligent action of the workers, each system has died by suicide. When the greed and avarice of the master class, fattening on success, grew more and more rapacious, the workers dumbly submitted until swollen greed and glutted rapacity drowned itself in a

flood of carnage. Then and not until then did the workers scramble out of the old system of exploitation and into one slightly more favorable to themselves.

Slavery killed itself by excesses, feudalism committed suicide by brutality and capitalism has opened its own veins and is letting its own blood in the excesses, brutality and greed of commercial power. When capitalism has bled to death upon the industrial battlefields of America and the political battlefields of Europe, then the workers will wipe the blood from their eyes, clamber to the higher plane of democratic world federation in politics and co-operative production in industry.

W. W. MURPHY,
Member, Lodge 594.



"Preparedness."

"Preparedness" is a term used by the capitalists who want to continue their rule by means of militarism. In other words it means a complete moral and material equipment for efficient wholesale murder of the working class.

Those who advocate "preparedness" claim that the interests of the workers and their employers (the capitalists) are mutual and some workers believe this. I deny that there is, or can be, any such identity of interests between capital and labor.

The great cry of the capitalist—the munition manufacturers, the armor plate steel barons, the gun makers, the food monopolists—is the need of defending "our" country but how far is the working class interested in the country to defend in comparison with those monarchs of industry and lords of finance. Why the workers don't even own their jobs, to say nothing about owning the land and means of production. In times of peace and war alike the workers are robbed of the greater share of the wealth they produce and even in times of peace they suffer all kinds of want and misery. In the mills, mines, on the railroads, wherever labor toils others who do no work benefit far more from that toil than the workers themselves.

Mr. Frank P. Walsh, Chairman of the United States Industrial Relations Commission, has shown in his report that the people of the United States, barring the capitalists, are practically a nation of paupers and no successful attempt has been made by any advocate of "preparedness" to disprove the facts he presented.

It is becoming more and more self evident that modern wars are the outcome of the development of industry from the profit making standpoint. That is to say

that the conflict over the surplus products produced by labor, over and above what the working class can exchange for their wages, under our present economic system of the private ownership of the means of production, inevitably leads to war between different groups of capitalists, hence the agitation for "preparedness" in this country.

To the student of world problems of today it is as clear as the noon-day sun that the working class must unite industrially, in order to obtain the might, and politically in order to obtain the right,—unite to overthrow the present system and remove the cause of war if we are ever to enjoy peace on earth with good will toward men.

It is the historic mission of the working class to emancipate itself from the exploiting and ruling class—the capitalists—and at the same time once and for all emancipate society at large from exploitation, oppression, class distinctions and war. Our interests as workers are mutual all over the world as against the interests of the capitalists and I stretch out my hand in greeting to all workers with this message:

Unite; unite right; unite for the right purpose; unite to assume the collective ownership and administration of industry for and by the workers for the reason that such a program means "preparedness" against the suffering and misery of war.

A. H. FRANK,
Delegate Lodge 608, New London, Conn.



A Big Army and Navy From Labor's Viewpoint.

In nearly every newspaper a person picks up nowadays "national preparedness" is earnestly and urgently advocated. From the bloated bondholder of Wall Street, N. Y., down to the keeper of the little grocery or dry goods store are to be found men in "business" and from President Wilson down to the ward worker are to be found men identified with politics who claim it is absolutely essential to the country's safety and to bring weight to their arguments they tell us that America must prepare for a foreign invasion.

Now, perhaps they know more about international affairs than we do. There are two sides to this "preparedness" stuff. On one side is the fellow who sees an opportunity to make big profit by dumping on the Government a lot of "armament" junk at high cost.

The other side is represented by the class that see the handwriting on the wall. They see that foreign workers through all of these years have kept af-

ter their rulers for improved working conditions. Through their elected representatives in the various national legislative bodies of their respective countries—Parliaments, etc., they have secured old age pensions, compulsory insurance aided by the State, and other good things that we don't possess until now production costs have become so high that foreigners soon will not be able to compete with the cheap labor of America; for common labor and shop labor is getting down to where we will soon be behind every industrial nation.

Now "Big Business" wants to tell us, through its preas, how badly we need a larger army and navy, notwithstanding that the United States as it is now spends twice as much per unit for its army and navy as any government.

Unless Labor takes a firm stand against this move, they are going to forge still heavier burdens to our chains, for, when this thing is sifted down to the bottom, Labor really pays the bill. It pays all the bills, for in the absence of productive toil no one would have the wherewithal to pay anything.

If our ruling class once gets a strong army and navy, they can tell the common people to wander to the land of fiery heat. As workers we would be compelled to go and murder our European brethren so their rulers will not compel ours to improve our own conditions.

This is what "national preparedness" means to me.

Don't think, brothers, that the firemen alone have a hard time of it. Millions of good fellows, some with large families, of whom they think as much as you or I do of ours, are tolling under conditions as bad and in some cases even worse than we are. If our Brotherhood is to fulfill its mission it must recognize our class distinction and put us where we belong, with all men who toil for a daily wage.

We can go a long ways in discouraging militarism in the United States by adopting at our next convention a strong resolution against this proposed military preparation. We must denounce it as contrary to the welfare of the working men and women of America.

If the ruling class wants to fight, wants to spend its tainted hoard for guns and battleships let them, but put no more burdens on labor. As a well known writer on the subject has said, "if the masters want blood, let them cut their own throats. We don't want other peoples' blood and we refuse to waste our own. Let those who want great victories go to the firing line and get them. If war is good enough to vote for, or pray

for, it is good enough to go to, up close where bayonets gleam, swords flash, cannon roar, rifles crash, flesh rips, blood spurts, bones snap, brains are dashed—up close where men toil, sweat, freeze, starve, kill, groan, scream, pray, laugh, howl, curse, go mad and die. Up close, where the flesh and blood of betrayed men and boys are ground and rounded into a red mush of mud by shrieking cannon balls, by iron-shod hoofs of galloping horses and the steel bound wheels of gun trucks."

As workers, we don't want this or need it. Our welfare does not require it. The welfare of any of the European workers did not require the slaughter of the last nineteen months. They had "national preparedness" and see its results.

Nothing but the voice of workers heard in shaping the destinies of nations can and will prevent such calamities.

MEMBER, Lodge 657.



Robbery and Oppression Legalized.

John D. Rockefeller, Jr., in an address at Denver, has recently said that his father, whom he represents, has never received any dividends or income on his stock in The Colorado Fuel and Iron Co.

Neither should he. This company is bonded away beyond its physical value or the original outlay, so that the excess of bonds should never pay any interest or income either.

Up to the physical valuation of the property, or the original cost, there should be a fair return on the capital invested as represented by the bonds; but, beyond that, neither bonds nor stock should ever be issued, or, if issued, should ever pay any interest or income.

The almost universal way, however, to handle corporate property is, to issue all the bonds the market value of the property will float, and as far beyond this as the public will buy; and then to issue stock of a face value equal to all the bonds. Up to this point, the issue of stock, under present business methods, is regarded as legitimate; because it is assumed the public will not buy bonds beyond the market value of the property; but in practice, all the bonds that will sell on a fictitious value of the property are usually disposed of.

After the issue of stock of a face value equal to the face value of the bonds, the issue of more stock is a most common practice. This is what we call watered stock. The law should not permit this, but it ordinarily does.

Illustration: A plant costing one million to erect may be bonded for two million. This requires an earning capacity at this point to pay interest on twice the original cost. Stock is now issued for two million, and this is supposed to pay dividends at least equal to the interest rate on the bonds, and this now requires an earning of four times the original cost or outlay. Watered stock may now be issued for two million more, and this requires an earning on an amount six times the original cost, and the owners are making a fair rate of interest on six dollars where they spent but one.

Granting an income of ten per cent as fair on the original cost, by a system of bonding and stocking, the interest rate is increased to sixty per cent annually.

This increase is all made out of labor.

Physically the property has remained the same, and the enormous income has been made out of labor. Labor has made it all, yet labor gets no part of this increased income.

Surely labor is not getting a square deal! The income from property may become so great and the exactions of labor so severe that robbery and oppression are the only terms to fit the case.

Specifically in the present case, the reason the Rockefellers have never received any dividends on this stock is because the employes have not yet been able to earn six times the normal income, but that does not mean that they are not getting a profit on the original investment, nor that they have not made money out of it, for the improvements that have been paid for from the earnings of the property of themselves represent enormous value.

By A. A. GRAHAM,
Topeka, Kan.



The Loan Shark in Georgia.

The Georgia Legislature has passed a law forbidding the sale in that state of intoxicating liquors after May 1st.

Another law I would greatly like to see our Legislature enact is one to prohibit the money sharks from doing business in Georgia,—a law similar to that enacted for Washington, D. C.

There is already a law on the Georgia statute books to limit the amount of interest a money lender may charge but the loan shark evades this by saying that he does not loan money but buys salary time, which is a mere sham. If the men who borrow money from these "salary buyers" wouldn't be afraid of losing their jobs and would take their cases to court

they could be freed of the high rates of interest. Any lawyer could have the loan shark enjoined from collecting illegal rates of interest. Then such action would compel him to show to the courts the kind of business he is doing. Of course, we know the shark does not compel anybody to borrow money from him but there are times when the poor man's need of money is just as legitimate as that of men in more prosperous circumstances and much more pressing. The difference is that the prosperous citizen is in a position to give security on his note at some bank and obtain a loan at a reasonable rate of interest but, generally speaking, the poor man must go to the loan shark and be robbed. In borrowing money from the loan shark the applicant is handed a note form in blank and he signs it. Say the amount borrowed is \$10.00, then the shark fills out the note for about \$12.00. At the expiration of a period of 30 or 60 days, which ever may be agreed upon, there must be a renewal at an additional cost and the cost of borrowing increases proportionately with the amount borrowed. All of this would, on test, prove illegal.

It has been a practice with railroad companies to discharge a man when one of these salary assignments is turned in against him and this gives the loan shark a blackmail club with which to extort his usurious interest rates. Now in my opinion the railroad labor organizations should take joint action with a view to protecting the interests of railroad employes in this particular. They should, without delay, take steps towards the abolition of loan sharkism in this and all its other forms. I have figured that the expense of getting such a law passed would be about \$600.00, which we could very easily raise. A law of this kind would relieve sufferings in many homes and keep men from losing their positions and if any brother who is in the clutches of any loan shark will correspond with me I will be glad to give him advice as to how to free himself.

A man who earns a hundred dollars a month and owes a loan shark seventy-five dollars will have a hard and anxious time to pay him off and at the same time support his family, for the amount of interest he will have to pay will keep him in the loan shark's debt to such an extent that his emancipation from the power of the usurer will be a slow and tedious process.

Will be glad to hear from any interested brother.

H. R. GRAYSON,
Member Lodge 841.



Communications intended for publication should reach this office not later than the 10th of the month to insure their appearance in the following issue. Write on one side of the paper only. All typewritten matter should be double spaced. Sign name and address in all instances, not necessary for publication, but as evidence of good faith. Correspondents may, if they desire, use a nom de plume, but no attention will be paid to anonymous communications. The Editor and Manager reserves the right to revise or reject any communication if he deems it to the best interests of the Brotherhood to do so.

Obituary notices and resolutions and detailed accounts of events of a purely local nature can not be published. Pictures are published only when same are of general interest.

All orders for subscriptions should be sent to the Editor and Manager.

Members when changing their address should immediately notify the Magazine office. All changes for the Directory should reach this office previous to the 10th day of the second month of the quarter in which it is desired that such changes should take effect.

Inquiries for the address of or any information concerning another, should be made through the secretary of the lodge nearest the residence of the person making such inquiry.

Great Activity Marks Eight-Hour Campaign

Publicity and "Get Together" Committees Doing Splendid Work

We have heard from numerous divisions and lodges of the four train service organizations in various parts of the country, particularly in the East, in a way that indicates a most commendable activity in advancing the Eight-Hour Movement.

"Publicity" and "get together" committees have been organized, "get together" joint union meetings are being held and generally real, live hustling has characterized the action of the membership in the present momentous period of the history of the train service labor organizations.

It is to be hoped that such "publicity" and "get together" committees are by this time active throughout the entire country and if there are localities in which one or more of the four organizations are represented by one or more subordinate divisions or lodges in which such committees do not exist they should be organized and get to work without further delay.

Our Eight-Hour campaign should be conducted everywhere with earnestness and enthusiasm. Publicity work should be carried on with vigor and persistence and meetings held whenever and wherever possible. Our publicity committees should be ever on the alert to challenge through the public prints and otherwise the many false statements being circulated by the railroads through their various publicity agencies, newspapers, magazines, pamphlets, etc., etc., with a view to misrepresenting the position, the motives and the demands of the railroad train service organizations and placing us in a wrong light before the public. Every-

where the work of our committees should be characterized by that harmony and earnestness with which a proper consideration of the great purpose to be attained should inspire every member of the four organizations and which is sure to secure for them in this fight the active support of all advocates of progress and all fair-minded citizens.



Colossal Fortunes of Railroad Magnates the Product of Special Privilege

Obligations of the Railroads to the Public Justify Their Granting Eight-Hour Day Immediately and Cheerfully

EDITORIAL VIEWS OF NEW YORK AMERICAN

Railroads Should Grant Employees Eight-Hour Day.

January 26, 1916.

The railroad managers SAY they have decided to resist the demand of their employes and sustain a strike.

The American earnestly hopes that the railroad managers will not do any such thing.

A strike now would paralyze the business of the whole nation just when business is beginning to get firmly upon its feet.

And there need be no strike if the railroad managers WILL DO THE RIGHT THING.

The men are entirely right.

They are demanding only an eight-hour day, and they OUGHT TO HAVE AN EIGHT-HOUR DAY.

They have now a ten-hour day, which is too long a day.

The eight-hour day is a LEGITIMATE DEMAND and should be conceded by the railroads.

The railroads have received all sorts of concessions and aid from the Government.

They have, within these few months, been permitted to increase freight rates.

They are given the mails to carry at rates which virtually amount to subsidies.

They are now in prosperous times and making a great deal of money.

They make this money out of the people of the country and through Government concessions which come from the people.

It is only RIGHT that they should divide a part of these benefits with the people—with their employes, who are so large a part of the nation's workers.

The least the railroads can do in fairness is to give their employes an eight-hour day.

It is a reasonable demand and should be cheerfully and immediately conceded.

The Public's Interest in Eight-Hour Railroad Day.

February 14, 1916.

Less than two months ago the Interstate Commerce Commission made to the railroads of the Eastern Division a gift variously estimated at from \$35,000,000 to \$50,000,000,

This was the culmination of a vigorous campaign waged by the roads for an increase in freight rates. Every possible device had been employed to affect public sentiment favorably. The nation was told that the prosperity of the whole people was dependent upon the prosperity of the roads.

We were asked to believe that funds drawn from the people through the agency of higher freight rates were instantly disseminated through the whole business community by railroad disbursements.

Especially were we assured that the suitable treatment of the railroad employes was largely dependent upon the granting of this right to increase freight rates.

Well, the railroads won their appeal. The commission granted them a 5 per cent increase in rates.

Perhaps it would be premature to expect within two months the full measure of the public benefit so glibly promised by the railroad spokesmen. Certainly it has not yet put in an appearance.

But the time is at hand when the railroads can make good their profession of public spirit, can render something of an equivalent for the tens of millions of dollars granted them by the Interstate Commerce Commission.

This they can do by acceding to the demand for the eight-hour day made upon them by their employes.

That demand is upheld by public sentiment. It finds support in common sense and in common practice.

It expresses a perfectly reasonable aspiration of labor for improved conditions of employment.

It will raise the quality of railroad labor and thereby enhance its efficiency.

Every time and everywhere the eight-hour system has been put to the test it has worked to the mutual advantage of the employer and the employed.

But in this specific instance a third party appears with interests paramount to those of either employer or employed—namely the public.

The public has the right to insist, and does insist, that the railroads acquiesce in the men's demand because the public rightfully believes that its own safety is involved in that action.

Overworked labor is not efficient labor, it is not safe labor in a business in which hundreds of thousands of human beings are daily exposed to serious risk. The overtired, discontented man at the switch or signal tower, with a brooding sense of injustice ever upon him, is not a safe custodian of human lives.

The public has been generous with railroads. The moment is here for an evidence of railroad good faith and reciprocity.

Public Joins in Asking Railroad Eight-Hour Day.

March 1, 1916.

In considering the demand of their employes for the establishment of the eight-hour day the railroad managers are quite right to give some consideration also to the rights of their stockholders.

And in making their demand for eight hours the employes are quite right in taking thought for their own health, their unquestionable right to leisure time, as well as sleeping time, time for recreation, for self-improvement and for association with their families.

But both parties to this pending quarrel should give primary consideration to the rights of the public, and should so adjust their differences that the public shall not suffer.

The obligation of gratitude to the public rests heavily upon the railroads.

They owe their very existence to special privileges granted by the public. All the risk involved in their early organization was borne by the public.

The aristocratic streets of our great cities are crowded with the palaces of railroad builders who used the land belonging to all the people and the credit of all the people to found the railroad system of the nation and roll up for themselves colossal fortunes.

How great has been the total contribution of the American people to the railroad corporations in the form of land grants, subsidies, State, county and municipal bonds and other gratuities no statistician has yet computed.

We know that New York contributed \$8,000,000 of State money, \$5,000,000 of which went into the coffers of Erie and helped to found the Gould fortune. In the form of county and municipal subscriptions more than \$30,000,000 more was furnished.

Illinois gave to one railroad 2,500,000 acres of land. One transcontinental road, the Northern Pacific, received from the National Government land grants exceeding 47,000,000 acres.

This is but a partial statement of the railroad debt to the people. It is a debt growing continually as the corporations demand and secure new privileges.

In the present agitation for the eight-hour day lies the railroads' opportunity to concede and the public's opportunity to secure at least a partial acknowledgment of this debt.

The eight-hour day is an eminently just and socially desirable regulation in any branch of employment. It differentiates the man from the machine, giving him opportunity for that widening of interests and self-development which prevents his becoming a mere automaton.

It has never been applied in any industry without proving advantageous to both masters and men.

It is particularly desirable in the railroad industry where conditions of labor are often hazardous and always exacting, demanding an unusual exertion of nervous force.

As the railroads are the largest employers of labor the establishment of the eight-hour day among their workers would be a profound influence toward its universal acceptance by employers.

It would be a step toward social preparedness—a real stride toward the elevation of working men of every class above their present status. It would make of them better citizens, for they would have more time for preparation for and the exercise of the duties of citizenship.

The employes of the railroads are right in preparing to use every endeavor to enforce their demand for the eight-hour day. It is to be hoped that they will have no need to employ labor's final weapon, the strike, and we believe that they will not find it necessary.

If the public shall emphasize upon the railroad managers the character of its interests in this controversy and its unquestioned rights in the matter the roads will acquiesce in the demand. And if the railroad managers are not blind to the advantages that will accrue from a gratified public sentiment and a contented body of workmen, their agreement to this absolutely just demand will be not grudging or delayed, but cheerful and immediate.

EIGHT-HOURS FOR RAILWAY CREWS

By W. JETT LAUCK, in *The New Republic** (Copyrighted)

As an abstract proposition no one disputes the desirability of an eight-hour day for railway transportation employes. It is equally beyond controversy that the hours of work required of these classes of employes in certain branches of railroad service are excessive. The general basis of pay in freight service is theoretically ten hours, but in certain classes of traffic the average time actually on duty greatly exceeds this period. Employes in these branches of service have become the victims of what in railroad parlance is known as the "tonnage craze."

The development of heavier freight loads and larger freight earnings per mile has been the goal of all railway operating officials. Engines of greater and greater tractive power have been installed, freight cars of constantly increasing capacity have been built, the number of cars in trains has been increased, roadbed has been strengthened, heavier rails laid, new bridges constructed, grades reduced and curves eliminated—all for the purpose of getting heavier trains over the road with the object of reducing operating costs. The speed factor has been eliminated. In many instances it was found to be cheaper to load locomotives to the limit of their tractive power—to the point where they could only drag the trains over a division at a very low speed—than it was to send two trains of half the weight over the same division in half the time. Under this system of railroad administration the fact that the hours on duty of engine and train crews in certain branches of railroad service have become excessive is generally recognized and needs no elaborate statistical demonstration. The

desirability of securing a shorter working day is not denied.

The real problem in the present movement for an eight-hour day is, therefore, a practical one. It constitutes a threefold question: (1) from a technical standpoint can the railroads be operated on an eight-hour basis; (2) if that is possible, in view of the fact that the employes are requesting an eight-hour day with the present rates of pay for ten hours, are the railroads financially able to comply with the request of the engine and train crews; and, (3) if the public approves of an eight-hour day for railroad transportation employes, and if its adoption by the railroads would add greatly to the financial burdens of the transportation industry, would this constitute a valid reason for expecting the public to authorize the carriers to advance their freight and passenger rates?

From a technical standpoint the eight-hour day is practical because it already is in successful operation on a considerable proportion of the railways in the United States. Locomotive engineers now have an eight-hour day in through freight service on 55 per cent, and firemen on 20 per cent of the railroad mileage of the South. In the territory west of the Mississippi River, about five per cent of the total miles of road operated have an eight-hour day for engineers and three per cent have the same working day for firemen.

Those roads which are now operated on a ten-hour day basis will not find it necessary to change existing terminals in order to establish an eight-hour day. It is acknowledged by the employes that it would be impracticable to compel railroads to change their division points so that they would be 100 miles apart. Special provision is made in the

*From March 18, 1916, issue. By special permission.

first article of their requests that so long as the mileage of an engine crew is equivalent to or exceeds $12\frac{1}{2}$ miles an hour, there will be no increased compensation to employes for overtime. The railroads claim, however, that it would be necessary to reduce freight train loads in some branches of service in order to meet the speed requirements of $12\frac{1}{2}$ miles an hour, and, as a result, operating expenses would increase and net earnings decline. This contention is one of the phases of the general argument of the carriers relative to their financial inability to meet the cost of establishing an eight-hour day, which may now be examined in detail.

In considering the cost of applying the eight-hour day on transportation systems where it is not already in operation, the significant point to bear in mind is that railroad transportation employes are, as a whole, pieceworkers. They are engaged in producing engine and train miles directly, and, indirectly, ton and passenger miles. The movement of so many tons of freight or so many passengers a distance of 100 miles is the standard day's requirement as to output. With this explanation in mind, it is obvious that if transportation employes can maintain their present output of 100 train or locomotive miles in eight hours, or less, as is now the case in passenger service, the transition from a ten-hour to an eight-hour day would cost the railroad nothing. The men would still contribute as much as they do now to the movement of traffic, and rates of pay would remain the same.

During the recent arbitration case between western railroads and their engineers and firemen, the railroads presented elaborate exhibits which showed that the average time of 78 per cent of through or irregular freight service on all railroads west of the Mississippi River in October, 1913, between terminals 112 miles apart, was 8 hours and 24 minutes. The transportation employes, therefore, in almost

four-fifths of the through or irregular freight service in the West, which constituted about three-fifths of all freight train mileage, do produce their 100 miles, the standard for a day's pay, within 7 hours and 30 minutes. It would follow, according to these sworn statements of the railroads, that on slightly less than half of the freight traffic of the West the adoption of the eight-hour day would require no additional labor outlay. Additional outlay would probably be necessary for the adoption of an eight-hour day on only one-fifth of the through freight service in the West. No overtime at an advance of 50 per cent over regular rates, however, would be paid, as the traffic would probably be sent over the heavy divisions in lighter trains at a speed of $12\frac{1}{2}$ miles an hour. Under any change in operating conditions which might occur, the increase in the total payroll of the western railroads would be very small.

Approximately 70 per cent of the local freight traffic was handled in the West by engine and train crews which worked longer than eight hours each day. But local or way freight train mileage in the West constitutes only about 12 per cent of total train mileage, and as only 70 per cent of this would be below the speed of $12\frac{1}{2}$ miles an hour, the adoption of an eight-hour day in this class of service would not add greatly to labor cost. In mixed and miscellaneous freight traffic and in pusher and helper services, and in work train service in the West, where hours are long among a large proportion of the employes, any increases in outlays for labor from the adoption of an eight-hour day would not be large, because they would be based on only five or six per cent of the total compensation to crews.

In the case of yardmen, switchmen and hostlers, who have a definite working day of ten hours or more, it would be necessary to reduce the working day arbitrarily, and the railroads would face a theoretical decrease of from ten

to twenty per cent in hours of service. Manifestly, there would be no overtime penalty payments however, for work necessary beyond eight hours a day would be done by additional shifts.

In the East the proportion of freight trains which operate at a speed greater than ten miles an hour would be probably smaller, and in the South larger, than in the West. These illustrations from western operating experiences may be said, therefore, to be representative of operating conditions in the country as a whole, and would indicate that the financial aspects of the request for an eight-hour day need not cause serious apprehension.

The attitude of employes in requesting an eight-hour day is thoroughly consistent with their previous arguments for higher rates of pay. One of the fundamental claims advanced in the past for greater compensation has been that their output has constantly increased. To the extent to which the railroads may find it necessary to reduce train loads in order to maintain a speed of $12\frac{1}{2}$ miles an hour, or an eight-hour day, it is now acknowledged that there may be a decline in train-mile earnings, and in the output of employes. There will be earnings remaining, however, arising from the increased work and productivity of transportation employes in the past, sufficient to compensate the railroads fully for any difference in labor costs. Although employes have in recent years received some wage advances they have by no means had a fair share in the revenue gains arising from their increased productivity. They have given to the railroads in increased work and productive efficiency, or in lower labor costs, more than they have received from the railroads. The movement for an eight-hour day is, therefore, a consistent request by transportation employes to share in past gains in productive efficiency for which they have not been remunerated—not so much to

share in actual money as to gain in improved working conditions and general well-being.

The matter of increased passenger and freight rates, or the financial status of the railroads, is one which must be adjusted between the railroads and the public. If the public has required the railroads to make capital outlays for greater safety and service which are unproductive, and if the railroads can prove this to the Interstate Commerce Commission, they undoubtedly will be given authority to advance their rates. The public does not and will not expect railway employes to pay for these requirements by longer hours and more arduous service. On the other hand, it should not and will not be accepted by the public that, because of higher rates of wages, or by reason of a reduction in the working day, the railroads have in these facts alone a valid reason for asking for permission to advance their rates. The railroads must inform the public as to what disposition they have made in the past of the revenue gains which have arisen from labor efficiency and the ability of operating management.

As a matter of fact, the difficulties in which the railroads state they find themselves are not due to increased labor outlays but arise primarily from past methods in railway finance. The tendency has been for revenue gains to be absorbed by the interest and dividend requirements of fictitious stocks and bonds, or to be dissipated by improper or misguided financial management. There will be no permanent hope for the proper advancement of the economic well-being of railway employes, no adequate protection to shippers, the general public and investors in railroad securities, until assurance can be obtained through the public regulation of railway security issues, and the general financial management of transportation companies, that the resources of the railroads will be used for the purpose for which they are required. If the

railroads would frankly face a constructive legislative program along these lines their financial needs would undoubtedly be officially recognized, and public support for the much-needed rehabilitation of their credit and finances

would be assured. The time has passed, however, when the public may be expected to accept the reasonable requests of railway labor as an explanation of the financial difficulties of the transportation industry.

OHIO'S GOVERNOR ENDORSES EIGHT-HOUR MOVEMENT

Big Eight-Hour Meeting at Crestline, Ohio, A Splendid Success

Buckeye State's Executive Declares Eight-Hour Demand Is Only Fair and That It Is a Menace to Safety in Travel to Force Men to Work the Long Hours Required of Them at Present

On March 19th last a public mass meeting in the interests of the Eight-Hour Movement was held at Crestline, Ohio, under the auspices of the local divisions and lodges of the B. of L. E., O. R. C., B. of L. F. and E., and B. of R. T. The ladies' societies and auxiliaries were also represented. The meeting took place in the opera house, which was crowded to the doors, over three thousand being present.

It was one of the largest and most important gatherings that has thus far assembled in connection with the Eight-Hour Movement. So momentous is that movement in the estimation of Ohio's Governor, Hon. Frank P. Willis, and so important does he regard the bearing its success will have on the public welfare that he cancelled an important engagement to be present.

Bro. R. B. Ackerman of Galion, Ohio, Chairman of our Ohio State Legislative Board, served as chairman of the meeting. In calling the meeting to order Chairman Ackerman stated that its object was the public discussion of the question of the Eight-Hour Day and time and one-half for overtime for all railroad train service employes. He said that the train service organizations had no desire to make a secret of their activities but on the contrary wanted to enlighten the public as far as possible as to every detail of their present movement and the conditions they are seeking thereby to remedy.

Reverend Hasset of the German Reformed Church of Crestline offered the invocation.

Mr. C. E. Dewalt, President of the Crestline Commercial Club, welcomed the visitors on behalf of the city. He spoke feelingly of the justice of the demands of

the train service men for an eight-hour day and expressed the hope that their movement would succeed. Chairman Ackerman then introduced the Governor.

Governor Willis, who was greeted with long continued applause, said he deemed it a rare pleasure to be present on that occasion, as the cause in behalf of which the meeting was being held is a truly worthy one and of great importance to all citizens.

He declared that the family and home life must be more fully developed, that when a man has to work 12, 14 and 16 hours at a stretch his home life is bound to suffer and that the conditions requiring such lengthy hours of service should be remedied.

In eloquent words he made clear that the present movement is of great moment to the general public as people in all walks of life trust themselves every day to the care of railroad train service employes.

It should, he said, be clear to everyone that a man who has worked 14 to 16 continuous hours is not as alert as the man whose work day is limited to eight hours in twenty-four and that a man whose nerves are worn and who is fagged and weary as a result of unreasonably long hours of service could not be expected to be a very safe man to trust one's life to as is being done every day on the railroads of this country.

The argument is often introduced, said Governor Willis, that a man can steel himself to work 14 or 16 hours and return bright and strong to work again after being off duty for eight hours, but that in his opinion such a man could not bring to his work the steady nerve and the alertness necessary for safety's sake as would the man who had worked only

eight hours and then had had a good rest. "The man," he said, "who toils will do more work and better work in eight hours than in fourteen; it will mean greater ability, greater energy and greater enthusiasm for his work. Let us not forget the men whose hands are on the throttle, and those who have actual charge of the trains hurrying through the night to their several destinations."

He said he know from his own experience that a man must have ample and adequate rest in order to work. This he illustrated with a story. He said he was raised on a farm and was expected to do his share in its cultivation but, like most young fellows, was attracted by social events now and then that would cause him to get to bed late. Being sleepy in the morning, however, when it came time to arise, his longing for another hour or so "in the hay" was never accepted as an excuse to relieve him from being at work on time. So one morning, after having taken his seat on an old Osborn mower behind a young and vigorous team in a meadow containing many bumblebee nests, he dropped back again into peaceful slumber and the horses, left to themselves, simply wandered around and around and the legal and constitutional rights of certain of the bumblebees being thus incidentally invaded the eventual net results were the funniest looking hay field and the widest awake farm boy in the agricultural history of the North American Republic.

The governor said that the great system of American railroads was the marvel of the world. He pointed out that during the last fiscal year 39,000,000 passengers were carried on the railroads in the State of Ohio, and that out of that vast number of passengers there were but seven killed by railroad accidents.

He said the installation of safety devices has contributed very materially to the greater efficiency of railroads and the safety of the traveling public, but that in the industries of Ohio about 80,000 people were killed by accidents annually—more than in the whole Revolutionary War—that a large proportion of these were railroad men and that excessively long hours of duty had a lot to do with it.

He said when he was in Congress laws were passed for the eradication of the cattle tick, the boll-weevil and the brown tailed moth, that such laws had his full support as he considered it only right that the cattle and the corn and the wheat and the farmer should be protected, but that he could not help sometimes asking himself the question what Congress was going to do to protect the lives of the men, women and children of industry when

80,000 workers were killed a year in Ohio alone.

That the Government has been lately making efforts along this line was, he said, a source of much gratification to him, as was also the realization that employers are beginning to show a willingness to cooperate with the workers through the use of much needed safety appliances.

To the railroad labor organizations Governor Willis gave special credit for the adoption of safety appliances, declaring that they were the pioneers in the "Safety First" Movement.

The Governor said he was proud to talk to the railroad workers and that he never gets on a train without thinking of the faithful men of the train crew—the watchful and alert engineer and fireman in the cab and the polite and careful conductor and brakeman in the cars, loaded, as they are, with the great responsibility of taking their massive train safely over the road. He drew a vivid picture of a passenger train drawn by a monster locomotive on a dark, stormy and sleety night, the passengers resting comfortably and safely in the assurance of being in the hands of dependable, efficient and courageous men who, like good soldiers, stick to their posts attending to their duties and make no noise about it. The men on the railroads, he said, were just as deserving of the title "hero" as those on the battle field.

Clearly and emphatically the Governor of Ohio declared for the Eight-Hour Day and Time and One-Half for Overtime for train service employes. "It is my firm opinion," he said, "that the Brotherhoods are asking only for what is fair when they ask for an eight-hour day and time and one-half for overtime. These men," he said, "should have a chance to spend more time with their families and it is my earnest wish that the train service employes shall soon see the fulfillment of their hopes. I am with you in your efforts," said the governor as he closed his remarks amidst thunderous and long continued applause.

The governor was forced to leave at the conclusion of his address to fill another important engagement, but before going he was tendered an unanimous rising vote of thanks.

The Crestline Railroad Men's Quartet then entertained the audience with a selection.

Vice President Lovell of the B. of L. F. and E., who spoke next, warmly commended the whole hearted declarations of Governor Willis in behalf of the Eight-Hour Movement. He said that the railroad corporations are using their vast wealth in endeavoring to make the public accept their views about that movement and that one of the purposes of these

meetings was to refute their arguments and combat their contentions.

He recalled the days of the old link and pin coupler and declared that irrespective of the great "Safety First" display being made by the railroads the real credit for the adoption of safety appliances belonged to the railroad labor organizations who in their determined and persistent fight for legislation providing therefor were constantly and vigorously opposed by the railroad companies. Even the Sixteen-Hour Law with its very limited relief was, he said, bitterly opposed by them, and that the eight-hour day would have to be fought for just as those other improvements, but without a doubt it is coming. He said the railroads advertise "Safety First" everywhere, even on their rolling stock, that "Safety First" should mean "Safety First" everywhere; also that the telegraphers had succeeded in their demands for an eight-hour day and so would the other railroad labor organizations.

Mrs. J. H. Moore, of Toledo, Ohio, Grand President of the Ladies' Auxiliary to the O. R. C., referred to the deplorable conditions that characterized railroad employment in past years. She spoke of the ladies' auxiliaries and insisted that much credit is due by railroad men to their wives for many improvements. She said that women should get out more and get educated to the larger views of life. "Organization," she said, "has done a great deal for women but has never shortened their hours of work or raised their pay."

Brother Carlton, General Chairman of the Grievance Committee of the B. of R. T. on the Pennsylvania Lines West, spoke on the necessity for and the advantages of the eight-hour day to railroad employes and the public. He said that the rumor is being spread that the men are not serious in their demands for an eight-hour day, that their only aim is to get more pay. This, he said, was not true, as the sole purpose of the four railroad labor organizations is to permanently establish a shorter work day. He classed the four orders as branches of the great Brotherhood of Man, and said that without them the train service employes would not receive very much consideration at the hands of the railroad companies. The eight-hour day, he said, is a factor of first importance in the "Safety First" movement.

Mr. Steve S. Stillwell, an Inspector of the Ohio Public Utilities Commission and a pioneer in the movement for the universal eight-hour working day, complimented the Brotherhoods on the splendid attendance. He said that if such meet-

ings were held in all districts it would not be long before the battle for an eight-hour day and time and one-half for overtime would be won. He declared he had been fighting for the eight-hour work day for twenty-five years, that the time had arrived when the railroad employes were getting weary of long hours, that he realized the obstacles that would be placed in the way of this movement, but that he was sure that the Brotherhoods would overcome them just as they had overcome other obstacles in the past. He stated that a great majority of organized workers are today enjoying an eight-hour day and receiving time and one-half for overtime. In the Building Trades, he said, employers are reconciled to the new order of things and would not go back to the old way of longer hours if they were asked to, for while their labor under the new plan costs them more their workmen are more efficient and as a consequence much better work is being done.

Hon. Samuel J. Black, member of the Eightieth and Eighty-First General Assembly, in support of his theory that in "Organization there is strength," related the following story:

"A farmer met a boy on a country road at a tree in which was a big hornet's nest. The farmer asked the boy to get a club and knock the nest down. 'I won't do it,' the boy said, 'those blamed things are organized.'"

Mr. Black gave some very interesting particulars regarding the operation of the Ohio Workmen's Compensation Law.

The Railroadmen's Quartet then rendered a selection.

Before the close of the afternoon session, Chairman Ackerman spoke very interestingly on the eight-hour movement and the benefits of co-operation and organization.

The night session was called to order at 7:30 p. m. Chairman Ackerman, after stating the purpose of the meeting, introduced Rev. Father Waechter of St. Joseph's Catholic Church of Crestline, who offered the invocation.

Assistant Grand Chief Griffing of the B. of L. E. then spoke on the Eight-Hour Movement, making clear the great need for a shorter work day under existing conditions and the justice of the demands of the men. Rev. Cassell of the First Methodist Church of Crestline, who spoke next, stated that any movement which had for its purpose the betterment of the conditions of men was a movement that should receive the support of all. He said that such a movement was bound to succeed.

Bro. D. M. Miller, General Chairman of the B. of L. F. and E. of the Pennsylvania Lines West; Mrs. Laura Midg-

ely, Past Grand President of the Ladies' Auxiliary to the B. of R. T.; Brothers H. M. George and H. M. Evans, Inspectors of the Public Utilities Commission of Ohio, and Brother C. Irwin, General Chairman of the O. R. C. of the Pennsylvania Lines West, addressed the meeting in behalf of the Eight-Hour Movement, their remarks being greatly appreciated.

General Coxe of Massillon, Ohio, who was present, expressed himself as fully in sympathy with the Brotherhoods in their fight for an eight-hour day.

In closing the meeting Chairman Ackerman said:

"We wish to thank the pastors of this city for the assistance they have given us by closing the churches to make this meeting a success. The local committee, having the meeting in charge, are to be commended for their active interest, in fact the entire citizenship of Crestline are to be thanked for their co-operation, and to the Governor, the Grand Lodge Officers, the lady speakers and the Railroadmen's Quartet, we also extend our sincere thanks. Let co-operation, complete harmony and brotherly love be our keynote."



FEDERAL LEGISLATIVE PROGRAM PROGRESSING

Government Ownership Resolution Not to Retard Action on Transportation Organizations' Measures

U. S. Supreme Court Decides Against Apportioning of Damages by Jury on Contributory Negligence Basis

Arkansas Full Switching Crew Law Constitutional

FROM THE NATIONAL LEGISLATIVE REPRESENTATIVES*

Although, as reported in the last issue, the Interstate Commerce Commission saw fit to object to the passage of the clearance bill on the ground that it would impose some additional work upon the Commissioners, and in spite of the fact that the time and attention of Congress has been taken up very largely with preparedness measures and appropriation bills, some progress has been made toward the passage of the bills of direct interest to the men engaged in engine and train service.

It looked for a time as though Senate Joint Resolution 60, which passed the Senate and was favorably reported by the House Committee on Interstate and Foreign Commerce, would be used to hold up all legislation affecting the railroads, including the bills being urged by the transportation Brotherhoods, through the National Legislative Representatives. This resolution provides for the appointment of a committee of Senators and Representatives to investigate the whole subject of the regulation of the railways, as well as the feasibility of government

ownership of this and similar utilities, and was presented in accordance with the recommendation of the President in a message to Congress. President Wilson suggested the formation of a body of inquiry "to ascertain by a thorough canvass of the whole question whether our laws as at present framed and administered are as serviceable as they might be in the solution of the problem,"

and stated that

"It might be the part of wisdom before further legislation in this field is attempted to look at the whole problem of coordination and efficiency in the full light of a fresh assessment of circumstances and opinion."

It was not clear from a reading of the message whether or not it was intended to suggest to Congress that laws looking to safety of railroad operation should be included and whether the investigation should cover the operation of the safety appliance and locomotive safety laws and be used to hold up other bills, pending the report of the committee. This view was met by the Legislative Representatives, and in order to secure some definite expression upon this point and in order, if possible, to secure the support of the President for the measures included in the legislative program of the organizations, an interview was arranged and the

*H. E. Willis, A. G. C. E., B. of L. E.; P. J. McNamara, Vice President, B. of L. F. and E.; W. M. Clark, Vice President, O. R. C.; Val Fitzpatrick, Vice President, B. of R. T.

matter laid before him in a personal audience. The President expressed himself as being in sympathy with the efforts of the organizations to bring about improvements in the operating conditions and frankly stated it was not intended to refer the bills mentioned to the joint committee.

Notwithstanding this understanding, there was some sentiment among members of Congress to delay action on the safety legislation and the pendency of Senate Joint Resolution 60 and the report of the Committee was used as an excuse. To meet this objection, a communication was addressed to the President and information was received to the effect that the Committee handling the bills would not refer them to the joint committee, and that their consideration or passage would not be delayed by reason of any action on the resolution and that they will be taken up in due course.

The bill to fix a minimum fine of \$100 for violations of the Hours of Service Law was favorably reported to the Senate by Senator Robinson of Arkansas, and is on the calendar. Hearings have been arranged on the Clearance Bill and the proposal to increase the salaries of the safety inspectors. These three measures, the increase in salaries for the inspectors, the minimum fine for violations of the Hours of Service Law, and the Clearance Bill, constitute the program of legislation of immediate interest to the transportation organizations at this session of the National Congress.

"PAUSE TO BLAME"

Odd language is employed by Mr. Justice McKenna of the Supreme Court of the United States in the opinion delivered March 20, 1916, reversing the judgment of the Supreme Court of Minnesota which had affirmed an award of \$850.00 for the death of a Great Northern brakeman in an action under the Federal Employers' Liability Act. "His fate gives pause to blame," says the eminent jurist, who proceeds to apply the law so as to impose "a full and an anxious sense of responsibility" upon all those, however high or low in function, who are concerned with the operation of the railroads.

The deceased was a rear brakeman or flagman on an east-bound freight. After having passed a curve in the road a drawbar pulled out and the train stopped, and within from three to five minutes after it was run into by a following passenger train. The night was dark and misty and the rear end of the freight could not be seen more than about two hundred feet. No negligence was attributed to the engineman of the passenger train. Wiles, the brakeman, and the conductor of the

freight train were in the caboose and both were killed. Wiles failed to comply with Rules 9) and 100, and there is nothing in the opinion to indicate why he remained in the caboose and did not go back to protect the rear end of his train when signaled to do so by his engineer. As Wiles did not live to tell his own story, it is easy enough to lay the responsibility for his death entirely upon him, but "his fate gives pause to blame."

In the trial court, the jury found a verdict for the plaintiff in the sum of \$650.00, but the judge upon motion of the defendant rendered a judgment that, notwithstanding the verdict, the plaintiff take nothing by his action, and that the case be dismissed, and that the railway company recover of the plaintiff \$36.52 costs.

The Supreme Court of the State of Minnesota reversed the trial court and ordered that judgment be entered on the verdict of the jury. The State Supreme Court applied the rule of *res ipsa loquitur* (the occurrence speaks for itself) and held that this rule justified the submission of the question of the negligence of the railroad company to the jury. The case was brought under the Employers' Liability Act which provides by Section 3 that contributory negligence on the part of an employe who is injured or killed shall not bar a recovery, but that the damages shall be diminished by the jury in proportion to the amount of negligence attributable to such employe. The verdict of the jury was to the effect that under the circumstances the break-in-two was the result of a greater degree of negligence on the part of the company than that attributable to Wiles on account of his failure to obey the rules.

While stating that the application of *res ipsa loquitur* to cases of injuries to employes is disputable, the decision of the Supreme Court of the United States declares:

"There is no justification for a comparison of negligences or the apportioning of their effect. The pulling out of the drawbar produced a condition which demanded an instant performance of duty by Wiles, a duty not only to himself but to others. . . . In the present case there was nothing to confuse his judgment or cause hesitation. His duty was as clear as its performance was easy. He knew the danger of the situation and that it was imminent; to avert it he had only to descend from his train, run back a short distance, and give the signals that the rules directed."

The decision of the Supreme Court in this case was carried in the dispatches of the press associations and has been seized upon with some show of exultation by organs which are accustomed to be-

wall the results of submitting the facts in cases of this kind to the jury. The Railway Age Gazette, March 31, under the caption "The Gravity of the Trainman's Responsibility" stated:

"Railroad companies have been mulcted in uncounted thousands of dollars for damages in cases of this character, where the employe was rightly chargeable with the whole blame, but where the jurymen, easily confused as to the true apportionment of the responsibility, acted wholly according to their sympathies; and clarifying decisions like this one ought to be widely published. It is a hard thing to lay down the law to an offender who already has punished himself more severely than the State would punish, but it is a stern necessity; for the tendency of juries to take money from the rich and give it to the poor will never die out, and lawyers who encourage this spirit, and easy-going judges who approve it, are always with us."

We quote further from the article:

"That word 'anxious' gives a curious turn to this judicial utterance. And, in principle, the requirement to be anxious applies as much to enginemen, conductors, signalmen, despatchers and superintendents as to flagmen. Can it be looked upon as a normal requirement? It is not to be wondered at that an accurate thinker, accustomed to searching out the whole truth in any subject that he takes up, one who, like a judge of the highest court is familiar with the whole range of human sympathies, should use strong words when he sees the combined delicacy and gravity of the responsibility that is placed on the minds of men who must make safe the movement of five-hundred-ton trains at speeds of a mile a minute and faster; but is anxiety a normal state of mind? In the case of enginemen and train despatchers the need of so arranging the duties and so qualifying the men as to do away with all anxiety has been a matter of a great deal of study; should not the same principle apply in the case of flagmen? And all the other classes also?"

"A brakeman—or an individual in any of the classes named—may well be anxious if he has anything less than 100 per cent of the knowledge of details and the devotion to duty which are required by his work; and as every person has his weaknesses the dictum of the learned justice is, to this extent, correct and applicable; but the best use that any railroad man can make of this admonition from the court will be to paste it in his rule book, to serve as a reminder; a reminder that constant and punctilious observance of the rules will make anxiety unnecessary. *For the flagman himself, it is to be admitted that theory and practice are often very difficult to make consistent with each other; the flagman who says he cannot carry out the flagging rule in its extreme requirements, and still hold his job, enlists a good deal of sympathy.*"

How easy and pleasant are the duties of enginemen in the opinion of those who run the railroads on paper may be judged from the following extract:

"With other classes the case is simpler. Take, for example, the locomotive runner. Writers of magazine stories and enginemen who like to 'pose' have much to say about the anxieties and the heroism of the man in the cab; but everyone who has observed the actual life of the men in the cab, knows that the runner who keeps his body and mind normal and who aims to follow the rules strictly may, so far as his duty is concerned, lead a pretty calm life. Especially is this true on block-signal lines. The engineman is, indeed, subject to worry over the foolhardiness of people who walk on the track, reckless drivers of automobiles at crossings, and such like annoyances; but these things cannot be got rid of by any anxiety as to duty-doing."

And what do the men who run the trains think of this gem of human sympathy:

"In ideal railroading the safety of train movement should involve as little anxiety as the movement of cash carriers on the wires in a dry goods store; the real anxiety comes when it is necessary to deal with labor unions, congressmen and the postmaster general!"

SWITCHING CREW ACT CONSTITUTIONAL

The Supreme Court of the United States handed down a decision April 3, 1916, sustaining the constitutionality of the Arkansas full crew law for switchmen. The act which was approved February 20, 1913, required all railway companies operating roads one hundred miles and over in length to use crews of six men composed of an engineer, a fireman, a foreman, and three helpers while doing switching in terminals or yards, across public crossings in cities of the first and second class and provided a penalty of not less than \$50.00 for each violation.

The St. Louis, Iron Mountain & Southern Railway Company violated the statute by switching cars in the city of Hot Springs with less than the required number of men in the crew and was indicted and fined the minimum penalty. The Company appealed to the Supreme Court of Arkansas, challenging the constitutionality of the act. The Supreme Court of the State sustained the conviction and the railroad appealed to the United States Supreme Court. The company attacked the act on the grounds:

(1) That the provisions limiting the act to roads one hundred miles or more in length constitutes unjust classification and denies the equal protection of the laws to such road.

(2) That the act was arbitrary and

unreasonable and that there was no necessity therefor.

(3) That the act operates as an interference with interstate commerce.

(4) That the penalty imposed is so excessive as to destroy the opportunity of defense without incurring the risk of unreasonable penalties.

Mr. Justice McKenna delivered the opinion of the court in which each of the contentions of the company was refuted. In accord with the principles laid down in the case of Chicago, Rock Island & Pacific Ry. Co. v. State, 219 U. S. 453, in which the Supreme Court sustained the Arkansas full crew law for freight trains, the court stated there was no conflict with the Fourteenth Amendment and the Commerce Clause of the Constitution.

The carriers asserted a distinction between a full crew law for freight trains and a full crew law for switching operations within terminals, but the Supreme Court took the position that "the basis of both is safety to the public though the urgency in one may not be as great as the urgency in the other."

Another objection which was advanced with great emphasis by counsel for the railroad company was that certain terminal companies, one at the city of Helena and one at Fort Smith, do switching for certain connecting trunk lines, and by reason of their length, being less than one hundred miles in length, are not covered by the act, and that the one at Fort Smith does switching over the crossings of the St. Louis, Iron Mountain & Southern. On this point, the court stated, "The distinction seems arbitrary if we regard only its letter, but there may have been considerations which determined it, and the record does not show the contrary. We have recognized the impossibility of legislation being all-comprehensive and that there may be practical groupings of objects which will as a whole fairly present a class of itself, although there may be exceptions in which the evil aimed at is deemed not so flagrant."



Sparks.

A bound volume of the Locomotive Firemen and Enginemen's Magazine for 1915 can be secured for \$3.50 prepaid to any point in the United States and to any point in Canada or Mexico for \$4.50, subject to duty. Remit to John F. McNamee, Editor and Manager, Traction Terminal Bldg., Indianapolis, Ind.

The second section of the first edition of "Sparks and Cinders," a book of poems by Bro. J. Alex Killingsworth, whose excellent poetry appears monthly in our

Magazine, is now on sale. This edition, while an exact duplicate of the first edition, will sell at 75 cents a copy. "Sparks and Cinders" will prove a valuable addition to the library of any Brotherhood man. Orders should be sent to J. Alex Killingsworth, 21 Myrtle Street, St. Thomas, Ont., Canada.

No brother should be content until every man he knows of who is eligible to our ranks but not yet a member has joined the "Tried and True."

Unless members and subscribers notify the Magazine office promptly of a change in their address the Magazine will continue to go to their old address or their name will be ordered dropped from the list by the postmaster. A postal card is all that is necessary to notify us of a change of address.

Don't forget to have a supply of application blanks in your pocket ready for all nonunion firemen you may meet.

Bro. J. Diaper of Lodge 648 advises that he has a complete set of Kirkman's Science of Railways for sale which he is willing to dispose of for \$15.00, the books being as good as new. Interested parties communicate with Bro. J. Diaper, Havelock, Ontario, Canada.

All changes of address in order to take effect with the next issue of the Magazine should reach this office not later than the tenth of the month prior to date of issue.

"The Angel of Easter," a beautiful new song by Adelbert Clark, whose poems appear monthly in our Magazine, can be secured for thirty-five cents per copy. Music by Canadian composer, W. Francis Firth. Send orders direct to Francis Firth Music Co., 23-25 Farmer Street, Detroit, Mich.

We have for sale air brake charts in colors, together with printed descriptive matter, at the prices named below:

No. 6 ET Brake Equipment (12 charts in set), 30 cents.

P-C Passenger Car Brake Equipment (15 charts in set), 35 cents.

Empty and Load Brake (13 charts in set), 30 cents.

LT Automatic Control Equipment, 10 cents.

The chart on the LT Automatic Control Equipment will be included with any of the foregoing sets for 5 cents additional. Send orders to John F. McNamee, Editor and Manager, Traction Terminal Building, Indianapolis, Ind.

Bro. L. J. Canniff, of Lodge 506, has back copies of the Magazine for about twelve years and a set of Kirkman's Science of Railways which he is willing to dispose of at a reasonable price. In-
 Magazines from May, 1910, to December, 1915, which he is willing to sell at \$1.50 per year. Anyone desiring to procure same kindly communicate with Bro. Oscar Houck, 306 Ridge Avenue, Kingston, Pa.



A CREDENTIAL TO THE DENVER, 1883, CONVENTION
 (Courtesy of Bro. Frank C. Schmitt, Lodge 14.)

terested parties communicate with Bro. L. J. Canniff, General Delivery, Houston, Texas.

Bro. O. Houck, Financial Secretary of Lodge 415, advises that he has on hand

Another new series of air brake charts is now ready. The set consists of thirteen charts in colors on the Empty and Load Brake of the Westinghouse Air Brake Company, and shows diagrammatically the triple valve and change-over

valve in their various operative positions. Price per set of thirteen charts, including printed descriptive matter, 30 cents, prepaid to any address. Orders should be sent to John F. McNamee, Editor and Manager, Traction Terminal Building, Indianapolis, Ind.

Anonymous letters intended by the writers for publication continue to reach this office, notwithstanding that it has been repeatedly stated that we cannot give them any attention. As a condition to publishing communications they must bear the name of the author, which will not be published if the writer so requests.

If all men who are eligible to join our Brotherhood would become members it would lessen the cost of protection.

Bro. John T. Gill, of Lodge 586, General Delivery, Springfield, Mass., is desirous of securing a set of the Brotherhood Correspondence School Lesson Papers. Anyone having a set of these papers and

willing to dispose of same kindly communicate with him at the above address.

All notifications of changes of address, etc., to appear in the Directory should be in the hands of the General Secretary and Treasurer not later than the first of February, May, August and November, as the Directory is corrected up to the 10th of the months named.

Bro. J. A. Moore of Lodge 622 has copies of the Magazine for the years 1903 to 1915, inclusive, which he desires to dispose of. Interested parties communicate with Bro. J. A. Moore, 1023 Tudor Avenue, E. St. Louis, Ill.

For fifty cents you can secure a copy of the Catechism of the Electric Headlight, containing supplement on the Pyle National Equipment "E" with folders. Orders should be addressed to John F. McNamee, Editor and Manager, Traction Terminal Building, Indianapolis, Ind.



EIGHT HOURS A DAY

By ADELBERT CLARK

God speed the time when the worker
 Shall serve but eight hours a day,
 When the hands and the minds that
 are weary
 May find a few minutes for play.
 There are too many wage earners
 struggling
 And toiling away in life's mart
 With never a moment for pleasure
 To lighten the care burdened heart.
 Let the millionaires cease in their
 wrangle

For more than eight hours a day;
 Give the weary, the trampled, the
 hampered
 More of a chance in life's fray.
 If they'll all stand together like
 brothers
 They'll share in God's blessings I
 say,
 And their labor will bring them good
 wages
 For eight hours work in the day.



Annual Reports.

Some lodges have as yet failed to get their Annual Reports to this office and I take this opportunity to again caution those whose Annual Reports are still out that if Annual Report is not filed in this office, their delegate will not be entitled to a seat in the Convention.

Convention City.

I take this opportunity to write a small article in connection with the coming Convention, so that those who anticipate attending the Convention as visitors may know something of the arrangements.

A circular has been sent out by President Carter with reference to half rate Pullman transportation and, in fact, everything pertaining to the transportation feature.

A circular has also been sent out to the recording secretary of every lodge and to every delegate who has been reported to this office, telling them just what is necessary in order for them to have a seat in the Convention.

The Convention opens on Monday, June 5th, in the City of Denver, Colorado, and while the climate is all that one could desire during the month of June, yet if any members anticipate taking a trip to the mountains, I suggest that they bring their overcoats with them, as this will be necessary in case of sight-seeing trips.

The circular sent to all delegates and recording secretaries will give a list of the hotels and the rates charged, and I think that everyone anticipating a visit to the Convention will be satisfied that they can get nice accommodations at reasonable prices, and there are ample moderate priced restaurants in the city of Denver so no one need feel that their expenses are going to be at all heavy.

Father Time is Gradually Drawing in Our Old Members.

Each month for some time past I have been giving a list of the old timers that are passing away, or who have become totally disabled, taking same from the records as the claims are to be paid on the 15th of any one month. I give below a

list of those that were paid on the 15th of April:

Name	Lodge No.	Y'rs.	M'ths.
Frank O. Smith.....	11	35	8
E. E. Lovejoy.....	25	30	7
Patrick Lynatt.....	27	35	8
Cyril Dumont.....	30	35	..
T. J. Berrien.....	72	31	6
Byron Arnold.....	104	18	9
Anton Reiser.....	232	19	8
E. E. White.....	240	29	10
Robt. Ferguson.....	284	19	11
G. A. Deizler.....	297	25	..
Peter Brahl.....	363	31	3
J. E. O'Boyle.....	423	24	10
C. A. Edmonston.....	430	21	6
R. W. Hamilton.....	449	18	..
Chas. Romaine.....	543	31	10

The claims of E. E. Lovejoy and Patrick Lynatt are Disability Claims.

AGE, AND AMOUNT PAID INTO BENEFICIARY FUND.

Name	Age	Amount
Frank O. Smith.....	57	\$549.10
E. E. Lovejoy.....	71	511.90
Patrick Lynatt.....	70	575.75
Cyril Dumont.....	70	Honorary
T. J. Berrien.....	56	537.45
Byron Arnold.....	51	348.45
Anton Reiser.....	54	357.45
E. E. White.....	54	Honorary
Robt. Ferguson.....	58	365.75
G. A. Deizler.....	47	453.75
Peter Brahl.....	55	535.75
J. E. O'Boyle.....	51	446.10
C. A. Edmonston.....	65	Honorary
R. W. Hamilton.....	57	334.10
Chas. Romaine.....	67	540.45

Officers' Reports.

There was recently mailed to the recording secretary of each lodge, as well as the delegate, a copy of the Officers' Reports.

It would be well for each delegate to familiarize himself with the contents of these reports and to be sure, if he desires to have a copy of same at the Convention, to bring the one forwarded to him because we will not be able to supply additional copies at the Convention.

I would also suggest that the reports be gone over by the recording secretaries so that they can inform the members at a lodge meeting prior to the Convention as to matters treated in the reports so that the lodge may take action with reference

to advising their delegate as to the course he should take regarding such matters in the Convention.

Our Membership.

It is very gratifying to the Officers of the organization to report that there is great activity on the part of our members in getting into the subordinate lodges all of those who are eligible for admission.

It is also very gratifying to us to report that we have had a very substantial increase for the first three months of the year 1916, the number being 2,807, and I take this opportunity of saying that but two months during the history of the organization has there been more new members reported to this office than there were during the month of March of the present year, when the number reported and placed on the rolls was 1,952.

Twenty-seven Highest.

The following shows the twenty-seven lodges that initiated the largest number of

members during the months of January, February and March, 1916:

Lodge No.	No. of Members.
3	101
287	56
57	50
516	49
285	47
666	46
378	40
363	38
620	36
99	33
241	33
478	31
10	30
435	30
716	30
743	27
230	26
96	25
462	25
352	24
496	23
2	22
228	22
253	22
302	22
416	22
543	22



Top Row, left to right—J. A. Nee, Gen. Chr. B. R. T.; W. W. Puckett, Gen. Chr. B. L. E.; W. J. Burke, Gen. Chr. O. R. C.; A. B. Miller, Gen. Chr. B. L. F. & E.
 Middle Row, left to right—C. B. Rawlins, Gen. Chr. O. R. T.; G. H. Sines, Vice-Pres. B. R. T.; M. C. Carey, Vice-Pres. O. R. C.; G. L. Griffing, Asst. G. Chief B. L. E.; A. J. Lovell, Vice-Pres. B. L. F. & E.
 Bottom Row, left to right—E. A. Shafer, Sec. O. R. T.; T. F. Kady, Sec. B. R. T.; F. J. Lever, Sec. O. R. C.; C. E. Spaulding, Sec. B. L. E.; W. L. Douglas, Sec. B. L. F. & E.

Forum

REDUCTION OF ORGANIZATION EXPENSE

Improvement of Conditions for the Membership

By M. F. BARNETT, General Chairman B. L. F. and E., Texas and Pacific Ry.

Without preface, but with a thought of the question under debate, the following is offered, brothers, for your consideration:

Some months ago our Magazine published a "Tentative Plan For Reducing Expense of Future Conventions" such being a propaganda of members of the Board of Directors. Subsequent to publication thereof there has been much comment upon the subject—coupled with the thought of a general reduction of expense, and assessments, in our organization.

It shall not be my purpose to take issue with those who feel that all necessary to have done in this direction is to "Reduce the number of delegates," hold "District Conventions," etc.—but from the observation of my limited experience in affairs of this Brotherhood the relief sought does not appear in these plans as suggested.

It is hardly fair that we charge and put on trial the delegates, either as regards their personnel or numbers, as being the sole sponsor for the enormous convention expense in our Brotherhood. Unquestionably a close perusal of the records will give evidence of other causes, than either of those mentioned. The suggestions offered in our Magazine columns to the effect that "care should be exercised in the selection of our delegates," is without contradiction. And, if as stated, delegates lack in their duties while in attendance at our convention, are there not remedial measures whereby they may be put in proper light before their constituency? Granting for the moment, that our large number of delegates in convention are responsible for this great cost, will not the same condition prevail in your District Convention? Will not we find so long as the present system obtains, that measure of delay, not alone in

the General Convention, but in District Conventions, Federated Board meetings (while negotiating wage matters), Joint Protective Board sessions? In fact the same measure of delay and expense, unnecessary, is evidenced throughout all our dealings—and will continue just so long as our present system is maintained. If we experienced only great costs and delay in our conventions, then it is possible a reduction of representative numbers would result, in relief sought—but compare that with other items of expense, other representative sessions in the various departments of our Brotherhood, some of which have been pictured in these columns, which when prorated will be found one of the smaller items making up the expense side of our ledger. In fairness to all—we cannot charge off this condition to our large number of delegates in attendance at conventions, but—as observed by some—it is the present day system to which such should be credited. Aside from all others the question of more delay, and so-called "red-tape" will follow in the trail of District Conventions, each of which must of necessity, exercise their prerogatives before any measure can find its way through the General Convention. Delay means expense. With this delay will come a greater expense, for there can be no more cause for stating the length of time a District Convention will remain in business session, than to also name the time our General Conventions will remain in session. Not alone will we have to meet the expense of our eight hundred odd delegates in District Conventions, which will aggregate a total time in excess of present convention sessions, but then there will be the expense of those one hundred odd—hand picked delegates to the General Convention. The sum-total surely rests with our system. Nor

do I wish misunderstanding in thought of my view as regards the so-called "system"—but do feel that, not merely as an expediency, but logically, a revision of method in our Brotherhood should be had looking to the immediate welfare of our membership, which would, with reinforcement by support of the members, add greater results with a much lesser cost to those things which affect the membership most vitally.

If indications in our Magazine portray the sentiment of our members for relief along the lines of "reduction" in expense, then does such question rise to the proportion of commanding a thorough analysis of the entire structure—and without an attempt to over-step bounds of propriety it is offered as a thought—that a selection be made of some committee, either from our Brotherhood or elsewhere, whose sole function shall be that of determining ways and means for the lessening of this heavy and constantly increasing expense, and with it the obtaining of adequate results for our members. Not merely to scrutinize some particular feature, but after most thorough investigation make known the result of their search, then rest assured the thousands of loyal right-thinking members in our Brotherhood will right that which needs to be righted.

Improving conditions for our members can be made to cover a great field of thought and discussion. Regarding a vital feature of our Protective Department—just make a review, if you will, of the surroundings of your Joint Protective Board, particularly as affecting their method of handling affairs for the members. Note the requirements when a member is aggrieved—taking his case from its inception to the last necessity, if required to go that length, in order to secure settlement. Do you not suppose the manager of your railroad and all his subordinates have a thorough knowledge of our long trail of requirements when handling organization affairs and calculate the results of long continued delay, both from an economic and moral viewpoint, upon the members while affairs of interest to them are pending settlement? As an instance wherein we find our men cramped, we should not

permit of a policy which privileges your railroad official, of all subordinate classes, to require of you that which is, and is recognized as, a violation of working rules, and with the turn of hand require of you the re-adjusting of conditions which time and monies have been put into an already adjustment thereof, then only to find such repeated again and again by some official—followed by that endless procession of adjusting.

Make for your organization a policy which carries with it action on the part of railroad officials when presented with subjects for settlement by our representatives. Revamp those laws which are proven inadequate for the twentieth century organization, and give to the membership that which means for them prompt and economical disposition of any and all questions affecting their interest.

Summed up—the whole situation is one of efficiency.



Boosters' Joint Union Meeting.

A "Boosters' Joint Union Meeting" of the B. of L. E., B. of L. F. and E., O. R. C. and B. of R. T. was held at the Eagles' Hall, Freedom, Pa., on Monday, March 18th last. There were two sessions, one commencing at 2 o'clock p. m. and the other at 8 o'clock p. m. The meeting was called to order by Bro. H. R. Davis, of Lodge 323, Brotherhood of Railroad Trainmen. There was a large and enthusiastic attendance.

In a communication from the publicity committee appointed by Lodge 323 of the B. of R. T., the following suggestions were made:

"We would suggest that each and every member of the four organizations resolve to make this a year of interest in Brotherhood work by attending his division or lodge meetings and offering his advice and assistance to force the Eight-Hour Day proposition on every railroad north of the Mexican border.

"We would further suggest that you go to every man in public life, such as your spiritual adviser, your Representative at the State House, your Governor, your Congressman and Senator, and our President at Washington, and implore them to use their good offices and influence to bring about the Eight-Hour Day for all railroad workers.

"In conclusion, and above all things we want you, because we know it is your duty, to write your Grand Chief or the

President of your organization and commend him and his associate officers for the wisdom shown in the proposition and, along with your appreciations, guarantee him your loyal and undivided support."

This committee also submitted the following resolution which, together with the foregoing, was accepted and made a matter of record of the joint body:

"WHEREAS, The proposition containing the Eight-Hour Day with time and one-half for overtime is the result of fidelity to obligation by our Committeemen, and the wisdom of our Grand Lodge officers, and

"WHEREAS, By giving the Grand Lodge officers of the four organizations the loyal support and confidence of each and every member we can demand and get that which we are justly entitled to, namely, the Eight-Hour proposition in its entirety, and

"WHEREAS, Practically all organized labor of any importance, with the exception of the railroad worker, enjoys an eight-hour day. Congress and State Legislatures have legalized the eight-hour day for State and Federal employes, and now we, the members of the B. of L. E., B. of L. F. and E., O. R. C., and B. of R. T. demand the Eight-Hour proposition in its entirety. Therefore.

"Be it Resolved, That we, the members of the above-named organizations, approve of the Eight-Hour proposition in its entirety, commend the Committeemen and the Grand Lodge officers for the wisdom shown in its construction and for the magnitude of the movement, and as members we pledge our loyal support and guarantee the Committeemen and Grand Lodge officers our confidence, and

"Be It Further Resolved, That as Arbitration has been tried and found wanting and has proven so very unsatisfactory in the past that we go on record as opposed to Mediation, Arbitration or any form of a tribunal other than the men employed and directly engaged in the railroad service of the Eastern, Western and Southern territories, and that we force the proposition at this time or go out of the business as labor organizations."

The Eight-Hour proposition was read by the secretary of the meeting and an understanding was had by all present.

Bro. D. D. Miller, General Chairman of the B. of L. F. and E., Pennsylvania Lines West, spoke on our present wage movement and stated that in his opinion our chances were A No. 1 for securing the Eight-Hour day and Time and One-half for Overtime, and said he would not favor arbitration, which was greeted with applause.

Bro. C. R. Carlton, General Chairman of the B. of R. T., Pennsylvania Lines West, spoke on local conditions and the Eight-Hour Movement, and gave it as his

opinion that it is impossible for the railroads to defeat the proposition.

Bro. T. R. Dodge, Assistant President of the B. of R. T., spoke on the progress made by the four organizations, and explained in detail the workings of wage movements from the beginning up to and including the present Eight-Hour Movement, and emphasized his remarks with the words: "The world knows that you want eight hours and time and one-half for overtime when approximately four hundred thousand men engaged in the transportation department of the American railroads voted ninety-eight per cent in favor of the proposition." These words were received with great applause, as this was the first information we had had regarding the vote. Brother Dodge also spoke of the able leadership at the head of the present movement and appealed to the membership to give them the loyal support and confidence their ability and integrity entitle them to, and named a number of railroads now in the hands of receivers, showing figures as to why they are in receiver's hands, and pointing out very clearly that the Brotherhoods are not responsible for their condition, but that the blame should be placed on Wall Street, New York.

Remarks were also made by Bros. J. H. Rochenstien and W. Swell, same being accorded generous applause.

The secretary read a letter which was proposed by Lodge 323 of the B. of R. T., and which is being used as an educational feature for the general public.

H. R. DAVIS,
Chairman;
G. A. HOWE,
Secretary.



Reduce Assessments to a Minimum.

The article in our March, 1916, issue by Brother John E. Bjorkholm, entitled "Rank and File Demanding Economy," is a powerful argument in favor of reducing our assessments, which, in my opinion, are entirely too high and constitute a hardship on some of our brothers. I have given the article serious consideration and trust all our members will do likewise with a view to reducing our assessments to a minimum.

There ought to be a law enacted at our next convention empowering the General Chairman to order to their homes all Local Chairmen who are not actively engaged in drafting a schedule until such time as it is necessary to reconvene the Joint Protective Board to ratify the



J. A. Ford, 672	B. B. Bridges, 542	H. P. Oldham, 139	E. M. Murray, 56	H. B. Rix, 198
H. P. Newman, 280	H. S. Nelson, 808	J. Westemeir, 98	A. J. Harris, 143	J. Q. Langtsnecht, 97
F. McCallum, 91	G. F. Irvine, 313	A. Phillips,	O. W. Kern,	B. F. Cole, 19
	Vice Chairman	Vice President	Gen'l Chairman	Sec.-Treas.

JOINT PROTECTIVE BOARD, SOUTHERN PACIFIC (PACIFIC) SYSTEM.

schedule, thereby materially reducing our assessments.

I would also like to suggest that a law be enacted at our next convention providing for the election of salaried chairmen by a referendum vote of the rank and file, subject to recall providing that official so elected is not capable of filling said office satisfactorily. Local Board to do the nominating.

I would also call special attention to Bro. Geo. Stewart's article in the issue of March last relative to cutting down convention expenses, and which also ought to apply to Joint Protective Board meetings in regard to going sight seeing or adjourning under pay, losing time which undoubtedly has to be paid for by the membership and which expense a great number of brothers, who are working hard to support families, are in no position to bear. Enjoyment and amusement should not be provided for a few to the detriment of the many.

I hope our members will give these articles careful consideration.

JOHN MAHER,
Member Lodge 499, B. of L. F. & E.



Colorado Fourth Annual State Meeting.

The Fourth Annual State Meeting of the B. of L. F. and E., and the Ladies' Society of the State of Colorado has passed into history, and to one who attended same it seems strange that any lodge in the State would neglect sending delegates, for it is certainly a school of instruction. Now I believe you will admit that there is no ground for argument that each and every lodge should be identified with the State meetings. They accomplish much good for our members. If you want to keep up to date and increase your own efficiency and the efficiency of the order, you should attend and take a live interest in the State meetings. The State meeting is a progressive association of able representatives, and a tower of strength to secure legislation we stand in need of. If for no other reason, the cultivation of fraternal fellowship would be enough to justify a State meeting in every State. If we do not look after our own interests in a reasonable and intelligent way, then we have no right to ask help from the public. The State meeting binds us more strongly together in the warfare against our common enemy. It does every fireman good to look at least once a year into the hon-

est faces of his brothers and to clasp their hands in a hearty grip of friendship. Remember the Fifth Annual State Meeting in Denver in 1917.

R. S. MCALPINE,
Past President, State Meeting.



Reducing Cost of Grand Lodge Conventions.

After reading various articles in the Magazine from time to time about reducing the cost of Grand Lodge Conventions, and especially the number of delegates to the conventions, I wish to say that some of those articles are very misleading. One stated that only about one-third of the delegates were attending the sessions and that the rest of the delegates were away sight-seeing. The fact is that a few lodges were not represented at all, some delegates were sick, some were on committee work and others had failed to get their door checks. Records show about 25 delegates missing or absent at each session. Delegates to our next convention will have to check in and out for each session, and if they fail to do this they will not be paid for the day. This will make the delegates more careful about attending the sessions.

In regards to shortening conventions, will say that at the last convention it took nearly two weeks to get right down to business. There were lots of discussions over certain subjects that could have been avoided, only some delegates seemed to be under the impression that the other delegates had to hear some flowered oratory from them on each question that came before the convention. This was the case even after the convention had shown plainly that it was not in favor of their arguments.

In regards to sight-seeing, will say that the convention adjourned two half days for the purpose, but in return held two night sessions.

The hall in which the convention at Washington was held was too large, and it was very hard for the delegates in the back part of the hall to hear plainly what was said in the front of the hall by a speaker who did not have a strong voice. If a delegate can not hear all that is said on a subject he will naturally lose interest in the proceedings and will therefore not care so much whether he attends the sessions or not. If a hall of proportionate size could be had so that all the delegates could hear what was going on, they would take more interest in the sessions.



Top Row: Left to Right, E. R. Gibbons, B. of L. E., 538; L. J. Monahan, B. of L. F. & E., 619; F. H. Lavery, B. of L. F. & E., 119; V. H. Watson, B. of L. E., 213; I. W. Flower, B. of L. F. & E., 170; Wm. D. Wells, B. of L. F. & E., 199; C. W. Daniels, B. of L. F. & E., 26; B. J. Skutumpah, B. of L. F. & E., 311; F. C. Miller, B. of L. F. & E., 149; Wm. Spittler, B. of L. F. & E., 264; M. A. I. B. of L. E., 433; J. Kelly, B. of L. E., 529; W. T. Patton, B. of L. E., 653; J. W. Lewis, B. of L. F. & E., 333; C. D. Squires, B. of L. F. & E., 26; D. M. Falvey, B. of L. E., 176.
 Middle Row: Left to Right, O. W. Struben, B. of L. F. & E., 572; Joe Lind, B. of L. F. & E., 66; F. E. Allen, B. of L. E., 6; G. A. Thomson, B. of L. F. & E., 34; C. E. Sargeant, B. of L. E., 860; W. E. Sprau, B. of L. F. & E., 336; G. A. Johnson, B. of L. F. & E., 26; C. R. Sutton, B. of L. E., 126; C. Jeffers, B. of L. E., 303; B. Sobry, B. of L. F. & E., 633; A. A. Thompson, B. of L. F. & E., 666; Dan Finley, B. of L. E., 266; L. E. Fruner, B. of L. E., 186; J. F. Jones, B. of L. E., 406.
 Bottom Row: Left to Right, Edw. Murray, B. of L. F. & E., 346; A. R. McDonald, B. of L. F. & E., 194; Wm. Finnegan, B. of L. E., 116; Leo Dittos, B. of L. F. & E., 17; J. H. Marshall, Sec'y-Treas., J. P. B., & Sec'y Joint Comm., B. of L. F. & E., 433; Y. J. Marrison, Vice General Chairman, J. P. B., B. of L. F. & E., 237; S. A. Boone, General Chairman, J. P. B., Vice Chairman Joint Committee, B. of L. F. & E., 25; J. E. Hodson, General Chairman, G. C. of A., Chairman Joint Committee B. of L. E., 118 C. H. Christensen, Vice Chairman, G. C. of A., B. of L. E., 404; W. R. French, Sec'y-Treas., G. C. of A., Assistant Sec'y Joint Committee, B. of L. E., 349; L. Kittell, B. of L. E., 349; Thos. Murray, B. of L. E., 336; G. M. DeGulre, B. of L. F. & E., 266; J. J. Culkins, B. of L. E., 96.

JOINT COMMITTEE G. C. OF A., B. OF L. E. AND J. P. B., OF L. F. AND E., CHICAGO AND NORTHWESTERN RAILWAY

Records show that at the last convention the delegates voted themselves an extra \$2.00 per day for expense money. This shows up the total for the last convention to be considerably more than for the former conventions. If District Conventions should be resorted to for transacting our Grand Lodge business, I feel sure that the cost to the members would be as heavy as it is with the present system. The only difference would be that it

would be paid in a few heavy assessments in a short time instead of being paid in small assessments such as we are accustomed to pay every month.

An article in the February issue of the Magazine by the delegate of Lodge 814 is good and to the point, and I think that if his suggestions were carried out, the time of the conventions would be shortened and would not cost so much.

DELEGATE.

LIBERTY LOOKS DOWN IN SORROW

By J. ALEX KILLINGSWORTH,
Author of "Sparks and Cinders"

Mighty kings and czars and sultans,
So our hist'ries say,
Over humble subjects held the
Most terrific sway.
Liberty was outraged—why there
Wasn't such a thing.
And all men who dared proclaim it
Quickly took a swing.
We in this age are amazed that
Things like that could be,
And we're puzzled that the people
Sought not to be free,
Why they failed to rise in fury
And the tyrants smite,
Why they failed to recognize their
Power, strength and might.
But with all our boasted progress,
Where do we surpass
Those whom we, as common weaklings,
Are so prone to class?
Recently, in West Virginia,
Postal service men
Were indicted by officials
Of the service when
They resigned from their positions—
Made untenable
By abuses that the workers
Found unbearable.
Liberty in postal service
Doesn't now exist,
And no longer may employes
On their rights insist.
Thus the tyranny of masters
In Virginia grows—
Prison bars and convict clothing,
Are the threats to those

Bold enough to ask officials
For plain justice—yea,
Grievances have no adjustment
For the boys in grey.
How, we ask, can common people
Hope for justice when
Their appeals for it may lead them
To a prison pen.
Corporations find courts handy
Means to serve their need:
Mercy seeks in vain for shelter
In the hearts of greed.
In the land that cradled Freedom,
Greed finds welcome place;
Liberty looks down in sorrow
On a shackled race.
Where men are not strong in union
Justice is denied.
Note the treatment meted out to
Postmen who defied
Those tyrannical officials,
Schooled in selfish greed,
Who with heads in U. S. nosebags
On the people feed.
Let our workmen fight injustice;
Let us help the weak.
Pilgrims in a land of Freedom,
Justice plain, we seek.
Let us strive to have those tyrants
Put where they belong.
Let our motive be in fighting,
To right ev'ry wrong.
Show them that the common people
Have the strength at hand
To command that nations honor
every fair demand.



J. E. Wood, 23
Vice Chmn.,

E. C. Dodd, 336

C. E. Cory
Chmn.,

W. L. Adair, 111

D. D. Dora, 417

E. I. Brown, 489

Virgil Wells, 334
Sec.-Treas.

G. W. Williams, 527

James Howard, 89

F. A. Cullen, 640

JOINT PROTECTIVE BOARD, BIG FOUR RAILWAY

Joint Union Meeting, Middleport, Ohio.

A Joint Union Meeting was held by the B. of L. E., O. R. C., B. of L. F. and E., and B. of R. T. on April 3rd last at Middleport, Ohio, in Eagles Hall with Bro. R. B. Ackerman, Chairman of the Ohio State Legislative Board, as speaker. There was quite a large attendance, there being also present several good speakers from the four organizations above named.

It is useless to say that all present had a good time. Several matters of importance were taken up and discussed and I think the meeting brought the members of the four train service organizations closer together on the K. and M. R. R. than they ever were before, and we hope the good work will continue.

The Eight-Hour Day and time and one-half for overtime movement was discussed by Brother Ackerman, also co-operation of the four train service organizations and I think it one of the best moves they have ever made. We wish to thank Brother Ackerman for his good talk and attendance at this meeting and the great good accomplished thereby.

We are working for one of the largest meetings ever held in Middleport, which we want to be a public meeting.

E. A. BENNETT,
Financial Secretary, Lodge 544.



Deafness as a Disability.

I have been reading each month the articles in our Magazine relative to helping the aged and disabled, and have been giving same close thought. We have good laws but they do not cover enough ground. I am no old timer, only 16 years in the "Tried and True," neither was I in the C. B. & Q. strike, but I am a totally and permanently disabled member, and I feel that I am just as much entitled to my insurance as are those brothers who have been members 40 years. Our Denver Convention is close at hand and, my dear brothers, can't you see that it is very important to so make the laws as to cover the physical disabilities of the brother who is forever barred from railroad service? Deafness is a worse disability than the loss of one eye. I know of a member who drew his insurance for the loss of an eye and is still working, running an engine, but the deaf brother is forever done, being constantly in danger for he cannot hear. Brothers, this question does not need any debating. I pray that you won't forget us at the convention in Denver.

JOHN W. KEY,
Member, Lodge 18.

Stop! Look! Listen! Give the Old Guard an Inning! His Work for Your Protection Powerful and Effective.

Prior to each convention, the past ten years or more, the columns of the Magazine contain many appeals from old time members asking for attention at the approaching convention. They most generally ask that their insurance be paid them, but their appeals are disregarded and the loyal, faithful, Old Guard accepts as gracefully as he may the unsatisfying verdict and, if he can—often by great stress and distress,—retains his membership. Yes! I had almost forgotten! A recent convention gave him a special button which he may wear in proof of his being one of the "Old Guard."

But the Grand Lodge will not exchange a receipt for three years' dues for that button; nor will the grocer or the baker extend a line of credit in exchange for it.

I have been a continuous member for 38 years and carry a \$1,500 policy, but in adding my appeal for the old pioneer let it be distinctly understood that, while I am one of them, in no manner shall what I may write be regarded as having any personal reference. I do not ask for anything for myself; I am fortunate enough to be so situated that I do not need this insurance money and I can pay my dues and assessments to the very end without feeling any distress, but I do feel distress for my old time associates with whose names I am familiar and whose appeals I notice so often in these columns, modestly and timidly asking for what I strongly believe they are richly entitled to,—what they deserve and should have without the slightest hesitation or a scruple of one's conscience.

Perhaps some member or members of the Grand Lodge or some delegates will contend that it is utterly impossible; that it can't be done; that it would bankrupt our treasury; etc., etc. If such is asserted it might be met safely with the statement that during the past three years it seems not to have been a panicky matter to raise more than \$250,000 for convention purposes and more than \$100,000 to pay the expenses of attempting to secure an increase for the firemen of the western roads. These appealing old timers do not demand that all their insurance be paid spot down nor do they demand one-half right down. Some of them would be pleased to be relieved from paying any more dues. There surely is a way whereby relief may be found for these faithful, loyal, members. It is no part of my purpose to suggest a plan. That is properly and ap-

propriately the duty of the President or the General Secretary and Treasurer or of the delegates themselves.

Stripped of sentiment and discussed from a purely business standpoint, to pay every member the full face value of his policy at the close of his 30 years of membership would be a strong incentive for him to remain in good standing for that term; it would, I reason, largely tend to reduce the expulsion list, and because of these, if not other benefits to the organization generally, it would be a good stroke of business for the Brotherhood.

During my 38 years continuous membership I have paid into the Brotherhood treasury a possible average of \$35.00 annually. I estimate only, but I believe I am not far from the actual figure. Of this sum perhaps more than one-half went into the Beneficiary Fund; some went into the General and some into the Protective Fund, while some went to local lodge expenses. No matter where it went, as to funds, it came out of my pocket and if, as I have said, the figure I name is approximately correct, then I have paid to the Brotherhood for my membership, about \$1,330.00.

In return for this glorious privilege, and it certainly is a glorious privilege, I was, of course, well protected as to my wages as an engineman as well as against disabling disaster. There is no wish to deny this nor belittle it. I also willingly admit that it cost the Brotherhood all that I have paid into it to provide for me this protection.

But I am not contending that the Brotherhood actually owes these old time 30-year members a single penny; far from it; the organization has given them splendid value for whatever it has received from them in money. What I do contend for is from a standpoint of, perhaps it is not erroneous to term it "Humanity." I am raising my voice in entreaty to the delegates to show compassion to these old fellows who, having "borne the weight of battle," are now without robust health and a swollen purse.

This organization owes a debt of gratitude, that money cannot discharge, to each one of these 30-year members that are still left above the surface of the earth; these men who have grown gray in devoting the best part of their lives to the interests of this Brotherhood; these men who are bent under the weight of years, cares and sorrows; these men who are fast approaching the midnight of their lives and, some of whom are in dire need of assistance. I am glad to add the strength of my efforts that their pleadings may be heard at Denver next June. To

you delegates I plead for these Old Guard, Pioneers, who did so much to make it possible for you to belong to the greatest labor organization that this country ever has had; give to them something more substantial than a gold button or other souvenir.

F. W. ARNOLD,
Lodge 9.



Eight-Hour Movement.

The writer is an ex-railroad man and has been continuously a member of Lodge 298 since October, 1906, and though he never intends to go back to railroading (having a much better job) he does intend to keep up his membership with the B. of L. F. and E.

The employes' side of the case in our Eight-Hour Movement is not presented to the public as it should be. If we want public opinion to see our side in a favorable light we've got to get busy. The newspapers are controlled by "Big Business," but we can use the "Movies" and accomplish more in that way, for instance something in the way of "travelogue" stuff—an illustrated lecture showing by pictures what the railroad men are up against. I have put in some seven or eight long hard years on the road and know that if the railroad man's side of the question was given to the public in the right way we would have public sympathy.

The railroads presented their figures some years ago stating that their proposed rate increase would only cost the ultimate consumer a very few cents, and their "thunder" is somewhere on tap and easily available.

Get a film producer and get out a lot of pictures; use old ones, such as wreck scenes and the hospital, and the Brotherhood end of it.

W. G. PHELPS,
Member, Lodge 298.



Words of Appreciation.

I have been a member of the Brotherhood of Locomotive Firemen and Enginemen for thirty-five years and I have never been delinquent nor carried by the lodge for my dues, nor have I ever asked to be carried. I have been an engineer 32 years. I have always had a great love for the B. of L. F. and E., but never fully appreciated the brotherly and sisterly love of the order and of the Ladies' Society until the recent illness and death of my dear wife.

A. D. WILLIAMS,
Member Lodge 692.

Rochester, Pa., Public Eight-Hour Mass Meeting — Public Evinces Great Interest in Movement.

A public mass meeting in the interests of our Eight-Hour Movement was held at Rochester, Penna., on Sunday, March 26 last, under the auspices of the local divisions and lodges of the B. of L. E., O. R. C., B. of L. F. and E. and B of R. T. This meeting was thoroughly representative as men from every walk of life from the youthful worker to the retired man of affairs were present.

The meeting was called to order at 2:15 p. m. by Bro. G. A. Howe, Chairman of the Arrangements Committee, who stated that the purpose of the meeting was to present to the public the employees' side of the movement for an eight-hour day and time and one-half for overtime in railroad train service.

Reverend J. K. Pollock, of Rochester, pronounced the invocation.

A hearty welcome was extended to the railroad men by Burgess Chas. E. Coleman, who expressed his gratification at seeing them so well organized and wished them success.

The Chairman then introduced President Lee of the Brotherhood of Railroad Trainmen, who told of the appalling number of casualties in the transportation industry of the country. He stated that a man was killed every seven hours and one injured every three minutes on the railroads.

President Lee expressed himself very forcibly in favor of an eight-hour day. He said that according to statistics there had been 29,000 violations of the Sixteen-Hour Law in one year and stated that men are sometimes on duty as long as eighteen, twenty and on up to sixty hours at a stretch.

In closing his remarks, Brother Lee lauded Governor Brumbaugh on his stand relative to the Full Crew Law and said that he (Governor Brumbaugh) was the one man in the state of Pennsylvania upon whom the workers could rely in their efforts to secure justice.

Grand Chief Stone of the B. of L. E., who was the next speaker, in opening his remarks said that he was desirous of dispelling the views held by some to the effect that the man at the head of any of the organizations engaged in the railroad men's Eight-Hour Movement could call a strike. He said it was up to the workers themselves whether or not they

would strike, as a referendum vote was absolutely essential in such cases. He stated that he was greatly pleased to see the train service employes working shoulder to shoulder in the eight-hour movement and emphasized the fact that in "Union there is strength." Brother Stone said the insurance departments of the organizations were absolutely essential to take care of the human wrecks the railroads annually throw on the scrap heap. The average life of a railroad man, he said, is eleven years and seven days. In closing his remarks he stated that the railroads would do all they could to break up our organizations and that "co-operation" should be our watchword.

State Senator Wm. J. Burke expressed his sympathy with the workers in their demands for a shorter work day and said that he personally knew of several instances in the past twenty years in which the railroad companies had added excess mileage at the same rate of pay.

Senator Joseph H. Thompson in the course of his remarks stated that he was fully in accord with the railroad organizations in their demands for an eight-hour day.

Reverend Dr. J. H. Bausman, the final speaker of the day, touched on the humanity of the demands of the workers and said that humanity was of paramount importance to the world. Dr. Bausman expressed regret at the fact that so many workers, because of being compelled to work seven days a week, are unable to attend church and at the close of his remarks pronounced the benediction.

This mass meeting was one of the largest gatherings of its kind ever held in Rochester and was a splendid success in every particular.

The Beaver Valley Labor News of March 31 referred to same editorially as follows:

Public Shows Interest in Eight-Hour Day Movement.

That the general public is very much interested in the movement for an eight-hour day and time and one-half for overtime for the railroad men, was very plainly shown on Sunday afternoon by the large and enthusiastic audience which taxed the capacity of the Majestic Theatre, Rochester, to hear the details of the movement explained by the officers at the head of the several brotherhoods of railroad men, and other speakers who are well posted on the situation.

This meeting was probably the largest one of the kind ever held in the valley. Noticeably among those present was the large number of business men and leading citizens of the various valley towns, who are much in sympathy with it.

readers and who are using their influence in support of the shorter workday and overtime for the men when they are required to work extra time.

The railroad boys feel much encouraged by the spirit of friendliness shown at the meeting, and are putting forth every effort towards acquainting the entire community with the just demands which they are submitting to the railroads so that they may be thoroughly understood.



Full Representation and Less Expense — Causes That Lengthen Our Conventions and Increase Their Cost.

I have read with interest the articles regarding convention expenses and their reduction that have appeared in the Magazine, and am of the opinion that the real question before us is to lower the cost without depriving any member of representation at our conventions and I have not heard of any plan proposed which would not more or less deprive some of our small lodges of representation.

There are some causes for high convention cost that should receive attention and which I will endeavor to state.

Any member of our order who will take the time to look over the proceedings of the Washington Convention will find on page 511 a motion that increased the expense of that convention fifty-one thousand dollars. This motion states "that on account of high cost of living and inconvenience getting to and from convention hall and being required to pay so much street car fare that the convention instruct the General Secretary and Treasurer to donate to each delegate the sum of two dollars per day for the number of days this convention is in session."

Now I have been in a few large cities and I must say that the cost of living at Washington was not any higher than in any other city and therefore I cannot see why it was necessary to increase the expense on that account. I will admit it was necessary to take a street car for lunch. This cost each delegate not more than 10 cents and they came back for a grand total of \$51,000.00 because it is necessary to spend a dime a day extra.

Another waste of money was occasioned by the loss of time consumed in discussing donations. So much time was spent in the consideration of donation claims that remarks could be heard in some cases to the effect that it would cost the Brotherhood more to fight the claim than it would to grant the donation.

This was in some instances quite true but if there is no opposing spirit shown there would be so many unreasonable and unjustifiable requests for donations that our conventions would be burdened to the extreme and as it cost \$1,200.00 an hour to hold the Washington Convention I believe that all donation claims should be disposed of outside of conventions entirely.

As I see it our Brotherhood is a great stock company. Each member is a stockholder, he has a voice and a vote. We select the delegates to represent us at Grand Lodge conventions, why should we permit them to be privileged characters and disburse our funds as they may see fit. We employ them for their service, they receive a generous day's wage and each lodge should send its delegate to the Denver Convention instructed to place an article in our constitution which will take away from the delegates in convention assembled the power of increasing their own wages or donating our funds for any other purpose. I am heartily in accord with Bro. C. N. Smith of St. Louis in his views regarding a roll call vote of delegates, expressed in his article in the February Magazine. I believe each delegate should be recorded on important questions.

Again, brothers, I want to impress on you the importance of sending your delegate to our next convention instructed to oppose any motion which will increase our expenses. Do not leave this up to your delegate. He may be a good fellow and all that, but show me any business concern that employs a man and then permits him to use his own pleasure in all matters of interest to them.

I believe the rank and file of our men are to blame for the excessive and wasteful expense of our conventions and now is the opportune time to bridle the extravagance. Let us not deprive anyone of representation at our conventions, but let us have full representation with less expense.

MEMBER, Lodge 638.



Get-Together Meeting, Danville, Ill.

A get-together meeting was held by Lodge 516 at Danville, Ill., on March 26th last. A very interesting program had been arranged and was carried out in a most pleasing manner. The first number was a selection by the orchestra which was well received and which was followed by a very interesting talk by Bro. J. H. Walker, President of the Il-

Illinois State Federation of Labor. Brother Walker laid special emphasis on the fact that it was becoming more apparent each day, that a closer affiliation between all labor organizations was the one thing necessary to enable the workers to combat their exploiters successfully. He referred to our Eight-Hour Day and time and one-half for overtime movement and showed just where we could receive able assistance therein by having the co-operation of the other labor organizations. The applause that greeted Brother Walker's remarks showed how well they were appreciated by those present.

Sister P. H. Parker then made a short address in which she urged all ladies eligible to membership therein to join the Ladies' Society. Just a few workers of the ability of Sister Parker in the various auxiliaries of the labor organizations would accomplish wonders. Our only regret was that we were unable to hear a longer talk from her.

Bro. Timothy Shea, Assistant President, was the next speaker. He concurred in what Brother Walker had said with reference to the necessity of co-operation between all of the organizations, devoting practically all of his talk to the Eight-Hour Day Movement and results of arbitration cases in which he had been an active participant.

Bro. Thos. Scopes of the Machinists then spoke and illustrated in a very convincing manner the relations that should prevail between labor organizations.

The program closed with a selection by the orchestra.

There were a number of the ladies present, which is very gratifying, as when they show a disposition to interest themselves in the labor movement we know that organized labor teachings are reaching the right place, the home.

The meeting proved a great success and we desire to extend our sincere thanks to all those who so ably assisted in making it such a pleasant and profitable event.

ROY SHANKS,
Financial Secretary Lodge 516.



A Pleasant Joint Meeting.

Golden Gate Lodge 91 and Golden Gate's Companion Lodge 197 held a joint meeting Monday evening, April 3, 1916.

Our members are greatly pleased at the success we are having at these affairs, and surely sympathize with those lodges that do not avail themselves of the pleasures and benefits to be had in these joint meetings.

The joint meeting lasted about one hour,

and then progressive whist was played, after which an enjoyable banquet was served to all. It would be so much nicer if these meetings were held a little closer together, but once a month is all that we can coax out of our members, so we will have to be satisfied with that.

C. R. SNYDER,
Recording Secretary, Lodge 91.



Abolish the Blacklist.

Can it be done? There is no question but what it exists, as a number of cases have been brought to my notice, and I at present know of a trainman who has lost three jobs in about five months on account of his "references," and that in spite of the fact that the higher officials are willing to reinstate him, but the division superintendent says No! So he is out of work.

I read so much about giving the ex-convict a chance to redeem himself (a worthy proposition), but how about a railroad man who has made a mistake, should he not also be given a chance to redeem himself? Sometimes he is, but if in any way he has incurred the enmity of an official he is blacklisted.

I was under the impression, and no doubt a number of brothers are also, that there is a federal law prohibiting blacklisting, but I have been advised by an authority that no such law exists and furthermore that such a law would be against the constitution of the United States.

A number of states have laws prohibiting blacklisting. Texas had such a law but it was recently declared unconstitutional. But how are we going to test the case?

How many of us have the time and money to fight a railroad in the courts?

A good remedy in my opinion would be to change the method of securing employment.

First, with the closed shop.

Second, to have an understanding that a railroad company when in need of men will notify the labor organization representing the occupation of the men they require, and the organization will procure the men needed and vouch for them, and if an examination is deemed necessary it shall be held jointly by an official of the railroad company and a representative of the organization. Third, in case a medical examination is deemed necessary it shall only apply to testing of eyesight and hearing. (The present method of physical examinations is very humiliating to a man, and also is unnecessary.)

Some of the brothers may think I am

too radical, but this is 1916—a rather late day for such a barbarity as the blacklist to be in operation.

Why should not the road employes also have some say as to whom they work with; other trades have the closed shop, why not we? Also in the drawing up of contracts I would suggest that a penalty be attached for violation of same by officials (note we provide a penalty for violation of a schedule against ourselves). I know of a case wherein a man was discharged for a so-called violation of a company rule by the superintendent, but the superintendent himself flatly refused to hold an investigation according to the contract and so far has made good on it. An appeal from his decision is pending, but what recourse will that give a man out of work, even when his decision is reversed?

Brothers, let us not look so much for the green grass that is always just over on the next hill, but get down to the facts

that confront us at present and see if some plan cannot be devised to do away with that cruel and unnecessary evil—the blacklist.

Talk this over and let all lodges instruct their delegates to the Denver convention to try and do something. It is up to the brothers in railroad service to take action as any of them may be on the blacklist themselves before long.

I had a talk some time ago with the division superintendent's chief clerk relative to the personal record bureau that is maintained by the railroad I was then employed on; he showed me a bundle of papers over one inch thick and told me that was one man's personal record, but if a man wanted to see it they would just show him what he called the transcript (one or two pages). This bureau is run under the Brown system of discipline. Once a Brownie always a Brownie on your record, generally on the debit side.

A BLACKLISTED MEMBER.



George Murray, 634
B. L. F. & E.

H. A. Bridgeman, 822
Chairman B. L. E.

J. M. Burke, 822
B. L. E.

O. J. Morken, 822
B. L. E.

E. S. Ingersoll, 634
B. L. F. & E.

F. D. Moody, 634
Chmn. B. L. F. & E.

JOINT COMMITTEE B. OF L. E. AND B. OF L. F. AND E., MINNESOTA AND INTERNATIONAL RAILWAY

Correspondence

LODGE 91—(C. R. Snyder, San Francisco, Cal.) On the evening of March the 6th, Golden Gate Lodge No. 91 and Golden Gate's Companion Lodge No. 197 held a Joint Meeting, which was enjoyed very much by all who attended. We had the great pleasure of having Brother and Sister A. Phillips with us, and Brother Phillips gave an entertaining and instructive talk on matters of interest to the Brotherhood.

The remainder of the evening was spent playing "progressive whist." Sister Nystrom won first prize, viz. a beautiful hand-painted china plate.

The card playing being over the entire assemblage adjourned to a nearby cafe where supper was served.



LODGE 375—(Member, Dayton, Ohio.) I have been a member of 375 for about ten years and of course a reader of our Magazine for that length of time. I have read a good deal of late about the out-of-service members. Brothers, in my opinion, they ought to have the same privileges as members in actual service. I am an out-of-service member and do not get to attend meetings at all, but my money helps to keep the old "Tried and True" going.

Brothers, I will be glad when the Eight-Hour Day is established. I know what firing a big engine for long hours means.

I wish to state to all financial secretaries and other brothers that I have a machine to emboss stationery and letter heads which will effect a big saving to the lodges and members and which is very low in price. All interested brothers drop a card to Elmer Bailey, Wilmington, Ohio, and get full particulars and samples of the work.

I wish all brothers of our great order good luck.



LODGE 544—(Member, Middleport, Ohio.) I have been appointed correspondent and will try to give some of the many good things that can be said for our local lodge. We have an excellent set of officers and our local organizer is doing fine work. Bro. E. A. Bennett has gone to outlying points and obligated some fourteen or fifteen firemen and hostlers, and we have had four or five new members initiated in the lodge room, making

a total of about 18 members added to our roll call. Bro. Bennett is wide awake and always ready to do a kindness for anyone. Unfortunately he has had much sickness in his family and in February last his baby boy (a namesake of our lodge) died, and our deep sympathy goes out to him in his great affliction.

Business is fairly good here at the present time.

Success to the Eight-Hour Movement. There is no class of wage earners that needs the Eight-Hour Day more than railroad train service employes.



LODGE 238—(Member, Paducah, Ky.) Business is falling off here every day, caused mostly by big engines and cutting down the grades. We have brothers cut off the board who have been firing seven and eight years and engineers back firing that have been promoted nine to ten years. Nine years ago we had 22 crews working out of here, now we have 8. Five years ago we were hauling 10,000 tons, now we are hauling 32,000 tons, so you see we still have the business but the crews are fading away. We were then getting \$3.45 per 100, now we get \$3.75 per 100, so you can easily see who is getting the pie.

Such conditions ought to arouse us to put forth our best efforts for the establishment of the Eight-Hour Day and time and one-half for overtime. Furthermore, the four orders should have an agreement with the railroad companies to the effect that in the future the wages of train crews should be increased in proportion as the tonnage of freight trains is increased. Of course, the plutocrats would howl and swear they would be forced into bankruptcy but we should be used to that by this time. If their profits are increased from 30 to 60 per cent ours should be increased likewise. As for the claim of the railroad managers that they cannot get trains over the road at the rate of 12½ miles per hour, or 100 miles in 8 hours, it is all rot, for they do do it when they take a little interest in the movement of trains and the crews do not have to spend two or three hours time working on hot boxes and the engines are not loaded down until they cannot get over the hills, thereby losing from one to three hours doubling.

I notice a great deal in the Magazine about our out-of-service brothers holding

different offices in our lodges. Now, brothers, I for one hate to hear anyone object to an out-of-service brother holding office for it positively is not right. Any man who objects to an out-of-service brother being president, financial secretary, and holding other offices in the lodge with the exception of local protective and legislative boards, is doing more harm than good. Our lodge has an out-of-service president and financial secretary and they are attending to their duties a great deal better than some of our other officers.

Now, brothers, let us impress upon our local chairmen and our delegate to the convention to do every thing possible to reduce convention cost and Joint Protective Board expenses, as much as possible. We should all boost the Eight-Hour Day to the business men and all other citizens of our respective communities and all other citizens with whom we come in contact.



LODGE 211—(*Member, Easton, Pa.*) Onoko Lodge is in a flourishing condition at the present time. We have taken in since the new year sixteen new members which gives us 150 members with fifteen applications still pending.

Our new local organizer, Bro. James Derr, is surely a live wire. He gets after every man that is eligible and we hope he will soon send us up to the 200 mark and over.

Business here is very brisk, and we are hoping that it will continue so. A number of the boys have been promoted and are making good.

We lost one of our oldest members last December, Bro. John Connors. He was a faithful brother of our lodge for nearly 31 years and was one of the seven "old timers" spoken of in our Magazine for March.

I hope every member has read the editorial in the March issue entitled "Neglectful Love Does Not Count for Much," as this is, indeed, very important. Those who have not seen it, look it up on page 330 and if it strikes home attend at once to the all important matter to which it calls attention. Don't say "I am going to attend to it," but do so immediately. Another thing I would like to mention is this, don't let your dues lapse; many a poor widow and her children are in destitute circumstances simply because the dues were forgotten—pay your Brotherhood dues first and let other things come afterwards.

Brothers, if you have not got that promised nest egg started, now is the time to begin. Everything is booming,

business has not been so good for some years. Of course, we all know it is on account of the great European war, but "what can't be cured must be endured," and now is your time to start and when dull times come again, as they surely will after a time, or if you have sickness or other troubles the little you have laid aside will tide you over and you won't have to be beholden to any one. Begin now and good luck to you all.



LODGE 2—(*J. Simpson, Toledo, Ohio.*) Toledo Lodge No. 2 was organized on the 28th day of May last with a membership of 128. We now have 120 members paying dues, which is not so bad considering the business depression of the last few years. Of course, brothers, we will have to admit it is not as good as it ought to be. There are men firing engines for the last six or seven years on the N. Y. C. Lines, West, who will stand up and argue against our beloved Brotherhood, as though they had never derived any benefits from it. There is an old saying, brothers, that "every knock is a boost," and you will generally find the majority of such fellows are not of much account to themselves, the order, or the company for which they work. The officials of a railway company nowadays have not got much respect for a man who will not stand up and fight for his rights—no one respects a coward. I do not mean this for all men who do not belong to the order, as there are lots of good Brotherhood men at heart who cannot join because of financial considerations.

We have members whose faces you never see inside a lodge room except when they have a grievance to present and then if they are not treated quite as well as they think they should be, they start to run the Order down. Of course the local chairman comes in for his share. We have two meetings each month, on the second Sunday afternoon and the fourth Friday night. It seems to me as though it ought to be convenient for a man to get to a meeting four or five times in the year at least.

Much credit is due our president and local chairman for the way they have worked to make our lodge what it is and they deserve all the help we can possibly give them. So, brothers, let us boost for the good old "Tried and True," a larger membership and better attendance.



LODGE 125—(*Member, Marshalltown, Iowa.*) In the March Magazine I read what our brother wrote from Lodge 125 and I appreciate his efforts in writing and

will add that his efforts are bringing forth good results.

As the brothers have elected me as president of our lodge I feel it a duty to give them all the help I can. I joined the B. of L. F. in 1892 and I enjoy the lodge meetings of late more than ever, as it seems that the boys grow brighter each year and are more refined and intelligent than when I was a boy.

I am very proud of the brothers of 125 and will add for the benefit of members of all our lodges that our lodge has made the resolution at our last meeting that we would show a friendly spirit to the dropped members and all non-union firemen and invite them into our order and our resolution has already done much good.

Last meeting we took in one new member and readmitted two former members and for the next meeting I have three former members in line to readmit.

Our vice president and secretary each have a line on a few. They and the local

organizer are good workers and put forth every effort to do all the good they can. I want to add, let all prejudice pass—and let us extend the glad hand to those who are not members. If you have had words of discord with a non-member go to him in person and invite him to join. Give him an application blank to fill out and take it into your lodge yourself. This is the course our lodge has decided on and it has made some non-members feel different and they have broken loose and are coming back to the Brotherhood.

Let all our lodges adopt our idea and at the end of 1916 let us all report our success. Let us boost for the 100,000 mark. Let us all show the right spirit.

Last meeting night I felt good because of being in a position to extend the glad hand to two former members. We had a visiting brother from 82 who gave us a talk and we wish him well.

Let us all pull together for the good of the order.

Official

Addresses Wanted.

Persons desiring to learn the address of or any information concerning a member or any other person, will please communicate with the secretary of the lodge nearest the residence of the person desiring such information. Upon receipt of a communication from the secretary of such lodge, requesting that a notice be published in the Magazine inquiring for such address or other information, same will be complied with. However, the Magazine cannot undertake to act as a collection agency, and must decline to lend itself to such purpose. Information should be sent to the person specified in the notice. The following inquiries have reached this office since our last issue went to press:

Jesse C. Clements.—Worked out of Wadsworth, Nevada, about 1903 or 1904. It is thought he belonged to the fireman's organization. His sister is very desirous of locating him and anyone having any information as to his whereabouts kindly communicate with John S. Cottrell, Recording Secretary, Lodge 19, 527 13th St.,

Herbert Mayne Fulton.—Last heard from in Delphos, Ohio, July 16, 1915. Is 6 feet 2 inches tall; has light brown hair and eyes; one eye droops and is quite noticeable when tired; has scar on forehead, side of mouth and palm of hand. Likely to be railroading and going by the name of Lewis. Anyone having any information as to his whereabouts kindly communicate with his wife, Mrs. Pearl Fulton, 12 Wabash Ave., Mahoningtown, Pa., or Bert Myers, Local Chairman and Recording Secretary of Lodge 434, 211 W. Cherry St., New Castle, Pa.

Stanley Sax.—When last heard of was supposed to have been firing on some railroad out of Toledo, Ohio, and at one time was a member of Lodge 586. Is about 5 feet 6 inches tall; weighs about 185 lbs., and has light complexion. Anyone having any information as to his whereabouts kindly communicate with C. N. Kellay, Secretary, Lodge 84, 21 Kingman Ave., Battle Creek, Mich.

Simon David Simpson.—Resided for a while at Eau Claire, Wis., and when last heard from in 1908, was working for some lumber firm in Cheney, Wash., and

has dark hair and brown eyes and was generally employed in engine service. Anyone having any information as to his whereabouts kindly communicate with his brother, Wardner M. Simpson, 3413 Mt. Vernon Ave., Milwaukee, Wis.

Raymond C. Wolfe.—Member of Lodge 99 and left home on March 16 last. He is about 6 feet 2 inches tall; is tattooed on both forearms, and left arm is somewhat crippled. Anyone having any information as to his whereabouts kindly communicate with E. F. Coates, Financial Secretary, Lodge 99, 245 Breck Street, Rochester, N. Y.



Lost Traveling Cards, Etc.

This office has been notified of the loss of the following traveling cards, receipts, etc., and the request is made that all members be on the lookout for them. Should they be discovered in the possession of persons not entitled to them they should be forwarded to the owners or to the secretaries of the lodges that issued them:

Bro. Wm. P. Doyle, of Lodge 162, reports that while in El Paso, Texas, a man representing himself as a member of our order stole both his old and new traveling cards together with receipts and some valuable papers. If found kindly return to C. L. Sawyer, Financial Secretary, Lodge 162, 911 Madison St., Elkhart, Ind.

We are advised that on March 28 last in E. St. Louis, Ill., Bro. Wm. Nations lost his receipts for the months of January, February, March and April, 1916, for Division 460 of the B. of L. E., and Lodge 408 of our Brotherhood. If found kindly return to Wm. Nations, 901 E. Reservoir St., Springfield, Ill.

Bro. H. R. Connor, of Lodge 663, advises that on April 9th last, pocketbook containing money, service letter from the C. N. W. Ry., C. B. and Q. pass, receipts from October, 1915, to and including April, 1916, also personal letters, etc., were stolen from his room. If found kindly return to Nelson Hayes, Secretary, Lodge 663, 634 N. Bunker Hill Avenue, Los Angeles, Cal.

Acknowledgments.

Brothers A. D. and A. B. Williams, of Lodge 692, desire to thank the members of Lodges 692 and 337 as well as Lodge 32 of the Ladies' Society for the sympathy and kindnesses shown them at the time of the death of the wife and mother and for the many beautiful floral tributes.

Bro. John T. Rea, of Lodge 776, desires to thank the Grand Lodge for the prompt payment of his disability claim and also the members of Lodge 328 for the kindness shown him while in the hospital at Lamar, Colo.

Bro. E. E. Lovejoy, of Lodge 25, desires to thank the Grand Lodge for the prompt payment of his disability claim, also the members of Lodge 25 for the many kindnesses shown him during the last few months.



The Home Account.

The following donations were received at the Home for Aged and Disabled Railroad Employes for the month of March, 1916:

Grand Division, B. of L. E.	\$ 76.40
Grand Division, O. R. C.	55.00
Grand Lodge, B. of L. F. and E.	40.00
B. of R. T. Lodges.....	42.00
O. R. C. Divisions.....	10.00
L. A. to O. R. C. Divisions.....	3.00
L. S. to B. of L. F. & E. Lodges..	2.20
G. I. A. to B. of L. E. Divisions..	5.00
Legacy left the Home by Mrs. Marie T. Hurlbert of Denver, Colorado	500.00
Sale of old paper.....	12.50
James Costello, Division 270, O. R. C.	1.00
Alfred Lunt, Lodge 877, B. of R. T.	1.00
C. S. McKay, Division 119, B. of L. E.	1.00
A Member of Division 249, B. of L. E.	1.00
	<hr/>
	\$750.10

Miscellaneous.—A quilt from Division 318, G. I. A. to B. of L. E. Livingston, Montana.

Respectfully submitted,
 JOHN O'KEEFE,
 Secretary-Treasurer and Manager.



Beneficiary Statement

To SUBORDINATE LODGES:

OFFICE OF GENERAL SECRETARY AND TREASURER,
PEORIA, ILL., APRIL 1, 1916.

The following is a statement of receipts in the Beneficiary Department for the month of March, 1916.

RECEIPTS.

Lodge No.	Amount	Lodge No.	Amount	Lodge No.	Amount	Lodge No.	Amount	Lodge No.	Amount	Lodge No.	Amount	Lodge No.	Amount	Lodge No.	Amount
1	284 85	74	158 40	147	296 60	220	691 80	293	101 75	366	91 80	439	28 10	512	.....
2	247 50	75	429 00	148	141 90	221	178 25	294	168 85	367	188 15	440	121 00	513	78 70
3	526 80	76	78 70	149	241 45	222	102 85	295	174 85	368	88 05	441	228 80	514	191 40
4	315 15	77	851 45	150	249 70	223	207 85	296	208 95	369	155 65	442	95 70	515	147 40
5	547 25	78	182 05	151	128 70	224	96 80	297	184 25	370	68 25	443	92 95	516	441 05
6	209 00	79	49 50	152	227 70	225	78 10	298	199 10	371	116 60	444	264 55	517	92 40
7	217 80	80	187 55	153	108 35	226	235 40	299	125 40	372	180 40	445	133 85	518	29 70
8	244 75	81	86 90	154	150 15	227	116 05	300	218 85	373	136 95	446	349 25	519	251 90
9	864 65	82	211 75	155	62 70	228	587 85	301	139 70	374	198 05	447	200 75	520	58 80
10	602 25	83	379 50	156	290 95	229	308 00	302	495 55	375	78 10	448	699 60	521	283 75
11	262 85	84	162 80	157	104 50	230	357 50	303	108 40	376	87 40	449	198 00	522	449 90
12	162 80	85	322 85	158	90 75	231	544 50	304	99 55	377	804 70	450	93 50	523	84 70
13	278 80	86	197 45	159	243 10	232	182 10	305	89 60	378	827 10	451	94 60	524	18 70
14	888 30	87	204 05	160	186 45	233	191 40	306	156 75	379	844 80	452	106 05	525	44 00
15	152 90	88	146 80	161	101 20	234	243 55	307	213 40	380	68 20	453	78 65	526	47 85
16	899 85	89	138 40	162	806 90	235	168 80	308	70 40	381	262 90	454	121 00	527	188 05
17	106 15	90	86 85	163	173 70	236	412 50	309	251 85	382	68 20	455	178 00	528	181 45
18	149 60	91	265 65	164	116 60	237	897 10	310	228 80	383	126 40	456	178 75	529	229 80
19	277 20	92	129 25	165	87 45	238	148 55	311	55 55	384	848 70	457	204 05	530	50 60
20	86 85	93	56 10	166	291 50	239	210 65	312	209 55	385	85 80	458	64 85	531	47 85
21	586 80	94	222 75	167	169 40	240	480 15	313	142 45	386	67 65	459	80 85	532	133 10
22	106 15	95	68 75	168	182 80	241	468 35	314	290 40	387	.....	460	97 35	533	68 75
23	121 00	96	144 10	169	281 55	242	223 85	315	86 90	388	222 75	461	141 90	534	263 45
24	872 80	97	876 75	170	156 75	243	110 00	316	158 45	389	48 40	462	296 45	535	162 25
25	292 90	98	151 25	171	90 20	244	141 85	317	83 60	390	106 70	463	136 40	536	137 50
26	287 10	99	418 55	172	117 10	245	81 95	318	846 50	391	140 25	464	94 60	537	108 95
27	198 55	100	298 65	173	177 10	246	145 75	319	122 10	392	155 65	465	292 05	538	135 85
28	109 95	101	831 10	174	509 85	247	211 75	320	64 90	393	136 95	466	168 90	539	198 55
29	145 75	102	120 45	175	268 40	248	169 40	321	75 35	394	23 65	467	.....	540	318 50
30	141 85	103	74 25	176	149 05	249	229 35	322	105 60	395	110 35	468	101 75	541	195 80
31	97 90	104	74 80	177	207 85	250	235 95	323	63 25	396	138 10	469	135 65	542	167 20
32	137 60	105	78 10	178	116 05	251	84 10	324	91 85	397	67 70	470	205 70	543	856 85
33	212 80	106	106 15	179	209 00	252	222 75	325	84 70	398	161 15	471	41 80	544	106 15
34	298 40	107	317 85	180	90 20	253	831 65	326	128 20	399	125 40	472	898 80	545	142 45
35	82 50	108	81 90	181	45 65	254	81 95	327	180 95	400	137 50	473	87 45	546	54 45
36	151 25	109	194 85	182	508 20	255	100 65	328	133 10	401	224 95	474	128 15	547	84 15
37	206 25	110	138 65	183	283 75	256	25 80	329	48 95	402	65 45	475	135 85	548	97 65
38	86 85	111	200 75	184	86 90	257	168 80	330	134 20	403	39 60	476	88 00	549	165 00
39	143 00	112	49 50	185	105 60	258	79 20	331	182 60	404	130 35	477	296 75	550	97 90
40	817 90	113	197 45	186	80 25	259	79 20	332	69 85	405	867 95	478	145 20	551	217 25
41	72 05	114	76 45	187	97 90	260	169 95	333	267 85	406	79 20	479	102 85	552	246 40
42	86 85	115	168 85	188	.....	261	136 50	334	210 10	407	40 10	480	32 45	553	92 40
43	211 20	116	182 05	189	177 65	262	409 20	335	59 95	408	160 05	481	97 85	554	160 05
44	290 40	117	106 15	190	110 65	263	191 95	336	80 85	409	218 90	482	129 25	555	78 10
45	473 00	118	87 40	191	225 50	264	49 50	337	254 10	410	111 65	483	55 00	556	83 60
46	28 10	119	126 50	192	248 05	265	287 60	338	154 55	411	182 60	484	122 65	557	149 60
47	810 20	120	190 80	193	848 20	266	172 70	339	97 90	412	181 50	485	711 70	558	167 75
48	320 65	121	283 20	194	201 85	267	73 05	340	114 40	413	51 70	486	59 95	559	85 25
49	168 80	122	50 60	195	92 95	268	68 85	341	154 00	414	169 95	487	25 85	560	62 60
50	67 75	123	243 10	196	119 90	269	93 40	342	168 85	415	133 65	488	24 20	561	264 00
51	173 25	124	109 45	197	68 20	270	254 10	343	63 15	416	235 95	489	112 75	562	282 15
52	289 80	125	65 45	198	158 15	271	112 30	344	155 25	417	96 00	490	115 50	563	222 20
53	154 55	126	125 95	199	251 85	272	.....	345	169 40	418	112 20	491	42 85	564	239 25
54	864 65	127	200 00	200	118 80	273	141 85	346	18 20	419	58 85	492	224 95	565	40 70
55	80 25	128	62 15	201	167 85	274	112 75	347	41 80	420	132 00	493	48 95	566	175 45
56	890 55	129	210 65	202	230 45	275	290 15	348	176 55	421	57 20	494	105 60	567	96 80
57	564 75	130	620 85	203	196 90	276	507 10	349	199 65	422	98 45	495	67 65	568	118 85
58	169 95	131	45 65	204	146 85	277	107 25	350	74 25	423	20 35	496	118 85	569	199 10
59	287 65	132	81 95	205	68 85	278	18 20	351	27 50	424	208 45	497	140 25	570	88 55
60	401 50	133	215 05	206	96 25	279	173 25	352	96 80	425	62 15	498	80 00	571	458 40
61	86 35	134	96 25	207	374 55	280	106 70	353	143 55	426	215 60	499	97 55	572	61 60
62	111 65	135	105 60	208	118 80	281	335 95	354	322 85	427	246 40	500	116 05	573	243 55
63	220 00	136	.....	209	66 25	282	81 90	355	221 10	428	99 85	501	127 05	574	151 25
64	209 00	137	71 50	210	62 70	283	67 10	356	187 00	429	128 15	502	158 95	575	89 60
65	189 20	138	231 55	211	240 90	284	473 00	357	88 55	430	114 40	503	81 40	576	60 80
66	217 35	139	332 20	212	161 70	285	282 15	358	.....	431	49 50	504	97 85	577	131 50
67	76 45	140	240 35	213	132 00	286	276 05	359	97 85	432	278 85	505	52 80	578	193 60
68	117 15	141	541 55	214	615 90	287	943 25	360	95 70	433	.....	506	108 90	579	61 05
69	156 20	142	810 75	215	335 50	288	194 70	361	128 70	434	186 85	507	257 95	580	53 85
70	297 65	143	.....	216	182 65	289	194 70	362	69 85	435	227 70	508	70 85	581	83 00
71	869 10	144	.....	217	182 65	290	145 75	363	457 05	436	270 00	509	106 70	582	88 60
72	869 10	145	194 15	218	161 70	291	36 80	364	870 15	437	29 70	510	144 65	583	.....
73	205 70	146	261 00	219	200 20	292	28 60	365	28 65	438	134 75	511	325 05	584	69 80

Beneficiary Statement—Continued

Lodge No.	Amount	Lodge No.	Amount	Lodge No.	Amount	Lodge No.	Amount	Lodge No.	Amount	Lodge No.	Amount	Lodge No.	Amount	Lodge No.	Amount		
858	68 20	879	134 20	700	161 15	721	28 60	742	81 85	763	78 10	784	84 65	805	78 10	826	40 15
859	172 15	880	131 45	701	136 40	722	61 05	743	202 95	764	81 95	785	172 15	806	.....	827	42 85
860	154 55	881	107 80	702	95 15	723	61 60	744	84 10	765	118 25	786	.....	807	.....	828	63 25
861	79 20	882	85 80	703	78 15	724	81 35	745	72 05	766	86 85	787	244 20	808	805 25	829	50 60
862	66 00	883	.....	704	202 40	725	69 30	746	80 25	767	85 25	788	51 15	809	74 80	830	81 95
863	148 55	884	112 75	705	84 15	726	57 20	747	84 70	768	299 75	789	.....	810	40 70	831	18 15
864	85 05	885	229 35	706	52 25	727	54 10	748	24 75	769	28 05	790	65 45	811	78 10	832	22 55
865	94 05	886	66 00	707	.....	728	102 80	749	91 85	770	158 45	791	45 65	812	162 80	833	51 15
866	288 25	887	86 35	708	164 45	729	93 55	750	.....	771	71 50	792	93 60	813	46 75	834	66 00
867	174 35	888	84 15	709	91 30	730	122 65	751	19 25	772	84 70	793	79 75	814	207 35	835	96 90
868	115 50	889	30 25	710	67 65	731	99 00	752	133 10	773	91 85	794	51 70	815	129 25	836	160 05
869	81 95	890	109 45	711	116 60	732	60 60	753	42 35	774	182 20	795	73 70	816	25 80	837	102 85
870	269 50	891	37 40	712	42 35	733	112 20	754	44 00	775	26 95	796	121 00	817	74 80	838	112 75
871	74 80	892	63 25	713	130 35	734	84 70	755	87 90	776	147 40	797	89 10	818	58 85	839	50 05
872	91 30	893	12 10	714	95 15	735	105 60	756	29 15	777	66 00	798	79 20	819	128 75	840	184 80
873	651 75	894	77 55	715	39 05	736	46 20	757	90 20	778	67 65	799	.....	820	94 05	841	196 25
874	22 55	895	67 65	716	107 25	737	24 75	758	86 85	779	149 60	800	30 80	821	87 45	842	42 90
875	306 85	896	64 90	717	45 68	738	80 25	759	119 85	780	89 10	801	119 85	822	70 65	843	64 80
876	75 90	897	49 50	718	97 85	739	65 45	760	68 25	781	106 70	802	68 50	823	130 80	844	.....
877	127 60	898	184 80	719	182 60	740	114 40	761	118 25	782	279 40	803	108 85	824	127 60	845	.....
878	98 50	899	62 70	720	34 65	741	86 85	762	129 25	783	139 70	804	141 85	825	25 85	.....	.....

Received during month of March.....\$127,866 70

Respectfully submitted, A. H. HAWLEY, G. S. and T.

Western Concerted Wage Movement

ASSESSMENT TO REIMBURSE PROTECTIVE FUND

ASSESSMENT No. 5, \$0.50.

PEORIA, ILL., May 1, 1916.

All Members in Engine Service on the Following Railroads:

Atchison, Topeka & Santa Fe (Proper); Northern; Kansas City Southern; Kansas City
 Atchison, Topeka & Santa Fe (Coast Lines); Terminal; Louisiana & Arkansas; Mineral
 Baltimore & Ohio Chicago Terminal; Belling- Range; Minneapolis, St. Paul & Sault Ste.
 ham & Northern; Canadian Northern west Marje; Missouri & North Arkansas; Mis-
 of Parry Sound; Canadian Pacific west of sissippi, Kansas & Texas; Missouri, Oklahoma &
 Fort William; Chicago & Alton; Chicago, Gulf; Missouri Pacific; Northern Pacific; Ore-
 Burlington & Quincy; Chicago Great West- gon Short Line; Oregon-Washington R. R. &
 ern; Chicago Junction & Chicago River & Navigation Co.; Panhandle & Santa Fe; San
 Indiana; Chicago, Milwaukee & St. Paul; Antonio & Aransas Pass; Santa Fe, Prescott &
 Chicago, Milwaukee & Puget Sound; Chicago Phoenix; San Pedro, Los Angeles & Salt
 & Northwestern; Chicago Rock Island & Lake; Southern Pacific (Atlantic System);
 Pacific; Chicago, St. Paul, Minneapolis & Southern Pacific (Pacific System); Spokane,
 Omaha; Chicago & Western Indiana; Colo- Portland & Seattle; St. Louis, Brownsville &
 rado & Southern; Davenport, Rock Island & Mexico; St. Louis & San Francisco; St. Louis
 Northwestern; Denver & Rio Grande; Duluth, Southwestern; Terminal R. R. Ass'n and the
 South Shore & Atlantic; El Paso & South- St. Louis Merchants' Bridge Terminal R. R.;
 western; Fort Worth Belt; Fort Worth & Texas & Pacific; Trinity & Brazos Valley;
 Denver, City; Great Northern; Gulf, Colo- Union Pacific; Union Stock Yards; Union
 rado & Santa Fe; Gulf & Interstate; Houston Railway of Memphis; Wabash; Western Pa-
 & Texas Central; Houston East & West cific; Wichita Valley; Wiggins Ferry, Yazoo &
 Texas; Illinois Central; International & Great Mississippi Valley.

SIRS AND BROTHERS:—In accordance with the provisions of Article 25, Section 16, of the Constitution, you are hereby notified of Assessment No. 5, in the sum of fifty (\$0.50)cents. This amount is payable to the Financial Secretary of your lodge on or before the first day of June, by all members whose names are on the rolls in engine service May 31. Any member liable therefor, failing or declining to pay will stand expelled the same as for non-payment of monthly assessments. Yours fraternally,

W. S. CARTER,

President.

A. H. HAWLEY,
 General Secretary and Treasurer.

Article 25, Section 16. (c) Upon the conclusion of such conference the President and General Secretary and Treasurer shall have authority to levy an assessment upon all members in engine service on the lines participating in the movement, of sufficient amount to cover the expenses so incurred, the same to be placed in the Protective Fund of the Brotherhood for the money originally advanced for the purpose.

(d) Any member failing or declining to make payment of such assessment when levied, shall stand expelled as is provided for in the laws governing the non-payment of assessments.

Statement of Death and Disability Claims

PAID BY THE GENERAL SECRETARY AND TREASURER FROM FEBRUARY 29, 1916, TO MARCH 31, 1916

Claim No.	NAMES	Loco No.	Death or Disability	DATE	Am't of Insurance	CAUSE
0004	Walter Cowling	841	Death	Sept. 27, 1915	\$1,000.00	Killed in battle
0004	Geo. W. Sterling	281	"	Nov. 14, "	1,500.00	Suicide
0004	Douis G. Burgess	502	Disability	Mch. 2, 1916	1,500.00	Locomotor ataxia
0158	Wm. C. Wolf	285	Death	Jan. 7, "	1,500.00	Pneumonia
0158	Ralph B. Biddle	286	"	Jan. 14, "	1,500.00	Crushed between cars
0157	Albert M. Smith	284	"	Dec. 18, 1915	1,500.00	Pneumonia
0156	George W. Keith	850	"	Jan. 15, 1916	1,500.00	Collision
0162	Michael J. Foley	215	"	Dec. 31, 1915	1,500.00	Stenosis of larynx
0164	Thomas Stull	260	Disability	Aug. 1, "	1,500.00	Blind one eye
0168	Thomas Wynn	40	Death	Jan. 18, 1916	500.00	Paresis
0168	David Nutt	90	"	Jan. 12, "	9,000.00	Derailing of engine
0170	Joseph Jodoin	150	"	Jan. 15, "	1,500.00	Pneumonia
0171	Charlie E. Reilly	214	"	Feb. 5, "	1,000.00	Crushed between eng. & car
0172	Robert Stackhouse	268	"	Jan. 21, "	1,500.00	Catarrahal jaundice
0123	Wm. N. Engle	492	"	Dec. 20, 1915	1,000.00	Crushed between cars
0124	Edward Ritter	548	"	Jan. 7, "	1,000.00	Pneumonia
0127	John T. Rea	776	Disability	Jan. 8, 1916	500.00	Amputation of foot
0128	Albert K. Saint	147	Death	Dec. 28, 1915	8,000.00	Collision
0129	Edgar B. Carpenter	147	"	Dec. 28, "	8,000.00	Collision
0130	Ceo. W. Deagman	376	"	Dec. 27, "	1,500.00	Boiler explosion
0131	Wm. E. Lehr	289	"	Dec. 28, "	1,500.00	Collision
0133	Glenn E. Werts	888	"	Jan. 18, 1916	1,500.00	Struck by train
0134	James E. Wakefield	646	"	Dec. 20, 1915	1,500.00	Cancer
0137	H. O. Peery	644	Disability	Dec. 7, "	1,500.00	Amputation of foot
0138	Harry Jones	52	Death	Jan. 2, 1916	1,500.00	Struck by train
0140	Clarence W. Moll	77	"	Jan. 24, "	1,500.00	Collision
0141	Harvey Davis	166	"	Jan. 7, "	1,500.00	Pneumonia
0142	Herman F. Atkins	280	"	Nov. 28, 1915	1,500.00	Derailing—open bridge
0143	Robert McMasters	881	"	Jan. 19, 1916	1,500.00	Derailing of engine
0144	Wm. H. Cochrane	485	"	Jan. 21, "	500.00	Ulcers of the intestines
0143	Robert Lobb	718	"	Jan. 9, "	1,500.00	Bright's disease
0147	Dow M. Bray	824	"	Jan. 5, "	1,000.00	Collision
0173	Thos. H. Huling	287	"	Feb. 5, "	1,500.00	Peritonitis
0174	John A. Egger	439	"	Jan. 18, "	1,500.00	Pneumonia
0176	Paul O. Jochinke	780	"	Jan. 22, "	1,500.00	Falling from train
0177	Frank E. Griffin	801	"	Jan. 80, "	8,000.00	Pneumonia
0189	E. H. Greenmeyer	650	"	Feb. 8, "	1,500.00	Pneumonia
0189	Patrick C. Grey	52	"	Jan. 9, "	1,500.00	Pneumonia
0191	Dennis J. Moore	88	"	Jan. 7, "	1,500.00	Pneumonia
0192	W. M. Smith	107	"	Feb. 2, "	1,500.00	Bright's disease
0193	John H. Becker	149	"	Feb. 5, "	1,500.00	Struck by train
0195	Jos. W. Nowak	486	"	Feb. 1, "	1,500.00	Falling from tank
0197	Rene Desbiens	700	"	Jan. 30, "	8,000.00	Struck by train
6295	Noah T. Morgan (a)	88	"	Feb. 1, "	1,500.00	Consumption of lungs
6296	Jas. M. Paden	177	"	Feb. 6, "	1,500.00	Consumption of lungs
6297	Thos. W. Brick	685	"	Feb. 12, "	1,000.00	Pneumonia
6298	Wm. S. Baker	768	"	Jan. 28, "	1,000.00	Derailing of engine
0063	Frank H. Jenison	582	"	Dec. 22, 1915	1,000.00	Suicide
0184	Roy F. Hudson	37	Disability	Jan. 7, 1916	1,500.00	Amputation of foot
0128	Theo. Snaders	162	"	Mch. 9, "	1,500.00	Blind one eye
0195	Edward F. Lovell	779	Death	Jan. 1, "	500.00	Appendicitis
0004	Jos. C. Kirschner	75	"	Nov. 30, 1915	500.00	Suicide
0159	Wesley Wortman	597	"	Jan. 24, 1916	1,000.00	Collision
0066	Samuel E. Sowder	182	"	Dec. 9, 1915	1,500.00	Boiler explosion
0196	Joseph A. Miller	2	Disability	Mch. 14, 1916	1,000.00	Paralysis
0062	Levi A. Hunt	429	"	Mch. 18, "	1,500.00	Heart disease
0145	Edwin D. Bruch	718	Death	Jan. 17, "	1,500.00	Bright's disease
0168	Thomas Roarke	149	"	Jan. 25, "	1,500.00	Pneumonia
0162	Owen Lewis	62	Disability	Mch. 17, "	1,500.00	Blind one eye
0175	John A. Daley	608	Death	Jan. 14, "	1,500.00	Organic dementia
0182	Francois X. Bergin	610	"	Jan. 19, "	1,000.00	Epilepsy
0189	Thomas C. Flynn	666	"	Jan. 18, "	500.00	Falling from engine

(a) Claim No. 6205, N. T. Morgan, Class "A," \$300.00 paid in Consumption allowance.

Summary for month of March, 1916.

Death Claims.		Disability Claims.		Total number of claims paid during month..... 62
No. Class	Amount	No. Class	Amount	
22-A	\$48,000.00	7-A	\$10,500.00	Total amount paid during month.....\$97,700.00
20-B	10,000.00	1-B	1,000.00	
5-C	2,500.00	1-C	500.00	
1-D	2,000.00	-D .....	.....
4-E	12,000.00	-E .....	.....
1-Irregular	1,200.00	-Irregular .....	.....
53	\$75,700.00	9	\$12,000.00	

Pending Claims March 31, 1916.

26 death claims aggregating.....	\$128,625.00
14 disability claims aggregating.....	53,000.00
Total of 40 claims aggregating.....	\$181,625.00

Statement of Death and Disability Claims

FILED WITH THE GENERAL SECRETARY AND TREASURER DURING THE MONTH ENDING APRIL 15, 1916.

No. of Claim	NAME OF MEMBER	No. of Lodge	Date of Filing	Character of Claim	Amount of Ben. Cert.	When Payable if Approved	Cause of Death	Cause of Disability
6285	Peter Quinn	390	Mar. 21, '16	Death	1500	May 15, '16	Cirrhosis of liver	
6286	Benj. E. Murland	601	Mar. 21, '16	Death	1500	May 15, '16	Derailing of engine	
6287	Brown Allen	887	Mar. 21, '16	Death	1500	May 15, '16	Apoplexy	
6291	Guy M. Blount	598	Mar. 21, '16	Disab.	2000	May 15, '16		Consumption of lungs
6292	Wm. A. Wyatt	97	Mar. 24, '16	Disab.	1500	May 15, '16		Consumption of lungs
6293	Samuel D. Carr	182	Mar. 24, '16	Disab.	1500	May 15, '16		Amputation both feet
6294	Ben F. Chappell	182	Mar. 24, '16	Disab.	1500	May 15, '16		Amputation of foot
6295	Geo. W. O'Neil	216	Mar. 24, '16	Disab.	1500	May 15, '16		Heart disease
6297	John Nations	204	Mar. 24, '16	Death	1500	May 15, '16	Consumption of lungs	
6298	Chas. W. Johnson	383	Mar. 24, '16	Death	1500	May 15, '16	Crushed betw'n cars	
6299	Robt. S. Herrington	618	Mar. 24, '16	Death	1500	May 15, '16		
6300	Oliver H. Parker	618	Mar. 24, '16	Death	1500	May 15, '16	Gunshot wounds	
6301	Wm. L. Keith	667	Mar. 24, '16	Death	1500	May 15, '16	Consumption of lungs	
6302	Wm. C. Campbell	4	Mar. 27, '16	Death	1500	May 15, '16	Struck by train	
6303	Reynold M. Eberwine	9	Mar. 27, '16	Death	1500	May 15, '16	Pneumonia	
6304	Orville Miller	120	Mar. 27, '16	Death	1500	May 15, '16	Arteris sclerosis	
6305	C. W. Carpenter	149	Mar. 27, '16	Death	1000	May 15, '16	Pneumonia	
6306	Samuel A. Miller	220	Mar. 27, '16	Death	600	May 15, '16	Struck by train	
6307	Winslow W. Burgin	269	Mar. 27, '16	Death	1000	May 15, '16	Consumption of lungs	
6308	Sidney C. Renton	735	Mar. 27, '16	Death	1000	May 15, '16	Killed in battle	
6309	Thos. A. Winston	798	Mar. 27, '16	Death	600	May 15, '16	Consumption of lungs	
6310	John E. Crittenden	340	Mar. 27, '16	Disab.	1500	May 15, '16		Amputation right foot
6311	Geo. L. McCleery	240	Mar. 27, '16	Disab.	1500	May 15, '16		Amputation left foot
6312	D. L. Beaver	622	Mar. 27, '16	Disab.	2000	May 15, '16		Consumption of lungs
6313	Amel P. Hendricks	337	Mar. 30, '16	Disab.	1500	May 15, '16		Blind one eye
6314	John J. Stanley	658	Mar. 30, '16	Disab.	1500	May 15, '16		Paralysis
6315	Duncan R. Ross	706	Mar. 30, '16	Disab.	500	May 15, '16		Amputation of foot
6316	Willis H. York	762	Mar. 30, '16	Disab.	1500	May 15, '16		Amputation of foot
6317	Michael Miller	18	Mar. 30, '16	Death	1500	May 15, '16	Pneumonia	
6318	Harry L. Marshall	80	Mar. 30, '16	Death	1000	May 15, '16	Cerebral tumor	
6319	Louis J. Snogren	178	Mar. 30, '16	Death	1500	May 15, '16	Boiler explosion	
6320	Jacob C. Childs	178	Mar. 30, '16	Death	1000	May 15, '16	Boiler explosion	
6321	Walter F. Johnson	548	Mar. 30, '16	Death	1500	May 15, '16	Diabetes	
6322	Oran D. Campbell	691	Mar. 30, '16	Death	1000	May 15, '16	Drowned	
6323	L. F. Stoats	59	Apr. 4, '16	Death	1500	May 15, '16		
6324	Anthony Eckert	237	Apr. 4, '16	Death	600	May 15, '16	Pneumonia	
6325	Judd R. Hilton	302	Apr. 4, '16	Death	1500	May 15, '16	Striking car	
6326	Jas. B. Thompson	378	Apr. 4, '16	Death	1500	May 15, '16	Heart disease	
6327	Simon C. White	433	Apr. 4, '16	Death	2000	May 15, '16	Cirrhosis of liver	
6328	Joseph Coots	543	Apr. 4, '16	Death	1500	May 15, '16	Spine disease	
6329	John A. Fleck	638	Apr. 4, '16	Death	1500	May 15, '16	Heart disease	
6330	Harry R. Snyder	52	Apr. 4, '16	Disab.	1500	May 15, '16		Blind one eye
6333	Charles Reed	61	Apr. 7, '16	Death	1500	May 15, '16	Appendicitis	
6334	Jesse E. Steves	334	Apr. 7, '16	Death	1500	May 15, '16	Fa'g from eng. (dr'd)	
6335	Andrew Carpenter	765	Apr. 7, '16	Death	1000	May 15, '16	Septic inf.—injury	
6336	Calvin S. Aldrich	78	Apr. 11, '16	Death	1500	May 15, '16	Cancer	
6337	Elmer E. Bisel	141	Apr. 11, '16	Death	1500	May 15, '16	Suicide	
6338	Patrick Sherry	242	Apr. 11, '16	Death	1500	May 15, '16	Pneumonia	
6339	John W. Scott	275	Apr. 11, '16	Death	1500	May 15, '16	Pneumonia	
6340	Wm. Walker	436	Apr. 11, '16	Death	1500	May 15, '16	Diabetes	
6341	Lanford P. Minick	516	Apr. 11, '16	Death	1500	May 15, '16	Consumption of lungs	
6342	Geo. W. Hill	546	Apr. 11, '16	Death	1500	May 15, '16	Boiler Explosion	
6343	Millard M. Holmes	546	Apr. 11, '16	Death	1500	May 15, '16	Boiler Explosion	
6344	Edwin H. Moore	747	Apr. 11, '16	Death	2000	May 15, '16	Accidental poisoning	
6345	Horace M. Avey	145	Apr. 11, '16	Disab.	8000	May 15, '16		Consumption of lungs
6346	Robt. E. Hogan	188	Apr. 11, '16	Disab.	8000	May 15, '16		Consumption of lungs
6347	A. J. Bailey	676	Apr. 11, '16	Disab.	1500	May 15, '16		Heart disease
6348	Thos. J. Lunceford	177	Apr. 13, '16	Death	1500	May 15, '16	Nephritis	
6350	Bertie Nelson	197	Apr. 13, '16	Death	1000	May 15, '16	Consumption of lungs	
6351	Albert Perkey	801	Apr. 13, '16	Death	600	May 15, '16	Biliary obstruction	
6352	Irvin L. Evans	302	Apr. 13, '16	Death	2000	May 15, '16	Op'tion—tonsil goitre	
6353	John D. Heiserman	409	Apr. 13, '16	Death	1500	May 15, '16	Consumption of lungs	
6354	Rosser J. Eastham	588	Apr. 13, '16	Death	1000	May 15, '16	Pneumonia	
6355	Wm. E. Gibbins	666	Apr. 13, '16	Death	1500	May 15, '16	Consumption of lungs	
6356	Jos. L. Reib	424	Apr. 15, '16	Death	1500	May 15, '16	Dropsy	

Statement of Funeral Benefit Claims

FILED WITH THE GENERAL SECRETARY AND TREASURER DURING THE MONTH ENDING APRIL 15, 1916.

No. of Claim	NAME OF MEMBER	No. of Lodge	Date of Filing	Amount of Ben. Cert.	When Payable if Approved	Cause of Death
118	Lucien T. Ahyson	267	Mar. 21, '16	\$175	May 15, '16	Paralysis
117	T. H. Haines	264	Mar. 21, '16	175	May 15, '16	Heart disease
116	Jas. Hall	478	Mar. 20, '16	175	May 15, '16	Pneumonia
119	Patrick Long	274	Apr. 4, '16	175	May 15, '16	Bowel disease
120	Wm. Baker	670	Apr. 4, '16	175	May 15, '16	Heart disease
121	Jas. Forsythe	516	Apr. 18, '16	175	May 15, '16	Fernicious anemia
122	Chas. J. Flint	248	Apr. 15, '16	175	May 15, '16	Bright's disease

Statement of Funeral Benefit Claims

PAID BY THE GENERAL SECRETARY AND TREASURER FROM FEBRUARY 29, 1916, TO MARCH 31, 1916.

Claim No.	Lodge No.	NAME	Class	Amount	Cause of Death
105	740	Geo. W. Zibble	N. B.	\$175.00	Bright's disease
106	290	Jas. S. Dyer	Hon.	175.00	Diabetes
107	169	Harry L. Parker	Hon.	175.00	Bright's disease

8 claims, aggregating \$525.00

Statement of Benevolent Claims

PAID BY THE GENERAL SECRETARY AND TREASURER, FROM FEBRUARY 29, 1916, TO MARCH 31, 1916.

Claim No.	Lodge No.	NAME	Amount Carried	Amount Allowed
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No new claims.

Paid on claims previously published \$1,945.00

Statement of Consumption Allowances

PAID BY THE GENERAL SECRETARY AND TREASURER FROM FEBRUARY 29, 1916, TO MARCH 31, 1916, UNDER THE PROVISIONS OF PARAGRAPH (b), SECTION 12 OF ARTICLE 12, OF THE CONSTITUTION.

Claim No.	Lodge No.	NAME	Amount
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No new claims.

Paid on Claims previously published \$3,600.00

Beneficiary, General, Protective, Funeral Benefit and Local Assessments for the Month of June, 1916.

To all Members of Subordinate Lodges:

OFFICE OF THE GRAND LODGE, B. OF L. F. AND E. }
PRORIA, ILL., MAY 1, 1916. }

SIRS AND BROTHERS—You are hereby notified that Beneficiary Assessment for the payment of death and disability claims, General Fund Assessment, Protective Fund Assessment, Funeral Benefit and Local Assessment, are now payable and must be paid to the Financial Secretary of your lodge on or before June 1, 1916, in the following amounts, viz.:

	Beneficiary Assessment.	General Fund Assessment.	Protective Fund Assessment.	Funeral Benefit
Class E Members.....	\$3 80	\$0 25	\$0 10	.....
Class F Members.....	2 75	25	10	.....
Class D Members.....	2 20	25	10	.....
Class A Members.....	1 65	25	10	.....
Class B Members.....	1 10	25	10	.....
Class C Members.....	55	25	10	.....
Non-Ben. Members		25	10	\$0 25
Honorary Members		25	10	25

Local Lodge Assessment in such an amount as may be determined by your lodge, but in no case to be less than twenty-five (\$0.25) cents.

Any member failing or declining to make payment, as above provided, will be subject to expulsion from the order as per Section 8, Article 19 of the Constitution, said expulsion taking effect June 9, 1916.

Yours fraternally,

W. S. CARTER,
President.

A. H. HAWLEY,
General Secretary and Treasurer.



Notice to Financial Secretaries.

OFFICE OF THE GRAND LODGE, B. OF L. F. AND E. }
PRORIA, ILL., MAY 1, 1916. }

To Financial Secretaries of Subordinate Lodges:

SIRS AND BROTHERS—You are hereby notified to collect Beneficiary, General Fund, Protective Fund and Local Assessment (now due and payable on or before June 1, 1916), from all beneficiary members on the rolls of your lodge May 31, 1916, and *Funeral Benefit Assessment* from all *Honorary and Non-Beneficiary Members*. General and Protective Fund Assessments from all members in the following amounts, viz.:

	Beneficiary Assessment.	General Fund Assessment.	Protective Fund Assessment.	Funeral Benefit
Class E Members.....	\$3 80	\$0 25	\$0 10	.....
Class F Members.....	2 75	25	10	.....
Class D Members.....	2 20	25	10	.....
Class A Members.....	1 65	25	10	.....
Class B Members.....	1 10	25	10	.....
Class C Members.....	55	25	10	.....
Non-Ben. Members		25	10	\$0 25
Honorary Members		25	10	25

You will collect from all members Local Lodge Assessment in such an amount as may be determined by your lodge—in no case to be less than twenty-five (\$0.25) cents. All Grand

Lodge Assessments to be forwarded on the forms furnished by the Grand Lodge, same to reach the General Secretary and Treasurer not later than the 30th of June, 1916.

Every member whose application for Beneficiary Certificate is approved by the General Medical Examiner during the month of May will be liable for double the above amount for Beneficiary Assessment for the month of June, according to class of certificate.

Yours fraternally,

W. S. CARTER,
President.

A. H. HAWLEY,
General Secretary and Treasurer.





Notice.

Communications intended for publication in the Ladies' Department of the Magazine should, in all cases, be addressed to the Editress, Agnes G. Strong, 527 Green Street, Boone, Iowa.

Matter for the Grand President should be addressed to Mrs. Maude E. Moore, 15 Market Place, Stratford, Ontario, Canada, and that for the Grand Secretary and Treasurer to Mrs. Mary E. DuBois, 711 Story Street, Boone, Iowa.

Correspondents are requested, when sending communications for publication in the Magazine, to kindly write on one side of the paper only, and if matter is typewritten it should be written double space.



Officers, Attention.

I want to have a little talk with the officers of the lodges.

First, I want to ask the secretary who has accepted the election, to just consider how she can best fill that office, and what her duty is, in connection with her lodge. It is absolutely necessary that a perfect account of the business be recorded in the minutes of the lodge, and also that they be recorded in a book provided for that purpose. I have visited lodges where the secretary was absent, and no minute book in the lodge room.

All secretaries should understand that if they cannot be present at the meeting the minute book should be sent either to the president or to the lodge room; while by a vote of the members present the minutes can be dispensed with at the meeting if the minute book is not there, and the business of the lodge can be proceeded with, still this should not be necessary, because all secretaries should have the interest of the lodge at heart, and there should be no necessity for anything like this.

Now again, I have examined minute books where the minutes had not been recorded for two or three meetings, and the president had approved of same. When I have asked for those minutes I found that they had been scribbled on pieces of paper, and the secretary neglected to copy them into the minute book. No officer should be so lax in her methods as this, and no president should approve of minutes that are not recorded in the minute book. I trust these few words will be taken in the same spirit in which they are offered.

Now again, much time and worry is saved by a properly written letter. It takes only a very few minutes for a writer to put the name of her town or city on the letter, also the name of the street and her house number. I have received letters in my office without either, and only had the post mark to find out where it came from. Sometimes letters

of this kind have been posted at a depot or on a train, and of course I could do nothing with them. I have no doubt that some of those sisters are still wondering why they have never heard from me. In some cases I have remembered the names of sisters, and where they lived, and in this way was able to hunt them up and get their addresses, and to get an answer to them, but in some cases I could not do this. Just a little thought and time would help your Grand Lodge officers to be more prompt, and you would get the desired information very much quicker. In writing business letters always give your street number and place of abode and write it plainly, and also when signing your name, sign as secretary or president, or whatever office you hold, so that no mistake is possible, and there will be no delay caused through this.

I have had money sent me without a word of explanation as to what it was sent for, which necessitated a letter back to find out, and which has caused unnecessary delay.

Then again, I have received letters stating what took place at a meeting and asking me to adjust the difference, while at the same time requesting me not to mention who wrote me. In other cases I have received communications from secretaries asking advice about lodge business. Naturally, I expected this came from and by request of the lodge, and I have found that the secretary would only show the reply to whom she wished and never read it in lodge. When my attention has been called to the matter, and I am asked why I do business along these lines, you can perhaps understand my feelings on the question.

Now all secretaries should know that information sent them is for the lodge at large, and not for personal information or for a few. Such work spoils the harmony of the best lodges, and causes unnecessary stigma to be cast on the presiding officers, both of the Grand Lodge and a subordinate lodge.

During my visits to lodges I have found few collectors who carry out their duty according to the constitution. When asked if the names of members who have failed to meet their obligations had been handed to the treasurer and secretary, invariably the answer is: "Our members would not come to lodge again if we did that." There is only one thing for a president to do, and that is to insist upon the law being carried out, and if the collector does not wish to do as she has obligated herself to do, she should resign and let someone else take the office who will do so, and the president should see that this is done.

To remedy these defects and assist in carrying out the law I would suggest a meeting of the officers to study the laws, especially the sections of the constitution pertaining to their several offices. Where I have been fortunate enough to get the lodges to hold these meetings of the officers they have proven a great help, and I would suggest that all lodges try the same. Unless the subordinate lodge officers carry out the laws according to the constitution they will never make a success of the work. The carrying out of the law perfectly makes a perfect lodge, and in no other way can it be attained.

MAUDE E. MOORE,
Grand President.



Our Duties.

In our childhood, you will remember, there was always one of our playmates, who, when we did not do just as she wanted us to, and play as she said, insisted upon taking her dolls and playthings and going home. Do you know we have just a lot of people with that sort of disposition in our Ladies' Society? So far as that trait of character is concerned they have never outgrown childish things. For conscience sake don't be a "piker" whoever you are, wherever you are, that belong to this class. It will not add to your attractiveness the least bit. No one will love you the more because you are always finding fault and growling. If you ever worked in a lodge with a member like this, most earnestly will you pray to be delivered from a long stay with her.

There are a lot of don'ts it would be well for many of our L. S. members to observe. We want to give you a few. If you chance to move into a new town don't expect all the members of the lodge to call on you the first day you are there. Don't expect them to fall down and worship you. Why should they, no matter who you are? If by chance some of them never call don't feel hurt, for after all our L. S. sisters, as well as every one else, have a right to do as they please in the matter. If you have been president of your lodge don't try to dictate the policy of your successor. She probably paid you proper respect when you were in office and "turn about is fair play." That one has held office does not make her any better than the other members in a lodge. Sometimes it only furnishes an opportunity to show how small, unfair and unjust one can be. If your lodge by majority vote decides upon a line of work, that you may not approve of, never mind.

fall in line and do your share anyway. It won't hurt you to put aside your own personal feelings occasionally. It may surprise your friends to have you do so, but it will do you good. If you are placed on a committee to work, though you may be opposed to working, do your share. Don't get "upish" and insist you will not do what is expected of you, and if you are held responsible for any work you will withdraw or transfer to some other lodge.

It seems to us that is a mighty small calibre to make a member of the L. S. out of, but if that is the way you feel about it and won't do your share of the lodge work, maybe it might not be a bad thing for the lodge if you put your intentions into execution. Upon what sort of meat have such members been fed that they should be exempt from everything that does not just happen to please them? If we carry a "grouch," no one else is hurt but ourselves. In this day of automobiles, every one wants a self-starter. Self-starters are all right, but what most of us need is a self-stopper, and a firm hand on the brake.

After all, the measure of one's service is the measure of her faith in her sisters and her desire to facilitate the work of her lodge. It is not what we get out of our lodge, but what we put in to it that marks our standing and worth as members of the Ladies' Society.

AGNES G. STRONG.

Convention Time Near.

Convention time is again near, in which important subjects touching the sisterhood at large will be considered. Let them be considered carefully, thoughtfully. Put away all personal feelings, all personal ambitions and do what will be for the good of the order, rather than yourself. Go to convention with open minds and an honest desire to do the right thing. Have a clear, honest conviction of the right, have your own head and use it. Be biased neither for or against any person or measure. The day has gone by when delegates are sent to any sort of convention, fraternal, political or religious, instructed as to how to vote and what they should do. Delegates are selected because they are considered worthy and fully competent to represent their lodge, and because the lodge has confidence in them and feels sure they will do the best things for the sisterhood. What if some one has said that you must vote thus and so, act thus and so, vote for this or that woman that they have selected for office, you do not have to follow the mandates, do you? What if it

has been declared by some would-be dictators that if you do not follow their commands you will come off your State Board at once, if you happen to be an official. Don't worry; they can't possibly harm you nor carry out their threats. Such people have little or no influence. Rest assured that no one member of the L. S. holds in the hollow of her hand the votes of all the members of one lodge, let alone the votes of the entire delegation in attendance at convention. The Ladies Society is too large as to numbers, too high as to ideals, too far-reaching in principles, to ever submit to being coerced and governed by a few. It is contrary to all L. S. principals. The women composing our sisterhood are women of intelligence, kindly feelings, love of justice, culture and refinement, and are largely in the majority and will never allow themselves to stoop to low political intrigue, even though a few may do so. Stand in convention for the right, as you see it—*and stand*. Your reward will be in the consciousness of having been loyal and true to conviction, your lodge will honor your faithfulness to duty, and your own peace of mind in having done the right will be to you an inestimable comfort and joy.



Notes.

"The little sharp vexations
And the briars that catch and fret,
Why not take all to the Helper
Who has never failed us yet?
Tell Him about the heartache,
And tell Him the longings, too;
Tell Him the baffled purpose
When we scarce know what to do.
Then leaving all our weakness
With the One divinely strong,
Forget that we bore the burden,
And carry away the song."

If we searched the world over we would probably find no one who would not be glad if the awful war across the sea ended at once. Some one has said that "The money that has been spent in war would purchase every foot of land upon the globe. It would clothe every man, woman and child in an attire of which kings and queens would be proud. It would build a school house on every hillside and in every valley over the whole earth; it would build an academy in every town, and endow it; a college in every state, and fill it with able professors. It would crown every hill with a place of worship, concentrated to the promulgation of the gospel of peace. It would support in every pulpit an able teacher of righteousness so that on every Sabbath morning the chime on one hill

should answer to the chime on another round the earth's wide circumference; and the voice of prayer, and the song of praise should ascend like an universal holocaust to heaven."

Another rich man has left his money where it will pay the largest dividends for generations to come. The late Charles E. Ellis of Philadelphia left over \$4,000,000 for the foundation of a home for fatherless girls not over thirteen years of age, where they may have a four years' course of training. The building to be erected at Langhorne this year will cost \$1,000,000. The school is to be named after its founder.

While everyone enjoys all the things prepared for a convention in the way of social pleasures by the entertaining lodges, it were well not to overlook the fact that delegates are sent to convention to transact the business of convention. This should be done first, and most religiously attended to, and then if there is time left, let us have the social affairs. Lodges are at an expense in sending their delegates and the attention to the duties of convention should have first and undivided attention. It is the President's duty to hold the delegations to the business before the convention. Business is business, whether we like it or not, and must be attended to.

There may be those within our Ladies' Society who are letting miserable misunderstandings run on from year to year, meaning to clear them up some day; you are keeping wretched quarrels alive because you cannot quite make up your mind that now is the time to sacrifice your pride, kill ugly feelings and be your true, best self. It may be some of you are not speaking to each other, owing to some silly spite, envy or jealousy. Your friend's heart may be aching for just a word of appreciation from *you*, or sympathy which you fully intend giving her some day; if you could only know, and see, and feel that "the time is short," how quickly you would act. How you would go at once and do the thing which you might never have another chance to do. "Pride goeth before destruction, and an haughty spirit before a fall."

One woman is not a lodge, but five women are. The kind of lodge they are depends upon whether they work for or against each other, and no matter how large the lodge becomes, the principle remains the same. The lodge is good or bad, progressive or inert, as the majority

composing it are good or bad, progressive or inert. As the lodge grows and prospers so does the individual member grow and prosper. What sort of a lodge is yours, and what are you going to do to bring it up to the highest possible standard?

Let us remember that laws are made to keep and not to break. They are not to be set aside for you, or for me. Not for your friend, or my friend, or our friend. The law is no respecter of persons, and because some one else in the past has set aside a law to suit an occasion does not give us license to repeat the offense.

Wouldn't there be a lot more happiness in life if we all lived up to the best that is in us? Recently we overheard two women discussing another woman. The one said: "I do not like her; she is so disagreeable and supercilious." "Oh, no," the other replied, "you do not know her; she is anything but that. I never knew such a pleasant girl in her home." That is it; we do not know one another. The thing that impressed us most was the fact that this girl was sweet and beautiful in the home. Was that not high praise? The world would have many more happy homes if the people in them would be as kind to each other as they are to those they meet on the outside. If we only would stop to think how short is the way we travel together in this world we would say more often the kind things, and do the beautiful deeds more frequently.



New Lodges Organized.

Yours To Gain Lodge 376, Enderlin, North Dakota. Organized February 29, 1916, with twelve charter members. Organizer, Agnes G. Strong, Boone, Iowa.

Capital City Lodge 355, Columbus, Ohio. Organized March 2, 1916, with nineteen charter members. Organizer, Elizabeth Smith, Columbus, Ohio.



Acknowledgments.

Bro. R. E. Strain, Denver, Colorado, desires to thank the Grand Lodge of the Ladies' Society of the B. of L. F. and E. for the prompt payment of his late wife's insurance claim.

San Antonio Lodge 381 desires to express its sympathy to Brother Jones and his two little sons who mourn the loss of wife and mother, Sister Julia Jones.

Sister Jones was a victim of smallpox and was taken to the Detention Hospital, where she lingered about ten days, when the Master called and the spirit of a loving wife and mother fled. It was particularly sad, as none of her friends could be with her or attend her funeral. We commend her loved ones to "Him who doeth all things well."



The Big Ten.

Below is given the membership of the ten largest lodges of the Ladies' Society of the B. of L. F. and E., as reported April 1, 1916:

- 1. No. 3, Hazel, Peoria, Ill. 173
- 2. No. 125, Charity, Jackson, Mich. 127
- 3: No. 81, E. Pluribus Unum, Logansport, Ind. 120
- 4. No. 38, Hyacinthe, Fort Wayne, Ind. 118
- 5. No. 60, Pride of 174, Harrisburg, Pa. 109
- 6. No. 10, Helpmate, Elkhart, Ind. 105
- 7. No. 142, Empire, Buffalo, N. Y. 105
- 8. No. 36, Autumn Leaf, Sayre, Pa. 96
- 9. No. 59, Easter Lily, Pt. Jarvis, N. Y. 91
- 10. No. 4, Hope, Huntington, Ind. . . 82

(Note the advent of No. 4 in the Big Ten column this month, and watch it grow; also notice the number of lodges in this scale in Indiana.)



Peach Blossom Lodge 318, Organized.

Peach Blossom Lodge 318, of Colorado Junction, Colorado, was organized March 29, 1916, with twenty-six members, as auxiliary to Grand Valley Lodge 594 and James Leahy Lodge 475.

After the ceremonies of organization were completed the brothers were invited in for a social evening, at which time the public installation of the new officers occurred, followed by short addresses. A splendid orchestra had been secured and dancing the "light fantastic," followed by a delightful luncheon, brought the happy day to a close.

We owe our existence to the brothers who appointed a committee to make arrangements for the organization of a Ladies' Society in our city, and especially to Brother Strom, who took such an active interest in our behalf. Sister Agnes G. Strong was our organizer, and she was ably assisted by four of the sisters from Cardiff, Colorado, who came over to witness the organization of the new lodge in their State.

We will hold our meetings the first and third Thursday of each month in

Eagles Hall, and hope to have many joint social affairs with the brothers.

CAPITOLA ROBERTS,
Grand Junction, Col.



Be Appreciative.

Blue Bonnet Lodge 147 sends greetings to our Grand Lodge officers, the Editress and sister lodges.

I often wonder how many of us really appreciate our superior officers and ever stop to think what good, noble women are at the head of our organization. Let every delegate to our Triennial Convention bear this in mind when attending the convention in Denver in June, and show proper courtesy and appreciation for all they have done for us in the past.

Appreciation is the magic that takes the weariness out of toil, the bitterness out of sacrifice, and that makes all our striving worth while. It puts fresh courage in our souls and new hopes in our hearts. It is a spur in our side to know that our toil does not go unregarded, and that someone understands and appreciates our efforts to do our best. Our delegate, Sister Puckett, we feel sure will be a credit to our order.

We have added three new members since the New Year, one by transfer, Lorena Ritchey, from True Trial 46, Smithville, Texas. Their loss is our gain.

Our city is looking forward toward the celebration of the 200th Anniversary, in 1918, of the settlement of San Antonio. The people have organized a corporation to promote an international fair celebrating the 200th Anniversary of our city.

It will be one of the biggest propositions in America, and the good that will result from it, both to the United States in stimulating trade and friendship with the Pan-American nations, and to San Antonio and all Texas, can scarcely be estimated. If all our dreams come true you will hear of San Antonio in 1918.

ANNIE AYLMEY, L. S. 147,
San Antonio, Texas.



Messages of Good Will.

In a recent issue of the Magazine the question was asked, should the printing of "Letters From Friends" be abolished from our department? Many times have my thoughts returned to that inquiry, and I wish to reply with the genuine Yankee privilege of treating the interrogation with another, "Shall the stars forget to shine or the day neglect to dawn?" for to most of the members of

the Ladies' Society as great an affliction it would be should the letters be eliminated as to have the above disaster actually occur. We certainly need those little messages of good will and heartily appreciate their appearance. Indeed, in all of my work for the organization I have never found but one sister who told me that she "never read the Magazine." With such an overwhelming majority, I think our letters should be an established feature. But, sisters, in order to have their continuance there is one most important factor to consider. We must send the letters in or else there will be none to print. Some of us, I fear, are quite backward in our correspondence. Just get busy, and whenever there occurs an unusually pleasant lodge meeting, social affair, or money-making scheme, write it up and send it in. It will be welcomed gladly by the Editress and by every other sister who has the welfare of the society at heart. For eleven years our dear sister and friend, Mrs. Agnes Strong, has had charge of our interests along this line of work, and by personal acquaintance with our sister I can safely state the responsibility and genuine pleasure in her office has been to her equally alike. Underpaid is the office for the amount of good, hard work demanded. In sickness or in health, in vacation time or with company at her home, or whatever betide, yet with accuracy and dispatch must the budget of letters for our department be started on its way to the printers. Let's appreciate fully the faithful service of Sister Strong; especially when we have some interesting bit of information that other sisters could profit by in their duties connected with our work. We do not have to be an authority on the art of letters. The punctuation, arrangement of paragraphs, etc., will all be attended to by the willing hands of Sister Strong. Then, also, in writing up these little affairs do we create a betterment among the whole membership. We all read of some tiny bit of sunlight that has brightened the life or home of a member and we are likewise pleased and our hearts beat a trifle faster with gladness over the good that has been done. In the March issue Sister Strong said: "Each life has its own sorrow and care. What a sweet thing it would be to each and everyone of us if we could look forward to our lodge meeting as a place where we could be sure to find not contention over some technical point, not a discussion as to whether one sister should be treated with more consideration than another, but a place where we would be sure to find love, sympathy and kindness such

as one sister showeth another." What a beautiful thought it is and what a wonderful way to do; it is for us to add, "We will try, we will aim to do that, and we will continue to send our letters with cheerfulness and dispatch, striving ever to

"Keep in step with the Master,
Following close by His side,
Knowing if steep be the pathway,
Jesus is able to guide."

IMOGENE BATES.

Fourth Annual Colorado State Meeting.

The fourth annual State meeting of the Ladies' Society of the B. of L. F. and E., which was held in Trinidad, Colorado, March 21, 22 and 23, was one of the most profitable that has yet been held.

Eight lodges responded, seven being represented, and seventeen delegates and ten visitors were present, four of the visitors being from Raton, New Mexico. We also had with us our Editress, Agnes G. Strong. Sister Strong has made many friends in Colorado and we hope we will always have her present at our State meetings.

The entertainment was cut down to evenings, only business during the day. Tuesday evening was the turkey banquet, at which about two hundred people were served, after which a short program was rendered, ending with the official drill given by the ladies of Floradora 53. The brothers of 344 served the banquet in their official uniform of overalls, jumper and coat, and made a real hit.

Wednesday evening a complimentary ball was given to the delegates and visitors, also to members of other railroad orders and their auxiliaries, in the West Theater ball room, and was one of the finest affairs that Trinidad has had for a long time. The grand march was led by Sister Agnes G. Strong, Editress, of Boone, Iowa, with Charles H. Jones, of Denver, the newly elected State president. Until late into the night the happy railroaders made merry and the feature of the evening was the official drill by Floodora Lodge 53, which was given by request. Ingram-Powder gave carnations to all the ladies.

A joint meeting was held Thursday morning, at which time Denver was the place chosen for the State meeting in 1917. Thursday all were guests at the Strand Theater, where Marguerite Clark in "Mice and Men" was enjoyed, after which an informal dance was given at Coronado Hotel, headquarters for the convention, as guests of Mrs. Patton, who

had made our stay so pleasant and home-like. At this time flowers were presented Sister Strong and Sister Morris.

The various officers that held their chairs should be complimented on the way they conducted the affairs of the meeting, especially Sister Lucy Morris, of Pueblo, State president.

Our next meeting place is Denver, in June, 1917, and we hope to have every lodge in the State represented. If every sister lodge could attend and see what pleasant helpful meetings we have, am sure they'd not miss being represented at another.

Sister Opal Hampton, of Trinidad, is the newly elected State president. From all reports this has been the most successful State meeting in the history of the organization, and the visitors are going home to boost for the liveliest town in Colorado.



Social and Entertainment by Lodge 280 L. S.

The members of Richmond Lodge 280, instead of having their regular meeting on Friday, March 17th, invited a number of their friends to a social and entertainment which they held at Stapleton Hall on that evening.

Several members of the Ladies' Auxiliaries of the Brotherhood of Locomotive Engineers and of the Brotherhood of Railroad Trainmen, as well as the majority of the brothers of Clifton Lodge 339, B. of L. F. and E., were present, who certainly deserve the thanks of our lodge for the help which they gave us on that evening.

There was singing and dancing, and small souvenirs were presented to the guests in honor of St. Patrick.

About 11 o'clock all eyes were turned to the center of the room, where there stood a large box, filled with the stubs which were turned in after the sale of the tickets for our cut glass vase.

Brother Hartman of Clifton Lodge 339 and Mrs. Garver and Mrs. Zimmer, two officers of the Ladies' Auxiliary of the Brotherhood of Railroad Trainmen, were asked to pick the winning ticket, which was the seventeenth one taken out of the box, it being the 17th of March, and the owner of the ticket, Mrs. Herberts, the wife of Brother Louis Herberts, also became the owner of the beautiful vase, which was the gift of our worthy president, Sister A. Zeluff. Refreshments were served at midnight, after which there was more singing and dancing, and when our little party broke up

it was considered by all that it was a social as well as a financial success.

MEMBER.



Lodge 115, Organized.

We are greatly pleased with our little lodge, No. 115, which was organized the 27th day of March, 1916. We had a large attendance and all the worthy sisters are anxious to keep the "goat" going.

The brothers gave in honor of our little lodge a nice banquet, and all who were present had a glorious time. There were three visiting sisters from Winslow, Arizona, also the organizer of our little lodge, who were so pleased with the success of our efforts. A floral offering was presented to our lodge, consisting of our emblem flower (carnation). I want to thank all the worthy sisters and brothers for their kindness, and we hope to do the same by them.

MATTIE WILLARD,
Needles, Calif.



The Golden Rule.

Speak no evil, and cause no ache;
Utter no jest that can pain awake;
Guard your actions and bridle your tongue;
Words are adders when hearts are stung;
Help whoever, whenever you can;
Man forever needs aid from man;
Let never a day die in the west
That you have not comforted some sad breast.

ELIZABETH HOCHBERG.



Yesterday and Tomorrow.

If Robert J. Burdette, the great Iowa author-poet-philosopher, had never left anything else to posterity than his wonderful and beautiful essay on "Yesterday and Tomorrow," this alone would have immortalized him in the minds of all men. It is well to occasionally refresh our minds with the beautiful thoughts and sentiments portrayed therein:

"There are two days of the week upon which and about which I never worry. One of these days is yesterday; yesterday with all its cares and frets, with all its pains and aches. All its faults, all its mistakes and blunders, have passed beyond the reach of my recall. I cannot undo an act that I wrought; I cannot unsay a word that I said. All that it holds of my life, of wrongs, regret and sorrow, is in the hands of the Mighty Love that can bring honey out of the rock, and sweet waters out of the bitterest desert—the love that can make the

wrong things right, that can turn weeping into laughter, that can give beauty for ashes, the garment of praise for the spirit of heaviness, joy of the morning for the woe of the night. Save for the beautiful memories, sweet and tender, that linger like the perfume of roses in the heart of the day that is gone, I have nothing to do with yesterday. It was mine; it is God's.

"And the other day I do not worry about is tomorrow. Tomorrow with all its possible absurdities, its burdens, its perils, its large promise and poor performance, its failures and mistakes, is as far beyond the reach of my mastery as is its dead sister—yesterday. It is a day of God's. Its sun will rise in roseate splendor, or behind the mask of weeping clouds, but it will rise. Until then the same love and patience that hold yesterday and hold tomorrow, shine with tender promise into the heart of today—I have no possession in that unborn day of grace. All else is in the safe-keeping of the Infinite Love that holds for me the treasures of yesterday. The love that is higher than the skies, deeper than the seas. Tomorrow—it is God's day. It will be mine."



Chained Friendships.

The talk—they were all college women—had begun with college memories, grave and gay, and from that deepened to a discussion of the most valuable results of the four years' training. Finally some one turned to a woman who had been listening silently:

"What was the best thing that college did for you, Agnes?" she asked.

"Don't ask me to talk," Agnes pleaded. "I'm nothing but a home body. All the rest of you have done things."

Half a dozen voices made quick protest. "As if your home wasn't an ideal for all of us!" they cried, reproachfully. "Did college help you make that what it is?"

"Surely it did," Agnes returned, "but the best lesson I ever learned, though it came to me in college, was given by an old aunt of mine. All the family gave me lovely things for my room, except Aunt Catherine; she sent me nothing but a letter. It was very brief—Aunt Catherine's letters always were—and I can remember every word of it.

"Dear Niece Agnes.—In the middle ages there were chained books; in this age of cheap printing books aren't chained to pillars any more—it might be better if most of them were. But there are lots of chained friendships in the world, and always will be so long as women are women. See that you don't go chaining up any of your friends. I believe they call the performance having a crush. Good friends, like good books, should be

loaned to others who need them. I don't know whether you'll find this advice in any of your text-books, but if you do, it won't hurt you to read it twice. Be large in your friendships. Your affectionate aunt, "Catherine McGregor."

"Chained friendships," one of the listeners repeated, thoughtfully. "I never thought of it so, but that is exactly what they were, many of them. How we grudged sharing our divinities! We wanted to chain them fast to our particular pillars. And how many chained friendships we find everywhere! Your aunt was right, Agnes."

Agnes smiled. "She usually was," she answered.—*Selected.*



Ginger.

Little Jane was Daddy's pet and could always be found following him around the farm, if he was on foot, or riding beside him in the wagon or on the horse he was leading to work. Now Jane had been babied and spoiled to a certain extent, and was very pronounced in her likes and dislikes. She got it into her small head she did not like ginger in mother's pumpkin pies, although she always ate her share. She coaxed and coaxed mother "not to put the ginger in this time," but the nasty, bitey stuff was always in evidence.

It was in the fall of the year and Jane was helping Daddy husk corn, or do anything to help him—thereby getting rid of that hateful disagreeable task of washing dishes. Mother was paring and cutting in cubes such a nice big yellow pumpkin, getting it ready to stew, to make pies next day. Jane saw this and thought of the ginger. Mother was in the back kitchen. Jane watched her chance, climbed a chair onto a shelf and then, by stretching her little short arms as long as possible, she reached the ginger can and slipped out and hid it where she knew it would not be easily discovered, then went with Daddy to the corn-field. The day passed all too soon. Morning came, and Jane was out waiting for the trip to the corn-field, long before the team was ready. She felt just a little guilty. She knew that act of taking the ginger was not 'zactly on the square, but if Daddy would only hurry, and they could get out in the field, Mother would have to make the pies minus the ginger but hark!

"Jane! Jane!! Jane!!!" with short pauses between, but each getting louder, and she knew Mother was getting more vexed. Then: "Jane, get yourself in here now and find that ginger."

Jane knew what was coming, and was not disappointed, for when she hove in

sight of the kitchen there stood her mother with a good sized switch, and Jane got a "gingerly" helping of that and also had to dig up the ginger can from its secret hiding place, and then had to have ginger in the pumpkin pie besides, which never did seem just fair to her.

That is many years ago and tastes do change so. Jane has been making pumpkin pies herself for nearly two-score of years, and the dear old "Mother" doesn't like ginger at all in her pumpkin pies now.

◆ ◆ ◆
"MEMORY."

Letters from Friends.

FROM L. S. 98—(*Ida May Piper, Los Angeles, Calif.*) It has been some time since Orange Blossom has been heard from. We are so busy initiating new members and having a good time that we don't have time to write.

We hardly expect to be one of the Big Ten, but we have sixty members and more applications. If the eligible ladies could realize what a nice thing it is to be a member of the Ladies' Society we wouldn't need to urge them to join us.

Convention time will soon be here. I hope all have elected their best worker to represent them, as it seems to me there is lots of work ahead. Our order has outgrown the ritual and constitution, too, and I hope some bright sister will formulate a scheme to simplify the paying of dues and pay every month. There would not be nearly so many delinquent ones if such were the case.

We meet once a month with some sister, have light refreshments, and each pay a dime, the money to be used to buy material for our sewing club. Just before Christmas we had a sale and made a goodly sum for our treasury, and these meetings enable us to know each other and become "nearer and dearer" than at just the lodge meetings.

There is so much for us to do if we practice our motto, "Friendship and Charity."

One of my faults is writing long letters, so I will close, hoping to meet many of you in Denver.

Visitors are always welcome in Los Angeles.

◆ ◆ ◆

FROM L. S. 310.—(*Nettie Solutius, Tracy, Calif.*) Jewel City Lodge sends greetings to all sisters. We are a new lodge, just organized last December. We can't boast of new members at present, but expect to have several in a short while.

Our little band of willing workers held

its first social affair March 4th in the form of a basket social and informal dance. Each one made very pretty and dainty baskets that were well filled with delicious lunch for two. At twelve o'clock the baskets were sold to the highest bidder and all repaired to the banquet room, where coffee was served. Dancing was continued till three in the morning. We feel very proud of our success and we cleared the neat sum of \$22.40, which we consider very good for our first attempt, and as the night was very wet and stormy, but all who attended enjoyed every minute of the time.

We have had two meetings since we were organized and both were well attended. We are getting along real well with our new work and after a few more meetings we hope to understand our duties more thoroughly.

We would be pleased to meet any of our sisters. We meet the third Tuesday at 2 p. m. in Masonic Hall.

◆ ◆ ◆

FROM L. S. 75—(*E. Grove, Toledo, Ohio.*) Since we were last heard from we have elected officers, Sister Kate Bittman being our worthy president. Sister Bittman has served No. 75 in the capacity of president four years, and we know that with each and everyone helping, our lodge will prosper.

Last year was a fine one and we hope that we can make this one even better; let all make an extra effort for this.

To Sister Brewer we extend our heartfelt sympathy in her recent bereavement at the death of her mother.

Sister Matilda Lyberger is leaving here for Montana on account of ill health. She was our worthy president last year and was re-elected but resigned. During her term of office last year she attended every meeting. She was a hard worker and accomplished much, and will be greatly missed from our meetings. May good luck follow her to her new home.

Two applications for membership were read at our last meeting and there are several others in view.

Here is to a big and better year to all sister lodges, also good luck to our worthy Grand President and our Editress.

◆ ◆ ◆

FROM L. S. 338—(*Wilhelmina Bardelmeier, Grand Rapids, Mich.*) Although we have been organized almost three years we have contributed to the Ladies' Society Department only once before, but we are going to try and be heard from each month from this on.

Loyalty Lodge consists of but few in numbers, but our energy is strong, and

with the help of one another we strive to be successful.

We have recently added two new names to our membership roll and at each initiation a light lunch was served in honor of our new sisters.

We find our meetings very sociable and interesting and we would like to see more of the sisters attend all meetings and thus encourage our worthy president, Sister Haddow, whom we know labors for the good and welfare of our lodge.

In February twelve of our sisters enjoyed a very social time with our sister lodges of Michigan and our Grand President, Sister Moore, at Jackson.

● ● ●
FROM L. S. 213—(*Florence Rankin, Wellington, Kans.*) Just a few lines from 213 to let you know we are yet in the ring and our membership is growing though slowly.

On February 19th we held a joint meeting with the brothers of 359, and social meeting afterwards. Although this was our first effort at joint meeting, we were pleased with it and will try to have others, and with the help of the brothers improve each one over the other. The social meeting was well attended and enjoyed by all present.

March 4th was our first anniversary and we enter into our second year with renewed courage and resolutions to advance our order in Friendship and Charity.

Our membership has suffered greatly this winter on account of sickness, as have others who are eligible, but am glad to say all are improving now and we expect to add new members soon.

● ● ●
FROM L. S. 317—(*Margaret Larine, Hillyard, Wash.*) Our annual banquet in December last was enjoyed by a very large crowd, the brothers helping materially to make it a success, as did also the engineers and their wives, as it was held jointly. A program was given, followed by dancing.

We have a card party every month at some of the members' homes, and an embroidery club also. Refreshments are always served.

We initiated some new members in 1915 and hope to have many more during 1916.

● ● ●
FROM L. S. 14—(*Nettie Hamptin, Centralia, Ill.*) We have been having good attendance at our meetings this year, and we are very enthusiastic now over a membership contest. At the end of three months we expect to initiate a large class, and the winning side will be entertained by the losers. This is our

second campaign of this kind, and aside from increasing our membership, our members become more interested in the work.

We were entertained by the brothers of New Hope Lodge 37, at our installation. After the installation ceremonies were concluded we were invited to the dining room, where oysters were served, and we were very much surprised to find a six-piece orchestra which furnished music throughout the evening. Did we enjoy it? You who have had similar surprises can answer.

On February 2nd we held a Washington social. Each member had the privilege of inviting an eligible guest. A musical program was given by Sisters Emma and Fannie Jensen, and Sister Cora Haney gave an interesting description of Washington's home at Mt. Vernon. Refreshments were served and a social hour enjoyed by all present.

● ● ●
FROM L. S. 377—(*Natalie Thompson, San Diego, Calif.*) Since last writing we have enjoyed a banquet given by the brothers of 388. Words can hardly express our appreciation of the fine way in which everything was served, also the jolly time that was enjoyed by all present. There were several visiting members of the B. of L. E. and we are quite sure that they can recommend our brothers as first class chefs.

The sisters met with Sister Marrs one afternoon recently and presented our past president, Sister Julia Calloway, with a pin, also a red and white block quilt with the names of all charter members embroidered in the center. The gifts were received with words of thanks, after which refreshments were served.

Death has claimed the mother of Sister Sarah T. Ford. We extend our sincerest sympathy to her in this bereavement.

● ● ●
FROM L. S. 292—(*Grace McAuley, Dunsmuir, Calif.*) Shasta Daisy Lodge is still small in numbers, but we have several new members in view and think as summer advances and nice weather begins we will have a better attendance at meetings.

We meet the second and fourth Wednesday of each month for our regular business meetings, and have recently established a monthly social afternoon at the various sisters' homes, which is greatly enjoyed by all.

We are completing our plans for a leap year ball to be given soon and are hoping for a grand success.

Visiting sisters will receive a cordial welcome to our meetings.

FROM L. S. 19—(*Nellie Williams, Victoria, Va.*) Tidewater Sisters' Lodge 19 has never sent a letter for publication in the Magazine, but "no news means good news."

On March 16th last this lodge and Tidewater Lodge held a joint meeting which was enjoyed by members of both lodges. There being no special business to transact, a fine program which had been prepared by a committee was rendered by the ladies. We hope to have the men on the program for our next meeting.

We have only thirteen members now, but hope to have more in the near future.

Just before the close of the year we had an oyster supper and fancy work sale, and a neat sum was realized.

Our worthy president is working faithfully to keep our organization going, and I think we shall do good work.



FROM L. S. 3—(*Maude B. Pratt, Peoria, Ill.*) Since last writing Hazel Lodge 3 has been very busy. We held joint installation with the brothers of Lodge 48, including all members of both organizations and their families. After the ceremonies of installation were concluded, music, dancing and refreshments were then the order of the evening.

On January 19th the losers in the contest we previously told you about entertained the winners at a noon-day dinner the tables being bountifully spread. A rising vote was taken to thank the losers for their most excellent dinner and good time.

We are now having a chain of ten-cent social teas, ten entertaining ten. The luncheon is limited to three things, and I think we are having good sociable times and meeting with success.

At one tea the entertaining sister had us make our spring bonnets of two or more colors of crepe paper and wear them at the table. I can assure you there were some pretty bonnets made, too.

Along with our pleasures have come the report of much sickness and death. A serious accident resulting in the death of Bro. George Pashard. Just the Sunday before he had been installed as president of Lodge 48. He leaves, to mourn his death, his wife and five children.

The sympathy of Hazel Lodge goes to our president, Minnie Williams, who was called to Kansas to bury her father.

The convention draws near and we wish to send our best wishes for success to all delegates. Also best wishes to all members of the Ladies' Society.

FROM L. S. 323—(*Lettie Calvert, Des Moines, Iowa.*) We have been greatly interested in reading of the progress of our sister lodges and wish them to know that we are still in line with them. We have an energetic band of workers, one interested in the other and each for all. Our lodge is on a firm basis, ever striving for betterment.

We have good prospects for a large membership in the near future. We are divided into two divisions, each division with a captain to lead, and the one receiving the largest number of applicants will be banqueted by the one receiving the lesser. This plan is causing much enthusiasm.

The drill practice is much enjoyed by all, twenty minutes being reserved for drill work, while the business of the lodge proceeds.

Our next meeting is to be a joint one with Lodges 67, L. S., and 102, B. of L. F. and E. Good results are looked forward to with the help of these able assistants.

The social part of our order is gratifying at all times and much benefit has been derived from our many socials and entertainments.

Our sick members are on the way to recovery; this we are glad to state, as with their presence we feel assured of success.

As all concerned are real "boosters" for the cause, our slogan is, "Work for a membership of 50 for 323."

We send best wishes to all Grand Officers and sister lodges and wish them success in the grand work of the Ladies' Society of the B. of L. F. and E.



FROM L. S. 77—(*Bertha Harris, Peru, Ind.*) Pride of 405, L. S. 77, has not been heard from for some time, but nevertheless we are still in existence. We have been at a standstill as to increasing our membership, but we have been having some very good times. In our election of officers there were not many changes, only three new officers elected.

On New Year's Eve we held an indoor picnic to which all the sisters and families came out and partook of the delicious supper. The tables were beautiful with carnations in large bouquets, and tiny purple bells tied with white and red ribbon at each plate. After all had feasted the tables were cleared away and a program was rendered, after which dancing was indulged in till the bells rang out the old and in the new year.

The brothers of 405 and 157 invited us to assist in the joint installation of

officers which was held on their regular meeting night. All of our officers were present except the warden, who had the misfortune to sprain her ankle and could not be with us. After the ceremonies were concluded the sisters gave a short program while the tables were placed for the oyster supper which the brothers prepared.

We gave our ninth annual ball January 27th, which was well attended and a goodly sum was realized for our treasury.

We meet in the Fireman's Hall the first and third Wednesday afternoon and visiting sisters will be assured a welcome. On the second and fourth Wednesday a social circle afternoon is held at the home of some sister and the hostess is assisted by three other sisters in serving. We all enjoy these meetings, as they bring us closer together, and thus a greater interest is kept up.

With our good times sorrow has also come to some of our number. Sisters Brown, Crouder, Baugardner and Quigley each have lost a dear mother. The sympathy of the lodge goes out to these bereft ones in their sorrow.

We find our meetings very sociable and interesting and we would like to see more of the sisters in attendance at each meeting and thus encourage our officers, whom we know give their time and labor for the good and welfare of our lodge. Let us all feel that

"I'm but a cog in this vast wheel

That daily makes the same old trip,
Yet what a joy it is to feel

That but for me the wheel might slip!
'Tis something after all, to jog,
Along and be a first class cog."



**Quarterly Insurance Assessment—
Second Series Numbers—Notice
No. 54, for the Quarter Ending
June 30, 1916.**

GRAND LODGE

LADIES' SOCIETY OF THE BROTHERHOOD
OF LOCOMOTIVE FIREMEN AND
ENGINEMEN.

Office of

GRAND SECRETARY AND TREASURER.

BOONE, IOWA, June 1, 1916.

To all Treasurers of Subordinate Lodges:

SISTERS—Assessment No. 54, for the quarter ending June 30, 1916, is hereby levied upon all members holding membership in the Insurance Department of the Society on or before May 1st, 1916. You will forward to this office so as to reach here on or before the tenth day of June,

1916, the sum of sixty (60) cents from each member carrying a \$200 policy, one dollar and twenty (\$1.20) cents from each member carrying a \$400 policy, and one dollar and fifty (\$1.50) cents from each member carrying a \$500 policy, using the two printed blanks which accompany this notice.

All remittances to be made by draft, postoffice or express money order, payable to Grand Secretary and Treasurer, Ladies' Society, B. of L. F. and E.

Members initiated on and after May 1, 1916, will not be liable for this assessment.

MARY E. DU BOIS,

Grand Secretary and Treasurer.

Approved:

MAUDE E. MOORE,

Grand President.

NOTE.—We enclose two printed blanks upon which treasurers will make returns to the Grand Lodge for the above assessments. Both statements will be filled out exactly alike and sent with returns. If all names do not appear in the printed list, they will be added. If any corrections are necessary they can be made by the Treasurer. One of the printed statements, with receipt, will be returned to the Treasurer.

For the names, lodge number, cause of death, etc., of deceased sisters in the payment of whose claim this Assessment is levied, see issue of the Brotherhood of Locomotive Firemen and Enginemen's Magazine, whose detailed statement of the same will be given in department devoted to the Society.



Death Report.

Lillie O. Felix, Lodge 60, Harrisburg, Pa.; died March 11, 1916. Cause of death, acute bronchitis. Amount of insurance, \$200.

Julia Louise Jones, Lodge 381, San Antonio, Texas.; died February 23, 1916. Cause of death, smallpox. Amount of insurance, \$200.

Nettie Redmond, Lodge 92, Superior, Wis.; died March 19, 1916. Cause of death, intestinal tuberculosis. Amount of insurance, \$200.

Neva Strain, Lodge 64, Denver, Colo.; died February 23, 1916. Cause of death, pneumonia. Amount of insurance, \$500.

Mary M. Klotz, Lodge 113, Albany, N. Y.; died February 26, 1916. Cause of death, fatty degeneration of the heart and Bright's disease. Amount of insurance, \$200.

Etta Crossman, Lodge 249, Buffalo, N. Y.; died March 10, 1916. Cause of death, acute nephritis. Amount of insurance, \$200.

CONVENTION NUMBER

Union pay

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JUN 2 1916
BROTHERHOOD OF ENGINEERS

BROTHERHOOD OF

Locomotive Firemen and Enginemen's Magazine



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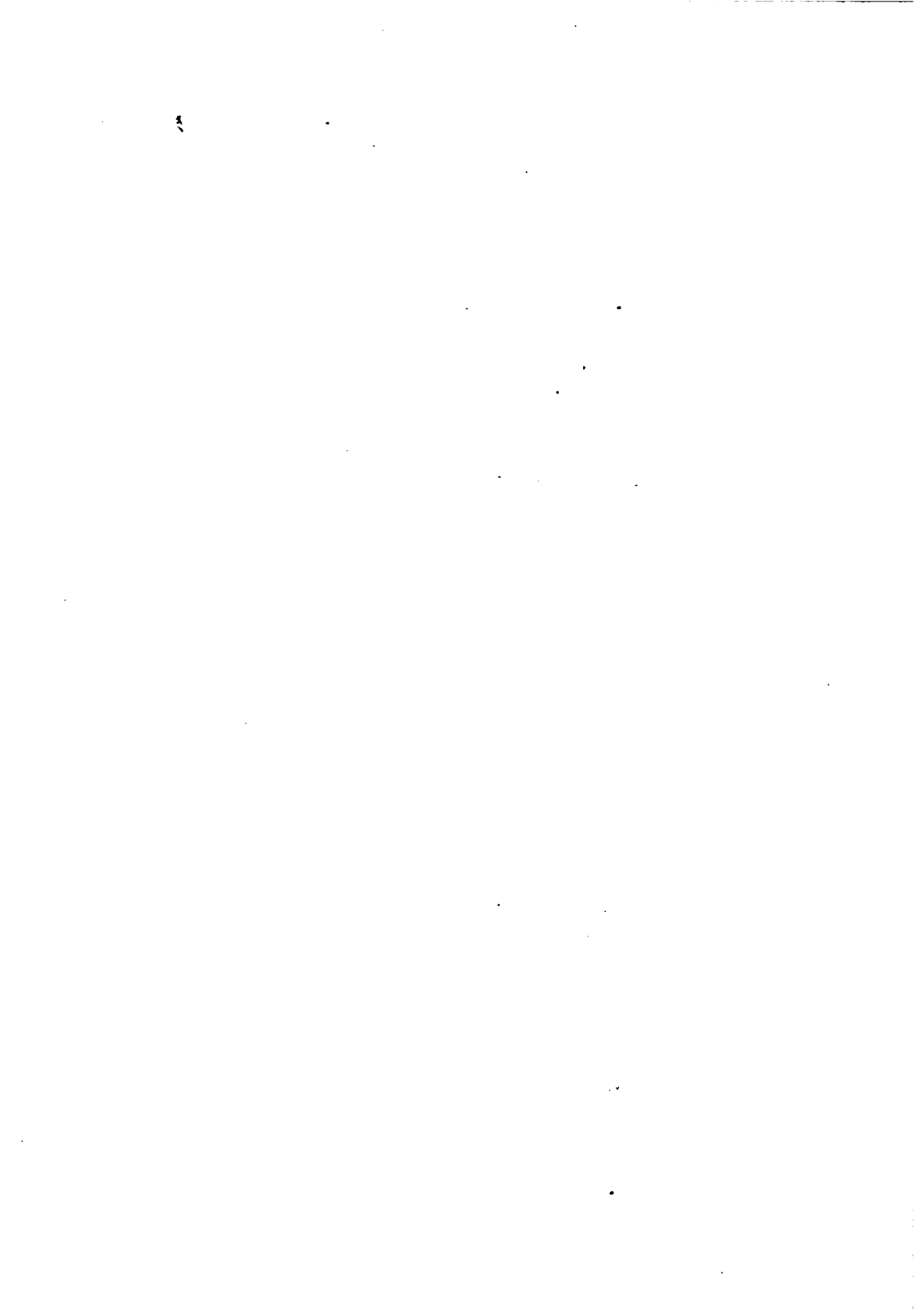
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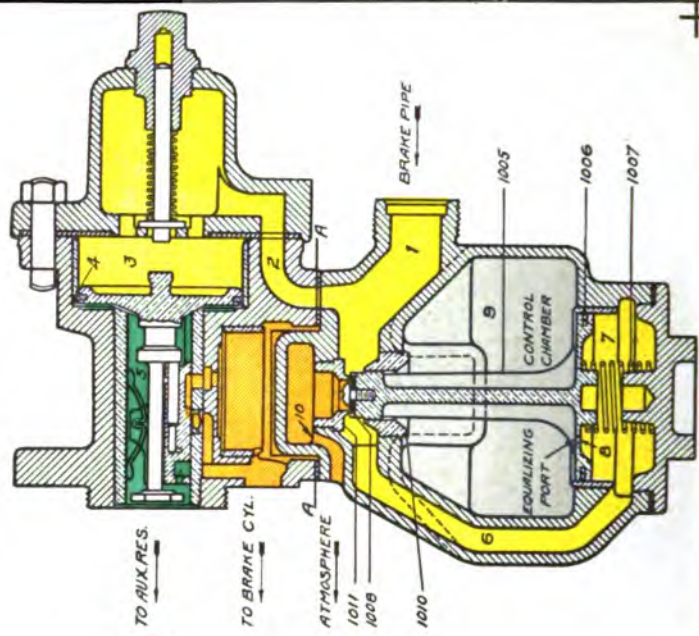
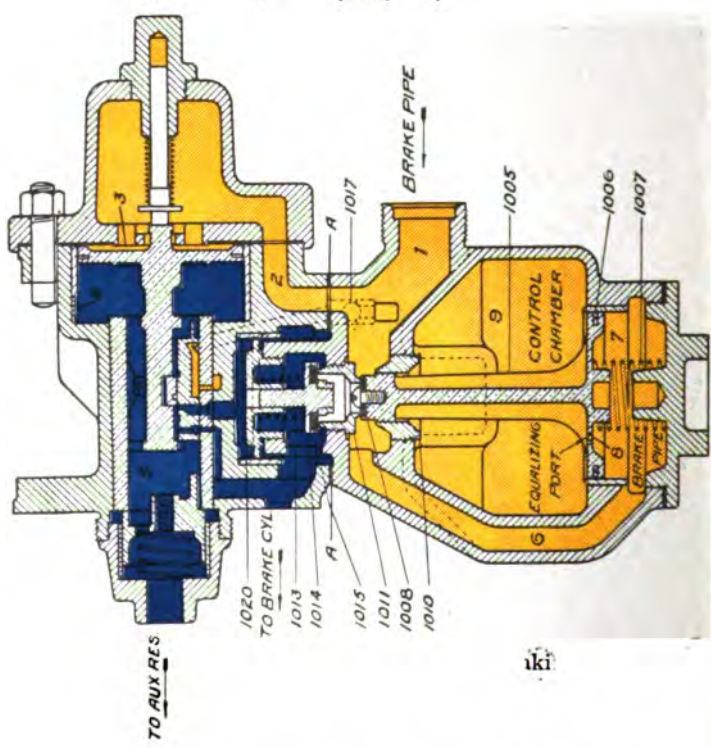


AUXILIARY RESERVOIR

BRAKE PIPE

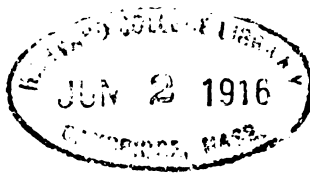
CONTROL CHAMBER

EQUALIZED AUXILIARY RESERVOIR AND BRAKE CYLINDER PRESSURE



Locomotive Firemen and Enginemen's Magazine Educational Charts
PLATE 108—NO KICKER EMERGENCY VALVE
 (PITTSBURGH AIR BRAKE COMPANY)

As Applied to Westinghouse Quick Action Triple Valves. Left View—Emergency Lap Position, Type K Triple Valve; Right View—As Applied to Type P-1 Triple Valve, and having Emergency Vent to Atmosphere



PUBLISHED MONTHLY BY THE BROTHERHOOD OF LOCOMOTIVE FIREMEN AND ENGINEMEN

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VOL. 60 NO. 6

COLUMBUS, OHIO,

JUNE 1916

PLATE 108—NO KICKER EMERGENCY VALVE

(Pittsburgh Air Brake Co.)

As Applied to Westinghouse Quick Action Triple Valves

Left View—Emergency Lap Position, Type K Triple Valve; Right View—As Applied to Type P-1 Triple Valve, and Having Emergency Vent to Atmosphere

Plate 108 of the Locomotive Firemen and Enginemen's Magazine Educational Charts represents in the left view a Westinghouse Type K Triple Valve having the Pittsburgh Air Brake Co's "No Kicker" Emergency Valve, with all operative parts in the EMERGENCY LAP POSITION; and, in the right view, the "No Kicker" Emergency Valve as applied to a (passenger-car equipment) P-1, Westinghouse Quick Action Triple Valve, but in this connection so constructed as to vent brake-pipe air to the atmosphere in its emergency operation—the one view of this arrangement showing the triple valve in the RELEASE AND CHARGING POSITION.

Referring to the view at the left, and in continuation of Emergency Position that was the subject of last month's chart, after the sudden, heavy emergency reduction has proceeded far enough that the brake-cylinder pressure has become equal to the pressure remaining in the brake-pipe,

spring 1013 forces down and closes the non-return check valve, 1014, as shown in the plate; then when the brake-pipe pressure has become exhausted, control chamber 9 of the *No Kicker* feature will also exhaust itself through equalizing port 8 in the piston, and past the edges of the valve forming the upper end of the piston; or, if the brake-pipe discharge should be stopped by the lapping of the engineer's brake valve, or the conductor's valve, as the case might be, the pressure in the control chamber will at once equalize with that of the brake pipe in chamber 7 and passage 6; and in either case, the air equalization on the top and bottom sides of the wide, lower end of piston 1005 will permit spring 1007 to raise and return the piston to its normally closed position, as shown here in the plate.

Check valve 1014, of course, prevents brake-pipe pressure from returning to the emptied brake pipe; and, having a rubber seat, it is more efficient in preventing a waste of brake-cylinder pressure following an emergency application than the brass-and-brass seated check valves of the ordinary quick-action triple valves.

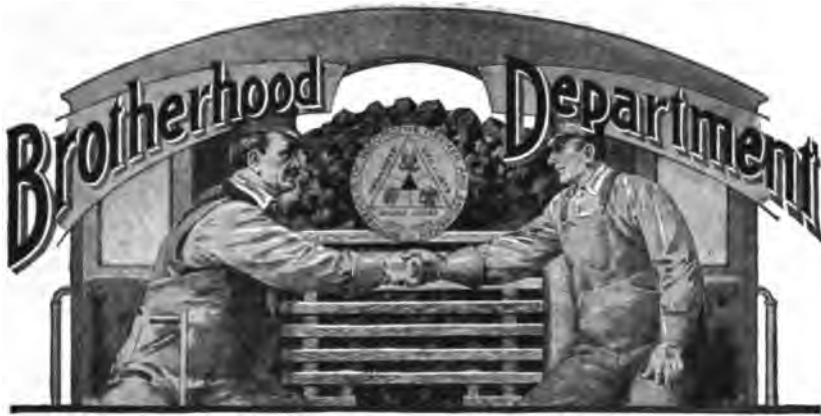
The right-hand view shows the *No Kicker* Emergency Valve as used in connection with a Westinghouse, P-1, passenger-car triple valve, in which it is designed to vent brake-pipe air to the atmosphere at the time of emergency application. Of course, if it is desired to vent the brake-pipe air to the brake cylinder, a *No Kicker* valve the same as is used in connection with types K-1 and H-1 (freight-car triple valves) are then attached; but the style here described is more desirable, because, upon an emergency application from release position, the quicker — more unobstructed — serial action thus obtained more than offsets the very small pressure value otherwise derived by venting the brake-pipe air to the large brake cylinder used in passenger service; and, upon an emergency application following one or more service applications, the same quick serial action results, under which conditions the pressure value of the vent to the brake cylinder would be still less.

Brake-pipe pressure entering at opening 1, flows through passage 2 into chamber 3, through feed groove 4 into chamber 5 and the auxiliary reservoir; at the same time, brake-pipe air flows through passage 6 to chamber 7, on the lower face of piston 1005, into control chamber 9 through equalizing port 8; chamber 9 is also receiving brake-pipe air around the valve portion of the stem of piston 1005, which is loosely fitted in bush 1010.

When a service brake-pipe reduction is made, the pressure in control chamber 9 equalizes with the reduced brake-pipe pressure through the equalizing port, 8, in piston 1005, and around the loosely-fitted upper, or valve, end of the piston stem; this action takes place upon each service reduction, and prevents any movement of piston 1005.

Upon a sudden, heavy brake-pipe reduction, such as occurs at time of emergency, the pressure in control chamber 9 cannot decrease with sufficient rapidity to meet such heavy reduction, consequently, piston 1005 is forced downward, compressing spring 1007, breaking the seal on seat 1011, which allows brake-pipe pressure to flow to the atmosphere through passage 10. This insures a rapid and substantial brake-pipe-pressure reduction at each triple valve, and hastens the serial brake action throughout the train.

When the pressure in control chamber 9 has equalized with the reduced brake-pipe pressure, spring 1007 returns piston 1005 to its normally closed position.



Communications intended for publication should reach this office not later than the 10th of the month to insure their appearance in the following issue. Write on one side of the paper only. All typewritten matter should be double spaced. Sign name and address in all instances, not necessary for publication, but as evidence of good faith. Correspondents may, if they desire, use a *nom de plume*, but no attention will be paid to anonymous communications. The Editor and Manager reserves the right to revise or reject any communication if he deems it to the best interests of the Brotherhood to do so.

Obituary notices and resolutions and detailed accounts of events of a purely local nature can not be published. Pictures are published only when same are of general interest.

All orders for subscriptions should be sent to the Editor and Manager.

Members when changing their address should immediately notify the Magazine office. All changes for the Directory should reach this office previous to the 10th day of the second month of the quarter in which it is desired that such changes should take effect.

Inquiries for the address of or any information concerning another, should be made through the secretary of the lodge nearest the residence of the person making such inquiry.

WHY THE EIGHT-HOUR WORK DAY IS RIGHT

Railroads' Expert Financiers and Figure Jugglers Using Movement to Extract Millions in Profit From Public

Safety Menaced by Fatigue—Sixteen-Hour Law and Its Operation—Occupational Hazard Greater in Railroad Train Service Than in Any Other Industry

Arbitration an Unsatisfactory Method of Settlement

By W. S. CARTER, President

Upon request from a leading Newspaper Association, President Carter prepared the following series of ten articles for publication in the newspapers who are patrons of that Association.

These articles were prepared and forwarded during the first week in May and doubtlessly will be published before this issue of the Magazine reaches its readers. In all probability many newspapers that received this series of articles dare not publish them through fear of incurring the enmity of their advertisers, most of whom are employers of labor and intensely sympathetic with the railroads, and are very much opposed to any increase of wages of the employes in any industry. The articles follow:

The Longest Day and the Lowest Pay

We were told many years ago that "little drops of water and little grains of sand make the mighty ocean and the beautiful land," and upon the same principle certain manufacturers of clothing have demonstrated that at fifteen cents a dozen shirts a sweat-shop girl can do certain work thereon and earn \$9 per week. Nothing is said, however, of the fact that the girl worked an average of fifteen hours for each of the seven days to make the week for which she was paid \$9. Eight-and-one-half cents for each of these hours were the drops that made her ocean of pay.

It is hardly credible that a locomotive fireman made \$116.74 in twenty-eight days while receiving only twenty-eight-and-one-half cents per hour, but by being able to prove that he did it, the neutral arbitrators in the last western arbitration decided that twenty-eight-and-one-half cents an hour was too much for a switch engine fireman and, therefore, fixed the rate at twenty-seven-and-one-half cents per hour on that same engine. The "saving clause" in the arbitration agreement prevented an actual reduction in existing rates of pay, but the award fixed the standard rate at ten cents less than this fireman was receiving.

At an arbitration the railroads presented names of switch engineers, one of whom earned \$172.90 in "twenty-six days." A subsequent investigation demonstrated that this man worked an average of fourteen hours and eighteen minutes per day for twenty-six days, an equivalent of forty-six-and-one-half days of eight hours each. This investigation demonstrated that in order to make the \$172.90 he was not only paid for all of these hours that he actually worked, but \$5.85 in addition thereto as twenty-six penalties for working this engineer fourteen hours and eighteen minutes on each of these twenty-six days without at any time permitting him to stop to eat.

The same investigation proved that to earn the sum of \$116.74 in "twenty-eight days" a fireman worked an average of fourteen hours and eleven minutes each any every one of these twenty-eight days and with no stop to eat on any day. This switch engine fireman's twenty-eight days were made up of three hundred and ninety-seven hours, or an equivalent of forty-nine-and-five-eighths days of eight hours each. An average of ninety-nine-and-one-fourth hours per week.

At this rate for twelve months this switch engine fireman would work the equivalent of five hundred and ninety-five and one-half days of eight hours each. An employe in the building trades in this same city of Chicago worked only forty-four hours a week, or an equivalent of two hundred and eighty-six days of eight hours each during a year. Thus this switch engine fireman works as many hours in one year as an employe in the building industries works in two years and one month.

A true wage index is the rate per hour. Let us compare the wages per hour of railway employes in Chicago switching districts with those of the building trades in Chicago. Any other city would do as well. Chicago comparisons are typical of them all.

The standard rates of wages per hour now paid in Chicago are as follows:

BUILDING EMPLOYES.

Bricklayers, portable and hoisting engineers, inside wiremen, plasterers, plumbers and gas-fitters, steam-fitters, stonemasons, and tile layers.....	75	cents
Lathers and marble setters.....	71.9	"
Carpenters, painters and slate and tile roofers.....	70	"
Elevator constructors	68.8	"
Structural iron workers.....	68	"
Composition roofers	65	"
Laborers in tunnels, wells and caissons.....	57.5	"
Laborers on windlass, trench and scaffold work.....	50	"
Plaster laborers	50	"
Composition roofer's helpers.....	45	"
Elevator constructor's helpers and tile layer helpers.....	43.8	"
Marble setter helpers.....	42.5	"
Excavating laborers, hod carriers and steam-fitter's helpers.....	40	"

RAILWAY EMPLOYES.

Locomotive engineers in Chicago railroad yards.....	42.5 to 44	"
Switching foremen	38	"
Switchmen	35	"
Locomotive firemen in Chicago railroad yards.....	27 to 27.5	"

It will be noted that an arbitration board has fixed the wages of locomotive engineers at less than most building laborers are paid and only about two-thirds as much as is paid to many building employes. This same federal arbitration board fixed the wages of locomotive firemen on the larger engines at about half of what helpers and laborers are paid. Notwithstanding that night rates are higher in all of the other classes of labor this federal arbitration board said that engineers and firemen must work at the same rate at night as they work in the day, and when locomotive hostlers asked that they work not to exceed ten hours per day, this same arbitration fixed their working day at twelve hours.

What do you think these engineers, firemen, switchmen and hostlers will now have to do in order to secure an eight-hour day?

Profit Sharing in Strikes

At a probable expense of a possible million-dollar publicity campaign since the first of the year, let us presume that the railroads have created a public opinion that (1) to concede the present demands of railway employes will cost the railroads one hundred million dollars, (2) that this one hundred million dollars must be collected from the public in increased freight rates, and (3) a strike must take place.

Now, let us reverse the analogy. (1) If the railroads force this strike by refusing their employes' demands, and (2) the eight-hour day is secured through a strike by these railroad employes, (3) public opinion has been educated to expect to contribute one hundred million dollars more in freight rates.

This process is so simple and the public has been its victim so often that one would think that some day the public would wake up to the situation. With strident cries of "Help! Help!" echoing from coast to coast the American railroads have managed to keep the public mind in continual ferment during wage movements of the last few years and methodically have secured increased freight and passenger rates.

While their figure juggler is expertly tossing his "cents" and "per cents" in a bewildering manner before his amazed American audience, the latter seem unconscious of the fact that for every dollar that is taken out of the public's pocket, presumably for increased wages, another dollar or two is taken by the railroads for their commissions on the transaction. While the "increased efficiency in train operation" is conceded to have more than offset the wage increase of train employes on many railroads, and the increased freight rates coupled with increased freight business has been far greater than increases in wages of these employes, the American public are living in an age of "make-believe" that they owe the railroads more money on account of wage increases.

What a pity all of us are not able to look into this intricate financial machine, watch the wheels go around and then comprehend what it's all about.

The anthracite coal operators and their Wall Street mentors are the "Edisons" of this wonderful, quick-action profit extractor that soothes the public into a twilight sleep during the operation. We all remember the great anthracite coal strike in 1902 and the strike commission that was appointed by the President and the increase in wages and prices of anthracite coal that followed, and the 1912 settlement, resulting in another increase in wages and the price of anthracite coal. But before the strike of 1902 miners' wages had been increased voluntarily with a consequent increase in the price of coal.

Dr. Scott Nearing, who knew too much to hold his job in a great state university, says: "This increase in the labor costs was converted into higher prices. Furthermore it was used as a pretext for additional advance in coal prices." But "the anthracite strike of 1902 gave the operators the real opportunity to advance coal prices. At the beginning of the strike, coal, with the regular discount off, was selling at \$4.02. By the end of the strike

"During four years the labor cost of the coal increased thirty-seven cents (thirty-two per cent), the entire cost of mining increased fifty-three cents (thirty-seven per cent), and the price received for all sizes of coal increased ninety cents (twenty-seven per cent). On the face of things the operators were modest—raising the price only twenty-seven per cent, as compared with an increase in the total cost of mining of thirty-seven per cent. Actually, the increase in cost was fifty-three cents and the increase in price ninety cents, leaving for the operator on each ton of coal sold, a net advantage of thirty-seven cents."

"Labor disturbances have been very successfully employed in late years by the anthracite operators as a means of increasing coal prices. Public sympathy is won for the transaction by a simple, psychological trick. Wages were increased ten per cent in 1902. Is it not just and right that the operator should be able to make good this extra cost by an addition in price of, let us say, ten per cent? . . . the amount on which the percentage is taken varies so much in the two cases that more than three times as much money, on each ton of coal, is taken by the operator from the consumer as is given by the operator in the increased wages of the workers."

The 1912 agreement is said to have added thirteen-million dollars to the cost of anthracite coal purchased by the public and "oddly enough, and public opinion notwithstanding, the mine worker seems to have gained comparatively little by the 1912 agreement."

The railroads now proclaim that there is to be a nation-wide strike by their employes in train and yard service, and they proclaimed this six months before a single conference was held with the representative committees of such employes, and before it was known that an agreement could not be reached without a strike.

Evidently the railroads are determined that there shall be a strike. They are assuring the public that if these employes are granted an eight-hour day, it will cost the people of this country one-hundred-million dollars.

Let us hope that one-fourth of this amount will filter through the fingers of these railroad financial experts to the men below. Perhaps twenty-five cents out of every dollar thus contributed by the big-hearted American public to railroad men will actually reach the spot.

Bases of Wages of Railway Employes in Train Service

The making of railway wage schedules dates back more than thirty years, when there was no basis of pay other than the variable generosity of the men who owned and operated the railroads.

When wage agreements were first entered into between the railroads and the employes in train service, these agreements usually supplanted monthly rates of pay. These first wage schedules were usually fixed on the "mileage basis" and piece-work plan wherein the men were paid so much per mile or hundred miles for taking trains over the road.

As in all piece-work wage schemes a premium was thus placed on fast work and long hours of employment. A train crew by extra exertion and abnormal physical endurance were able to build up large pay checks by the end of the month.

In these early days, in fact, not so long ago, the theory on which railway traffic men solicited and secured business was to assure the shipper prompt service. It was a matter of pride with some railroads to mark their freight cars in bold letters with "Fast Freight," "Quick Dispatch" and other terms signifying that freight moved fast on that particular railroad.

Then came the new school of railroad economy, the exponents of "increased operating efficiency" (by which was meant "haul more freight with the same wage expense"), took charge of the situation. The theory of quick service gave way to an effort to transport "ton miles" at the "least wage cost." It requires no expert to understand that with the same locomotive increased loading inevitably reduces train speed, and exert themselves as they could, men in train service found their monthly mileage and earnings decreased. By the usual agitation and strenuous means these men succeeded in securing slight advances in wages per hundred miles—and then found more cars added to their trains and usual decrease in speed.

Larger locomotives were then placed in service on which higher rates were paid: more coal was burned and to which still more cars were added.

The process of increasing the wages per hundred miles did not keep pace with the decreasing train speed. In many instances it required the larger portion of a twenty-four hour day to transport a freight train one hundred miles.

Then the men in train service, believing that the problem would be solved in an equitable manner, secured a wage agreement which gave them an optional double basis of pay. By this double basis, if they could not transport the train one hundred miles in ten hours, thereafter they would be paid by the hour in addition to their mileage. This double standard fixed the pay for the trip on the mileage basis so long as the speed of the train equalled or exceeded ten miles per hour, but when the speed of the train fell below ten miles per hour, they were paid in addition to mileage such "overtime" as they were required to make. Thus, was established the schedule definition that "one hundred miles or less, ten hours or less shall constitute a day's work."

And since the adoption of the double standard, through all of these years, this bonus or premium of paying a full day's pay when the one hundred miles were made in less than ten hours has been willingly granted by the railroads.

It requires no further explanation to show that gradually men in freight service are ceasing to be paid under the mileage clause of this double basis; that increased tonnage has decreased the speed of freight trains to such an extent that men in such service are usually paid "by the hour" and no longer are paid the premiums and bonuses through more than one hundred miles made in ten hours.

At all times the wages per hour of employes in railway train service have been much lower than the employes in the organized building trades. With the bonus on high speed of trains their earnings were comparatively large, regardless of the low rate. Now that "drag freight" has largely displaced "fast freight," these employes find themselves with a low hourly wage rate and without the premium or bonus they once could make under the mileage provision of the double basis of pay. But, by working twelve to sixteen hours per day, probably every day in the month, their earnings are yet above normal.

These men realize that it is not practicable to change the length of divisions; that railway terminals can not be moved; that they can not afford to be relieved at the end of eight hours after leaving a terminal. To require the railroads to carry an extra crew on each freight train, for the purpose of relieving the first crew, at the end of eight hours, would almost double the expense of train operation. To relieve the first crew at the end of eight hours, leaving them to seek rest and food at some intermediate station and to find their way back home as best they can, would cost the men additional living expense and reduce their earning capacity.

To secure an eight-hour working day, or as near thereto as is practicable, so that these railroad men may have rest and recuperation, engineers, firemen, conductors and brakemen now insist that whenever the speed of a train falls below an average of twelve-and-one-half miles an hour, for all hours required to be on duty, overtime will be paid at a rate fifty per cent greater than the regular hourly rate.

When complaint was made at a past arbitration against this loss of earning power through decrease in train speed, the railroads in reply thereto introduced sworn testimony that the average speed of through freight trains was only about twelve-and-one-half miles per hour. If this sworn evidence was true, the granting of the demands of the men for an eight-hour day in freight service, (which is in fact a speed basis of one hundred miles to eight hours on duty), the railroads may grant this request at absolutely no expense. If their evidence was untrue and they now claim that freight train speed is much lower than twelve-and-one-half miles per hour, they profited by the falsification and at the expense of their employes.

Let us assume that their sworn statements were true and that the average speed of trains in through freight service varies but little from the twelve-and-one-half-mile basis requested by their employes, then what becomes of their bewailing cry that "to concede the demands of the men, it will cost the railroads ONE-HUNDRED-MILLION DOLLARS?"

The Bliss of Ignorance

Just suppose you are snugly cuddled up in a sleeping car berth, speeding across the prairies, up hills and down hills, through tunnels and over bridges without a disturbing thought. But not being accustomed to so strange a bed, your mind refuses to lapse and you find yourself taking stock of the possible causes of accident to your swiftly-flying train.

The splendid reputation, so liberally advertised, of the railroad on which you travel has assured you of the safety of the track and bridges. One of the first things you noticed when the porter assisted you up the steps was that the car was made of steel. Before dark you observed the numerous automatic signals as they flashed by your window with unexpected frequency. The oft-repeated crossing signals sounded on the locomotive whistle are evidence of the alertness of the engineer. Tiring of these assurances of perfect safety, sleep overcomes you.

But you didn't know that between you and your journey's end an army of sleepless men are employed in freight and switching service, many of whom have had less than five hours in bed within the past twenty-four. You didn't know that perhaps twenty miles ahead of you a crew of five tired men labored with a heavily-laden freight train on the very same track on which you were running toward them at a rate of sixty miles an hour. You didn't know that these same five exhausted men had probably left yesterday morning the last terminal through which you had just passed; had labored with that same freight train sixteen long hours and then were tied up for ten hours on a side track with no place to rest or sleep, except on the engine, or in the caboose. You didn't know that they were now struggling with that same freight train for another seven hours, with possibly the terminal yet ten miles ahead.

"What you don't know won't hurt you" applies with ironical effect to you so sound asleep on "that magnificent all-steel train run over a hundred-pound steel rail with only two stops in a hundred miles."

Any one of many possibilities may put you and your steel sleeper down a steep embankment, or stand it on end, so that you and your fellow travelers will rattle around like dry peas in a pod. A trivial cause may delay that freight train; the rear brakeman may start back to flag your train and he may drop asleep by the side of the track through complete exhaustion. The engineer and fireman, almost mummied with physical exertion and lack of rest, may forget about you and your magnificent passenger train. The conductor may be no more capable of properly performing his duty than you, had you gone through his experience.

The next railroad trip you make in this palatial train just count the freight trains you meet and pass and say to yourself as you meet and pass each one: "The chances are that the fellows on that train are absolutely unfit for duty through lack of rest. There should be a law to prevent such a dangerous practice."

A federal law presumably has been in force for more than nine years, that presumably prevents any employe in train service "to remain on duty for a longer period than sixteen consecutive hours, and whenever such employe of such common carrier shall have been continuously on duty for sixteen hours, he shall be relieved and not required or permitted to again go on duty until he has at least ten consecutive hours off duty, and no such employe, who has been on duty sixteen hours in the aggregate in any twenty-four-hour period, shall be required or permitted to continue or again go on duty without having had at least eight consecutive hours off duty."

Of course, there are enough loopholes in the law to run your entire passenger train through without scraping off the varnish. It is especially provided that "this act shall not apply in any case of casualty or unavoidable accident, or the act of God, nor where the delay was the result of a cause not known to the carrier or its officers or agents in charge of such employe, at the time such employe left a terminal and which could not have been foreseen." Between "the acts of God," the ignorance of officers and agents and their lack of forethought, the hours of service are oftentimes unlimited.

Nothing is said in the law about "sleep" or "rest." That is something not required by law. A train may reach a blind siding, where no habitation is visible, and acting under instructions received from the train dispatcher at

the last station the train crew will "tie up," pulling into the siding to clear the main line. The five men of this train crew are technically "relieved from duty." An iron engine deck and two short seat cushions are probably the bed of the engineer and fireman, or there may be room in the caboose for all five men. They may stay there the full ten hours, or at the end of three hours another crew may come to relieve them and after the usual noise and jars incidental to switching a freight train onto another caboose, the new crew proceeds to pull them to the next terminal which they may reach within five hours after the tie up and the men who were tied up may reach their homes and actually sleep in bed three hours, when they will be called to make another trip, as they have been "relieved from duty" ten hours since first tied up away back at the blind siding. This is actual practice under the law, although humane railroad officials endeavor to tie up crews where they may have rest and food.

With no consideration for the hundreds of thousands of freight trains that annually are tied up between terminals under an observance of the law, and the freight trains that reach their terminals within less than sixteen hours and after twelve and fourteen hours on duty, there have been reported to the Interstate Commerce Commission actual violations of this law, 301,743 in 1913; 165,305 in 1914, and 78,940 in 1915. The federal law requires no investigation; these are the number of violations reported by the railroads themselves.

The number of violations are decreasing. The courts have imposed many penalties for these violations, but so long as the profit to the railroads of additional cars in a freight train exceeds the expense of the penalties, it is cheaper for railroads to pay the penalties rather than forego the profits of overloading trains.

Congress has recently enacted and the President has approved an Act which amends this federal law so as to provide that the minimum penalty for these violations shall be \$100 and that the maximum penalty shall be \$500.

In one of the cases where a penalty was imposed, Judge Amidon said, "we are still more or less under the spell of the old idea that care is wholly a matter of the will. No truth of science, however, is better established than that fatigue is not simply a matter of muscles, but that it involves nerves and brain as well and extends to all the faculties of the mind itself. It produces physiological changes which deaden the will and impair the sense of sight and of hearing. It is as truly a physical cause of accident as are open switches and broken rails."

But the engineers, firemen, conductors and brakemen are going to find a remedy for this dangerous evil. When they secure for themselves rest and recuperation through their present eight-hour movement, they will incidentally secure increased safety for the traveling public.

Piece-Work, Train Speed and Seniority

Rates of wages of locomotive engineers and firemen in road service, being usually fixed upon a "piece-work" basis, at a certain rate "per hundred miles," it follows that the higher the average speed of a train between terminals the greater the earnings in a given time.

When the mileage basis was adopted freight locomotives were not taxed to their utmost hauling capacity and trains were not usually delayed en route by congestion of traffic. Subsequently it was demonstrated that a higher operating efficiency was attainable by increasing the tonnage of trains to the limit of the hauling power of the locomotive. This change of operating policy and the growing congestion of traffic reduced the average speed of trains, and therefore, reduced the earning capacity of locomotive engineers and firemen for a given period of time.

To partially compensate for this loss of earning power rates of wages were increased per "piece" or per hundred miles and a "day" was established, usually described as "100 miles or less, 10 hours or less." Thus, when, because of overtaxing the capacity of locomotives, or because of delays en route incidental to increased traffic, the average speed of a train was reduced to less than 10 miles per hour, additional compensation was paid "per rate"

On several western railroads and a majority of the southern railroads this "overtime" is paid after eight hours' work, but on no railroad in train service has a day's work been established as in other industries. If it requires fifteen hours or less to make one-hundred-and-fifty miles on the ten-hour railroads, "mileage" is paid for at the established rate, but no additional compensation is paid for the time worked in excess of ten hours.

When the speed of a train falls below ten miles per hour on ten-hour railroads, the basis of engineers' and firemen's wages changes from piece-work to the hourly basis; thus, if it requires sixteen hours to pull a train one-hundred-and-twenty-five miles, the miles run are disregarded and the engineer and fireman are paid for sixteen hours' work. The rate per hour for overtime is usually the rate for ten miles; that is, no excess or punitive rate is payable as in other industries.

As in all industries where rates of wages are based upon the piece-work system a comparatively few locomotive engineers and firemen earn high wages, and the high wages of these few are accepted by the public as typical of the earnings of all. Because of this misunderstanding of the real earning power of all railroad employes under their piece-work system great injustice has been suffered by its victims. With regard to the high earnings possible under the present system of compensating engineers and firemen, no thought is given by the uninformed to the ambitious, if not selfish struggle of these employes to "make miles" while the opportunity is presented to add to earnings. Thus, an engineer or fireman may work twenty hours continuously and thereby can earn two days' pay in one day, with the knowledge that he may earn nothing the next day. As with days so with months; an engineer or fireman may earn in one busy month twice as much as in a dull month. Many firemen with memories of a few months of high earnings often find themselves with no work at all—no income, and their average earnings for all months not sufficient to keep their family from hunger and want.

The piece-work system makes the "seniority" system essential, if favoritism and unfairness is to be avoided. It is far more equitable that all firemen and engineers should be required to wait for their turn, in their seniority order, to acquire these highly paid runs, than to have all the good runs given to relatives or personal friends of those having authority to assign them.

A combination of piece-work and seniority assures high wages to the comparatively few whose fortunes have led them safely through years of exposure to the rigors of railway discipline and the ever present hazard to life and limb, and who have possessed the mental courage and physical stamina indispensable to years of railway service and such advancement.

An engineer, because of seniority, may be entitled to a passenger run, which on the piece-work basis makes it possible for him to earn what may be considered a very high wage; but this very combination of systems that have made that high wage possible has caused him to struggle through many years of life against adverse conditions. His is a typical case of the survival of the fittest. An army of men have entered the service since he did, and many were already employed when he entered the service, but nearly all have fallen by the way-side; killed or disabled in railway accidents, succumbed to mental or physical overstrain, or have made just one of the mistakes that cost engineers and firemen the right to work at their chosen vocation.

A great proportion of freight service is paid on the "hourly" basis, and switch engineers, switch firemen and hostlers are all paid on the hourly basis. Hourly rates of wages of these men in engine service are far below the hourly rate paid in most of the organized industries. For instance, the standard rates paid to locomotive engineers working in and out of the city of Chicago vary from as low as forty-two-and-one-half cents per hour to as high as sixty-five cents, the average probably being less than fifty-five cents per hour, so long as he is working on the hourly basis. Bricklayers, plasterers, plumbers, and other building workers in Chicago receive seventy-five cents per hour.

Firemen on the huge "Mikado" and "2-10-2" types of locomotives in heavy freight service are paid thirty-seven-and-one-half cents an hour, while build-

ing laborers receive from forty cents to fifty cents per hour in the same city. Many firemen receive twenty-seven-and-one-half cents an hour and less.

No demand is made for these high wages by engineers, firemen and switchmen in yard service. They are asking only for a present day's pay for eight hours' work and time-and-one-half for all hours worked in excess of eight hours in any twenty-four-hour period.

Engineers, conductors, firemen and brakemen in all train service, except passenger service, are requesting that the present ten-hour rates and rules be modified to the extent that eight hours will be substituted for ten hours. This changes the day's work from ten hours per one-hundred miles to eight hours per one-hundred miles. If trains are operated so that the average speed is equal to or exceeds twelve-and-one-half miles for every hour that these train service employes are required to be on duty, their requests add nothing to the operating expenses of railroads. They are asking for a present day's pay for their first eight hours' work, and where the speed of trains averages less than twelve-and-one-half miles per hour for the hours on duty, an overtime rate fifty per cent greater than the regular rate is requested.

Expense of Railroad Wrecks

A charge for depreciation in value of locomotives, cars, rails, bridges, etc., is recognized as a legitimate charge against the operating expense of railroads. In the granting of increases in rates the Interstate Commerce Commission has regard for this considerable, constant and unavoidable loss. By this method provisions are made from the profits of the business for replacement of property worn out or destroyed in the conduct of the business.

But who pays for the depreciation in human life, the result of railway operation? When a car or locomotive is smashed up a fund has been provided for its renewal, but when in that same wreck, an engineer, fireman, conductor or brakeman has been crushed out of all semblance of his former self, the other employes of these classes whose time has not yet come, go down into their pockets and pay for this railroad wreckage.

Thos. Nast, in one of his cartoons published during the early days of railroads, pictured railway officials riding on the front of locomotives as a preventive of railway accidents. But accidents have happened and will continue to happen regardless of every effort of railway officials and railway employes to prevent them.

The common law doctrine of "assumed risk" has been forced on railway employes as a part of their compensation. To use a western expression they have been educated to expect "to die with their boots on."

During a recent arbitration of wages of locomotive engineers, firemen and hostlers on western railroads it was testified that during a ten-year period approximately forty-seven per cent of all deaths of members of the Brotherhood of Locomotive Firemen and Enginemen were the direct result of railway accidents.

In no other industry is the occupational hazard so great as in the making up and transportation of railway trains. The railroad industry, however, reflects no recognition of this hazard in the wages of its employes.

The records of the Brotherhood of Locomotive Firemen and Enginemen show that since its institution \$18,189,167.75 has been paid for deaths and disabilities of its members. Of this amount, \$9,445,751.95 has been paid within the past ten years. The experience of the organization shows that more than sixty per cent of all deaths and disabilities are caused by railroad accidents. Thus, it may be shown that during the past ten years almost six millions of dollars has been paid by the members of this organization for the human wreckage of railroads.

The Brotherhood of Railroad Trainmen has paid as much or more; the Brotherhood of Locomotive Engineers has paid almost as much and the Order of Railway Conductors is not far behind in contributing their share to this "operating expense" of railroads.

Should not the wages of railway employes be abnormally high, or anyhow almost as high as is paid in other organized trades, so they could better afford to meet these losses of the business?

It is certain that a reduction in the hours of labor with proper rest and

recuperation will better fortify the human mind and body against accidents of a personal nature and with this belief, men in freight train service are now determined to have a shorter work day.

They realize that it is not practicable to shorten a railroad division, or to change its terminals, or to relieve train crews between terminals at the end of eight hours. They are demanding the nearest approach to an eight-hour day in train service obtainable. They demand that they remain not more than one hour on duty for every twelve-and-one-half miles run. If a hundred-mile division requires more than eight hours, or a hundred-and-fifty-mile division requires more than twelve hours, they demand that they be paid a day's pay for the first eight hours, the same rate of pay per hour for all worked in excess of eight when the speed of a train averages twelve-and-one-half miles an hour, and a rate of pay per hour fifty per cent greater for all hours worked thereafter.

Thus, upon a hundred-mile division this demand will cost the railroads nothing so long as the men are not kept on duty more than eight hours; on a hundred-and-fifty-mile division this demand will cost the railroads nothing so long as the men are not kept on duty more than twelve hours. Where trains are now, or hereafter, operated so that men will not be required to be on duty more than one hour to each twelve-and-one-half miles of the division over which they are required to operate the train, there will be no change in either the conditions or cost to the railroads.

Reduce the Hours or Share the Profits

Men engaged in railway train operation demand that their periods of service be reduced. They recognize that trips between terminals cannot be decreased in miles without great expense to both the railroads and themselves. They do not demand that terminals be changed and they positively refuse to be relieved somewhere between terminals, to deadhead home at their own expense, or seek food and bed at some neighboring farm house.

Men in railway train service are piling up profits for railroads as never before. For every dollar of increased wages these railway employes are adding hundreds of dollars to the railroads' income.

"With additional rail-traffic reflected in an increase of \$15,000,000 on gross earnings, transportation expenses were reduced \$2,902,499," says Wall Street Journal, commenting upon the experience of the New York Central for 1915, and continues, "To put it roughly, this was done by increasing the average freight-train loading and by cutting out the least useful passenger-trains."

For \$176,988 less in the cost of engineers and firemen and \$229,981 less in the cost of conductors and brakemen, the New York Central Railroad increased its "ton miles" 16.28 per cent and increased its passenger mileage 3.46 per cent in 1915 compared with 1914.

This is no novel experience. For many years labor costs to railroads of engineers, firemen, conductors and brakemen have been rapidly decreasing. As long ago as 1912, Mr. B. F. Yoakum, then Chairman of the Board of Directors of the Frisco Railroad, said, "Up to the present time there has been a constant saving in actual cost of moving freight and passengers—through the constant advance in the weight and power of locomotives, through larger cars, and through the resulting larger train loads that have been possible."

"The locomotive engineer is now hauling nearly four hundred net tons per locomotive, as against two hundred net tons ten years ago, an increase of 100 per cent in efficiency . . . the larger locomotive and the heavier trains have put more exacting work on the employes," said Vice President Park of the Illinois Central Railroad away back in 1911, and in 1913 he said, "The modern locomotive is about as intricate as the battleship of a few years ago. It requires a skilled man to operate it and a skilled man to supervise its operation and this is becoming more the condition every day."

"During the past twenty years in this country locomotive development in capacity and in efficiency, particularly during the past five years with respect to efficiency, has been remarkable," says a committee report in 1914 to the American Society of Mechanical Engineers.

"It is a long time since leading railroad motive power designers insisted that the modern locomotive had reached the safe weight to be carried on a 4 ft. 8½ in. track, but still the increase goes on, year after year, and there

is no indication when the increase will stop," says Railway and Locomotive Engineering.

Speaking of the increased burdens placed on locomotive firemen, Railway and Locomotive Engineering says, "The limit of human endurance in shovelfiring has surely been reached," and the Railway Age Gazette says, "Large engines with cylinders of twenty-five-inch diameter or over can do a great deal of work if they are properly fired, but they must be supplied with large quantities of fuel and this means heavy labor for a man if the locomotive is to be worked to capacity."

While engineers, conductors, brakemen and firemen have, with but slight protest, staggered under this rapidly increasing burden, they now demand that the speed of such trains do not fall below an average of twelve and one-half miles an hour between terminals, and if the overloading decreases the speed of the train below this point, overtime shall be paid at the rate of time and one-half. They demand that the existing rates of wages per ten-hour day be maintained for an eight-hour day.

No change of whatever character is demanded where trains are so operated that the time on duty averages twelve and one-half miles or more per hour. Thus, if engine and train employes are not kept on duty more than eight hours for one-hundred-miles pay, or more than twelve hours for one-hundred-and-fifty-miles pay, the present demands will cost the railroads nothing. If the train is loaded down so that these employes are on duty more than eight hours for each one-hundred miles run, they will be paid for each additional hour a rate fifty per cent greater than for each hour of the first eight hours. If it requires more than twelve hours to run one-hundred-and-fifty miles, they will receive one-hundred-and-fifty miles pay, or one-day-and-a-half, for the first twelve hours, and for every hour thereafter the rate per hour will be fifty per cent greater than the rate per hour for the first twelve hours.

These demands of the men in engine and train service will result in a higher speed of trains and a consequent reduction of hours of service per trip, or else they will acquire a share in the profits resulting from unfair and unsafe long periods of continuous service.

Aristocrats of the Labor World

I have before me as I write one of the more than a million attempts of the railroads to prejudice the public mind against certain railroad employes in their present efforts to secure a reduction in their hours of service. It is printed in bold type; in glaring red and sombre black. It is entitled "The Aristocrats of the Labor World." Perhaps you have seen it.

It purports to show the monthly earnings of engineers and firemen employed on western railroads, concealing the fact that the statement is based on the month of October, 1913, a month in which approximately ten per cent of the entire year's business was done; a year surpassing all its predecessors in traffic handled; a period during which the demands upon the men were greater than ever before.

It states the number of men who earned large amounts during this exceptional month, including therein all of the highly paid passenger men. No mention is made of the fact that in the present demands of engineers, firemen, conductors and brakemen for an eight-hour day men engaged in passenger service are expressly exempted therefrom.

To give emphasis to the assumed unreasonableness of the freight men's demands for an eight-hour day, it names seventeen engineers and their earnings for the year ending June 30th, 1914, every one of whom are in passenger service.

There being no legal restrictions on the length of continuous service of employes on Canadian railways, eighteen and twenty hours a day are often exacted with consequent increased compensation. All of these engineers and firemen on western Canadian railways are included in producing these high earnings. The unsuspecting reader is not presumed to know that no Canadian railroads are included in the present eight-hour movement.

If all men in passenger service were excluded from these earnings; if earnings of Canadians, who work from fifteen to twenty-four hours in a day were omitted; if the statement was based on general experience, taking the good years with the bad; if the extra men who have no regular assignment were included, the public would know the truth.

Regularly assigned men in freight service habitually earn large amounts in busy months, but they earn these amounts by the many hours worked instead of by the high rates of wages.

Let us take some of these freight men who did work during the month of October, 1913, and whose earnings are included in this statement, but whose names are not published for the edification of the public:

E. J. Hayden, engineer, Great Northern. Earned \$212.95, worked 395 hours, an equivalent of 49.3 days of eight hours each. His wages equaled 53.9 cents per hour, or \$4.31 per eight-hour day.

L. N. Snyder, engineer, Rock Island. Earned \$176.45, worked 405 hours, an equivalent of 50.6 days of eight hours each. His wages equaled 43.6 cents per hour or \$3.49 per day of eight hours.

S. T. Evans, fireman, Canadian Pacific. Earned \$183.31, worked 481 hours, an equivalent of 60.1 days of eight hours each. His wages equaled 38.1 cents per hour, or \$3.05 per day of eight hours.

G. McElmurry, fireman, Chicago and Northwestern. Earned \$135.29, worked 412.7 hours, an equivalent of 51.6 days of eight hours. His wages equaled 32.8 cents per hour, or \$2.62 per day of eight hours.

Pages could be filled with examples like the foregoing. If employes in other industries would work like this, they would be called slaves or serfs. Railroads work their engineers and firemen in this manner, and then to discredit them in the minds of the public, have slurringly referred to them as the "aristocrats of the labor world."

If the traveling public but realized that a vast majority of the passenger trains are constantly confronted with men in freight service who are an actual menace to them, the eight-hour day would be won by railroad employes.

But these men do not cause wrecks it is stoutly protested by the railroads. It can be demonstrated that these engine and train men properly perform their duties, year after year, with but little sleep or rest, and yet avoid accidents. What wonderful men they must be! Should engineers of such capacity be required to work almost continuously at from twenty to thirty per cent less wages per hour than skilled employes in the building trades? Should locomotive firemen work fifty and sixty eight-hour days in one month and receive less per day than laborers and helpers in other crafts? This is the attitude of the railroads toward their employes.

Engineers, firemen, conductors, brakemen, switchmen and hostlers now say that they are going to get the eight-hour day, even though it greatly reduces their earnings, and they say it as though they meant it.

Will the American people not interfere? Just look on and say nothing?

Why Locomotive Hostlers Will Strike

Locomotive hostlers plead guilty to their part in the present demand for an eight-hour day in railway service. They are not only willing to quit their jobs in a strike for an eight-hour day, but many of them are offering to accept a reduction of wages equal to sixteen and two-thirds per cent of their present daily pay to accomplish this purpose.

They demand that eight hours or less at present ten hours' pay will constitute a day's work in hostling service, and that all over eight hours within any twenty-four-hour period be paid for at the rate of time and one-half.

Let us take the Western hostlers, all of whom now work twelve hours per day and a vast majority of whom are paid \$3.00 for this twelve hours' work. Let us take one job of day and night work, where two hostlers are now continuously employed for twenty-four hours. These twenty-four hours' work now costs the railroads \$6.00, each man receiving \$3.00 for twelve hours' work. With the eight-hour day, the same twenty-four hours' work may be performed each day, but it should require three men at eight hours each instead of two at twelve hours each. Each hostler would then receive "present ten hours' pay" or \$2.50 for his eight hours' work and the railroad would be required to pay three men \$7.50 for twenty-four hours' work.

Each hostler will sacrifice fifty cents of his present pay to gain the eight-hour day. It will cost the railroad just \$1.50 more for three men working twenty-four hours than it does now for two men working twenty-four hours.

Of course, the railroads may avoid payment of this additional \$1.50 for a twenty-four-hour period. They may so arrange the work of hostlers as to

place the eight-hour day in effect with an actual saving in cost to the railroads. The railroads may so arrange the work of these hostlers, that instead of requiring a group of three men to perform twenty-four hours' continuous service at a cost of \$7.50, the work may be done by two hostlers working only sixteen hours at a cost to the company of only \$5.00. If railroads do not concentrate the work and actually reduce the expense, it will be a departure from past experience, wherein railroads have often made wage reductions out of presumed wage increases.

Testimony presented in the recent Western arbitration showed that in order that twelve hours of service may be rendered, the hostler must begin work at six o'clock with no relief until six o'clock. A witness testified that he was away from home fourteen hours and twenty minutes each day; that he never saw his two children, except when they were in bed asleep, for more than one hour in the evening. Another witness testified that he worked twelve hours a day for thirty-one days a month. "I think I have been off about three days in three years," he said.

Upon the skill and faithfulness of the hostler the railroads depend for the proper care of locomotives, and upon him the engineers and firemen depend for their jobs, if not for their lives, for a crown sheet scorched either through ignorance or neglect of a hostler may remain concealed until later discovered and the engineer dismissed for incompetency, or until it lets go and two men are cooked alive.

Road hostlers, in addition to their usual duties, are required to operate locomotives on the main track, where the safety of the traveling public requires a thorough knowledge of train operation, signal system and book of rules. These road hostlers are now required to work ten hours a day at thirty-two-and-one-half cents an hour on eastern railroads and twelve hours a day at thirty-five cents an hour on western railroads. Thus, it is seen that a man, who for public safety should have every qualification of an engineer, is able to earn from \$3.90 to \$4.20 by working twelve hours a day.

It is the excessive hours that railroad employes are required to work that makes it possible for railroads to report through their publicity agencies high annual earnings on very low rates of wages.

At their present rate of wages, if hostlers work only forty-four hours a week, as in the building trades and many other industries, a vast majority of them would receive only \$11.00 per week and the comparatively few road hostlers would be paid \$15.40 per week.

Arbitration a Game of Chance

Can you call to mind a single instance in which workers at any trade have secured the eight-hour day through arbitration?

The mine workers were forced to inconvenience the public for many months by a great strike before they secured the eight-hour day. Of course, now the public is glad that they were inconvenienced, for it was their sacrifice that thus helped to make this a better country to live in.

The printers, bricklayers, carpenters, and all the rest of them secured an eight-hour day through long and repeated strikes, but who of you now regrets your inconvenience. All mothers of liberty and human rights have suffered labor pains.

If the railroads may judge of the future by experiences of the past, they perhaps feel safe in submitting the present eight-hour question to an arbitration board. The railroads have already secured the co-operation of all Chambers of Commerce and other employers' associations in their proposal that railway employes be now forced to submit their eight-hour proposition to arbitration.

In the last Western arbitration locomotive hostlers, who have always been required to work twelve hours every day in the year, asked for a ten-hour day and the arbitration board decided that they should continue to work twelve hours. But, in fairness to the board, it should be said that it was not believed by anyone that hostlers could support their families in decency on twenty-five cents per hour unless they did work twelve hours per day.

After having refused to reduce a twelve-hour day to a ten-hour day, it would be radical to expect another arbitration board to reduce these same hostlers to an eight-hour day. What courts are ever radical?

And aside from this, railway employes have lost faith in the justice of arbitration boards. They believe arbitration justice is as fickle as chance.

Long before gambling with dice was prohibited by law, it was not considered profitable to go against loaded dice. Polite people would have nothing to do with such unfair methods.

Arbitration is a gambling game, even when the dice are not loaded. With the rules of the game observed in every detail, it is a fifty-fifty chance with the usual percentage to the house.

Railway employes once thought that an arbitration decision depended almost entirely on the evidence that they were able to present and in blissful delusion took upon themselves credit for every arbitration victory—the railroads angrily protesting that they had been jobbed in the appointment of the neutral arbitrators; that they “did not understand the question”; that this award proved their “lack of knowledge of the subject.”

And then it was discovered that most of the awards began to go against the employes, regardless of the evidence. In cases where the justice of their contention was most apparent to them and where the preponderance of evidence was believed to be on their side, they lost decision after decision.

In an engineers' arbitration they found the neutral arbitrator to be a retired railroad attorney—afflicted with old age, bad digestion and acute prejudice—to such an extent that he did not attempt to conceal his antipathy to the engineers. The railroads' representative in this arbitration was so much fairer than the neutral arbitrator that he conceded more than the so-called neutral arbitrator wanted to give.

In an arbitration of matters concerning conductors and trainmen ex-office holders, or “lame ducks,” rendered a decision that made the victims say, as though they meant it, “Never again.”

In the last arbitration of wages and working conditions of western engineers, firemen and hostlers the board was dominated by a man who, as director or trustee, was directly concerned in the result of the award. Aside from many millions of dollars of other railroad holdings, much of which would be affected by the award, he was director of a trust company that owned one block of approximately \$12,500,000 of first mortgage bonds of one of the railroads, parties to the arbitration. When his railway financial connections were discovered and official protest made against his continuance on the board, the employes were officially advised that while it had not been known that he was thus connected, a “knowledge of that fact would have been favorable rather than otherwise to his appointment” and that “nothing has been brought to our knowledge since his appointment as an arbitrator which in our opinion disqualifies him as an arbitrator.”

But, ignoring past experiences, let us presume that there is an arbitration of this present eight-hour demand of railway employes and that in picking the jury every effort is made to appoint neutrals entirely free of prejudices. In such an event, it is but tossing pennies to decide the question. If the mental attitude of the men appointed is favorable to railway employes at the time of their appointment it is a two-to-one chance that the employes will win. If the neutrals' past environment has been such that it would require much evidence to convince them of the justice of the men's demands, no eight-hour day will be awarded. If the President of the American Federation of Labor is selected as a neutral arbitrator, he will with perfect honesty and sincerity award railroad men the eight-hour day. If a president, director or an attorney of some great employing corporation is appointed, with just as much honesty of purpose, he will deny the eight-hour day. If someone is appointed who, presumably, has no mental bias, it will be nothing more or less than betting on the red against the black.

Why has not the suggestion been made that the entire matter be settled by “pulling straws” and thus relieve everybody of the bother?



THE BROTHERHOOD
of LOCOMOTIVE FIREMEN
and ENGINEMEN



TWENTY-SEVENTH CONVENTION
(SECOND TRIENNIAL)
FORTY-THIRD ANNIVERSARY.

DENVER,
COLO.
1916

SOUVENIR



COLORADO STATE CAPITOL AND GROUNDS, DENVER

(Mile High Photo Co., Denver.)



CITY OF DENVER, LOOKING EAST FROM DANIEL'S AND FISHER'S TOWER

(Photo by Winfall, Denver.)



THE NARROWS—BEAR CANON

(Photo by Wiswall, Denver.)



HIGH CLIFF ABOVE GOLDEN CASTLE ROCK

(Photo by W. Small, Denver)



WORLD-RENOWNED MOFFAT ROAD LOOP, 70 MILES FROM DENVER



PILLARS OF HERCULES, BIG THOMPSON CANON TO ESTES PARK



LONE PINE. THOMPSON CANON TO ESTES PARK

(Photo by Wiswell, Denver.)



MOUNTAIN STOVE
DESIGNED BY FREDERICK STEINHAUER



EVENING SHADOWS ON THE GREAT DIVIDE



DENVER MOUNTAIN PARK AUTO ROAD

(Photo by G. I. McClure, Denver.)



WILD-CAT POINT, LOOKOUT MOUNTAIN—DENVER'S MOUNTAIN PARKS

(Photo by Wiswall, Denver.)



ROUNDING INSPIRATION POINT, CLEAR CREEK CANON

(Photo by G. L. McPherson, Denver.)



**THE LOOP—DENVER, NORTHWESTERN AND PACIFIC RAILWAY,
THE MOFFAT ROAD**



PUBLIC LIBRARY

(Mile High Photo Co., Denver.)

Twenty-Seventh Convention

CITY OF DENVER

Denver, the capital of the State of Colorado, was so named in honor of General James W. Denver, the first Governor of the Territory of Kansas. It was organized on November 17, 1858. At that time the Territory of Kansas included in its limits what is now the State of Colorado. James W. Denver was born at Winchester, Va., in 1817 and died August 9, 1892. He was an American soldier and frontiersman. In 1830 he moved to Ohio with his father and there studied for the bar. Later on he moved to Missouri. There he raised a company and fought in the Mexican war. He went to California in 1850, was elected secretary of state and afterwards was elected to the 34th Congress. Near the close of his congressional term he was appointed Commissioner of Indian affairs. This position he resigned, however, to accept the governorship of the Territory of Kansas. After twelve months of service he returned to Washington having left the territory in a well organized, law abiding and peaceable condition. In 1859 he returned to California but soon moved to Wilmington, Ohio. During the Civil war he served in the Union army. He it was who suggested the name of Colorado for that state.

Location and Area

Denver is 2,025 miles from New York City and 1,457 miles from San Francisco and of the entire Rocky Mountain region lying between the Missouri River and the Pacific coast it is the chief metropolis. Its area is sixty square miles and its population about 255,000.

Denver is located in the valley of the south fork of the Platte River at its junction with Cherry Creek, the latter being a dry river bed in which water runs only at intervals. The

city, which is on a high plateau, lies twelve miles east of the foothills of the Rocky Mountains and at an altitude of one mile above the sea level.

The view of the surrounding country is beautiful, Pike's Peak off in the distance is so plainly visible that it seems at times in the clear atmosphere to be not an overlong walk. The city is a popular center for tourists who come to see the Rocky Mountains and scenery of Colorado.

Climate.

The climate of Denver is delightful, the city being sheltered by the Rocky Mountains from blizzards and heavy snow storms. Warmth in day time that is not debilitating and nights that are refreshingly cool characterize Denver summers and Denver winters are remarkable for a plentitude of sunshine and a general absence of snow as well as of severe and long extended cold periods. It is stated on the highest authority that Denver has never had an earthquake, a cyclone, a great flood, a great fire or a single heat prostration. Of all the cities of similar size on the continent there is none more substantially built, and it has the reputation of being one of the best lighted and best cared for communities in any country in the world. No wooden buildings of any size are allowed inside the corporation limits.

Public Utilities.

Denver is fully equipped with modern and efficient public utilities of all kinds, its street car service, both city and interurban, being of the most modern. Ten railroads enter the city. It has 220 miles of finely paved and surfaced streets and an extensive storm and sanitary sewer system. It has an ample water supply and its water, being stored in vast reservoirs and permitted to percolate through great natural filtering beds of sand.

is such that Denver has the reputation of being excelled by no city in the world as to the quality of its supply of drinking water.

It is also notable for its fine business blocks and retail stores.

Public Buildings.

Denver has many fine public buildings. The State Capitol on Capitol Hill between Colfax and 14th Avenues covers three squares and cost \$2,800,000 exclusive of the site. It is built of Colorado granite, the interior finish being of Colorado onyx and bronze. A fine collection of Colorado minerals and war and Cliff Dwellers' relics are located in the basement. The United States Mint at West Colfax Ave. and Delaware St. is open to visitors from 10 to 12 a. m. and from 1 to 3 p. m. daily, except Sundays. The Court House occupies the square bounded by 15th, 16th, Tremont streets and Court Place. The Auditorium on 14th St. between Champa and Curtis St., in which our Twenty-seventh Convention will be held, was built by the city and cost \$700,000. It is absolutely fireproof, 266 feet long by 200 feet wide. Its seating capacity is 12,000. It can be utilized as a convention hall or divided so one half can be used as a theatre with a seating capacity of 3,145. The Denver Civic and Commercial Association, which occupies its own building on Champa St., is the home of the commercial organizations of the city. It maintains publicity and information bureaus and a complete exhibit of the State's resources. A fine municipal Bath House with large swimming pool is located at 20th and Curtis Sts.

Churches, Schools and Colleges.

In Denver's public school system there are 54 grade schools, 5 high schools, one manual training high school and one technical school, which have an attendance of approximately 40,000 children under the tutorship of 1015 teachers. There are also eleven parochial schools with ninety-seven teachers, and four religious colleges. Denver has a compulsory school law and permits for children under fourteen years of age to engage in employment are not granted ex-

cept when necessary for the support of the family. Free text books are supplied to pupils in grade schools. The cost of Denver's school buildings aggregates five million dollars and the value of the land devoted to school purposes is \$450,000. In addition to this the city is equipped with a first class city library, a medical library, school libraries and six law libraries.

There are 156 church buildings in Denver, many of them being of fine architecture.

Parks and Amusements.

Denver has no slums but an abundance of parks and playgrounds, there being band concerts and other forms of amusement. The principal park is City Park, which covers 320 acres. It is beautifully improved and contains a fine electric fountain. The most extensive Zoo in the intermountain west is located in City Park. The Colorado Museum of Natural History in this park contains a noted collection of animals, minerals, birds and works of art. The summer amusement parks, Elitch's, Lakeside and Luna, situated on the north side of the city, are attractive and each has its special features. Just beyond the flat topped foothills on the outskirts of the city are the Denver Mountain Parks with their beautiful scenery. These parks are accessible by automobile roads from Denver or by street car or automobile to Golden and then by automobile or the funicular road to the top of Lookout Mountain. The new Mountain Parks automobile road runs by Wild Cat Point and over Lookout Mountain, from which a splendid view is obtained of the city of Denver laid out on the plains far below. Past Lookout Mountain to Genesee Peak, through Bergen Park and on nine miles to Idaho Springs is a trip that will long be remembered. The road is laid on a shelf chiseled out of solid granite. Now it skirts the brink of the precipice; again it leads through a thickly wooded glen, all the time as safe as a city boulevard, the road being amply wide for two machines abreast and protected by massive stone walls.

University Park is the home of Denver University and the Chamberlain Observatory, the latter containing one of the largest telescopes in the country.

Denver has several high class theaters and its hotels are many in number, commodious and well appointed.

Commerce and Industries.

Denver is recognized as the wholesale market for a territory composed in addition to Colorado of the states of Wyoming, Utah, South Dakota, New Mexico, Arizona, Eastern Nebraska and Kansas. It has a thriving manufacturing industry. It is the principal smelting center in the United States. United States government figures show that the total output of the factories of Colorado for 1914 amounted to a value of \$150,000,000, a gain of \$20,000,000 since the last census was taken.

Denver's assessed valuation is \$403,866,800; bonded debt \$1,436,866; value

of public improvements \$20,227,195; and miles of street and interurban railways 271.

Denver is the center of a rich agricultural territory in which, according to estimates for 1915, between \$95,000,000 and \$100,000,000 worth of farming products were raised. There are 3,200,000 acres of irrigated land in Colorado and as much more non-irrigated farming land, which latter, during the past few years has, under scientific methods, produced some of the greatest crops in the State. The year 1915 witnessed a revival of industry in the metal mining fields. For 1914 Colorado's metalliferous production was \$35,257,626 and for 1915 \$50,409,943.

Denver's points of interest are so numerous and attractive, that we feel confident all visitors and delegates to our Twenty-seventh Convention will carry away with them the most pleasant remembrances of their stay in that city.



HISTORICAL SKETCH OF THE BROTHERHOOD OF LOCOMOTIVE FIREMEN AND ENGINEMEN

On December 1, 1873, eleven firemen of the old Erie Road met at Port Jervis, New York, and organized the Brotherhood of Locomotive Firemen—now the Brotherhood of Locomotive Firemen and Enginemen. One year later the First Annual Convention of the Order was held at Hornellsville, in the same state, twelve lodges being represented.

The Second Annual Convention was held in Indianapolis, Ind., in December, 1875, there being forty-six delegates present. There were at that time 900 members in the organization and twenty-nine lodges. It was at this convention that "protection" first became a part of the policy of the Order.

The Third Annual Convention was held in St. Louis, Mo., in September, 1876, with forty-one delegates present, the number of lodges having increased to fifty. The efforts put forth in be-

half of the adoption of an official organ constituted probably the most important work of the Third Annual Convention. The question was submitted to a referendum vote of the entire membership, which carried in favor of its establishment. The Brotherhood's first success in its work of protection was officially recognized at this convention when the Grand Secretary and Treasurer and members of the grievance committee were commended "for securing an increase of wages on the I. B. & W. road."

The Fourth Annual Convention was held in Indianapolis, Ind., in September, 1877—the year of the great railroad strike. At that time the headquarters of the organization were located at Indianapolis, having been removed from Galion, Ohio, the former home of the Grand Secretary and Treasurer. There were then sixty lodges, but only forty-nine delegates

reported at this convention. The membership of the Brotherhood had not increased as it did during the preceding year.

The young organization had suffered from the strike. Many of its members had been thrown out of employment and it was generally reported that spies and secret agents of the railroad companies were plying their despicable and insidious operations against its interests. As a result of the opposition of railroad officials many lodges had gone down, yet its faithful and fearless members stood shoulder to shoulder and kept the flag of the Brotherhood flying until the future brought relief.

A trade organization, known as the International Firemen's Union, having scarcely any fraternal or insurance features, had been instituted several years previous to the organization of the Brotherhood. This union had never levied an assessment on its members except for strikes, which, as a rule, were always failures. Notwithstanding this fact, however, several increases in wages stand to the credit of its efforts.

Resolutions were adopted at the Fourth Annual Convention inviting the local branches of the International Firemen's Union to consolidate with our Brotherhood, its members to be exempted from paying initiation fees. These resolutions, however, did not bear fruit until after the Fifth Annual Convention, when the local branches of the International Firemen's Union amalgamated with our Brotherhood.

The establishment of a second degree in the Brotherhood of Locomotive Engineers to provide for the membership of firemen in its ranks was advocated somewhat generally by members of that order prior to the '77 strike. The matter was brought up at this convention, and after mature consideration it was decided that consolidation with the B. of L. E. was not desired, but that this Brotherhood would be glad to cooperate with the engineer's organization. With a view to that end a committee was appointed to visit the following convention of the

B. of L. E. to solicit recognition but not consolidation.

The Fifth Annual Convention was held in Buffalo, N. Y., in September, 1878, with fifty-one delegates and fifty-two lodges. Owing to the bitter antagonism of railroad officials, and the rather strained financial circumstances of a large proportion of its members, the Brotherhood had lost in lodges as well as in membership. The delegates had to face at this convention six death claims unpaid and the delinquency of a number of lodges. Owing to these conditions it was decided to put an organizer to work whose salary was to be derived from charter fees of new lodges.

The Sixth Annual Convention was held in Chicago, Ill., in September, 1879. The Brotherhood's financial condition was even worse than the Fifth Annual Convention found it. It was evident that the members had not yet come to a proper realization of the fact that money was needed to maintain the organization up to a proper working standard. Notwithstanding these deplorable financial conditions, however, the Order had substantially increased in membership, which was no doubt for the most part attributable to the fact that the local branches of the International Firemen's Union had amalgamated with the Brotherhood soon after the preceding convention (Fifth Annual) and that the Grand Organizer, assisted by members of the Order, had been rendering good service. Seventy-six lodges were reported at this convention—sixty-five of them being represented. So bitter was the continued opposition of railroad officials at this time—which in some sections of the country was resulting in the disbandment of lodges and the withdrawal of members—that it was decided in order to remove the cause of such opposition to eliminate the protective feature of the organization. With a view to this end a resolution was adopted ignoring strikes. This action on the part of the Sixth Annual Convention constitutes one of the specially notable events in our history.

The Seventh Annual Convention

was held also in Chicago—September 1880. Notwithstanding that at this convention only fifty-eight delegates were in attendance, the Brotherhood had during the preceding year made most satisfactory progress. In its report "the committee on general work" stated that they "find the present condition of the Order to be more prosperous than it has ever been before, in the general increase of membership, in the organization of new lodges and accessions to the old ones, and we also find an increase of interest of the present members as regards general work of the Order and the manner in which it is performed." But the financial condition of the organization was worse than ever, and steps were taken with a view to overcoming this trouble. Some of the recommendations included in the report of the "committee on general work" were that all assessments on death claims be paid within thirty days; that the Grand Secretary and Treasurer be placed under acceptable bond, and that three trustees be elected to examine his books. These recommendations were adopted and their becoming laws had much to do with changing the entire future of the organization for the better. For the purpose of meeting the indebtedness of the Brotherhood, it was decided at this convention to send subscription blanks to each lodge, accompanied by calls for donations.

The Eighth Annual Convention was held in Boston, September, 1881. The official reports showed an increase of eighteen lodges, although only fifty-one lodges were represented. The membership was reported at this convention as being 2,998. The total remittances to the Grand Lodge as reported for the preceding fiscal year amounted to \$21,346.85. With this sum all obligations had been met and the organization found itself free from debt for the first time.

The Ninth Annual Convention was held at Terre Haute, Indiana, September, 1882. The number of lodges represented was ninety-four, this being a net gain of twenty-three. The total membership reported at this convention was 5,125. For the preceding

fiscal year the receipts of the Grand Lodge had reached the sum of \$43,681.25.

The Tenth Annual Convention was held at Denver, Colorado, September, 1883. One hundred and thirty lodges were represented at this convention, the total membership being 7,337. Receipts reported for the preceding fiscal year amounted to \$76,916.07.

The Eleventh Annual Convention was held in Toronto, Ontario, September, 1884. The number of lodges represented was 116; total membership, 12,246, and total receipts, \$119,567.99. The question of classification of wages was discussed at this convention and a movement inaugurated through which the Brotherhood later on became a labor organization in every particular. The word "white" had not up to that time appeared in the constitution, as a qualification for membership, but was incorporated therein by this convention.

The Twelfth Annual Convention was held at Philadelphia, September, 1885. The membership at this time was 14,694. At this convention the Brotherhood discontinued its policy of "ignoring" strikes and again became a "labor" organization in the proper sense of the term. That the sentiment responsible for this change came from the rank and file and was met with much opposition by the officers is to be inferred from a perusal of the proceedings of this and preceding conventions.

To organized labor in general the Order sent greetings, and the declaration was publicly made that the Brotherhood of Locomotive Firemen would thereafter be counted with organizations of labor that were willing to fight for justice if necessary. The Grand Masters had been up to this time merely "figureheads," whose sole duty was to "preside and preserve order" during sessions of the convention.

The Thirteenth Annual Convention was held at Minneapolis, September, 1886. There were then 331 lodges in the organization, of which 256 were represented at this convention; the total membership at that time was 16,196. Up to this convention nearly all

official authority had been invested in the Grand Secretary and Treasurer. The report of the Grand Master to the Thirteenth Convention, however, showed the large amount of work the preceding convention had assigned to that officer, and also gave evidence of the fact that for the first time the Grand Master had been in fact as well as in name the Chief Executive of the organization. The Thirteenth Annual Convention has been termed the first great "labor" convention of the organization. Details of adjustment of grievances and advances in wages constituted interesting parts of the Grand Master's report. The Grand Secretary and Treasurer's report showed the receipts for the preceding year to have been \$288,920.88. This was the last annual convention of our Brotherhood, the next being the First Biennial, which was held two years later.

The First Biennial Convention was held at Atlanta, Ga., September, 1886. There were at this time 383 lodges in the Order, with a total membership of 18,278. The number of lodges represented at this convention was 248. The receipts of the Grand Secretary and Treasurer for the twenty-three months which his report covered, amounted to \$731,595.09, the disbursements being \$741,585.67.

One of the most trying ordeals through which our Brotherhood has had to pass occurred during the years 1888-1889, namely, the great strike on the C., B. & Q. R. R., which began on February 27, 1888, and was not declared off until January 7, 1889. Immediately upon entering on this strike it became necessary to levy assessments to sustain the men who were fighting for their rights, and while our membership responded nobly to the call for financial assistance the long duration of the struggle made these assessments so burdensome as to cause thousands of members to become delinquent. Notwithstanding that the Brotherhood was not directly victorious in this struggle, and regardless of the great financial cost to the noble brothers who stood by their fellow workers, the upbuilding of the Order

proceeded thereafter with greater strides than ever before in its history.

The Second Biennial Convention was held at San Francisco, California, September, 1890. Up to this time the number of lodges had increased to 427—the total membership of the organization being 18,657. Two hundred and twenty-one lodges were represented by regular delegates at the San Francisco convention and thirty-five lodges by proxy. The report of the Grand Secretary and Treasurer for the two fiscal years, 1889 and 1890, shows the receipts to have been \$901,444.46, and the disbursements \$874,942.41.

The Third Biennial Convention was held at Cincinnati, Ohio, September, 1892. At this time the Brotherhood had 488 lodges, with an aggregate membership of 25,967—a gain of 7,310 over and above expulsions, withdrawals and deaths for the two fiscal years of 1891 and 1892. The report of the Grand Secretary and Treasurer to this convention showed the receipts for these two fiscal years to have been \$864,388.01, and disbursements, \$875,732.33. At this convention 329 delegates responded to the roll call.

The Fourth Biennial Convention was held at Harrisburg, Pa., September, 1894. At the time this convention met there were 519 lodges in the organization, although the records show but 185 delegates present. The total membership of the Order at that time was 26,508. The receipts for the two fiscal years 1893 and 1894 were \$1,201,848.12, and the disbursements, \$1,176,152.55.

The Fifth Biennial Convention was held at Galveston, Texas, in September, 1896. At the time of its convening the number of lodges had decreased from 519 to 507, and the membership from 26,508 to 22,461. This was brought about by the strike of the American Railway Union against the Pullman Company during the year 1894, in which a large number of our members became involved. The receipts for the two fiscal years, 1895 and 1896, were \$740,708.09, and the disbursements \$805,540.83.

The Sixth Biennial Convention was

held at Toronto, Canada, in September, 1898. The Grand Secretary and Treasurer in the opening of his report to this convention said:

"We have emerged from a financial depression of more than four years' constant pressure in a manner that cannot but reflect credit upon the strength and stability of our organization. A body of workmen less earnest, less determined, must have succumbed to the excessive strain to which the Brotherhood of Locomotive Firemen was subjected during the years 1894, 1895, 1896 and 1897."

Our lodges had by this time increased in number to 538 and our membership to 27,039. The receipts for the two fiscal years, 1897 and 1898, were \$842,448.06, and the disbursements \$804,373.63.

The legal representative of the Brotherhood prior to the Sixth Biennial Convention had been Mr. Thomas W. Harper, who was not a member of the order. Up to that time the Grand Master appointed the legal representative. At this convention the office of General Counsel was made elective and Bro. J. H. Murphy, of Lodge 77, was elected for the ensuing term beginning January 1, 1899.

The Seventh Biennial Convention was held at Des Moines, Iowa, in September, 1900. At this time our membership had increased to 36,084, a gain of more than 9,000 members during the two fiscal years 1899-1900, the number of lodges having increased to 569. There were 339 delegates present at this convention. The receipts for the fiscal years 1899 and 1900 were \$1,061,852.83, and the disbursements \$1,053,727.48.

At this convention the following resolutions were adopted:

"That if there is a reputable physician appointed by the worthy Grand Master and Grand Secretary and Treasurer to pass upon all applications for membership before they are admitted into the Order."

Also:

"That if there is a reputable physician in the order that he be appointed Grand Medical Examiner."

In accordance with the foregoing resolutions Grand Master F. P. Sargent and Grand Secretary and Treas-

urer F. W. Arnold appointed Bro. W. B. Watts, of Lodge 240, Jackson, Mich., as Grand Medical Examiner, who took up his official duties on May 1, 1901.

The Eighth Biennial Convention was held at Chattanooga, Tenn., in September, 1902. Our membership had by this time reached 43,376, a net gain in two years of 7,292; while the number of lodges had increased to 612, a gain of 43 in the same period. The receipts for the two fiscal years 1901 and 1902 were \$1,446,132.65, and the disbursements \$1,338,939.50.

At this convention the office of Grand Medical Examiner was made elective instead of appointive, and Bro. W. B. Watts was elected for the ensuing term.

The Ninth Biennial Convention was held at Buffalo, N. Y., in September, 1904. Our total membership was then 54,434, a gain of 11,058, while the number of lodges was 660, showing an increase of 48 during the two preceding years. The receipts for the two fiscal years 1903 and 1904 were \$1,966,213.63, and the disbursements \$1,814,031.05. At this convention a law was enacted providing for the discontinuance of proxy representation.

The number of lodges represented at conventions prior to the Tenth Biennial Convention was not necessarily limited to the number of delegates attending these conventions, for up to and including the Ninth Biennial Convention the constitution provided for representation by proxy, and many lodges were so represented at that and preceding conventions. Under the law a delegate could represent not to exceed two lodges by proxy, which, with his own, made three, the greatest number of lodges that one delegate could represent. The Ninth Biennial Convention when repealing this law provided that thereafter each lodge would be represented by a delegate of its own, whose expenses and per diem as such would be paid out of the general fund of the organization, so that at the following convention, Milwaukee, 1906, the exact number of lodges represented was shown by the number of delegates present.

The Tenth Biennial Convention was

held at Milwaukee, Wis., in September, 1906. Our membership had increased to 58,849—a gain of 4,415 during the two preceding years—while the number of lodges had increased to 699, a gain of 39 lodges during the same period. The receipts from all funds, except the receiving fund (moneys not applied), for the two fiscal years were \$2,186,841.99, while the disbursements from all funds, except receiving fund (moneys not applied), were \$2,009,759.67.

The Tenth Biennial Convention marked an epoch in the history of the Brotherhood. It was at this convention that it fully accepted the added responsibilities which its own progress involved and by the addition of the word "Enginemen" to its former title declared itself to be in name as well as in fact an organization existing for the protection and promotion of the interests of locomotive engineers as well as of firemen and hostlers. While through the change which the Eighth Biennial Convention (Chattanooga, 1902) had made in its preamble the Order recognized officially the right of engineers to hold membership in its ranks and to expect industrial protection from it, it had not decided to assume a name consistent with those professions until the Tenth Biennial Convention.

During the two fiscal years ending June 30, 1908, we paid out for the relief of the suffering and needy the sum of \$1,799,229.17. On June 1, 1908, we had in our Grand Lodge treasury a sum aggregating \$739,568.68.

The Eleventh Biennial Convention was held at Columbus, Ohio, commencing September 14th and concluding October 10th, 1908. Our membership at the conclusion of the fiscal year ending June 30, 1908, was 66,408, a net gain of 7,559 in the two preceding years. Our lodges had increased in numbers to 745; a gain of 46 during the same period. The receipts for the two fiscal years 1907 and 1908, were \$2,564,865.31; the disbursements for the same period were \$2,340,348.24.

Some very important legislation was enacted by this convention.

It changed the convention month from September to June.

It changed the fiscal year to begin January 1st and end December 31st.

It changed the collection of assessments from quarterly to monthly and fixed a flat premium rate of \$1.10 per thousand per month for each of the five classes of insurance.

It also established a Reserve Beneficiary Fund for the purpose of protecting the insurance contracts of the Brotherhood, six per cent. of the beneficiary assessments collected to be used in building up said fund until same reached the sum of \$500,000.

It provided for the setting aside of four per cent. of all beneficiary assessments for the payment of the expenses of the Beneficiary Department.

It also provided for the establishment and maintenance of a "Benevolent Fund for the purpose of paying disapproved beneficiary claims when such payment was authorized by the Board of Directors or the convention," empowering the Board of Directors to take up, investigate and dispose of all such beneficiary claims, and making provision for the establishment of such fund by levying assessments on all beneficiary members in such amounts as should be determined by the President and General Secretary and Treasurer.

A change was made in the titles of the Grand Lodge officers, as follows: That of Grand Master to President; the office of Assistant President was created; the title of Vice Grand Masters was changed to Vice-Presidents; the Grand Secretary and Treasurer to General Secretary and Treasurer; Grand Medical Examiner to General Medical Examiner, and the Board of Directors, consisting of seven members, was created to supersede the Grand Executive Board and Board of Grand Trustees.

The titles of subordinate lodge officers were changed as follows: The title of Master was changed to President; Past Master to Past President; Vice Master to Vice-President; Secretary to Recording Secretary; Collector to Financial Secretary. For the purpose of securing better organization in the

South the appointment was authorized of a special organizer to carry on the work under the supervision of the Grand Lodge.

A Correspondence School was established for the technical education of our members, same to be self-sustaining and to be conducted at tuition rates representing the lowest actual cost of its operation and maintenance. The Eleventh Biennial Convention provided that these schools be placed under the supervision of the Editor and Manager of the Magazine.

Albert Fox, Secretary-Treasurer of the Associated Society of Locomotive Engineers and Firemen of Great Britain, attended this convention as fraternal delegate from that organization, and the convention elected President W. S. Carter fraternal delegate to represent our Brotherhood at the convention of that society in Great Britain in May, 1909. The conventions of the British organization were at this time triennial.

The Twelfth Biennial Convention was held in St. Paul, Minn., commencing on Monday, June 6, 1910, and concluding June 25, 1910.

The fiscal year having been changed at the Eleventh Biennial Convention to make it co-extensive with the calendar year (thus beginning January 1st and ending December 31st), the reports of officers were made to the Twelfth Biennial Convention for the one and one-half fiscal years, viz., for the half year commencing July 1, 1908, and ending December 31, 1908 (being the interval between the termination of the fiscal year under the old law and the beginning of the fiscal year under the new law), and for the entire year of 1909. Hence, the reports of the officers to the Twelfth Biennial Convention covered a period of eighteen months.

The total membership at the close of the fiscal year ending December 31, 1909, was 65,315, showing a decrease of 1,093 for this eighteen-months period. During the same period the lodges had increased to 789, a gain of 45 for the eighteen months.

The various funds showed receipts for that period as follows:

Beneficiary Fund, \$1,714,808.52; General Fund, \$308,750.03; Protective Fund, \$39,376.01; Benevolent Fund, \$143,801.36. Total receipts, \$2,206,735.92.

The disbursements from the various funds for that period were as follows:

Beneficiary Fund (including amounts transferred to the Beneficiary Expense and Beneficiary Reserve Fund), \$1,227,541.89; General Fund, \$415,326.78; Protective Fund, \$26,960.55; Benevolent Fund, \$133,167.70. Total disbursements, \$1,802,996.92.

Amongst the important legislation enacted by the Twelfth Biennial Convention were laws providing:

That thereafter Grand Lodge conventions would meet triennially instead of biennially; and that future conventions would be numbered from the first held by the Brotherhood, the next convention (the first triennial) to be therefore officially known as the Twenty-sixth Convention.

That a Special Building Committee be appointed, consisting of the International President, General Secretary and Treasurer, Editor and Manager of the Magazine, General Counsel and Board of Directors to act as legal representatives of the Brotherhood to select plans, fix cost and have general supervision of the erection of a headquarters building; said committee to have full authority to negotiate with cities making propositions for the permanent location of same, to select city therefor, to enter into contracts obligating such city to live up to its proposals and to have charge of all other matters that might arise in carrying such plan to a successful conclusion.

That special organizers—not to exceed six in number—be appointed by the Assistant President upon approval of the International President to work under the direction of the Assistant President and to be assigned to duty where their services would be most needed—the personnel of this organizing force to be changed at the discretion of the Assistant President

with the approval of the International President.

That beginning with the December, 1910, issue our Official Directory should contain the official titles, names and addresses of the chairmen, secretaries and treasurers of State Legislative Boards.

That in addition to the index that is published every six months the Magazine contain an index in each issue.

After considerable discussion as to the merits of the Correspondence School proposition the following recommendation of the Constitution and By-laws Committee was adopted:

"That the matter of arranging for the operation of the Brotherhood Correspondence School be referred to a committee, said committee to be composed of the International President, General Secretary and Treasurer, General Counsel, Manager of the School and members of the Board of Directors, with authority to make the best arrangements possible in the interest of the members of the Brotherhood."

At a meeting of that committee held at Grand Lodge headquarters on October 20, 1910, it was shown that although the schools had been extensively advertised only 38 scholarship contracts had been received up to that time. With this showing they—the committee—concluded that the schools could not be made self-sustaining and instructed the Manager of the Schools (the Editor and Manager of the Magazine) to close them up by January 15, 1911, which was done.

This convention appropriated the sum of \$15,000 for the Home for Aged and Disabled Railroad Employes at Highland Park, Ill.

Albert Fox, Secretary-Treasurer of the Associated Society of Locomotive Engineers and Firemen of Great Britain, who represented that organization as fraternal delegate at the Eleventh Biennial Convention, was present to represent it in that capacity at this convention also, and Assistant President Charles A. Wilson was chosen as fraternal delegate to represent our Brotherhood at the next

convention of the British organization. Brother Wilson died October 24, 1910, and Brother Timothy Shea, who succeeded him as Assistant President, served as fraternal delegate to the following triennial convention of the Associated Society of Locomotive Engineers and Firemen of Great Britain, which was to have been held in May, 1912, but was postponed to June of the same year. At this convention the British Society decided to hold its conventions annually thereafter instead of triennially.

Brother Fox having been in failing health for some time, the convention of the A. S. of L. E. and F. held during the month of May, 1913, granted him a leave of absence, the better to permit him to recuperate, but on returning to the headquarters offices at Leeds, England, in January, 1914, he was forced to again give up his duties because of ill health, and on Sunday, March 22, 1914, he passed to his eternal reward.

During the year 1912 "Our Eastern Movement," having for its object the betterment of wage and employment conditions for our members employed on the fifty-four Eastern railroads involved therein, was inaugurated. After a number of conferences between the General Managers' Conference Committee and our Eastern Federated Board, an agreement was reached that all matters in dispute be submitted to arbitration under the Federal Law known as the "Erdman Act." The arbitration board so selected held its first meeting in the city of New York on Monday, March 10, 1913, and handed down its award on April 23, 1913. The railroads involved in these proceedings comprised practically all lines in that part of the United States east of the Mississippi and north of the Ohio and Potomac rivers, the trackage being approximately 70,000 miles of main line—something more than one-fourth the entire trackage of the United States. The results of the arbitration were not what were anticipated.

The Twenty-sixth Convention was held at Washington, D. C., commencing June 2, 1913, and concluding

July 3, 1913. Our membership at the close of the fiscal year ending December 31, 1912, was 85,292, a gain of 19,977 in the three-year period. During the same period the number of lodges had increased to 825, a gain of 36. From the report of the General Secretary and Treasurer to that convention we learn that the receipts for all funds for the three-year period, 1910, 1911 and 1912 (less the balance on hand January 1, 1910), were \$10,967,473.26, and that the disbursements from all funds were \$9,584,112.80.

The convention ratified the Chicago Working Agreement between the Brotherhood of Locomotive Engineers and the Brotherhood of Locomotive Firemen and Enginemen, which had been adopted by a Joint Committee of those organizations in Chicago, Illinois, May 17, 1913.

Action was taken at this convention providing that those brothers who had held continuous membership in the order for a period of twenty-five years were to be presented with a neat gold lapel button with the inscription "Continuous Membership, B. of L. F. and E., 25 Years."

Amongst the important legislation enacted by the Twenty-sixth Convention were laws providing:

That the Editor and Manager "shall decline to publish in the columns of the Magazine any article that in his judgment will prove detrimental to the interests of the Brotherhood, or will in any manner convey a false impression concerning the Brotherhood or any of the work of its officers or members."

That a Funeral Benefit Fund be established and maintained into which an assessment of 25 cents each month should be paid by all non-beneficiary and honorary members, the amount so collected to be used only for the payment of funeral benefits.

That a new class of beneficiary certificate be authorized, to be known as Class "F," for \$2,500, increasing the number of classes of beneficiary certificates to six.

That men operating electric en-

roads where electric energy is used, or has been substituted for steam, shall be eligible for membership, provided they are otherwise qualified, and have operated such engines or cars for a period of six months; provided further, that on interurban electric railroads where another labor organization now maintains an agreement for motormen, this Brotherhood will not attempt to displace them.

The designation of Vice Presidents by number was discontinued by this convention, and after January 1, 1914 all Vice Presidents were known simply by the title of "Vice President," without regard to rank.

The office of local organizer was created and the duties thereof prescribed, it being provided that the local organizer be paid a commission of one dollar from the General Fund for each member obligated by him.

Our membership reached its highest point at the close of the fiscal year ending December 31, 1913, being at that time 91,108. Owing to a general business depression, larger locomotives and increased tonnage per train, our membership had decreased at the close of the fiscal year ending December 31, 1914, to 86,802, and at the close of the fiscal year ending December 31, 1915, to 83,059. However, at the close of the quarter ending March 31, 1916, it had again risen to 85,866, and on April 30, 1916, it had reached 86,655 and may have reached the 90,000 mark when this, our Twenty-seventh Convention, opens.

The report of the General Secretary and Treasurer to this, the Twenty-seventh Convention, shows that the receipts for all funds for the three year period, 1913, 1914 and 1915 (less the balance on hand January 1, 1913) were \$10,511,299.77, and that the disbursements from all funds were \$11,224,585.29. During the same period the number of lodges had increased to 843, a gain of 18.

The Western Joint Concerted Wage Movement, inaugurated in January, 1914, involving on the one side substantially all Western railroad companies and on the other the allied forces of the Brotherhood of Locomo-

tive Engineers and the Brotherhood of Locomotive Firemen and Enginemen, representing the engineers, firemen and hostlers employed by those companies was, up to that time, the most formidable campaign for improved wage and working conditions in the history of the railroad industry on the North American Continent. The roads involved had a trackage of practically 140,000 miles, and the number of engineers, firemen and hostlers affected was about 55,000. What threatened to become the greatest industrial upheaval that history would thus far have recorded was averted when, urged by the President of the United States, Woodrow Wilson, the Managers' Committee representing the Western railroads accepted the Federal Mediator's plan of settlement. All arrangements for a strike on the railroads involved had been perfected, the date set for same being Friday, August 7, 1914, and preparations were complete in every detail. By agreement of the parties all questions in controversy were submitted to arbitration and arbitration proceedings were begun in the City of Chicago, Illinois, on Monday, November 30, 1914. The award was handed down April 30, 1915, same being a keen disappointment to the employes involved and their well wishers, as well as to all persons interested in the peaceable adjustment of differences between employer and employe generally. Our experience in both this and the Eastern wage movement proves the failure of arbitration as a means of settling differences between Labor and employing interests.

At a meeting of representatives of the Brotherhood of Locomotive Engineers, Order of Railway Conductors, Brotherhood of Locomotive Firemen and Enginemen and Brotherhood of Railroad Trainmen held in Chicago, Illinois, in December, 1915, a proposition was formulated to secure for all men in road service, except passenger service, and in all classes of yard service and in hostling service, an eight-hour day with time and one-half for overtime. The joint

committee that formulated this proposition, being without authority to go further in the matter, directed that it be submitted to a vote of the membership of the respective organizations represented by the committee, each member so voting to say whether or not he favored the presentation of such a proposition to the railroad managements. This vote was overwhelmingly in favor of presenting the proposition. The greatest railroad labor movement in the history of the world is therefore now under way. Working together in concerted action as one harmonious whole, these four organizations are determined to establish the eight-hour day for all men engaged in railroad freight train and yard service and in the work of hostling engines, their slogan being, "Eight hours work, eight hours sleep and eight hours relaxation," and their watchword, "United we stand."

Conventions of the B. of L. F. and E.

Con- ven- tion.	Intervals Between Conven- tions.	Place.	Date.
<i>Annual</i>			
1st	1st	Hornellsville, N.Y.	Dec. 15-18, '74
2d	2d	Indianapolis, Ind.	Dec. 14-18, '75
3d	3d	St. Louis, Mo.	Sept. 12-16, '76
4th	4th	Indianapolis, Ind.	Sept. 11-15, '77
5th	5th	Buffalo, N. Y.	Sept. 10-14, '78
6th	6th	Chicago, Ill.	Sept. 8-12, '79
7th	7th	Chicago, Ill.	Sept. 12-17, '80
8th	8th	Boston, Mass.	Sept. 12-15, '81
9th	9th	Terre Haute, Ind.	Sept. 11-15, '82
10th	10th	Denver, Colo.	Sept. 18-21, '83
11th	11th	Toronto, Ont.	Sept. 22-29, '84
12th	12th	Philadelphia, Pa. ...	Sept. 21-29, '85
13th	13th	Minneapolis, Minn	Sept. 15-21, '86
<i>Biennial</i>			
14th	1st	Atlanta, Ga.	Sept. 10-19, '88
15th	2d	San Francisco, Cal	Sept. 8-15, '90
16th	3d	Cincinnati, Ohio. ...	Sept. 12-21, '92
17th	4th	Harrisburg, Pa. ...	Sept. 10-20, '94
18th	5th	Galveston, Texas. ...	Sept. 12-24, '96
19th	6th	Toronto, Ont.	Sept. 12-24, '98
20th	7th	Des Moines, Iowa. ...	Sept. 10-24, '00
21st	8th	Chattanooga, Tenn	Sept. 8-24, '02
22d	9th	Buffalo, N. Y.	Sept. 12-28, '04
23d	10th	Milwaukee, Wis.	Sept. 21-29, '06
24th	11th	Columbus, Ohio. ...	Sept. 14 to Oct. 10, '08
25th	12th	St. Paul, Minn. ...	June 6-25, '10
26th	<i>Triennial</i>	Washington, D. C.	June 2 to July 8, '12
27th	1st	Denver, Colo.	June 5 —, '16
	2d		

Our Grand Officers.

Since its organization and up to the present time the Grand Officers

of the Brotherhood have been as follows.

GRAND MASTER.

- Joshua A. Leach, Lodge 1, Port Jervis, N. Y., 1874-1876.
- Wm. R. Worth, Lodge 44, Brookfield, Mo., 1877.
- Frank B. Alley, Lodge 23, Louisville, Ky., 1878.
- Wm. T. Goundie, Lodge 38, Pittsburg, Pa., 1879.
- Frank W. Arnold, Lodge 9, Columbus, Ohio, 1880-1885.
- Frank P. Sargent, Lodge 94, Tucson, Ariz., 1886-1902.*
- John J. Hannahan, Lodge 50, Chicago, Ill., 1902-1908.†

FIRST VICE GRAND MASTER.

- H.W. Plummer, Lodge 2, Hornellsville, N. Y., 1875.
- H. H. Clapp, Lodge 20, Galesburg, Ill., 1876.
- John Brodrick, Lodge 2, Hornellsville, N. Y., 1877-1878.
- J. M. Dodge, Lodge 46, Springfield, Ohio, 1879.
- J. E. Briggs, Lodge 30, Waterloo, Ia., 1880.
- Charles Pope, Lodge 67, Toronto, Ont., 1881.
- Wm. E. Burns, Lodge 47, Chicago, Ill., 1882-1883.
- Frank P. Sargent, Lodge 94, Tucson, Ariz., 1884-1885.
- John J. Hannahan, Lodge 50, Chicago, Ill., 1886-1902.‡
- Chas. A. Wilson, Lodge 11, Phillipsburg, N. J., 1903-1908.

SECOND VICE GRAND MASTER.

- Chas. A. Wilson, Lodge 13, Jersey City, N. J., 1895-1902.
- Timothy Shea, Lodge 13, Jersey City, N. J., 1903-1908.

THIRD VICE GRAND MASTER.

- Charles W. Maier, Lodge 24, Parsons, Kan., 1895-1906.†††
- Eugene A. Ball, Lodge 38, Stratford, Ont., 1907-1908.†††

FOURTH VICE GRAND MASTER.

- Eugene A. Ball, Lodge 38, Stratford, Ont., 1903-1906.
- Andrew P. Kelly, Lodge 284, New Haven, Conn., 1907-1908.††††

FIFTH VICE GRAND MASTER.

- Andrew P. Kelly, Lodge 284, New Haven, Conn., 1907.††††
- Asa Dillon, Lodge 31, Atchison, Kan., 1907-1908.††††

PRESIDENT.

- William S. Carter, Lodge 263, San Antonio, Tex., 1909-1916.

ASSISTANT PRESIDENT.

- Chas. A. Wilson, Lodge 11, Phillipsburg, N. J., 1900-1910.

- Timothy Shea, Lodge 13, Jersey City, N. J., 1910-1916.

FIRST VICE PRESIDENT.

- Timothy Shea, Lodge 13, Jersey City, N. J., 1909-1910.
- Eugene A. Ball, Lodge 38, Stratford, Ont., 1910-1913.

SECOND VICE PRESIDENT.

- Eugene A. Ball, Lodge 38, Stratford, Ont., 1909-1910.
- Andrew P. Kelly, Lodge 284, New Haven, Conn., 1910.
- Asa Dillon, Lodge 31, Atchison, Kan., 1910-1913.

THIRD VICE PRESIDENT.

- Andrew P. Kelly, Lodge 284, New Haven, Conn., 1909-1910.
- Asa Dillon, Lodge 31, Atchison, Kan., 1910.
- Albert Phillips, Lodge 58, Blue Canyon, Cal., 1910-1913.

FOURTH VICE PRESIDENT.

- Asa Dillon, Lodge 31, Atchison, Kan., 1909-1910.
- Albert Phillips, Lodge 58, Blue Canyon, Cal., 1910.
- C. V. McLaughlin, Lodge 86, Laramie, Wyo., 1910-1913.

FIFTH VICE PRESIDENT.

- Albert Phillips, Lodge 58, Blue Canyon, Cal., 1909-1910.
- C. V. McLaughlin, Lodge 86, Laramie, Wyo., 1910.
- P. J. McNamara, Lodge 12, Buffalo, N. Y., 1910-1913.

VICE PRESIDENTS.

- Albert Phillips, Lodge 58, Roseville, Cal., 1914-1916.
- C. V. McLaughlin, Lodge 86, Laramie, Wyo., 1914-1916.
- P. J. McNamara, Lodge 12, Buffalo, N. Y., 1914-1916.
- Geo. K. Wark, Lodge 262, Toronto, Ont., 1914-1916.
- D. B. Robertson, Lodge 199, Youngstown, Ohio, 1914-1916.
- Arthur J. Lovell, Lodge 52, Logansport, Ind., 1914-1916.

GRAND SECRETARY AND TREASURER.

- Wm. N. Sayre, Lodge 5, Galion, Ohio, 1875-1880.
- Eugene V. Debs, Lodge 16, Terre Haute, Ind., 1881-1892.
- Frank W. Arnold, Lodge 9, Columbus, Ohio, 1893-1903.**
- William S. Carter, Lodge 263, San Antonio, Tex., 1904-1908.††

GENERAL SECRETARY AND TREASURER.

- Albert H. Hawley, Lodge 149, New York, N. Y., 1909-1916.

GRAND ORGANIZER AND INSTRUCTOR.

- Samuel M. Stevens, Lodge 57, Boston, Mass. 1870-1885.

EDITOR, AND EDITOR AND MANAGER
LOCOMOTIVE FIREMEN AND ENGINE-
MEN'S MAGAZINE.

- I. J. Bennett (not a member of the Order), Dayton, Ohio, 1877-1878.
- Wm. N. Sayre, Lodge 5, Galion, Ohio, 1879-1880.
- Eugene V. Debs, Lodge 16, Terre Haute, Ind., 1881-1894.
- William S. Carter, Lodge 263, San Antonio, Tex., 1895-1903.††
- John F. McNamee, Lodge 445, Columbus, Ohio, 1904-1916.***

GENERAL COUNSEL.

- Thomas W. Harper (not a member of the Order), Terre Haute, Ind.,—1898.
- J. H. Murphy, Lodge 77, Denver, Col., 1899-1906.
- H. L. Dickson, Lodge 314, San Bernardino, Cal., 1907-1913.

The Brotherhood.

The following statistical information compiled from reports of the General Secretary and Treasurer, relative to the growth of the Brotherhood and the insurance benefits paid for deaths and disabilities since the year 1881 will be of interest:

Fiscal Year.	Number of Members	Grand and General Fund Dues Collected.	Insurance Paid.
1881.....	3,160	\$3,316 25	\$13,104 00
1882.....	5,195	7,452 75	23,937 00
1883.....	7,888	10,015 00	55,000 00
1884.....	12,246	14,753 00	77,085 00
1885.....	14,694	16,410 50	149,960 00
1886.....	16,196	17,904 50	227,900 00
1887.....	17,047	a6,566 00	225,166 00
1888.....	18,278	30,679 00	217,500 00
1889.....	17,087	31,857 00	280,150 00
1890.....	18,657	29,980 50	247,500 00
1891.....	22,460	36,587 50	359,000 00
1892.....	25,967	53,319 50	399,250 00
1893.....	28,681	60,080 00	476,750 00
1894.....	26,508	61,510 00	435,467 00
1895.....	21,408	46,710 00	333,816 50
1896.....	22,461	45,620 00	319,584 30
1897.....	24,251	49,148 00	313,924 00
1898.....	27,039	53,424 00	338,000 00
1899.....	30,748	60,718 00	424,900 00
1900.....	36,084	71,392 00	458,672 00
1901.....	39,072	80,166 00	558,150 00
1902.....	43,376	88,178 00	579,350 00
1903.....	48,568	99,528 00	616,600 00
1904.....	54,434	115,192 00	808,460 00
1905.....	55,287	179,154 50	810,250 00
1906.....	58,849	143,795 50	851,350 00
1907.....	62,916	159,924 00	947,100 00
1908.....	66,408	173,033 75	852,129 17
1909b.....	65,315	272,830 00	1,110,750 00
1910.....	73,469	206,969 00	913,141 24
1911.....	79,942	230,444 25	932,923 76
1912.....	85,292	246,807 20	970,971 23
1913.....	91,108	264,668 25	1,020,612 25
1914.....	86,802	267,604 25	963,800 75
1915.....	83,059	250,537 75	883,974 55

Total paid to disabled members and beneficiaries of deceased members during past thirty-five years, \$18,189,167.75.

GRAND MEDICAL EXAMINER.

- W. B. Watts, Lodge 240, Jackson, Mich., 1901-1906.
- W. B. Cory, Lodge 275, Chicago, Ill., 1907-1908.

GENERAL MEDICAL EXAMINER

- W. B. Cory, Lodge 275, Chicago, Ill., 1909-1916.

a The Grand Trustees in their report to the First Biennial Convention say: "The action of the Thirteenth Annual Convention in fixing the close of the fiscal year at July 31st, instead of August 31st, as heretofore, explains why the report covers a period of eleven months only. This action cuts out from the years business the Grand Dues which are received during the month of August. Only \$6,566 have been received on this account to July 31st, thus cutting down this year's receipts and the balance on hand August 1st very materially.

"During the year ending August 31, 1886, we received in Grand Dues \$17,904.50, while if we had the benefit of a full year the receipts for this account this year would amount to about \$22,000 instead of only \$6,566, as stated."

b Amounts shown for 1909 are for a period of 18 months, from July 1, 1908, to December 31, 1909. It will be noted that at the close of business on December 31, 1913, our membership was 91,108, the largest in the history of the organization.

Note.—Brother Charles A. Wilson was a member of Lodge 13 at the time he was elected to the position of Second Vice Grand Master. Brother Timothy Shea was also a member of that lodge when he was elected to the Second Vice Grand Mastership, but at the time of his (Brother Shea's) election to said position Brother Wilson was not a member of said lodge, as he had transferred his membership to Lodge 11 early in 1902. Brother Shea having been elected Second Vice Grand Master at the Eighth Biennial Convention held in Chattanooga during the month of September in that year.

* Brother Frank P. Sargent assumed the duties of Commissioner General of Immigration about the middle of the year 1902, to which position he was appointed by President Roosevelt. For the remainder of his unexpired term the duties of Grand Master were performed by Brother John J. Hannahan (First Vice Grand Master), who served during such period in the capacity of Acting Grand Master.

† Grand Master Hannahan assumed the duties of Acting Grand Master in addition to his duties as First Vice Grand Master about the middle of the year 1902. (See note above.)

‡ See notes * and †.

** At the close of the year 1903 Brother Frank W. Arnold resigned the position of Grand Secretary and Treasurer, and at a special meeting of the Grand Executive Board, called to fill the vacancy thus created, Brother William S. Carter (at that time Editor and Manager of the Locomotive Firemen's Magazine) was chosen as Grand Secretary and Treasurer for Brother Arnold's unexpired term.

†† See ** note above.

‡‡ Brother Wm. S. Carter resigned the position of Editor and Manager of the Locomotive Firemen's Magazine to assume the duties of Grand Secretary and Treasurer at the close of the year 1908, having been elected at a special session of the Grand Executive Board to fill Brother Frank W. Arnold's unexpired term.

*** At the special session of the Grand Executive Board held at the close of the year 1903 for the purpose of electing a Grand Secretary and Treasurer to fill the unexpired term of Brother Frank W. Arnold, Brother George Goding of Lodge 499 of Chicago, Ill., was elected to fill

the unexpired term of Brother Wm. S. Carter as Editor and Manager of the Locomotive Firemen's Magazine, Brother Carter having been chosen to fill the unexpired term of Brother Frank W. Arnold as Grand Secretary and Treasurer. Before entering upon the discharge of his duties as Editor and Manager, however, Brother Goding tendered his resignation, and at the second session of the Grand Executive Board, called to act on same and to fill the vacancy created thereby, Brother John F. McNamee of Lodge 445, Columbus, Ohio, was elected to fill the unexpired term. During the year 1914, Lodges 9 and 445 were consolidated under the name and number of Abraham Lincoln Lodge 9. Brother McNamee is, therefore, now a member of Lodge 9.

†††Brother Charles W. Maier resigned the position of Third Vice Grand Master the latter part of 1906 to engage in other business, and at a special meeting of the Grand Executive Board, called to fill the vacancy thus created, Brother Eugene A. Ball, Fourth Vice Grand Master, was advanced to the position of Third Vice Grand Master; Brother Andrew P. Kelly, Fifth Vice Grand Master, was advanced to the position of Fourth Vice Grand Master, and Brother Asa Dillon was elected Fifth Vice Grand Master.

†††See note ††† above.

††††See note ††† above.

†††††See note ††† above.

††††††See note ††† above.

NOTE.—Brother Charles A. Wilson was elected at the St. Paul (Twelfth Biennial) Convention to succeed himself as Assistant President and his new term would have begun January 1, 1911, but he died on October 24, 1910. Brother Timothy Shea, First Vice President, was advanced to the vacancy in the office of Assistant President occasioned by Brother Wilson's death, and the Second, Third, Fourth and Fifth Vice Presidents were advanced to the offices of First, Second, Third and Fourth Vice Presidents respectively. The vacancy thus created in the office of Fifth Vice President was filled by the appointment to that position of Brother C. V. McLaughlin, of Lodge 86, and a member of the Board of Directors. Soon after this Brother A. P. Kelly, Second Vice President, resigned, and Brothers Asa Dillon, Third Vice President; Albert Phillips, Fourth Vice President; and C. V. McLaughlin, Fifth Vice President, respectively, were advanced to the Second, Third and Fourth Vice Presidencies, and the vacancy again created in the office of Fifth Vice President was filled by the appointment to that position of Brother P. J. McNamara, of Lodge 12, at that time Chairman of the Board of Directors.



THE BROTHERHOOD A TRADE UNION

By W. S. CARTER, President

This Brotherhood may be compared to a state in a republic of railway unions, maintaining almost complete autonomy in its own affairs yet uniting with other railway brotherhoods in matters of mutual concern and in common defense. It is true that these railway brotherhoods carry the principle of home rule to great lengths and have acknowledged no common head, and by this have invited criticism from those who believe, or pretend to believe, that only in one "big" union can railway employes hope for improved working conditions.

Thus, we find a political problem as old as the human race racking the minds of working people today and as far from final solution as when craftsmen first erected the temple of King Solomon. We find in liberty-loving America a republican form of government in nearly all organizations of labor and these labor republics bitterly attacked from without and within by those who see no efficiency short of an absolute labor monarchy; one great union of forces subservient to one dictator, be that man noted for his wisdom or be he recognized a fool.

The efficiency of democracies has always been in question when the task is the conduct of war. Discipline in the ranks is almost unknown under true home rule. Expense of maintaining republican forms of government is always great because of the multiplicity of officials.

And yet, are we prepared to say that the more than half-a-hundred state legislatures and provincial parliaments of America are now to be closed in answer to the minority's demand that only one central law-making body shall exist? Shall we acknowledge home rule a failure? Shall we now save the salaries of an army of governors and other state officials and crown some man king? There are those, both in this organization and out of it, who will shout an affirmative answer to each of these questions, but the great mass of members who think, will say "No!"—and say it in a manner that no one can doubt its meaning.

While many locomotive firemen know but little of the past, there are those who realize that but for an organization of locomotive firemen, devoting its every energy to the uplift

of locomotive firemen during a period of thirty years, conditions now would be vastly different. Had there been but one "big" union of railway employes during these same thirty years in all probability the importance of locomotive firemen among their fellow workers would now rank with the apprentice or the laborer, subordinates socially and industrially, for, to paraphrase, "Workman's inhumanity to workman makes countless thousands mourn."

That in union there is strength no one will deny, but in any confederation of forces there must be an exchange of individual rights for this collective power. There is a point in the combining of working people in labor unions where the loss of individual rights is not compensated by the increased power of the masses of workers.

Those who know the history of labor realize that in the mind of each

and every man there is an exaggerated consideration for his own interests; a consideration not given by others, and only when he is content to ignore those things that most directly affect himself, will he prove a loyal supporter of one "big" union. In the workings of this Brotherhood there is no lack of examples where it is firmly believed that the interests of locomotive firemen have been neglected by others. When the time comes that locomotive firemen are willing for employes in all other classes of railway service to fix the wages and working conditions of locomotive firemen and approve their grievances, then, perhaps, locomotive firemen will abandon this Brotherhood and cast their lot with the million of other workers who do not even know, much less appreciate, the hardships that a locomotive fireman must endure. That time is not yet here.

ORGANIZING WORK IN RECENT YEARS

By TIMOTHY SHEA, Assistant President

In the early days of the Brotherhood the organizing of non-union firemen was done by Vice Grand Masters (now Vice Presidents), who devoted nearly all of their time to this work up until about the year 1902 or a little later, since which time their assistance was required by Joint Protective Boards, as a rule, in revising schedules and adjusting grievances, whereupon the organization of non-union firemen was left practically and almost entirely to the officers and members of our subordinate lodges.

In his report to the Twelfth Biennial Convention, held at St. Paul, Minn., in 1910, the International President called the attention of the delegates to the "unorganized conditions" on many railroads and recom-

mended the appointment of "Special Organizers." As a result of his recommendation the Organizing Department was created and provision was made for the appointment of not to exceed six Special Organizers when the occasion demanded. Prior to the St. Paul convention the President had assigned the Assistant President to this work; that is, in the latter part of 1909, but following the convention in 1910 the "organizing campaign" began in earnest, and from that time until the Washington convention in 1913 the membership steadily increased, this increase, I believe, being far beyond the expectations of the most optimistic. From January 1, 1910, to June 1, 1913, a period of three years and five months, 59,689 members were

initiated into the Brotherhood, the net increase for the same period being 24,230, which clearly demonstrates what may be accomplished where our subordinate lodges become thoroughly interested in the organizing movement, and with the assistance of "Special Organizers" on lines where there are many non-union firemen great good may be accomplished.

However, at the Twenty-sixth Convention, held in Washington, D. C., in June, 1913, it was deemed advisable to so change the law regarding the organizing of non-union firemen as to provide for an "elective" local organizer in subordinate lodges, and for each new member secured and obligated by these local organizers a fee of \$1.00 was to be paid to any such local organizer when the application for beneficiary certificate was forwarded to the General Secretary and Treasurer. This law became effective immediately upon its passage, June 19, 1913. A large number of lodges failed to elect a local organizer for the remainder of the year 1913, but when the annual election of subordinate lodge officers for 1914 was held, a local organizer was elected in practically every lodge, and no Special Organizers were assigned for the years 1914 and 1915.

The total number of initiations in all lodges during the years 1914 and 1915, and the total of such initiations credited to local organizers, was as follows: For the year 1914 there were 7,948 initiations, of which 3,066 were due to the work of local organizers, and for the year 1915 the number of initiations was 5,778, of which 1,701 were due to the work of local organizers. The comparatively small per cent of total initiations credited to local organizers is, no doubt, due in many cases to the fact that they are assigned to runs either as firemen or engineers, leaving early in the morning and returning late at night, and have very little time to devote to the organizing work. Besides, the fee of \$1.00 allowed by the Grand Lodge for each candidate secured does not, in many cases, justify them in laying off and losing time from their regular work, and therefore the suc-

cess hoped for from the work of local organizers has not been realized.

The organizing of non-union men depends largely for success upon the activity and the interest evinced by the members of the labor organization representing their craft. This is especially true of our own Brotherhood, as it requires constant agitation and continuous effort on the part of our members in explaining to the non-union fireman and hostler the benefits to be derived through membership therein, as well as the duty he owes to his loved ones, his fellow man and himself to secure such membership.

I am of the opinion that the most successful and effective system for the organization of non-union firemen was the one established for three years prior to the Twenty-sixth Convention, held in Washington, D. C., in 1913, as during that period there was a greater increase in membership than during any like period in the history of the organization. The great decrease in membership during the years 1914 and 1915 must not be understood as being due entirely, however, to the change in the law before referred to, but much of it may be charged to the decreased volume of business, larger locomotives and increased tonnage per train, but I feel confident that if this law had not been so changed, and that if the work of organizing had been continued in the same way as prior to the Washington convention, our loss in membership would not have been nearly so great and possibly we would have held our own or, at most, suffered a very slight decrease.

I firmly believe in the fundamental doctrine of "Unionism," and am an advocate of the "closed shop" principle. In other words, I believe that every laboring man who enjoys the benefits of the Union representing his trade ought to be a member of that Union. I believe that this Brotherhood ought to admit firemen to membership after they have established their seniority, or at least after a period of thirty days' service as a fireman. Were this permitted, I feel safe in saying that thousands of fire-

men would join the organization in the early period of their employment and would immediately begin the payment of assessments, which would have the result of reducing the amount of assessments levied by Joint Protective Boards and lightening the burden of those who are now carrying the entire load. Besides, we would in this way have many completely organized systems where now there is a large per cent of non-union firemen. The foregoing is offered merely as a suggestion on my part, and should it meet with favor by the delegates to our Twenty-seventh Convention it can, no doubt, be greatly improved upon.

OUR BROTHERHOOD'S PROGRESS

By ALBERT PHILLIPS, Vice President

When a boy one of my chief (though forbidden) pastimes was to linger around the freight sheds in a small junction town on a western railroad and listen intently to the brusque orders given to members of the crew on the "local," as they loaded or unloaded boxes, barrels and crates of merchandise, keeping up a running fire of pointed conversation meanwhile. The names of these heroes of youthful fancy are not now remembered—in fact they were known to me then only as "Stubby," "Smoky" and "Slim"—but I recall distinctly one remark which was made as they all sat around the station platform one sultry afternoon waiting for a passenger train and discussing the topics of the day.

The conductor, a dignified person for whom I had the greatest respect, seemed exceedingly anxious to get out of town, looking at his watch repeatedly at intervals of ten or fifteen seconds and complaining bitterly at the delay. However, after mumbling more to himself than anyone else, that "63 is now four minutes late and it looks like we'll have to stay here for 80," he appeared resigned to his fate and joined in the general talk saying, "I see the firemen have changed their tactics and will hereafter be a striking labor union." "Yes," answered the engineer, a grimy fellow who had doubtlessly served his full time at the scoop, "and they are the boys who

can demand their rights if they will just stick together."

In the history of our Brotherhood is chronicled the fact that in September, 1885, action was actually taken at the Philadelphia Convention discontinuing the policy of "ignoring" strikes which, as a means of self-preservation, had prevailed for six years, and declaring in favor of a "labor" organization in the proper sense of the term. It was probably at about this time that the conversation before related was overheard, and although but a boy it thrilled me and left indelibly impressed upon my memory two things. First, it must be a very great thing to belong to a labor union and, second, in order to demand their rights the members must stick together.

Every step taken by our organization since that memorable declaration of principles in 1885 has been unerringly in the direction of a labor union "in the proper sense of the term." It is true reverses have come, and our history records events that would have meant failure and destruction to any organization with less earnestness, less determination and less justice in its cause than had that valiant body of men who upheld the standards of our Brotherhood during the trying period from 1885 to 1897. Though severely tested, and though opinions of individuals differed widely at times, we emerged

from our trials more closely united and with the principles of unionism more firmly established than ever before, with the result that at the 1902 (Chattanooga) Convention the preamble of our constitution was changed to read "locomotive enginemen" instead of "locomotive firemen," thus clearly indicating the desire of the membership as expressed through the delegates to broaden our scope and co-operate in the fullest measure with our fellow workers in engine service.

At Milwaukee in 1906 the name of our Brotherhood was changed by adding to the words "Brotherhood of Locomotive Firemen" the words "and Enginemen," still further indicating a predominating tendency to affiliate with all men engaged in the different branches of the work of operating railroad locomotives, and in 1913 the Chicago Joint Agreement with the Brotherhood of Locomotive Engineers was effected, thereby establishing relations with the senior enginemen's organization through which we are enabled to work with them on a labor union basis. But we have gone even further, and as this is written the greatest movement ever attempted by American railroad workers is under way, viz., the movement to secure an eight-hour day with time and one-half for overtime for engineers, conductors, brakemen, switchmen, firemen and hostlers, on practically all of the railroads in the United States. What the result of this movement will be is, of course, unknown at this time, but it is self-evident that, as in similar movements in the past, the success attained will depend entirely upon the labor union spirit governing the men involved and their determination to "stick together."

As a guiding motto the words Protection, Charity, Sobriety and Industry, have been adopted by our Brotherhood, each word exemplifying commendable principles and containing a sermon within itself. As a practical working proposition, however, I have sometimes taken the liberty of using another combination of words which, to my mind, also represents the aims and objects of our order. The words

are Fraternity, Benevolence and Protection, and as a sustaining force in the creation, existence and growth of our organization, they increase in relative importance in the order given.

First, Fraternity, for the purpose of bringing the men together and elevating their social, moral and intellectual standing was absolutely essential.

Second, Benevolence, in the form of our insurance or Beneficiary Department was established making provision for the care of those, or the dependents of those, who are victims of the disasters which almost daily overtake us on the rail.

Third, Protection, beginning at first in a small way and under great handicaps, but gradually reaching a point where wage contracts and employment rules are made, without which neither of the first named features could be maintained. Therefore, it is clearly apparent that protective efficiency is of greater importance by far than are all other functions of the order.

In this general summing up of the developments in the evolution of our Brotherhood as shown by its authentic history, the writer has not overlooked the fact that there is annually distributed approximately a million dollars to the widows and orphans of deceased members, or to the members themselves, when totally disabled; that we maintain our own Magazine, an independent, fearless labor publication second to none of its kind, and an authority on technical railroad questions of mechanics and operation; that the Ladies' Society, an auxiliary to our order, has grown up, having its own insurance and officered by the ladies themselves, of whom we are pardonably proud. But I must repeat that, in my humble judgment, all of these accomplishments, great as they are, do not compare with the work we have done and are still doing in the world of labor.

It is therefore my hope—it is more than a hope, it is a sincere belief—that our Brotherhood shall continue to follow the principles enunciated in 1885 and be a "labor" organization in

the proper sense of the term"; and aims and purposes may be brought that through subordinate lodge and before the public and our cause made union meetings and through our Mag- known to the world, thus hastening azine every effort will be put forth to the recognition which must eventually cultivate friendly relations with kin- be accorded to the claims of Labor, dred organizations to the end that our because they are everlastingly right.

THE BROTHERHOOD IN CANADA

By GEORGE K. WARK, Vice President

Believing that those who may peruse the pages of the Convention Souvenir Book, and who are interested in the welfare of our Brotherhood in all communities under its jurisdiction, will expect to find something as to conditions in Canada, I will attempt to give a brief statement of matters relating thereto in the Dominion which have come under my observation.

Since the time of the Washington Convention (1913) the organization has suffered severely in Canada due to the widespread depression which prevailed throughout the country generally.

On many divisions of the several railroads, especially in the western portion of the country, on account of schedule provisions which gave to engineers the right to go back firing in case of reduction of force, demotions were made to an extent that placed two engineers on practically every engine and left very few actual firemen in the service, even on the extra board.

However, times have improved to some extent and many firemen have again secured positions, but conditions are not nearly back to those of 1912 and 1913.

Due to this depression, followed by the European war which has seriously interfered with business of every description, railroad building, which previous to this time was being carried on to a large extent, has been practically abandoned. This has thrown many men out of employment and has increased the number of those seeking road positions.

During the summer of 1915 the line of railway between Moncton, New Brunswick, and Winnipeg, Manitoba, a distance of approximately 1,800 miles, was completed.

A portion of this line, that between Winnipeg, Manitoba, and Fort William, Ontario, a distance of 450 miles, was completed some time ago and has been operated by the Grand Trunk Pacific Railway. The entire line was intended to be a part of the Grand Trunk Pacific System, a portion of it being built by the Dominion Government, but when completed was taken over by the government and is now being operated as a portion of the Canadian Government Railway from Winnipeg to Moncton. Through passenger trains are not yet run over the line between Moncton, N. B., and Cochrane, Ontario, due to the fact that the bridge has not been completed across the St. Lawrence River at Quebec.

Freight traffic is now being handled across the river at this point by ferry, but through passengers are taken via the Intercolonial Railway (now known as the Canadian Government Railway) from Halifax, N. S., to Montreal, Quebec; Grand Trunk Railway via Toronto to North Bay, Ontario, and Temiskaming & Northern Ontario Railway, the latter being a provincial government road, to Cochrane, Ontario, where connections are again made with the Canadian Government Railway through to Winnipeg and west from there via the Grand Trunk Pacific Railway.

The bridge referred to at Quebec is an immense structure and has been

under construction for several years. When it was well along toward completion a few years ago, in an attempt to put in one of the longest spans in existence it gave way and the entire structure plunged into the river, carrying some eighty-five men down to death, crushed in the twisted iron or drowned in the waters of the St. Lawrence. The bridge is being rebuilt and is now again nearing completion.

The opening of this line will provide an opportunity to increase the number of lodges and the membership in Canada. Already three lodges—one a joint lodge—have been organized, viz: No. 308 at Sioux Lookout, Ontario; No. 587 at Cochrane, Ontario, and No. 813 at Transcona, Manitoba. It is hoped another can be organized at Bridge, Quebec, at an early date, an application for a charter now being filed, and that when the business of the road becomes established several others can be instituted at other points along the line.

Another phase of the war having a serious effect on the organization in Canada is the large number of our members who have responded to the country's call to arms to assist in the defense of the empire. I am told that in some localities fully 40 per cent of our members have enlisted. In all parts of the country many of our members have joined the colors and large numbers of them are now across the sea in actual service. Already some have fallen on the battlefield, others are prisoners of war and still others are missing whose fate has not been explained. In many of these cases the members of the lodges to which they belong are carrying them for their assessments. This is done not alone in the interest of their families but because it is desired to have them as members in case of their return, the railway companies having guaranteed them their positions should they come back in condition to again take up railway work.

There is a question in connection with the work of the Brotherhood in Canada which is of grave concern and which is receiving much attention at the present time.

Under the existing laws of the Dominion the members in Canada are placed under a handicap when they attempt to participate in a concerted movement having for its object the betterment of wages and other working conditions, being required to apply for a Government Board of Investigation before which they must present their case and wait for a report on the findings of the board before any action can be taken to enforce their requests. This, of course, means a great deal of delay and the brothers in the United States cannot be blamed for objecting to such delay at a time when possibly prompt action is the thing most desired and essential to success. It is the desire of the members in Canada to participate in movements of this character and to do their part to assist in the cause for the improvement of conditions of the men in engine service, and it is hoped that some plan can be thought out which will permit them to do so without injury to the interests of those who are not under such restrictions.

In Canada, as in the United States, there are widely different opinions as to the merits of the Chicago Joint Agreement between the Brotherhood of Locomotive Engineers and the Brotherhood of Locomotive Firemen and Enginemen, some regarding it as a good thing, others as being defective, depending on the views held and the disposition of those who express themselves. However, regardless of the varied views expressed by certain individuals, I believe a large majority of our members in Canada look with favor on the agreement and are doing what they can to promote harmony among the men in engine service. From what I have been able to learn I believe the officers of railway companies in Canada will readily consent to the arranging of joint schedules for engineers and firemen when an opportune time arrives.

Many advantages of importance to men in engine service have been secured in Canada through legislation in the past few years, although the attention of the government has of

late been taken up almost entirely by our members in Canada, as well as by matters pertaining to the war. It is hoped that the delegates to the convention will look with favor on a joint working plan for Dominion legislation which will be introduced, and which if indorsed by our convention and by the conventions of other organizations concerned, a united and harmonious effort will be made in the interest of every class of railway men for improved working conditions. In so far as the B. of L. F. and E. is concerned at the present time, matters of legislation are carefully and thoroughly taken care of by our Legislative Representative, Bro. William L. Best, and his reports in that connection are a fund of information to all who read them.

I feel that I would be remiss in my duty, and would be failing to take advantage of an opportunity, if I neglected to mention the Magazine and the high esteem in which it is

held by our members in Canada, as well as by others who are privileged to peruse its columns. Officers of railway companies in Canada have been heard to recommend it to firemen and others seeking information on matters pertaining to the locomotive. I heard an officer say to a fireman that he need not fear any kind of an examination if he would but study his Magazine. I believe I express the sentiment of every Canadian member when I say the Magazine has become not only a source of pleasure but a necessity as well.

I regret that the time at my disposal will not permit me to go more fully into these questions and to deal with others of equal importance.

I trust the delegates to our Twenty-seventh Convention will use every honorable and available means to make this the most harmonious and profitable convention in the history of the organization.



THE FINANCES OF THE BROTHERHOOD—PAST AND PRESENT

By A. H. HAWLEY, General Secretary and Treasurer

The history of the finances of our Brotherhood is a subject that should interest all members, yet there are many who have no idea of the varied experiences that have come to those who have had charge of the financial affairs of the organization. For myself, I can say that during my term as General Secretary and Treasurer I have never had occasion for any misgivings as to our financial safety, for there was turned over to me a substantial balance in all funds. For my predecessors I cannot say as much. All of them have been confronted with conditions that have made it a matter of serious conjecture as to where the money was coming from to meet obligations already accumulated.

A statement of balances in all funds combined at close of fiscal years as shown by Officers' Reports to Conventions may be somewhat interesting. At this time it will not be out of place to say that the reports to the First Convention held in 1874 show there was no report of finances as there had been no books, although it would seem there had been some little money collected as new lodges had been organized. The reports do not show any balance at the close of business for the year 1875. In fact, when an expert accountant went over the books and accounts from December, 1873, to July 1, 1892, he was unable to arrive at any substantial statement until September, 1881.

Starting with the fiscal year 1881, I give below the amount as shown on hand at the close of each fiscal year:

1881, September.....	\$ 1,170.39
1882, September.....	10,848.53
1883, September.....	19,306.75
1884, September.....	17,743.95
1885, September.....	25,662.44
1886, September.....	46,416.50
1887, August.....	32,250.01
1888, August.....	36,425.91
1889, August.....	41,798.41
1890, August.....	62,927.96
1891, August.....	62,781.73
1892, August.....	51,583.64
1893, August.....	56,557.80
1894, August.....	77,279.21
1895, July.....	14,225.04
1896, July.....	12,406.47
1897, July.....	31,033.20
1898, July.....	60,480.90
1899, July.....	43,006.16
1900, July.....	89,515.02
1901, July.....	157,802.11
1902, July.....	184,068.49
1903, July.....	282,963.31
1904, July.....	336,251.07
1905, July.....	414,953.25
1906, July.....	514,430.24
1907, July.....	473,828.32
1908, July.....	739,568.68
1909, January.....	786,242.81
1910, January.....	1,224,416.84
1911, January.....	1,333,353.89
1912, January.....	2,044,224.84
1913, January.....	2,711,446.89
1914, January.....	3,152,761.62
1915, January.....	3,828,698.48
1916, January.....	4,685,938.67

The foregoing table shows how the balances have fluctuated and what my predecessors have had to contend with. It should be understood that while, at certain periods, we show a large balance on hand, we had at the same time, many liabilities. Take, for instance, July 1, 1904, when we show a balance of over \$300,000.00. Only a little over \$12,000.00 of this was Beneficiary Fund and at that time we had liabilities of over \$275,000.00.

It must also be taken into consideration that since 1904 the General and Protective Funds have fluctuated on account of heavy expense of Conventions and Concerted Wage Movements.

However, the fund that concerns us most is the Beneficiary. While the Protective Fund is a most important

factor in the organization, the Beneficiary Fund is the one that seems to be given the greatest consideration, for from this fund is paid that which, to a certain extent, relieves the sufferings of our disabled brothers, and brings aid and comfort to the homes of departed members. When I say "comfort," I am not unmindful of the fact that money does not replace the departed one, but the grief of those left behind is partly assuaged by the thought that during his life time he provided for their sustenance, should he be suddenly taken away from them.

We are informed, and I believe rightly so, that the Brotherhood of Locomotive Firemen and Enginemen, as an organization, was the result of the death of one George Page and the straitened circumstances in which he left his family. He was killed in a boiler explosion on the Erie Railroad at Port Jervis, N. Y., in 1873

While the proceedings of early Conventions are very incomplete, yet we find mention of insurance in the proceedings of the First Convention, in which appears the following:

"Motion made and seconded, that the Firemen's Life Insurance which Brother *Sayre produced be adopted as read. Carried unanimously."

Just following this, we find another motion:

"Motion made and seconded, that the election of Life Insurance Officers take place."

Brother P. B. Posten of Lodge 7 was elected President. Brother H. W. Plummer of Lodge 2 was elected Vice President, and Brother W. N. Sayre of Lodge 5 was elected Secretary and Treasurer.

We find from the proceedings of the convention in September, 1875, there were but forty-eight members in the Insurance Department; thirty-seven carrying a death benefit and eleven carrying a disability. At that time efforts were put forth to have some member of each lodge act as agent to solicit membership. The by-laws enacted at this convention provided for the levying of an assessment of \$1.00 per member to create a sinking fund

* Brother Sayre was Grand Secretary and Treasurer from December, 1874 to July, 1880

out of which to pay all death and disability claims. It also provided for an assessment to create an expense fund; the laws providing that an assessment of \$1.00 per member be collected for each death and paid to the beneficiary. This feature of the Insurance Department continued until the convention held in September, 1877, when the records show that the plan was changed to provide that there would be an assessment of fifty cents per member per month; twenty-five cents of which was to be forwarded to the Grand Lodge, whenever notice was received of the death of a member. In other words, in case of the death of a member, the beneficiary would receive twenty-five cents from every member in the organization. It seems that this law applied to all members of the organization and we can only judge that all members of the organization were placed in the Insurance Department and that the old organization known as "The Firemen's Life Insurance" went out of existence. There was much debate had along insurance lines with the result that it was felt compulsory insurance must be maintained among all members. While, as indicated above, the records are somewhat incomplete and there is no record to show to whom claims were paid, yet it is very evident that those who were looking after the interests of the organization at that time felt it was necessary to insist that all members participate in the Beneficiary Department.

Taking the copies of the Constitution, as adopted in 1875 and 1876, we find the by-laws of the Insurance Association, but the one adopted in 1877 eliminated this association, or, in other words, the laws governing the association and provision for the payment of death benefits, as indicated above, were eliminated.

In the report of receipts and expenditures as submitted to the convention held in September, 1878, we find that five claims had been paid on account of the death of the following members:

George Bartol, Lodge 60.....	\$397.75
M. Merrick, Lodge 63.....	387.50
T. S. Wildman, Lodge 46.....	367.50
John Flemming, Lodge 61.....	350.75
Fred Kenning, Lodge 63.....	340.00

There was on deposit in the Grand Lodge funds \$200.75 which had been collected on account of the death of Wesley Hukill of Lodge 23.

The reason for the discrepancy in amounts is due to the fact that some lodges failed to make remittance. The proceedings of the convention show some lodges having failed to remit as they should have done, and being what was called at that time, in "Bad Standing."

While copies of the assessment notices are on file in the Grand Lodge office, there are no other records in connection with the above six claims.

The first record we have of a death claim in which all of the papers are complete, is that of Emmett Pope of Lodge 55, Memphis, Tenn. This is claim No. 7, and the papers show he died of yellow fever.

It may be interesting to know that although Brother Pope died September 6, 1878, no money was paid on the claim until December 31st, and then only \$221.50, which was part payment. Another payment of \$58.75 was made January 25, 1879; \$41.00 February 19th; \$10.00 March 7th, and \$8.25 on July 9th, or a total of \$339.50.

The payment of claims in this manner was continued until January 1, 1882, when all certificates were increased to \$1,000. The last claim paid under the twenty-five cents per member plan was claim No. 57, account of the death of Toney Long, a member of Lodge 95, the amount of this claim being \$750.00, which was paid March 1, 1882.

Under the law of assessments, for the \$1000 certificates, lodges were to pay fifty cents for each member on their rolls at time assessment was due. The Grand Secretary and Treasurer was not permitted to levy to exceed three assessments per month, and it also provided that all in excess of \$1,000.00 collected on any one assessment should be held until the

amount reached \$1,000.00, the Grand Secretary and Treasurer being authorized to then pay a claim without levying an assessment.

One-thousand-dollar certificates were issued until January 1, 1885, when all were increased to \$1,500 and the assessment was raised to \$1.00 per member. On January 1, 1895, the \$500 and \$1,000 certificates were issued, as well as the \$1,500 certificate, no member being permitted to take more than one certificate. On January 1, 1903, the \$2,000 and \$3,000 certificates were added and on January 1, 1914, the \$2,500 certificate was added.

Such is a synopsis of the creating and maintaining of the Beneficiary Department. To show the details would hardly be interesting, and yet reading the proceedings of conventions on this subject gives one much to think of. Those who worked during the early period of the organiza-

tion to build up this department met with many obstacles and to them all should be grateful for laying the foundation. Leaving aside all that was paid out and the vast amount of good that was done during the order's early history when a struggle was necessary to keep things going, we now find standing on that foundation an organization of over 85,000 members, with over \$110,000,000.00 of certificates in force, and a balance to the credit of the department of nearly \$4,000,000.00. From 1881 to 1916 there has been paid 10,032 death and 2,583 disability claims,, amounting to over \$18,000,000.00. In addition to this there has been paid in benevolent donations over \$650,000.00. During the past two years nearly \$20,000.00 has been paid in funeral benefit claims and nearly \$50,000.00 to members afflicted with consumption, said amount being paid at the rate of \$50.00 per month.

THE PROTECTIVE DEPARTMENT—MUCH NEEDED REFORMS

By S. A. BOONE, Chairman Board of Directors

No part of this great organization of ours has been doctored more with so-called "constructive" legislation, enacted at the twenty-six preceding conventions, than has the Protective Department and, perhaps, no part has benefited less than has this same department. This is not necessarily a criticism of the legislation so much as it is a commentary on the evolution through which the transportation problem has passed during this same period of time.

Many sincere members of our organization are beginning to wonder if Joint Protective Boards, as at present constituted and operated, have not reached, or even passed, the limit of their usefulness. In fact, theories for the adjustment of grievances along entirely different lines are even now being advocated and it would not

be surprising if some radical changes were made during the next few years in this department of our Brotherhood.

But a few years ago it was not uncommon for Joint Boards to meet, transact the business on hand, elect officers and adjourn within ten days or two weeks. Now it is not unusual for Joint Boards to remain in session for weeks and even months at a time, at enormous expense to the membership.

It is not the purpose of the writer to enter into odious comparisons as to results obtained in the past and at present, for the reason that such comparisons, unless entered into in great detail, might be most unfair. Furthermore, while comparisons might be easily made which would be most unfavorable to present methods, they

would not necessarily prove that the difference in the expense incurred and results obtained was altogether due to loss of efficiency. Changed conditions in the operation of railroads and changed methods of handling labor may be largely responsible for both the increase in length and cost of Joint Board meetings. It is, therefore, not a question of comparisons for the sake of showing up a condition with which we are all reasonably familiar but, rather, a question as to how best to meet a changed condition which is placing needless, numerous and burdensome assessments upon our members without, in many instances, adequate returns.

Several years ago, on large systems where much business was to be transacted, it was not unusual for Joint Boards to meet, pass upon their grievances, elect officers and adjourn, leaving the unfinished business in the hands of a subcommittee, with the understanding that if certain of the more important matters could not be satisfactorily adjusted, the entire Board should be reconvened. This method greatly reduced the expense of meetings and generally speaking, adjustments effected were so satisfactory that it was seldom necessary to reconvene the Board. That there are certain objections to this method of transacting the business of Joint Boards is conceded by its advocates but its opponents should be willing to admit with equal frankness that the principal objection to this method has been worked overtime to the extent that it is most difficult, if not impossible, to bring about reductions in Joint Boards during the adjustment of grievances. The objection referred to is indirectly the old cry of "Taxation without Representation" which, in this particular case, is presented in the form of argument against handling any case before the general officials without having the local chairman present from the lodge in which the grievance originated. While there are other arguments, of a minor character, which might be offered, the above is the one which has been most often used to defeat the subcommittee plan. There

may be some merit in this argument but it would seem that if a member can present his case to the lodge in such manner as to permit the local chairman to handle it intelligently before the local officials, the local chairman should, with his superior knowledge and experience in such matters, be able to put that same grievance in such shape that the Joint Board or the General Chairman could understand and handle it before the general officials without the assistance of the local chairman. On many roads General Chairmen handle cases of the utmost importance to the membership without calling upon the local chairman and if that can be done between sessions of the Joint Board, why is it not logical to do it with a sub-committee during Joint Board sessions? Generally speaking when grievances are discussed with general officials it is exceptional that local chairmen are called upon to take any part in the debate, in fact, it is customary for Joint Boards, just previous to going into conference with general officials, to pass a resolution to the effect that no one shall take part in the debate unless called upon by the General Chairman.

It is true that a sub-committee is sometimes handicapped by lack of knowledge of the physical characteristics of the road at some certain point or as to the proper application of some local rule or agreement but information on this or on any other subject could readily be secured by wire at less than one-fiftieth the cost of retaining a local chairman on the Board for two or three months, in order that he be present in event of some such complication.

It seems like criminal wastefulness to retain a local chairman in a Joint Protective Board session for two or three months at a time, at an expense ranging from \$7.00 to \$9.00 per day, in order that he may be present in the general office during the few hours required to dispose of the cases in which he is directly interested. In most instances the same results could be obtained, at a saving of from \$300 to \$1000, by sending him home and, if necessary, wiring him for any infor-

mation which might be lacking. Experience has shown that where cases have been properly written up by the lodge, as they are supposed to be, little or no additional information is required. Indifference on the part of those whose duty it is to prepare cases submitted to Joint Boards is largely responsible for any lack of information that is essential to satisfactory adjustment of them.

Instances may occur where a question of fact arises and where it is deemed advisable and necessary that the interested local chairman be present, in which event a wire is all that is required to bring him in. If this were done the expense of Joint Board meetings would be insignificant in comparison with the expense incurred under present methods. It is not necessary, as claimed by some, to sacrifice efficiency for economy, on the contrary it is the opinion of some of our most conservative and experienced Board members that a subcommittee of five members, on a system having from 10 to 25 or more chairmen, will accomplish better results than the entire Board and do it in considerably less time.

The cost of maintaining Joint Boards on some roads has grown to such alarming proportions that, if we are to retain our membership, one of two things must soon be done, either change the system, as is being advocated in a sister organization, or delegate the conduct of negotiations to a subcommittee and send the remainder of the Board home. If Joint Boards are unwilling to accede to

reasonable requirements, unless a better system be found, legislation making subcommittees compulsory should be enacted.

While the foregoing arguments have been directed to savings which might be effected in the adjustment of grievances, there are no good reasons why similar savings could not also be effected during schedule negotiations. Legislation seeking to correct the evils of one and not the other will have failed in the full accomplishment of its purpose.

If, as claimed by some, it is a fact that certain railroad officials have shown a disposition to make the cost of adjusting grievances so burdensome as to drive our members away, then it is our duty to so arrange our system as to reduce such cost to the lowest possible minimum consistent with efficiency.

Continuation of numerous and unnecessary assessments means loss of membership, loss of membership means loss of power and loss of power means ultimate loss of efficiency.

In the opinion of the writer the time has come when it is necessary for this organization to take some action which will bring about a more economical method of handling the business of Joint Boards. In the judgment of the Convention if it seems impracticable to enact legislation which will make reductions of Joint Boards compulsory, then the entire system should be changed to meet existing conditions, be they such as are brought about by our own actions or by those of others.

THE BROTHERHOOD IN THE SOUTH—THE NEGRO FIREMAN PROBLEM

By C. J. GOFF, Member Board of Directors

Within a short time after the districts, the General Chairmen on Eleventh Biennial Convention of our railroads in the territory east of the Brotherhood, held in Columbus, Ohio, Mississippi and south of the Ohio and in September, 1908, which enacted Potomac Rivers met in the city of laws dividing the continent into three Atlanta, Georgia, and organized the

Southern Federated Board, and while no concerted movement for improvement in wages and conditions of employment has been conducted in the South, as has been the case in the East and West, regular meetings have been held since the organization of the board. At these meetings General Chairmen have had the advantage to be gained by the exchange of ideas and discussion of important subjects, receiving information of great value to them in protecting the interests of members of the organization on individual roads.

Because of the peculiar conditions prevailing in the South owing to the employment of negro firemen on several railroads, it has been next to impossible to "standardize" the rates of pay and rules governing employment through concerted action as has been done in other sections of the country, and for the same reasons Joint Protective Boards have found it extremely difficult to accomplish proper results through efforts on individual railroads, but it should be said to the credit of those Joint Protective Boards that members employed on Southern railroads, where agreements exist between the railroad companies and locomotive firemen, are enjoying wages and rules of employment that compare favorably with those in effect on roads in other sections of the country. These conditions exist only on those Southern railroads where white firemen are employed exclusively, and on those where the number of white firemen in the service is sufficient to make it possible to maintain an efficient organization, the latter condition having been accomplished in many instances through efforts of Joint Protective Boards in securing schedules providing that a certain percentage (ranging usually from 50 to 100 per cent, and in no case less than 50 per cent) of white firemen shall be maintained in all classes of service.

Several railroads in the extreme southeastern section of the United States employ negro firemen almost exclusively, maintaining only a small percentage of white men, and our members employed on these railroads are confronted with conditions not to

be found in any other section of the country, and which cannot be properly and fully appreciated except by those who have had opportunity to observe and study such conditions as they actually exist.

In some places wages of locomotive firemen are based upon a certain percentage of the rates paid engineers for various classes of service, such wages being entirely too low, in my opinion, to provide necessary living expenses. Employment conditions are such that firemen are not permitted to exercise seniority rights in selecting runs, but must accept whatever assignment may be offered them; these firemen are required to clean engines, scour brass, place tools and supplies on engine, and in fact, perform any service that may be required of them by subordinate officials of the companies by whom employed. The conditions under which locomotive firemen are employed on some of these railroads must be similar to those existing when the delegates to the Twelfth Annual Convention of the Brotherhood of Locomotive Firemen, held in the City of Philadelphia, Pa., in 1885, adopted a policy which resulted in the order becoming a "Labor Organization" in the proper sense of that term.

The employment of negroes as locomotive firemen on Southern railroads to the extent existing at the present time dates back to the strike of the American Railway Union in 1893-1894, when many railroad employes left the service of the companies by whom employed. Those who favor the employment of negroes as firemen give as a reason that white men cannot endure in the Southern climate the laborious work locomotive firemen are required to perform; and many such persons claim that white men cannot be obtained for service on Southern railroads.

No man who has knowledge of the qualifications of white men, as compared with negroes, would believe for a moment that there is any reason for the claims made in favor of the latter for locomotive firemen in the South. As a matter of fact it is common knowledge among all railroad

employees, and all others who understand the conditions, that white men can, and do, perform service as firemen upon locomotives in any climate, in any season and under any conditions in a manner far superior to that of negroes, and there is no justification for the claim that white men cannot be obtained for such employment. White firemen on Southern railroads have proven beyond the shadow of a doubt that their services under any and all conditions are superior in every way to the services of negroes.

Some of the reasons, some of the real reasons, for the employment of negroes for service as locomotive firemen upon railroads in the South are:

First—The rates of pay for negro firemen, almost without exception, are from 10 to 20 per cent lower than the rates for white firemen on the same railroads, or other roads in the same territory.

Second—By the employment of negro firemen no organization can be maintained, or if one is maintained at all, its strength can be materially lessened by having a large number of men in service who are not eligible for membership in such organization.

Third—Regardless of schedule provisions negro firemen can be, and are, required to perform service which locomotive firemen should not, and where protected by an effective organization, would not be required to perform.

Fourth—In case of accidental death or serious injury to negro firemen while in the performance of their duties, settlement for damages either by compromise or through court procedure can be obtained by railroad companies for a much smaller amount than would be required in the case of white men.

In support of the argument that white men can, and do, give better service as locomotive firemen than that obtained from negroes is the fact that the former can make a trip with the same engine, the same train, and over the same portion of the road with from 25 to 50 per cent less coal than would be required for a negro fireman on the same run and under the same conditions. The argument that white men give far better and more efficient service is admitted by the rules of railroad com-

panies which require firemen to undergo rigid examination before they are employed as firemen; require them to have a thorough understanding of the book of rules, time cards, bulletins placed upon bulletin boards, etc., require them to carry standard watches and be responsible for the accuracy of their time; require them to be jointly responsible with engineers for the observance of train rules, train orders and other matters concerning the safety of the train; and in fact, aside from the actual operation of the locomotive or train, place almost as much responsibility upon firemen as upon engineers and conductors. Such requirements of the rules apply to white firemen and at the same time, although the rules appear in the rule books, negro firemen are not held responsible for proper observance of them.

Operating officials of Southern railroads have come to realize that the arguments advanced in favor of white men for locomotive firemen are correct, and many of them can be found who would be glad to see the time arrive when none but honest, honorable and intelligent white men would be employed as locomotive firemen, realizing that the latter condition would greatly add to the safety and more efficient operation of trains upon modern railroads.

In years past it has been said that a great number of locomotive engineers on Southern railroads were favorable to the employment of negro firemen and opposed to the employment of white men in that service, but today many of those engineers realize that the great number of hours spent daily in the space so small as the cab of a locomotive should be spent in the company of a fellow employe who is socially, morally and intellectually the equal of the engineer, and it is the belief of even the most pessimistic employes in railroad transportation service that the time is not far distant when this condition will exist on every railroad on the North American Continent, with the possible exception of Mexico.

At no time in the history of the

Brotherhood in the South have the conditions surrounding its members been as good and the outlook for future prosperity as bright as at the present time, and when we consider the loyalty of our members to the organization and the spirit of co-operation existing between the four railroad brotherhoods, it is only reasonable to anticipate that within the very near future our members employed on Southern railroads will obtain those conditions of employment to which they are justly entitled.

TIME OPPORTUNE FOR ADVANCEMENT~CONDITIONS ON THE PACIFIC COAST

By O. W. KARN, Member Board of Directors

All lines terminating on the Pacific Coast have for the past year and are to date enjoying the greatest era of prosperity in their history. Officials admit that, despite the car shortage of recent months which has forced the storing in warehouses and other available buildings of vast tonnage, destined by boat to foreign ports, freight has been moved to the limit of the power and tracks. No poverty cry emanating from this section of the country can consistently be given consideration. The employes on these railways have, naturally, shared this prosperity with the result that on our line, the Southern Pacific, our membership has increased more than two hundred, and we are awaiting the action of the delegates at Denver, hoping for the enactment into law of Assistant President Shea's recommendation that we define eligibility for membership upon qualification for the position of fireman to bring us as many more.

Our members here are looking forward in their own interests. They have three vitally important subjects constantly before them:

First—A closed shop.

Second—An indemnity for injuries or death while following their employment, secured for them through the medium of an association especially qualified for making immediate investigations of accidents, their causes, fixing the responsibility therefor, negotiating the settlements and turning over to the injured member or his heirs one hundred per cent collected.

Notwithstanding State liability laws, the representatives of the companies usually employ means to make the cost of negotiations so great that few attempt to collect. This service can be secured in reliable companies at a reasonable cost if adopted by the organization.

Third—Reimbursement for time lost during sickness or injury.

The second and third could be combined at nominal cost—less than one-third of the cost of the usual accident policies perhaps, and, as our members are protected by our regular policy for loss of limb, eye, etc., with these additional features we would have a combination policy without an equal and at a cost well within the reach of all.

While the enginemen on the Southern Pacific have been working on an eight-hour basis for road men for over thirteen years, much interest is manifested in the eight-hour movement, as it will give them the desired relief in switching, helper and work train service. There is a demand on the other coast lines for this shorter workday that will not down, and if the members of the four organizations throughout the country manifest the same degree of interest that is evinced by all employes that have to do with the movement of trains in this section we should and will win, hands down.

The opportunities in sight for our organization in this section are unlimited, and no doubt the same condition exists throughout our jurisdiction. It

seems that the time is opportune for advancement and Denver the place to make the forward move.

If we are to be a real labor organization, let us conduct our affairs as such and put our wares on the market as other labor organizations do, viz: close the door to all men who are not members of the B. of L. F. and E. first, then grasp and retain our hold on the opportunities that are ours for the taking and not

allow them to slip through our fingers one at a time until we have reached the depths of peonism that would require generations and perhaps centuries to overcome.

As members of a trained, competent and responsible class of employes, we are entitled to the respect and consideration of our employers and the public. We will receive it if we are courageous enough to demand it. Why not begin right at Denver?



THE MAGAZINE

Organized labor cannot successfully conduct a campaign for the economic emancipation of the working class unless aided in that effort by a progressive labor press. No organization worthy of the name is complete without an official publication—no movement can be a success unless supported by a publication or publications devoted to the attainment of the purpose or purposes of such movement. In fact no factor is more essential to the success of an organization, particularly an organization with a widely scattered membership—more requisite in establishing unity of purpose and unanimity of sentiment than a live and up to date official organ.

An official publication not only constitutes the most economical and at the same time most effective instrumentality for the dissemination of important information, official and otherwise, amongst the members of the organization or movement it represents, but is also a specially efficacious agency for advancing its principles and promoting its aims.

Thus our members, whether residing on the American continent or elsewhere throughout the world, are kept informed through our Magazine each month regarding the work of our Brotherhood. Not only do they receive the official, technical and industrial information it contains, but as well the views and ideas of fellow

members far and near on questions of importance that affect them, not only in their capacity as locomotive firemen and enginemen, but as citizens as well.

The public press is for the most part antagonistic to organized labor. With but few exceptions the daily papers, the magazines and other periodicals, are owned or controlled directly or indirectly by great corporate interests—by the powers of wealth and privilege—and consequently it behooves the working class to not only maintain, but to develop to its highest standard of efficiency the labor press. Particularly at this stage of the struggle between Capital and Labor—between greed and usefulness, high standard official publications absolutely untrammelled by any ulterior influence, true to the principles of a free press and free to fearlessly defend and advance the workers' interests, are essential to the success of labor organizations. A labor publication that is not characterized by a spirit of progress—by a fearless determination to emancipate workers generally from industrial oppression and economic and social injustice represents but a waste of the labor and material used in its production. Such publications only as are disinterestedly devoted to the well being of the working class are entitled to be recognized as a part of the labor press.

To be effective as a factor in the present economic struggle, a labor publication must be uncompromising—absolutely loyal to the cause of the workers and fearless and honest. It should defend, uphold and propagate principles of economic justice and industrial freedom. It should aim at all times to promote mutual good will, harmony and co-operation between all legitimate organizations of labor. It should unstintedly support the workers in their struggles for justice and should ever strive for working class solidarity, seeking always to impress upon wage earners that their interests are identical and that their emancipation, industrial, economic and social, depends on their own unity of effort and their unwavering adherence to the principles of labor unionism. Such a standard has it been the constant aim of our Magazine to maintain.

The first number of the Locomotive Firemen's Magazine was published under date of December, 1876. From then to the present time the Magazine has had the confidence and good will of the entire membership of our Brotherhood. That the Magazine has secured for itself in the commercial world a desirable recognition is evidenced by the extent to which representatives of business firms seeking the patronage of our members have for years patronized its advertising columns—an investment which has proven not only profitable to the advertisers but beneficial to our members, who have thus been placed in possession of information to aid them in making advantageous purchases.

In the printed proceedings of the Third Annual Convention held at St. Louis, Mo., September, 1876, is to be found the first mention of which there is any record regarding an official publication for the Brotherhood of Locomotive Firemen. The same is as follows:

"Important discussion relative to the adoption of the proposed Brotherhood of Locomotive Firemen's Journal, by I. J. Bennett, into our Order, going to show the advantages of the same, by our Grand Secretary and Treasurer, W. N. Sayre, and the great harm that might befall our Order if we did not

all subscribe to it, as it would injure us if it was allowed to run down. General debate as to the necessity of an advertising medium for our lodge by the Grand Body generally.

"Moved and seconded that the communication of Mr. Bennett be received and placed on file, and it be left to subordinate lodges whether we adopt the Journal produced at this convention, and report to Grand Secretary W. N. Sayre, amount of subscribers, with money, by the 20th of October, 1876, in order that he can notify the editor; that all subordinate lodges forward their decisions as to Brotherhood of Locomotive Firemen's Journal to the Grand Secretary and Treasurer by October 20, 1876, with the subscription fee of \$1.10, and that the Master appoint a competent Journal agent in each lodge."

A motion was carried on the following day providing that

"The Grand Lodge appoint Bro. W. N. Sayre as inspector of Journal matter, with power to select such help as he may deem best, with an allowance hereafter agreed upon to pay the same, and order the first copy by November 1st. No matter to go in unless it passes through the Grand Secretary and Treasurer's hands."

By authority of a referendum vote of the Order the Locomotive Firemen's Magazine was subsequently launched, the first issue appearing under date of December, 1876.

At the Fifth Annual Convention, held in Buffalo, N. Y., September, 1878, Bro. W. N. Sayre, the editor, reported the number of subscribers for volume 2, also the number of books he had furnished to complete the subscription of those who had paid I. J. Bennett \$1.10 each, the total amount paid Mr. Bennett, the amount due him and the amount still standing out. Brother Sayre in his report said:

"The Magazine has been a success financially, the only drawback being caused by taking the job from Mr. Bennett, and then furnishing the numbers to complete his subscriptions."

The convention after a lengthy discussion awarded the contract for the publishing of the Magazine to Mr. J. W. Johnson, the greater part of the money still due Mr. Bennett being do-

nated by the delegates, the payment of the balance having been provided for by an assessment on the lodges. At this convention (the fifth annual) Bro. E. V. Debs was, upon request of Grand Secretary and Treasurer Sayre, appointed Associate Editor.

At the Sixth Annual Convention held in Chicago, Ill., September, 1879, Brother Sayre "offered his resignation as Editor for the balance of the years of 1879 and 1880, owing to his requiring an assistant and not being able to pay for one. His resignation was not accepted nor was an assistant allowed."

He then moved to suspend publication of the Magazine, but his motion was defeated.

Bro. Eugene V. Debs, of Lodge 16, was appointed Grand Secretary and Treasurer by Grand Master Arnold, to succeed Bro. W. N. Sayre, and on July 16, 1880, assumed the duties of that office—which position embraced the duties of Editor and Manager of the Magazine—and was elected by the Seventh Annual Convention held in the city of Chicago during September of the same year; Bro. W. F. Hynes, of Lodge 77, being elected Associate Editor at the same convention.

Brother Debs remained Editor and Manager of the Magazine until the Third Biennial Convention held at Cincinnati, 1892, and Editor until the Fourth Biennial Convention, held at Harrisburg, Pa., 1894. At the Third Biennial Convention the Grand Secretary and Treasurer became Manager, the editorship remaining a separate office until the Fourth Biennial Convention, held at Harrisburg, September, 1894, when it was again combined with that of Manager. Brother Debs tendered his resignation to the Fourth Biennial Convention (Harrisburg), same being accepted, and Bro. W. S. Carter, of Lodge 263, was elected to succeed him. Brother Carter continued as Editor and Manager from September, 1894, to December 31, 1903, when he resigned the position to become Grand Secretary and Treasurer of the Brotherhood, being selected by the Grand Executive

Board at a special session of that body held at Grand Lodge headquarters November 26, 1903, to fill the unexpired term of Bro. Frank W. Arnold, whose resignation from said position was effective January 1, 1904.

At that session of the Grand Executive Board Bro. George Goding, of Lodge 499, was chosen as Editor and Manager of the Magazine to fill Brother Carter's unexpired term, but resigned in less than a month after his selection for the position and before entering upon its duties, and at another special session held at the Grand Lodge headquarters on December 29, 1903, Bro. John F. McNamee, of Lodge 445 (the present Editor and Manager), was elected to fill the vacancy for the remainder of the unexpired term. Brother McNamee was re-elected to succeed himself by the following (Ninth Biennial) Convention, Buffalo, N. Y., September, 1904, being again re-elected at the Tenth Biennial Convention, Milwaukee, Wis., September, 1906; again at the Eleventh Biennial Convention, Columbus, Ohio, September, 1908; again at the Twelfth Biennial Convention, St. Paul, Minn., June, 1910; and again at the Twenty-sixth Convention, Washington, D. C., June, 1913.

The following is a condensed history of the Magazine: The Locomotive Firemen's Magazine was published during the first year of its existence (1877) by I. J. Bennett at Dayton, Ohio, as a purely business venture, the annual subscription paid Mr. Bennett being \$1.10 for a monthly pamphlet of 32 pages.

It was decided at the Fourth Annual Convention, (1877) that the Magazine should be "printed in behalf of the Grand Lodge" and under the immediate supervision of the Grand Secretary and Treasurer "who could employ whomsoever he wishes to publish the work," the subscription price being reduced by that convention to \$1.00 per year.

For the year of 1882 the size of the Magazine was increased to 48 pages, with a subscription list of 6,605.

Growth of the Magazine.

YEAR	Total No. Pages Published during Year.	Average No. Pages Published Per Book.	Subscription Price per Year.
Calendar.			
1877	432	36	\$1 00
1878	432	36	1 00
1879	432	36	1 00
1880	432	36	1 00
1881	432	36	1 00
1882	624	52	1 00
1883	624	52	1 00
1884	816	68	1 00
1885	816	68	1 00
1886	816	68	1 00
1887	1,008	84	1 00
1888	928	77½	1 00
1889	1,120	92½	1 00
1890	1,200	100	1 00
1891	1,300	100	1 00
1892	1,300	100	1 00
1893	1,420	118½	1 00
1894	1,422	118½	1 00
Six Months.			
1895	716	119½	1 00
Fiscal.			
1896	1,448	120½	1 00
1897	1,430	119½	1 00
1898	1,776	148	1 00
1899	2,024	168½	1 00
1900	1,904	158½	1 00
1901	2,068	172½	1 00
1902	2,288	190½	1 00
1903	2,034	169½	1 00
1904	2,322	194½	1 50
1905	2,280	190	1 50
1906	2,184	182	1 50
1907	2,184	182	1 50
1908	2,200	183½	1 50
Six Months.			
1908	1,124	187½	1 50
Calendar.			
1909	2,184	182	1 50
1910	2,162	180½	1 50
1911	2,088	174	1 50
1912	2,008	167½	1 50
1913	2,088	174	1 50
1914	1,896	158	1 50
1915	1,800	150	1 50

* By action taken at the Eighth Biennial Convention, held at Chattanooga, Tenn. (1902), the subscription price of the Magazine was increased from \$1.00 to \$1.50 per year. The increased subscription price took

effect January 1, 1903, the middle of the fiscal year and the beginning of the calendar year; therefore, both subscription prices are shown for that period.

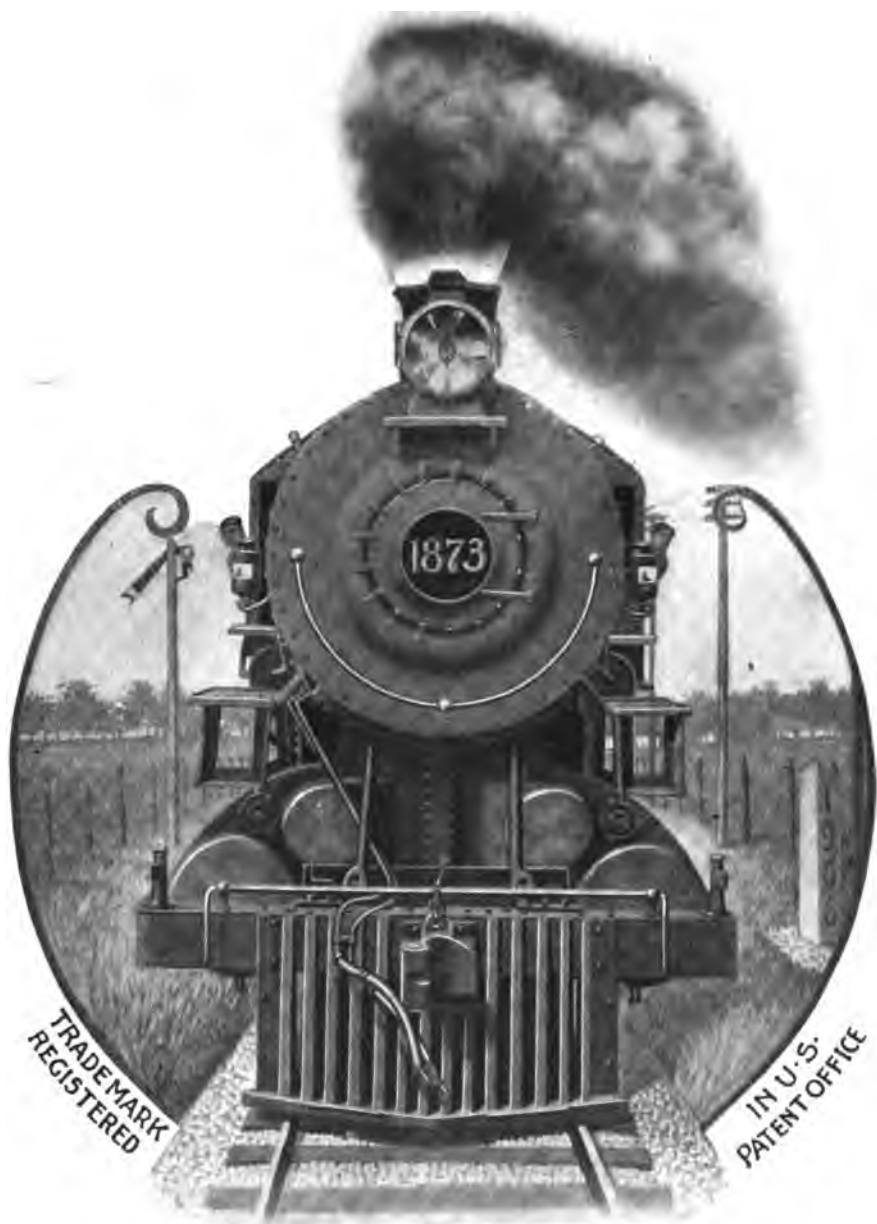
At the Tenth Annual Convention (Denver, Colo., September, 1883) the size of the Magazine was increased to 64 pages.

During the year of 1884 the circulation of the Magazine increased to 18,101, its size remaining 64 pages.

The Thirteenth Annual Convention (Minneapolis, September, 1886) increased the grand dues from \$1.00 to \$1.50 per annum and thereafter the expense of publishing the Magazine was paid from the General Fund, each member, in consideration of the increased amount of grand dues, receiving the Magazine by virtue of his membership and without directly subscribing for same.

For the year 1888 the Magazine was increased in size to eighty pages, and Bro. E. V. Debs, the Editor and Manager, in his report to the First Biennial Convention (Atlanta, Ga., 1888) recommended that the size of the Magazine be increased to ninety-six pages, and that the grand dues be increased to \$2.00. The Magazine was increased in size, but the grand dues remained at \$1.50.

Again, at the Second Biennial Convention (San Francisco, Cal., 1890) Editor and Manager Debs recommended that the grand dues be increased from \$1.50 to \$2.00 per year, which was done, said convention placing the size of the Magazine at "not less" than ninety-six pages.



OUR BROTHERHOOD

B. of L. F. & E.



W.S. CARTER, President



TIMOTHY SHEA, Asst. President

1916



R. U. McVARRAR



ARTHUR J. LOVELL



C. V. McLAUGHLIN



D. B. ROBERTSON



ALBERT P. SMITH



GEO. K. WARK

VICE PRESIDENTS

K. & E.

16



Boe L.

19



Boyle & Co
1916



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O.D. HOPKINS
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A.J. KAUFFMAN



H.B. SMITH

H. B. of L. F. & E.



J.A. LEACH,
FOUNDER OF THE BROTHERHOOD

1916



J.J. LEAMY,
CHAPLAIN



OUR BROTHERHOOD

By J. ALEX KILLINGSWORTH,
Author of "Sparks and Cinders"

I'm proud to be a member of our noble Brotherhood,
For it has fought our battles, boys, and loyally has stood
Behind us in the fights, we've made against oppression, bold.
It's mighty glad, indeed, I am to be within the fold
Of loyal, noble fellows such as constitute our band
Of ninety thousand enginemen—an army strong and grand.
And it's with gratitude I view the progress we have made.
How steadily our Brotherhood has climbed the hard, stiff grade!
The grade called "tyranny" was long, "oppression's" grade was
steep.

We climbed them both without a stall; we made a wond'rous
sweep

Towards the goal of better pay, with fewer working hours.
So, boys, be steady, true and firm and vict'ry will be ours.
Go back in thought to days of yore—yea, back to sev'nty three,
When Father Leach and his small band was our Society.
They had no backing such as we boast proudly of today;
They stood alone—courageous men! Hats off to them: Hooray!
'Twas gradu'ly our Brotherhood attained the prestige we
Know it commands—united hearts and hands have made us
free—

Free from the cruel tyranny that stood in Labor's path,
Rapacious, haughty, arrogant and heartless in its wrath.
But, brothers, we must watchful be; our work is never done;
The money kings plan night and day to put us on the run.
Our rights would quickly disappear if they our ranks should
break;

The liberty we now enjoy from us they'd quickly take.
For those who should have joined with us in helping to main-
tain

The rights we hold—I pity them! My pen I must restrain,
But men who take what others earn, by sacrifices great,
And then refuse to do their part, reveal a "yellow" trait.
And men with "yellow" in their blood should claim no place
with those

Who earn their living honestly in blue-jean working clothes.
But for the men within our ranks, our best is none too good,
We'll clasp their hands and greet them with true gratitude, and
should

They need a friend we'll go to them and make them feel that we
Respect and honor those enrolled in our Society.

LADIES SOCIETY

of the B. of L. F. & E.

19

16



MRS. MAUDE E. MOORE.
GRAND PRESIDENT.



MRS. SADIE E. SCHOENELL
GRAND VICE PRESIDENT



MRS. SARAH M. BALL
PRESENT GRAND PAST PRESIDENT



MRS. L. E. KILLIAN
GRAND PAST PRESIDENT CHOSEN BY
1ST CONVENTION

LADIES SOCIETY

OF THE

B. OF L. F. & E.



MARY E. DUBOIS
GRAND SECRETARY & TREASURER



HARRIETT M. DANIEL
GRAND MEDICAL EXAMINER



AGNES G. STRONG
EDITORIAL
LADIES DEPT. OF MAGAZINE

1916

Grand Executive Board

LADIES SOCIETY

B.O.F.L.F.&E.



STENA WARD
CHAIRMAN



LOU KILLIAN.



ELIZABETH TRAUX

1916

Board of Grand Trustees

Ladies Society

of the B. of L. F. & E.



M. LILLIAN YOUNGS



ELIZABETH SMITH
CHAIRMAN



MAY HENDERSON

1916

Enormous Increase in Cost of Material Used in Magazine—Editor Asks Co-operation of Members.

No doubt, many of our members have wondered why the Magazine cover is white. The reason is that because of conditions growing out of the war, the cost of colored cover paper became so excessive that we abandoned the use of it, and not only has the cost of colored cover paper increased, but the cost of the white cover paper is now fifty-two per cent higher than was that of colored cover paper five months ago, and the other paper we use in the Magazine—the book paper has advanced in price slightly over one hundred per cent. Fortunately our supply of book paper on hand and contracted for will last well towards the close of the present year, but in order to make it last as long as possible—in order to, as far as possible, keep the expense of publishing the Magazine within a reasonable limit, after we have commenced to pay the present enormous price for paper, it has been necessary to reduce its size sixteen pages. This, however, but brings it down to what for many years has been the number of pages in the official publications of the other railroad train service organizations.

Not only has the cost of paper gone up, but that of engraving has also greatly increased, hence it will cost about one and one-half as much to publish, for instance, a Joint Protective Board picture now, as it did prior to April 15, 1916.

The Editor would, therefore, ask the kind co-operation of our members in his effort to economize in the publishing of the Magazine, by condensing their contributions so as to express concisely the thoughts to be conveyed through our columns, and while we will continue to publish Joint Protective Board pictures that are sent to us, the Editor would greatly appreciate it if the brothers would kindly refrain from sending us such pictures until after normal prices for the materials used in the production of the Magazine have been re-established. Were we paying the present

market price for the book paper we are using the cost of the Magazine would be \$1353.78 more per month because of that item alone than it is at present.

At a recent meeting of the American Newspaper Publishers' Association all publishers were urged to employ every means possible of saving paper, even to the cutting down of margins, and at a recent meeting of the executive committee of the International Daily Press Association, called to devise ways and means of meeting the paper shortage, a resolution was adopted urging the strictest economy lest a material increase in the price of newspapers, magazines and other periodicals would become unavoidable. Already some newspapers are forced to use exceedingly poor paper, others, in addition thereto, are compelled to reduce their size, while many small papers are on the verge of suspending publication.



Sparks.

The Editor desires to thank each and every one of the brothers whose special contributions have so materially aided in making our Denver Convention Souvenir valuable and attractive. These contributions cover a variety of live subjects and our members will find them highly interesting and profitable.

Because of the great amount of space occupied by Convention matter in the June issue—the Convention number—we have found it necessary to eliminate practically all of the Technical Department. Technical subjects will, however, be given the usual attention in the July and subsequent issues.

Communications sent to this office should be properly signed in order to receive attention, otherwise we will be compelled to ignore them. If desired, names will be withheld from publication.

Why not solicit subscriptions for the B. of L. F. and E. Magazine and thus earn some extra money? Apply to John F. McNamee, Editor and Manager, Traction Terminal Building, Indianapolis, Ind.

THE ORIOLE

By ADELBERT CLARK

*The oriole sat in the old apple-tree
And sang to the passers-by;
The children paused in the midst of their play—
An old man paused with a sigh.
He sang a song that was full of love
And trust, for the passing year;
The children laughed and danced with glee,
And the old man wiped a tear.*

*But he felt a pair of shadowy arms—
He knew that his wife was there;
He felt the light of her stainless soul
And the sweep of her snowy hair.
And a smile beamed there on his saddened face
Like the light of a coming dawn,
While high in the top of the old apple-tree,
The bird sang on and on.*



Convention

By the time the June issue of the Magazine reaches our members many of our delegates will have left their homes for the City of Denver, Colo. Everything points to a very successful convention. We have probably the best Convention Hall we have ever been privileged to occupy; the climate of the City of Denver during the month of June is all that could be desired, and we look forward to one of the most prosperous and interesting conventions we have ever held.

Since the closing of the last convention

many things have come up that require much thought and consideration. I sincerely trust that when the gavel falls at the close of this convention, each and every member of the organization will feel that such changes as have been made—that such legislation as has been enacted will be beneficial to the organization in every way.

In all probability the Editor and Manager will have much in the July issue of the Magazine that has taken place during the convention and I will not attempt to discuss in this department any of the

developments of the Convention until after we get settled and have had an opportunity to carefully determine just what the new legislation means and how it applies. After that, I will try and call attention, from month to month, to different provisions of the constitution, especially those pertaining to the Beneficiary Department. I will try and explain them in such a manner as to have every officer and member understand them thoroughly.

Thirteen More Old Timers Gone.

Of the claims paid May 15th, we find the following:

Name	Lodge No.	Yrs.	M'ths.
Michael Miller.....	13	26	
Chas. Reed.....	61	19	10
James Hall.....	118	10	..
Patrick Long.....	119	8	1
Orville Miller.....	120	32	8
C. W. Carpenter.....	149	32	8

Name	Lodge No.	Yrs.	M'ths.
T. J. Lunceford.....	177	23	10
Henry Baker.....	252	30	10
T. H. Hains.....	364	30	..
J. B. Thompson.....	378	22	5
Peter Quinn.....	390	28	9
S. C. White.....	433	19	9
Joseph Coots.....	543	34	8

AGE, AND AMOUNT PAID

Name	Age	Amount
Michael Miller.....	59	\$453.75
Chas. Reed.....	60	363.75
James Hall.....	59	N. B.
Patrick Long.....	57	N. B.
Orville Miller.....	61	553.75
C. W. Carpenter.....	78	482.00
T. J. Lunceford.....	49	429.75
Henry Baker.....	64	528.10
T. H. Hains.....	70	Honorary
J. B. Thompson.....	53	405.75
Peter Quinn.....	54	503.75
S. C. White.....	57	277.80
Joseph Coots.....	62	577.75



Forum

EIGHT-HOUR PUBLIC MASS MEETING, RICHMOND, INDIANA, APRIL 30TH

On April 30th a large public mass meeting in the interests of the Eight-Hour Movement was held in Richmond, Indiana, under the auspices of the local divisions and lodges of the B. of L. E., O. R. C., B. of L. F. and E., and B. of R. T., members of the ladies' societies and auxiliaries being also present. The meeting filled the large City Coliseum.

Mayor W. J. Robbins called the afternoon meeting to order at 2 o'clock and after a brief address of welcome, introduced as Chairman of the meeting, Bro. John F. McNamee, Editor and Manager of the Magazine.

Brother McNamee outlined the grievances of the men of the four great brotherhoods who are demanding an eight-hour day and time and one-half for overtime. He said the demand for an eight-hour day was

made in order to better the social and economic conditions of the employes. The responsibilities of the men in train service for the safety of passengers and delivery of freight and expressage, he said, greatly increased with the introduction of heavy type of engines, larger cars and mile long freight trains. The nature of the work required of the men today, coupled with the interminably long hours of duty is, he said, more than human beings can stand. The extent to which men are deprived of the enjoyment of the company of their families is shameful and without justification. Brother McNamee discussed the grievances of the men in detail and showed clearly why the railroads, poverty plea was groundless. He showed how roads that are, according to the company's claim, paying but

five per cent dividends are in reality paying as high as thirty per cent, the other twenty-five per cent being on fictitious value—watered stock. He emphasized the fact that the four great train service labor organizations are united as one in this fight for an eight-hour day and explained that the time and one-half for overtime feature of their demands was intended to serve as a penalty on the railroads, for he said, if every case automatically carries its own penalty there and then the railroad managements will find a way to keep within the eight-hour limit, whereas a law limiting the railroad train service work day to eight hours would be practically worthless, as it is entirely out of the question for the courts to try the thousands and thousands of violations of the existing Federal Law, limiting the train service work day to sixteen hours. He also explained that the traveling public and shippers would get safer and better service as a result of an eight-hour day in train service, with time and one-half for overtime penalty.

The next speaker, Lew Shank, former mayor of Indianapolis, declared very strongly in favor of the eight-hour day. The railroad employes, he said, should not be required to work longer than eight hours a day. "There is no question but what the brotherhoods will win," he said. "I hope you do. Laboring men have a right to enjoy in a small degree at least, some of the freedom from toil and the enjoyment of some of the pleasures of life that characterize the entire existence of the millionaire." Mr. Shank explained how, while mayor of Indianapolis, he had been offered money, time and again to use his influence in an unjust way for capital. "I always refused," he added, "and I am glad of it." He also told how he tried to get an eight-hour day for policemen, and said no person should work more than eight hours in the twenty-four. He kept his audience in laughter most of the time with his jokes and tales of his experiences as a politician, farmer and actor.

Bro. William B. Prenter, First Grand Engineer of the B. of L. E., said that the railroads in fighting the eight-hour day movement have spent enough money in subsidizing the press, to pay all the time and one-half overtime they will have to pay the employes in five years when the eight-hour day goes into effect. He declared that the demands of the employes are just and fair and expressed the belief that the employes will win and will have an "opportunity to get acquainted with their families." Railroad employes, he said, will accept an eight-hour day and be satisfied. "We don't want overtime," he said, and the railroads will be able very nicely to adjust their business to the eight-hour day, if they feel so disposed.

Bro. Thomas L. Hadden, President Lodge 261, of the B. of R. T., Indianapolis, Ind., said, that a trainman in freight service is subject to call at any time and when he is relieved he has only time to get a meal and go to bed to sleep. On some roads he stated, it is the policy of the managers to keep the men away from home by sending them on a run so that their time off comes in at the terminal away from their home town and when they arrive in their home town they are doubled on a run that will take them away immediately after their arrival. "The yard service," he said, "requires from eleven to fourteen hours a day, and sometimes longer." "This," he said, "makes a man unsafe because the work is so hard that after eight hours' grind, he is tired out." He expressed the belief that a man could do more and better work in eight hours and that there would be less liability of wrecks because the freight crews would not be overworked. He added that the wives of railroad men suffer as much from the present conditions, as the men themselves do.

Otto Ray, President Indianapolis Central Labor Union, warned the railroad employes against arbitration and cited the results of arbitrating the Indianapolis street railway strike. "Non-union men are being employed," he said. "The company has divided the employes on religious and political

questions and as a result, the backbone of the street railway workers' organization is at present broken." Recently, he said, the company formed an organization of its own amongst its employes.

Rev. Thos. H. Kuhn, formerly pastor of the First Christian Church of Richmond, and now member of the State Board of Accounts, also addressed the afternoon session.

The invocation and benediction were pronounced by the Rev. E. E. Davis, pastor of the Second Presbyterian Church.

The evening meeting was called to order by Chairman, McNamee at 7:30 p. m.

The first speaker on the evening program was Chas. J. Orbison, former judge of Indianapolis. Judge Orbison said that aside from his friendship for the chairman he attended the Richmond meeting for three reasons.

First, because he believed that the railroad employes should form together in organizations intended to alleviate harsh employment conditions and raise the standards of manhood. "Too frequently," he said, "have we divided society into classes. After all is done and said, men are men and should be valued for themselves rather than for their wealth and by their position."

Second, because he was in sympathy with the eight-hour movement. He declared that he was in favor of an eight-hour law for all classes of artisans, whether in the factory, the ditch or on the train or locomotive.

"My third reason for being here," he said, "is because men have a duty to perform to the community. Men do not live to accumulate a little dab of money. They live to get some of the higher and sweeter things out of life in the holy sweetness of the home of a father and mother and children. A man should have time to get acquainted with his wife and children. Responsibility for children is not all one sided, and our laws should be so that your boys can have your companionship and protection as well as that of their mother."

Representative J. A. M. Adair, one of the candidates for Governor of Indiana, was the principal speaker at the evening meeting.

In the course of his address he said, "Laboring men deserve our consideration. Congress has no greater task than to protect the laboring men. So long as I am a member of the House, I will always stand for justice for the workmen of the country. The time has come in this country when special privilege must come to an end. The government was created for all the people.

"I believe in organizations. You can get what you want if you stand together. There has been corruption in politics because people do not discharge their proper duties. Every man should exercise his right of citizenship. We have no right to complain as long as we do not vote every time that we have an opportunity."

Mr. Adair said that his sentiments in regard to the eight-hour movement should be judged by his past record, that his record on labor questions is clear and that he has actively assisted in having 24 bills passed in Congress that have been for the benefit of laboring men.

Weisbrod's Saxophone Orchestra furnished music for both the afternoon and evening sessions.

To the members of the Arrangements Committee, Brothers John Hugo, Division 598, B. of L. E., Wm. Huber, Division 452, O. R. C., J. E. Donson, Lodge 582, B. of L. F. and E., and H. E. Maule, Lodge 575, B. of R. T., great credit is due for the splendid success of the event.

A labor forward meeting preliminary to that of April 30th, was held in the Knights of Pythias Temple, Richmond, Ind., on April 16th. This meeting was attended by officers and members of the Richmond locals of trades unions and railroad labor organizations and was addressed by Brother McNamee, Editor and Manager of the Magazine, Joseph Schmidt, an officer of the Bakers' Union, Dayton, Ohio, and Frank L. Rist, editor of the Cincinnati Chronicle.

MEMBER.

Political Economy.

In the April issue of the Magazine "Member Lodge 456" writes that for the good of the Brotherhood and its members, there should be established a Department of Political Economy in our Magazine, in order to educate our members on questions that affect their interests economically and industrially. The brother's article is not quite clear to me as to just what he desires. Does he want the doctrine of Political Economy or its elementary principles presented upon the pages of the Magazine, or does he want the principles of Political Economy applied to the various questions as they come up for solution, or to establish a new industrial policy?

Political Economy treats of wealth in its various phases,—production, exchange, distribution, and consumption. It seeks for the underlying laws of wealth. It is not an exact science like mathematics. It has been a subject like law susceptible of development, and its underlying principles are dug out of a mass of seemingly incongruous facts. The economist like the jurist must go to the fountain heads of knowledge rather than wander down the rivulets. Otherwise his efforts will prove futile.

The study of Political Economy as technically developed is one of the greatest studies of mankind. It is interesting, instructive, and absolutely necessary for human welfare. True, Political Economy must not be confused with party politics. Politics are forever barred from the lodge rooms and the Magazine, and would prove but of little value to discuss. But Political Economy as the science of wealth is a subject that really lies at the foundation of our Brotherhood, and it is almost a crime that every member is not familiar with its teaching. It is a fundamental principle of our system of jurisprudence that ignorance of the law excuses no one, so in our economic relations we may say ignorance of our economic laws is no excuse for poverty, for conflict between labor and capital, unjust taxation, the diminishing returns of land, labor and capital, and the kindred problems springing therefrom.

A little over a hundred years ago Adam Smith published his great work, "The Wealth of Nations," when at that time it was a maxim of public policy that only one party to a trade could profit by the transaction, and that which one party might gain the other party must lose. Out of this maxim wars and commercial restrictions were the natural and actual results. However, by the study of his great work, mankind became enlightened

and greater progress in international relations, both humane and mutual, has since been made than in all the previous centuries. Likewise in our modern industrial world, were Political Economy rightly understood, greater strides in social and commercial relations would be made; the conflict between Labor and Capital disappear or be greatly modified, and a happier relation exist in the various communities.

As noted above, the general elementary departments of Political Economy are usually considered under the heads of production, exchange, distribution and consumption. Under production are considered land, labor, and capital. Under exchange are considered ratio, value, and money, also forms of wealth in exchange for one another, and also the great law of demand and supply together with competition, trusts, etc. In distribution is considered, first, the landlord receiving rent; 2nd, capitalist receiving interest; 3rd, the employer, or entrepreneur, receiving profits; 4th, the laborer, receiving wages. In the department of consumption is considered the use and abuse of wealth, and its destruction or changing forms and conditions, etc.

In the application of economical principles many subjects are considered, among which may be mentioned,—pauperism, industrial co-operation, wages, trade unions, strikes, taxes, banking, protection and free trade, and many other interesting subjects. Now the question is, what do the readers of the Magazine want? The elementary discussion as outlined or that broader discussion which seeks to apply economic principles to the various activities of humanity. If the latter be the case, then the discussion must follow broad lines and come under the head of law and Political Economy, as interwoven and inseparable. The economist must possess a legal mind, as well as a mind sensitive to economic truth in order to discern, correlate, and apply the proper doctrine to the given subjects.

It seems such a subject could be handled by the Editor or an Assistant Editor who would either prepare articles on the various phases of economic research, or call for articles and pay the contributors a reasonable rate for their work. As it takes time to prepare such articles, the contributor should be rewarded for his work. This Department should be open to the Brotherhood, as there are bright minds in our order who are making law and economy their life study. Contributions from such men would be worth while, and greatly advance the interests and future policies of

our Brotherhood. Before me lies the report of our Editor and Manager of the Magazine. In this report he tells the lodges the Magazine should be published twice a month, and the unnecessary mailing lists eliminated as far as possible, and also other important matters which should be carefully read and acted on. It has been surprising how the Editor brings out such an excellent Magazine each month. It seems to me he should have department managers. Then we could reasonably expect greater results, especially in the Industrial Department, if we expect to add this subject of Political Economy.

I hope this article outlining the subject of Political Economy will prove clear and that our Industrial Department will contain many interesting articles within the defined limits of discussion in Political Economy. It is not in derision nor in violence, but in economic truth embodied in proper laws lies our salvation as labor organizations, and it is well for each of us to give this subject the most careful thought.

W. A. MURPHY,
President of Lodge 277.

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**Brother Fred Barr Honored—
Handsome Recognition of Faithful Services.**

At a well attended banquet given in his honor recently, the members of Davy Crockett Lodge 145, presented Bro. Fred Barr, General Chairman of the Southern Pacific (Atlantic System), with a beautiful loving cup, same being a testimonial of their appreciation of the splendid work he has performed in guarding and advancing the industrial interests of the members of our Brotherhood on that system.

At all times and under all circumstances Brother Barr has been vigilant and untiring in his efforts to improve the wage and employment conditions of the men he represents. No officer or member in our Brotherhood has adhered to a closer observance of our motto, Protection, Charity, Sobriety and Industry.

Bro. F. J. Aylmer, in presenting the loving cup to Brother Barr, said:

"As a time honored member of Davy Crockett Lodge you have shared our troubles and your earnest work in seeking their adjustment has given you a clear insight into those conditions which affect us and into the minutest details of the operations of our great organization in guarding our industrial and economic interests.

"You have ever exercised superior judgment and foresightedness and of the high degree to which you possess the latter."

tion when years ago the Pacific Company offered a substantial wage increase on coal burning engines, which would have been gladly accepted by the men, but which you, as our General Chairman, declined unless it would apply also to oil burning engines, for the reason that your masterful knowledge of your work revealed to you the extent to which oil burning engines would come into use on the system. Now nearly all our engines are oil burners and we are all reaping the benefits of your high capability and fidelity to our interests. And now, Brother Barr, as a token of our esteem and respect for a man who for seventeen years has faithfully and loyally fought for the protection of our interests, we present you with this loving cup and trust that in the years to come it will ever be to you a reminder of the good will, the confidence, the high regard and appreciation which, as a result of your own high qualities of head and heart, we, your fellow employees, have entertained towards you all these years."

In reply to Brother Aylmer's touching words, Brother Barr said:

"Brothers, it would be difficult to find words in which to properly express my feeling on this occasion towards all of my friends who are here assembled and who are unavoidably prevented from being with us. I am deeply moved by the sense of kind thoughtfulness that has prompted this practical expression of regard. I am at a loss to understand why I should be selected to receive this high honor at your hands, for I feel that I do not deserve such a great measure of consideration for doing only my duty as the laws of our beloved Brotherhood and the rights of our members require. Brothers, I am truly grateful for this beautiful cup and while I fully recognize its high intrinsic value there is nothing of intrinsic worth that could possibly measure up to the value to me, of that sentiment which disposed you brothers to conceive the idea of holding this meeting and presenting me with such a substantial and lasting token of your regard. Brothers, I can only say that I thank you from my heart and that it shall ever be my aim to strive to merit a continuance of your confidence and good will, of which this beautiful testimonial is such gratifying and conclusive evidence."

The committee in charge were Brothers F. Clinkscale, Alex. Juarsheck, F. J. Aylmer, D. B. Howard and Wm. Rowland.

W. M. ROWLAND,
Member Lodge 145.

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Altoona, Pa., Fifth Sunday Union Meeting.

The Fifth Sunday Union Meeting of Pennsylvania Divisions and Lodges of the B. of L. E., O. R. C., B. of L. F. and E. and B. of R. T. was held in Altoona, Penna., on April 30th last in the Trainmen's Home. Over 450 were present.

On Saturday evening, April 29th, between 5 and 8 o'clock a banquet was served by the ladies in the banquet hall of the Trainmen's Home to the visitors and their families. Fully 700 people partook of the feast. The occasion was one to be long remembered by all in attendance. During the banquet referee Jacob G. Snyder of the Compensation Bureau delivered an address on the need of the compensation act and the benefits derived from it by widows and their families. After the banquet dancing was enjoyed in the ball room until midnight.

At the meeting held Sunday many prominent speakers delivered addresses. Bros. L. G. Griffing, A. G. C. of the B. of L. E., and Arthur J. Lovell, Vice President of the B. of L. F. and E., spoke on the Eight Hour Movement and matters of general interest to the Brotherhoods. Brothers Griffing's and Lovell's addresses were very instructive and greatly appreciated by all present. Brother Lovell has come to be a great favorite amongst our members and too much cannot be said in praise of his good work in the interests of the Brotherhood.

The meeting was addressed also by members of the different organizations, amongst whom were Bro. E. William Park, General Chairman of the B. of L. E. lines East of Pittsburgh and Erie; C. Devinney, retired engineer on Pennsylvania lines (formerly general chairman of lines East of Pittsburgh), and Bro. D. G. Myers, local chairman of the B. of L. E. Bro. J. W. Fluke of the B. of L. E. acted as chairman of the meetings, and Bro. G. O. Wilson of the B. of L. F. and E. acted as secretary.

The ladies' auxiliaries and lodges of the organizations entertained the visiting ladies and their families in the afternoon with readings, musical selections and victrola music, the victrola being loaned through the courtesy of A. J. Harter.

There were visiting members present from Pennsylvania, Delaware, New Jersey and the District of Columbia.

This meeting was one of the most successful that has been held.

The next Fifth Sunday meeting will be held at Sunbury, Pa.

G. O. WILSON,
Recording Secretary Lodge 287,
B. of L. F. and E.



Cambridge, Ohio, Public Mass Meeting, April 16th.

On the afternoon and evening of April 16th last, a public mass meeting was held

at Cambridge, Ohio, under the auspices of the local divisions and lodges of the B. of L. E., O. R. C., B. of L. F. and E. and B. of R. T. The ladies' societies and auxiliaries were also represented. The purpose of the meeting was to present to the public the railroad men's side of the Eight-Hour Movement. Both the afternoon and evening sessions were very well attended and much interest was manifested.

Mayor Conrad Gang very ably presided as chairman of both meetings and on opening the afternoon session said he deemed it an honor to be asked by the railroad train service organizations to preside at a meeting at which their side of the demand for an eight-hour day was to be explained to the public.

Following the remarks of the chairman Rev. Doty, pastor of the Lutheran church, pronounced the invocation.

President W. S. Carter of the B. of L. F. and E. was then introduced and spoke at length on the Eight-Hour Movement.

He said that the railroad men believed they were entitled to an eight-hour day and that the eight-hour day had already been established in a great majority of occupations.

"A man in the best of condition," he said, "is none too good to trust with the responsibility of operating railroad trains, and if trainmen are worn out with long hours of service they are not at their best standard of efficiency." Brother Carter's remarks were highly appreciated by all present.

Prof. L. B. Edgar, who was the next speaker, touched on the early history and development of the railroads of the country. He said railroad men are never overpaid, and that the railroad organizations are composed of the best kind of citizens. He expressed the belief that the safety of the public demanded the establishment of the eight-hour day in railroad service.

Bro. T. R. Dodge, Assistant President of the B. of R. T., told of the number of railroads of the country that have been thrown in the hands of receivers and said that this was no fault of the men. He gave a brief resume of the financing and wrecking of railroads. "I believe in a square deal," he continued. "The men are entitled to an eight-hour day and time and one-half for overtime, because that is long enough for any man to work. If railroad stock were not watered the companies could pay such large dividends that they would not know how to spend the money." In conclusion he said that if all the freight cars in the country were coupled in one train it would reach from Cambridge, Ohio, to Portland, Ore., on to San Francisco, then to Jacksonville

Fla., and back to Cambridge, that it would take 69 days for this train to pass a given point and that there are some general managers who would want only one engineer, one fireman, one brakeman and one conductor on such a train.

Rev. W. E. Bridge, pastor of the First Baptist Church, expressed his sympathy with the workers in their fight for a shorter workday. "There is no better kind of preparedness in the country today," he said, "than the eight-hour schedule. The best type of preparedness is to work out a schedule of work, rest and recreation." He said the train service orders were working in the right direction and that he hoped they would win.

State work shop and factory inspector, George Hamilton, spoke in favor of the eight-hour day. He also touched on the fight for a shorter train law.

Bro. C. Irwin, General Chairman of the O. R. C. of the Pennsylvania Lines West, spoke on the early history and growth of the railroad train service labor organizations.

Rev. T. A. Gunn pronounced the invocation at the evening meeting.

Bro. T. J. Hoskins, B. of L. E., then told of the long hours the railroad men had to work and touched on the conditions on the different railroads of the country. He said the government permitted its employes to work only eight hours per day and he did not believe the railroads should refuse the demands of the men for an eight-hour day.

Superintendent W. E. Arter, of the Cambridge schools, stated in the course of his remarks that he was fully in accord with the railroad organizations in their demand for an eight-hour day.

Sister Maggie Delaplain was then introduced and touched on the hardships of the railroad man's wife. Her address was interesting throughout to both the men and women in the audience.

Brother R. B. Ackerman, Ohio State Legislative Representative of the B. of L. F. and E., and Bro. D. D. Miller, General Chairman of the B. of L. F. and E. Pennsylvania Lines West, delivered very interesting and instructive talks, as did also Attorney Milton H. Turner and Harvey D. Evans, Inspector of Public Utilities.



Special Organizers Get Best Results.

Bro. G. N. DeGuire was recently assigned to look after the interests of the five C. and E. I. lodges and in a short period was successful in enlisting 149 new members, effecting practically a one hundred per cent organization among

beyond doubt the necessity of establishing Special Organizers in the field and that the office of Local Organizer is a failure.

ROY SHANKS,
Financial Secretary Lodge 516.



Four Year Conventions—Permanent Convention City—Suggestions to Reduce Convention Cost.

There have been several interesting articles in the Magazine recently on reducing the cost of conventions and I too would like to make a few suggestions along this line, some of which have already been discussed.

Why not elect our Grand Lodge officers for a term of four years instead of three and by having the convention every four years save over \$87,000.00? While the cost has been increasing at each convention so has our membership been increasing in numbers and, sorry to say, so have the salaries of our delegates. I think the delegates should serve for \$5.00 per day. That is a great deal more than the firemen who maintain the organization make on an average and is it any harder on the delegate mentally or physically who goes to the convention eight hours with three regular meals and a good night's rest than it is on a brother who is firing one of the heavy type engines with irregular meals and rest? This would save about \$3,300.00 each day the convention is in session.

Without a single exception all comments that I have heard made were that the last convention made a mistake when they raised the salaries of the Grand Lodge officers and their clerks. I for one would be in favor of reducing their salaries to those that were paid prior to the Washington Convention.

Like other brothers who have written articles on this subject I should like to see a city of central location chosen as a permanent convention city, thus doing away with the heavy expense of paying hundreds of delegates for traveling a long distance when the mileage for most of them could be reduced. By reducing the cost of conventions in ways mentioned about \$200,000.00 could be saved, which would help materially in giving our old members a paid up beneficiary policy.

I should like to see the 1916 convention have a committee on attendance whose duty it would be to keep a record of the attendance of all delegates and at the close of the convention have same published in the Magazine.

In all changes in the constitution let every member have a vote. For example: Any brother wishing a change in the constitution send same to the local lodge from where the recording secretary under the seal of the lodge would send it to the General Secretary and Treasurer who in turn would send a copy of all changes suggested to all lodges. Thus they could be voted on locally and the delegates instructed how to vote on same at convention.

In all our dealings, especially in

Brotherhood matters, let us keep in mind our obligations and show the Brotherhood spirit, remembering those less fortunate,—members too old to hold railroad positions who have fulfilled their obligations faithfully, those on the extra board or without work with large families to support, those in ill health or in any other adverse condition. Under all circumstances keeping the cost to a minimum gives most satisfaction to all.

L. M. Sowby,
President Lodge 679.

Correspondence

LODGE 456—(*R. D. Eaton, Great Falls, Mont.*) As Sun River Lodge has quite a few members who do not live at this division point, also some members who are in distant parts of the country, it may interest them to learn of our progress through the Magazine.

Lodge 456 is progressing. Through the kindness of the brothers, this makes three terms I have filled the office of secretary, and while at times it has been a burden, for the most part it has been a pleasure, for our happiest moments should be when we are trying to be of some service to our fellowmen.

In 1910 when I was elected secretary our treasury was bankrupt; in January, 1915, when I received the books from Bro. Ed Hannigan we had a substantial sum in the bank. I am pleased to state that during 1915 I was able to add to our balance on hand and it is my desire and ambition by December 31, 1916, to have a cash balance of one thousand dollars to our credit.

During 1915 our lodge carried quite a few of its members for months at a time, and I am glad to state that when business picked up every brother paid up promptly. Sometimes some of our very best members are careless in paying dues, but as a rule it is neglect and not intentional. Our lodge meetings are quite well attended as a rule, and at present we have a good supply of candidates for initiation.

Very few of our members who have

been promoted during the last few years have left us. As a rule they seem to like the order which protected them, and which they helped to build up. There are two members of our lodge who are now at a great distance from us, one in Europe and the other in South America.

Some of our brothers are talking of a Ladies' Society. If such is their sincere desire I do not see why we cannot have one of the best in the order, besides it might serve to stimulate interest in attendance and accomplish much good in a social way.

We have a real live Local Chairman in the person of Bro. Hugh M. Jones, who is always ready and willing to render all aid possible in adjusting any grievances a brother may have. Brother Jones was our representative in Chicago before the Arbitration Board and was also in attendance at St. Paul when supplement to schedule was made.

Our thirteenth annual dance was the most successful ever given by our lodge. It meant a lot of hard work, loss of time and considerable sacrifice on the part of those who managed it, but I am sure they can justly feel proud of the result.

We have some of the finest officials here that the G. N. has on its system, always ready to give us an attentive ear and always endeavoring to help better our conditions. The company recently installed some stokers on our Mikado engines but as yet they have not given entire satisfaction.

The younger engineers here and all firemen employed since 1912 hold rights on about one thousand miles of trackage running in four directions from this terminal. Our extra board at the present writing is amply supplied with both engineers and firemen but we anticipate that quite a number of work trains will soon be going on which will, we trust, help the situation considerably.

In conclusion I want to state that if each and every individual member would

only take just a little more interest in lodge affairs and try to realize that this is his lodge and his organization, No. 456 would be hard to beat. As it is we have some very capable young firemen who do take a great interest and are prompt in attendance at lodge and in other ways ready to practice the principles of our order, so while at times we all may be discouraged, I fully anticipate and expect to live to see the day when Sun River Lodge 456 will be the best in the West.



Official

Addresses Wanted.

Persons desiring to learn the address of or any information concerning a member or any other person, will please communicate with the secretary of the lodge nearest the residence of the person desiring such information. Upon receipt of a communication from the secretary of such lodge, requesting that a notice be published in the Magazine inquiring for such address or other information, same will be complied with. However, the Magazine cannot undertake to act as a collection agency, and must decline to lend itself to such purpose. Information should be sent to the person specified in the notice. The following inquiries have reached this office since our last issue went to press:

William Twambley.—An engineer formerly located in the State of Maine. Information of great importance awaits him. Any one acquainted with Mr. Twambley's whereabouts kindly communicate with A. E. Schultz, 6225 Blackstone Ave., Chicago, Ill.

Jesse C. Clements.—Worked out of Wadsworth, Nevada, about 1903 or 1904, and is thought to have belonged to the firemen's organization. His sister is very desirous of locating him. Any one having any information as to his whereabouts kindly communicate with John S. Cottrell, Recording Secretary, Lodge 19, 527 13th St., Sparks, Nevada.



Lost Traveling Cards, Etc.

This office has been notified of the loss of the following traveling cards, receipts,

etc., and the request is made that all members be on the lookout for them. Should they be discovered in the possession of persons not entitled to them they should be forwarded to the owners or to the secretaries of the lodges that issued them:

Bro. Ralph Geiger, of Lodge 47, advises that his receipts from 1912 to May 1, 1916, traveling card, service letters from the C. and E. I. R. R., and R. R. Y. M. C. A. card were stolen from him in Buffalo, N. Y. If found kindly return to Ralph Geiger, 748 E. 37th St., Chicago, Ill.



The Home Account.

The following donations were received at the Home for Aged and Disabled Railroad Employes for the month of April, 1916:

Grand Lodge, B. of L. F. and E.	\$1662.81
Grand Lodge, B. of R. T.	2974.38
Grand Division, O. R. C.	323.40
Grand Division, B. of L. E.	76.40
B. of R. T. Lodges	67.00
O. R. C. Divisions	30.00
Mrs. M. J. Whalen, Milwaukee, Wisconsin	30.00
James Costello, Division 270 O. R. C.	1.00
Alfred Lunt, Lodge 877 B. of R. T.	1.00
C. S. McKay, Division 119, B. of L. E.	1.00
From a Member of Division 249 B. of L. E.	1.00

\$5108.29

Respectfully submitted,
JOHN O'KEEFE,
Secretary-Treasurer and Manager

Beneficiary Statement

To SUBORDINATE LODGES:

OFFICE OF GENERAL SECRETARY AND TREASURER,
PEORIA, ILL., MAY 1, 1916.

The following is a statement of receipts in the Beneficiary Department for the month of April, 1916.

RECEIPTS.

Lodge No.	Amount	Lodge No.	Amount	Lodge No.	Amount	Lodge No.	Amount	Lodge No.	Amount	Lodge No.	Amount	Lodge No.	Amount	Lodge No.	Amount	Lodge No.	Amount
1	802 50	74	189 20	147	293 20	220	584 10	293	105 05	368	85 95	439	92 10	512	628 10	585	91 30
2	271 70	75	.....	148	142 45	221	171 05	294	166 65	367	179 85	440	129 15	513	39 50	586	37 95
3	792 00	76	68 20	149	240 35	222	113 30	295	172 15	366	88 05	441	21 95	514	90 30	587	.....
4	264 65	77	849 80	150	247 50	223	205 70	296	272 25	369	154 65	442	95 70	515	141 90	588	78 10
5	642 40	78	49 50	151	138 70	224	102 30	297	191 95	370	62 15	443	92 95	516	245 30	589	68 20
6	210 10	79	49 50	152	229 35	225	84 70	298	206 80	371	118 80	444	269 50	517	87 45	590	92 95
7	230 00	80	188 65	153	116 05	226	223 85	299	130 85	372	81 50	445	134 20	518	.....	591	291 55
8	234 85	81	91 30	154	150 70	227	103 40	300	215 60	373	136 95	446	343 20	519	259 05	592	141 90
9	871 80	82	220 00	155	62 70	228	558 80	301	139 70	374	191 95	447	219 40	520	58 30	593	72 05
10	623 70	83	969 05	156	298 65	229	290 40	302	512 05	375	78 10	448	719 40	521	252 00	594	113 80
11	1262 80	84	164 45	157	103 40	230	374 55	303	111 10	376	299 60	449	198 00	522	229 85	595	43 45
12	162 80	85	841 00	158	89 65	231	571 45	304	94 60	377	296 45	450	100 65	523	23 05	596	30 90
13	257 95	86	196 90	159	298 70	232	191 40	305	85 20	378	846 45	451	102 85	524	38 05	597	217 25
14	398 75	87	207 90	160	216 70	233	191 95	306	160 60	379	861 35	452	97 35	525	46 28	598	148 05
15	158 40	88	.....	161	101 75	234	.....	307	206 70	380	64 35	453	78 65	526	46 28	599	105 05
16	403 15	89	138 05	162	308 65	235	180 95	308	.....	381	292 35	454	132 65	527	138 05	600	226 05
17	102 85	90	90 75	163	167 75	236	432 80	309	249 70	382	98 20	455	172 70	528	129 80	601	290 60
18	161 70	91	262 90	164	129 80	237	390 60	310	242 00	383	128 70	456	184 80	529	91 30	602	149 05
19	282 15	92	130 90	165	88 00	238	149 55	311	55 55	384	850 85	457	200 75	530	60 05	603	79 75
20	86 85	93	58 85	166	303 05	239	74 80	312	196 35	385	85 80	458	68 25	531	47 85	604	196 85
21	574 75	94	228 60	167	172 70	240	485 65	313	144 65	386	68 55	459	72 32	532	133 10	605	96 60
22	111 65	95	77 55	168	160 60	241	299 75	314	.....	387	97 10	460	95 70	533	68 75	606	94 35
23	138 05	96	144 10	169	228 25	242	218 40	315	95 70	388	218 85	461	141 35	534	258 50	607	49 50
24	392 70	97	405 85	170	164 45	243	110 55	316	161 15	389	48 40	462	293 70	535	161 70	608	128 70
25	259 60	98	.....	171	90 20	244	188 05	317	42 35	390	105 05	463	136 40	536	145 75	609	67 50
26	286 55	99	408 85	172	117 70	245	.....	318	864 65	391	136 95	464	69 10	537	112 75	610	70 95
27	203 50	100	302 50	173	177 10	246	149 05	319	125 40	392	136 95	465	280 50	538	139 70	611	73 15
28	189 75	101	326 15	174	523 90	247	234 30	320	64 90	393	136 95	466	171 05	539	196 90	612	67 10
29	141 35	102	120 45	175	264 55	248	174 35	321	75 35	394	25 85	467	276 10	540	332 50	613	16 50
30	136 95	103	69 85	176	152 85	249	228 80	322	52 80	395	122 65	468	101 75	541	200 20	614	280 50
31	100 65	104	73 70	177	210 10	250	239 25	323	65 45	396	138 80	469	186 95	542	167 20	615	.....
32	126 45	105	73 70	178	127 05	251	896 05	324	102 85	397	62 70	470	206 25	543	447 15	616	46 20
33	229 35	106	107 80	179	207 90	252	227 70	325	83 05	398	170 50	471	41 80	544	99 50	617	118 80
34	253 55	107	316 15	180	89 65	253	326 70	326	123 20	399	122 65	472	832 20	545	134 75	618	116 50
35	80 85	108	31 90	181	43 45	254	83 60	327	177 65	400	147 95	473	89 10	546	52 25	619	128 15
36	149 60	109	204 60	182	528 00	255	108 35	328	144 10	401	224 95	474	164 45	547	88 60	620	185 90
37	206 80	110	135 85	183	228 80	256	25 30	329	.....	402	63 70	475	135 85	548	75 35	621	60 60
38	84 70	111	199 65	184	90 20	257	172 70	330	141 35	403	39 60	476	85 25	549	166 10	622	205 70
39	144 65	112	50 60	185	104 50	258	67 10	331	178 75	404	127 60	477	274 45	550	96 80	623	90 20
40	831 10	113	205 70	186	30 25	259	81 40	332	68 20	405	874 00	478	.....	551	290 45	624	77 00
41	80 30	114	91 85	187	107 80	260	169 40	333	271 70	406	86 90	479	119 35	552	254 65	625	122 65
42	36 85	115	157 85	188	833 30	261	123 20	334	199 65	407	391 60	480	32 45	553	92 40	626	128 15
43	209 00	116	154 00	189	189 20	262	418 00	335	64 90	408	157 85	481	89 00	554	78 65	627	104 50
44	293 15	117	106 15	190	86 85	263	193 60	336	82 50	409	231 55	482	130 35	555	73 15	628	100 60
45	.....	118	34 65	191	.....	264	49 50	337	266 75	410	121 00	483	55 00	556	87 45	629	42 90
46	22 00	119	126 50	192	254 10	265	223 85	338	164 45	411	182 05	484	127 60	557	152 90	630	139 20
47	811 85	120	193 60	193	174 85	266	175 45	339	102 85	412	176 55	485	168 35	558	168 35	631	81 40
48	815 15	121	226 60	194	208 45	267	103 95	340	114 40	413	51 70	486	68 85	559	88 55	632	81 30
49	182 60	122	59 40	195	96 80	268	55 55	341	154 00	414	170 50	487	24 70	560	76 45	633	58 30
50	57 75	123	248 60	196	119 90	269	94 60	342	165 00	415	.....	488	24 20	561	272 25	634	196 35
51	168 88	124	107 80	197	63 80	270	279 40	343	62 15	416	240 85	489	110 50	562	287 10	635	131 45
52	303 05	125	72 60	198	185 90	271	110 55	344	150 70	417	67 10	490	124 85	563	235 40	636	58 30
53	152 35	126	136 95	199	261 25	272	46 75	345	177 65	418	112 75	491	42 35	564	244 55	637	112 20
54	858 60	127	226 60	200	121 65	273	139 70	346	18 20	419	53 85	492	228 80	565	39 05	638	132 55
55	30 25	128	67 10	201	151 25	274	111 10	347	40 15	420	66 00	493	46 10	566	174 35	639	89 10
56	820 10	129	201 85	202	233 20	275	247 50	348	191 95	421	66 85	494	105 60	567	103 95	640	56 10
57	488 85	130	610 95	203	206 25	276	254 90	349	207 90	422	97 35	495	38 55	568	114 40	641	110 00
58	159 50	131	44 65	204	144 10	277	116 05	350	74 80	423	20 35	496	146 85	569	192 50	642	91 85
59	295 35	132	80 85	205	58 85	278	18 20	351	27 50	424	208 45	497	142 45	570	88 55	643	66 65
60	429 65	133	221 65	206	100 65	279	.....	352	119 90	425	61 60	498	85 25	571	212 80	644	101 75
61	92 40	134	82 50	207	875 10	280	106 70	353	143 55	426	218 95	499	119 30	572	63 80	645	95 55
62	116 60	135	99 00	208	119 90	281	244 75	354	323 40	427	.....	500	116 05	573	246 40	646	292 35
63	225 50	136	140 80	209	96 25	282	81 35	355	225 50	428	72 05	501	133 55	574	149 05	647	80 85
64	238 15	137	69 85	210	58 90	283	67 10	356	184 25	429	130 35	502	160 80	575	38 50	648	66 00
65	200 75	138	230 45	211	256 30	284	481 80	357	88 00	430	109 45	503	81 40	576	90 50	649	42 35
66	226 05	139	834 95	212	166 65	285	833 30	358	820 10	431	47 30	504	97 35	577	188 10	650	58 30
67	75 90	140	.....	213	139 15	286	267 85	359	89 65	432	.....	505	62 80	578	198 00	651	178 75
68	115 60	141	566 60	214	520 80	287	947 50	360	79 20	433	206 80	506	107 25	579	62 15	652	231 55
69	83 80	142	238 15	215	344 85	288	97 60	361	123 75	434	187 55	507	256 30	580	52 80	653	67 65
70	149 60	143	219 65	216	140 25	289	186 45	362	67 65	435	215 05	508	369 05				

Beneficiary Statement—Continued

Lodge No.	Amount	Lodge No.	Amount	Lodge No.	Amount	Lodge No.	Amount	Lodge No.	Amount	Lodge No.	Amount	Lodge No.	Amount	Lodge No.	Amount	Lodge No.	Amount
658	66 80	678	125 80	700	177 65	721	26 60	742	81 85	763	76 45	784	84 65	805	84 15	826	40 15
658	190 85	690	185 85	701	186 40	722	61 05	743	225 50	784	84 15	785	109 95	800	184 80	827	40 70
658	151 25	691	134 80	702	98 45	723	62 70	744	84 10	785	117 15	786	248 05	807	620	628	60 80
661	77 00	682	85 80	703	78 70	724	82 45	745	72 05	788	.....	787	128 65	808	154 55	829	50 60
682	64 90	683	169 80	704	235 50	725	78 15	746	80 25	787	85 25	788	58 85	809	84 70	830	88 60
688	141 90	684	114 95	705	88 05	726	55 55	747	82 50	788	801 95	789	42 90	810	44 00	831	18 15
684	78 10	685	288 70	706	49 50	727	81 25	748	24 75	788	.....	788	88 60	811	78 70	832	.....
685	89 10	686	68 25	707	88 60	728	108 40	749	98 50	770	161 70	781	45 10	812	167 20	832	46 40
685	260 95	687	88 00	708	.....	728	88 55	750	70 98	771	74 80	782	91 85	813	62 80	834	66 00
687	197 30	688	81 95	709	91 80	730	118 25	751	19 25	772	81 95	783	79 75	814	104 50	835	95 70
685	139 80	689	80 25	710	67 65	731	95 25	752	66 55	773	.....	784	54 45	815	148 55	835	177 10
685	79 75	690	109 45	711	116 60	732	50 60	753	42 85	774	194 70	785	72 05	816	34 20	837	106 15
678	268 40	681	86 80	712	42 85	733	110 00	754	44 00	775	95 95	786	136 95	817	74 80	838	116 60
671	74 80	682	72 60	713	161 70	734	87 45	755	122 65	776	145 75	787	104 50	818	68 80	839	49 50
672	96 25	683	10 45	714	97 90	735	107 80	756	29 15	777	66 00	788	60 05	819	118 85	840	189 75
673	132 10	684	80 80	715	88 50	736	48 40	757	80 20	778	72 05	789	188 10	820	105 05	841	184 80
674	22 55	689	79 20	716	157 85	737	24 75	758	89 60	779	148 55	790	80 80	821	89 65	842	51 70
675	806 85	690	68 25	717	47 85	738	28 05	759	131 00	780	.....	801	118 25	822	70 95	843	71 50
678	75 90	687	45 05	718	96 25	739	65 45	760	68 25	781	111 10	822	98 20	823	144 65	844	.....
677	138 10	688	.....	718	237 15	740	112 75	761	119 85	782	269 70	823	108 25	824	137 60	845	.....
678	95 70	688	66 00	728	84 65	741	86 80	762	68 20	783	189 70	824	144 65	825	25 80	.....	.....

Received during month of April.....\$126,161 85
 Respectfully submitted, A. H. HAWLEY, G. S. and T.

Western Concerted Wage Movement

ASSESSMENT TO REIMBURSE PROTECTIVE FUND

ASSESSMENT No. 6, \$0.50.

PEORIA, ILL., JUNE 1, 1916.

All Members in Engine Service on the Following Railroads:

Atchison, Topeka & Santa Fe (Proper); Atchison, Topeka & Santa Fe (Coast Lines); Baltimore & Ohio Chicago Terminal; Bellingham & Northern; Canadian Northern west of Parry Sound; Canadian Pacific west of Fort William; Chicago & Alton; Chicago, Burlington & Quincy; Chicago Great Western; Chicago Junction & Chicago River & Indiana; Chicago, Milwaukee & St. Paul; Chicago, Milwaukee & Puget Sound; Chicago & Northwestern; Chicago Rock Island & Pacific; Chicago, St. Paul, Minneapolis & Omaha; Chicago & Western Indiana; Colorado & Southern; Davenport, Rock Island & Northwestern; Denver & Rio Grande; Duluth, South Shore & Atlantic; El Paso & Southwestern; Fort Worth Belt; Fort Worth & Denver City; Great Northern; Gulf, Colorado & Santa Fe; Gulf & Interstate; Houston & Texas Central; Houston East & West Texas; Illinois Central; International & Great

Northern; Kansas City Southern; Kansas City Terminal; Louisiana & Arkansas; Mineral Range; Minneapolis, St. Paul & Sault Ste. Marie; Missouri & North Arkansas; Missouri, Kansas & Texas; Missouri, Oklahoma & Gulf; Missouri Pacific; Northern Pacific; Oregon Short Line; Oregon-Washington R. R. & Navigation Co.; Panhandle & Santa Fe; San Antonio & Aransas Pass; Santa Fe, Prescott & Phoenix; San Pedro, Los Angeles & Salt Lake; Southern Pacific (Atlantic System); Southern Pacific (Pacific System); Spokane, Portland & Seattle; St. Louis, Brownsville & Mexico; St. Louis & San Francisco; St. Louis Southwestern; Terminal R. R. Ass'n and the St. Louis Merchants' Bridge Terminal R. R.; Texas & Pacific; Trinity & Brazos Valley; Union Pacific; Union Stock Yards; Union Railway of Memphis; Wabash; Western Pacific; Wichita Valley; Wiggins Ferry, Yazoo & Mississippi Valley.

SIRS AND BROTHERS:—In accordance with the provisions of Article 25, Section 16, of the Constitution, you are hereby notified of Assessment No. 6, in the sum of fifty (\$0.50) cents. This amount is payable to the Financial Secretary of your lodge on or before the first day of July, by all members whose names are on the rolls in engine service June 30. Any member liable therefor, failing or declining to pay will stand expelled the same as for non-payment of monthly assessments. Yours fraternally,

W. S. CARTER,

President.

A. H. HAWLEY,

General Secretary and Treasurer.

Article 25, Section 16. (c) Upon the conclusion of such conference the President and General Secretary and Treasurer shall have authority to levy an assessment upon all members in engine service on the lines participating in the movement, of sufficient amount to cover the expenses so incurred, the same to be placed in the Protective Fund of the Brotherhood for the money originally advanced for the purpose.

(d) Any member failing or declining to make payment of such assessment when levied, shall stand expelled as is provided for in the laws governing the non-payment of assessments.

Statement of Death and Disability Claims

PAID BY THE GENERAL SECRETARY AND TREASURER FROM MARCH 31, 1916, TO APRIL 30, 1916

Cl. No.	NAMES	Lifes. No.	Death or Disability	DATE	Am't of Insur'ce	CAUSE
5019	Wm. H. Lawrence.....	519	Death	Oct. 11, 1915	\$1,500.00	Heart disease
0184	Joseph Sharpe.....	167	"	Jan. 11, 1916	1,500.00	Run over by engine
0072	Carl B. Nyhus.....	501	"	Dec. 4, 1915	1,500.00	Suffocation (tunnel)
0110	Wm. McCleary.....	685	"	Oct. 15, 1915	1,000.00	Killed in battle
0107	John Smith.....	75	"	Jan. 25, 1916	1,000.00	Pneumonia
0299	Thos. J. Berrien.....	73	"	Jan. 27, "	1,500.00	Train striking auto
0210	Burr W. Benson.....	121	"	Feb. 7, "	2,000.00	Pericarditis
0212	Anton Beiser.....	282	"	Jan. 18, "	1,500.00	Pneumonia
0214	Lester M. Nostesine.....	771	"	Feb. 2, "	1,000.00	Nephritis
0220	George Freeman.....	45	"	Jan. 26, "	1,500.00	Appendicitis
0216	Gilbert Leslie.....	85	Disability	Mch. 15, "	1,500.00	Locomotor staxia
0221	Byron Arnold.....	164	Death	Jan. 26, "	1,500.00	Cerebral hemorrhage
0222	George Robertson.....	296	"	Feb. 12, "	1,500.00	Mycarditis
0223	Robert W. Hamilton.....	449	"	Feb. 6, "	1,500.00	Bright's disease
0224	Charlie J. Fortune.....	714	"	Feb. 10, "	500.00	Run over by engine
0225	Cornelius H. Crossan.....	285	"	Feb. 4, "	1,500.00	Falling from engine
0227	LeRoy Weigel.....	804	"	Feb. 4, "	1,500.00	Falling from engine
0232	Eugene E. Loveley.....	25	Disability	Feb. 8, "	1,000.00	Amputation of hand
0234	Earnest A. Wilholm.....	107	Death	Feb. 12, "	1,500.00	Heart disease
0235	Napoleon Sainville.....	118	"	Feb. 26, "	1,000.00	Pneumonia
0236	Jacob E. Forwood.....	214	"	Feb. 28, "	1,000.00	Consumption of lungs
0237	John E. Cronin.....	242	"	Feb. 27, "	1,500.00	Derailing of engine
0238	Charles Romaine.....	548	"	Jan. 16, "	1,500.00	Struck by auto-truck
0240	Guy A. Waddell.....	79	"	Feb. 18, "	1,500.00	Oedema of lungs
0242	Frank N. Breaudt.....	285	"	Feb. 6, "	1,500.00	Crushed bet. tank & platform
0243	Wallace C. Bedford.....	884	"	Feb. 28, "	1,500.00	Collision
0244	James E. O'Boyle.....	428	"	Feb. 18, "	1,500.00	Locomotor staxia
0245	Patrick Lynott.....	37	Disability	Mch. 28, "	1,500.00	Bright's disease
0248	Andrew Carrigg.....	288	"	Jan. 6, "	1,500.00	Amputation of foot
0249	Geo. W. Dent.....	718	"	Jan. 18, "	1,500.00	Amputation of foot
0250	Geo. Poshard.....	48	Death	Feb. 28, "	500.00	Crushed between cars
0252	Wm. Lloyd, Jr.....	498	"	Feb. 21, "	1,500.00	Nephritis
0253	Ezra L. Butler (a).....	616	"	Feb. 15, "	1,500.00	Consumption of lungs
0254	John W. Shelton.....	760	"	Feb. 4, "	1,500.00	Heart disease
0256	Otto J. Peterson.....	18	Disability	Jan. 26, "	1,500.00	Amputation of foot
0259	Frank O. Smith.....	11	Death	Feb. 26, "	1,500.00	Hemorrhage following operation
0260	Geo. W. Crocker.....	100	"	Feb. 15, "	8,000.00	Automobile wreck
0261	Edwin E. Kaul.....	249	"	Feb. 26, "	1,000.00	Acute nephritis
0262	Wm. A. Burkett.....	881	"	Mch. 2, "	1,500.00	Struck by train
0263	Thos. M. Haugh.....	511	"	Feb. 15, "	1,000.00	Cerebral hemorrhage
0264	Jas. P. Ridenhour (b).....	617	"	Mch. 4, "	1,000.00	Consumption of lungs
0265	Wm. A. Bitzer.....	10	"	Feb. 26, "	1,500.00	Gun shot wound
0266	Napoleon B. Marf (c).....	186	"	Feb. 18, "	1,500.00	Consumption of lungs
0267	Phillip Cominsky.....	251	"	Mch. 6, "	1,500.00	Struck by engine
0268	Wm. H. Card.....	292	"	Feb. 26, "	600.00	Pneumonia
0269	Robert Ferguson.....	284	"	Mch. 9, "	1,500.00	Pneumonia
0270	Peter Bruhl.....	868	"	Mch. 6, "	1,500.00	Paralysis
0271	John W. Whitmore.....	460	"	Feb. 17, "	8,000.00	Consumption of lungs
0272	Bobt. H. Anglin.....	626	"	Feb. 28, "	1,000.00	Pneumonia
0273	Edward McGinnis.....	666	"	Feb. 22, "	1,500.00	Derailing of engine
0274	John E. Hilbert.....	768	"	Feb. 17, "	1,000.00	Derailing of engine
0275	Arthur W. Roemig.....	838	"	Mch. 8, "	1,500.00	Abscess of stomach
0278	Ben Ish.....	168	"	Mch. 6, "	1,500.00	Derailing of engine
0280	Kouis Kaster.....	167	"	Mch. 10, "	1,500.00	Derailing of engine
0281	Samuel J. T. Shope.....	287	"	Mch. 10, "	1,500.00	Collision
0282	G. A. Densler.....	297	"	Mch. 12, "	1,500.00	Sarcoma of bladder
5472	Wm. G. Pritchett.....	540	"	Mch. 26, 1915	1,000.00	Run over by engine
0284	Frank Townsend.....	489	"	Feb. 27, 1916	1,500.00	Consumption of lungs
0231	Ben Shandy.....	824	Disability	Apr. 7, "	1,500.00	Blind in left eye
5582	Robert M. Proteous.....	788	Death	Apr. 28, 1915	500.00	Killed in battle
0241	John W. Owens.....	226	"	Feb. 14, 1916	8,000.00	Appendicitis

(a) Claim No. 0253. Originally Class "A." \$260.00 paid in Consumption allowances.
 (b) Claim No. 0264. Originally Class "B." \$260.00 paid in Consumption allowances.
 (c) Claim No. 0266. Originally Class "A." \$1100.00 paid in Consumption allowances.

Summary for month of April, 1916.

Death Claims.		Disability Claims.		Total number of claims paid during month.....
No. Claim	Amount	No. Claim	Amount	
33-A.....	\$49,500.00	6-A.....	\$9,000.00	Total amount paid during month.....\$83,600.00
10-B.....	10,000.00	1-B.....	1,000.00	
4-C.....	2,000.00	-C.....	.....
1-D.....	2,000.00	-D.....	.....
3-E.....	9,000.00	-E.....	.....
3-Irregular.....	1,100.00	-Irregular.....	.....
54	\$73,600.00	7	\$10,000.00	

Pending Claims April 30, 1916.

88 death claims aggregating.....	\$111,775.00
22 disability claims aggregating.....	49,000.00
Total of 116 claims aggregating.....	\$160,775.00

Statement of Death and Disability Claims

FILED WITH THE GENERAL SECRETARY AND TREASURER DURING THE MONTH ENDING MAY 15, 1916.

No. of Claim	NAME OF MEMBER	No. of Lodge	Date of Filing	Character of Claim	Amount of Bon. Cert.	When Payable if Approved	Cause of Death	Cause of Disability
6357	Thompson I. Curby	530	Apr. 18, '16	Death	500	June 15, '16	Consumption of lungs	
6358	Patrick Slowe	6	Apr. 18, '16	Disab.	1500	June 15, '16		Heart disease
6360	Chas. C. Nichols	690	Apr. 18, '16	Disab.	1500	June 15, '16		Paralysis
6362	Frank E. Beed	890	Apr. 18, '16	Disab.	1000	June 15, '16		Heart disease
6363	John H. White	4	Apr. 21, '16	Death	500	June 15, '16	Ulcer of stomach	
6364	Wm. McCarthy	167	Apr. 21, '16	Death	1000	June 15, '16	Pneumonia	
6365	Ralph E. Adams	406	Apr. 21, '16	Death	1500	June 15, '16	Typhoid pneumonia	
6366	Frank A. Wines	8	Apr. 25, '16	Death	1000	June 15, '16	Electrocut	
6367	Thos. B. Moss	78	Apr. 25, '16	Death	1500	June 15, '16	Gall stone operation	
6368	Edward Wells	118	Apr. 25, '16	Death	600	June 15, '16	Arthritis, R. knee	
6369	Chas. M. Ruddell	297	Apr. 25, '16	Death	1500	June 15, '16	Bright's disease	
6370	Wm. Jafray	342	Apr. 25, '16	Death	1500	June 15, '16	Killed in battle	
6371	Thos. Haley	559	Apr. 25, '16	Death	500	June 15, '16	Heart disease	
6373	Oscar Z. Pritchard	367	Apr. 25, '16	Disab.	1500	June 15, '16		Heart disease
6374	Thos. B. Stine	393	Apr. 25, '16	Disab.	9000	June 15, '16		Amputation left foot
6375	Samuel H. Brady	448	Apr. 28, '16	Disab.	1500	June 15, '16		Heart disease
6376	W. S. Davisson	157	Apr. 28, '16	Death	500	June 15, '16	Cancer	
6377	Thos. J. Black	194	Apr. 28, '16	Death	1000	June 15, '16	Collision	
6378	Wm. Glair	276	Apr. 28, '16	Death	1500	June 15, '16	Run over by cars	
6379	Chas. W. Daniel	399	Apr. 28, '16	Death	1500	June 15, '16		
6380	Wm. C. Schuh	399	Apr. 28, '16	Death	1500	June 15, '16		
6381	Harmon T. Cook	634	Apr. 28, '16	Death	1500	June 15, '16	Cirrhosis of liver	
6382	Jas. McKeegan	15	May 2, '16	Death	1500	June 15, '16	Derailing of engine	
6383	Wm. F. Hoshaw	90	May 2, '16	Death	1500	June 15, '16	Killed in battle	
6384	Jos. B. Muldoon	99	May 2, '16	Death	1500	June 15, '16	Bright's disease	
6385	Jas. E. Austin	497	May 2, '16	Death	1000	June 15, '16	Acute cons'n of lungs	
6386	Henry C. Scrace	511	May 2, '16	Death	2000	June 15, '16	Struck by train	
6387	Sidney M. Evans	522	May 2, '16	Death	1500	June 15, '16	Septic-pyemia	
6388	Will C. Bevan	807	May 2, '16	Death	1500	June 15, '16		
6394	Chas. W. Hilbert	466	May 2, '16	Disab.	1000	June 15, '16	Typhoid pneumonia	
6397	Thos. F. Mallady	8	May 3, '16	Death	1500	June 15, '16		Consumption of lungs
6398	Willie A. Scoggin	8	May 3, '16	Death	1500	June 15, '16	Apoplexy	
6399	Arthur F. Kersting	68	May 3, '16	Death	500	June 15, '16	Run over by train	
6400	John B. Meehan	234	May 3, '16	Death	1500	June 15, '16	Consumption of lungs	
6401	Wm. L. Spooner	234	May 3, '16	Death	1500	June 15, '16	Derailing of engine	
6402	Wm. A. Teeple	484	May 3, '16	Death	2000	June 15, '16	Falling from engine	
6403	Thos. Scanlon	668	May 3, '16	Death	1500	June 15, '16	Erysipelas	
6404	Wm. Anderson	45	May 8, '16	Death	1500	June 15, '16	Bright's disease	
6405	Edward H. Taylor	78	May 8, '16	Death	1500	June 15, '16	Bright's disease	
6406	Clarence D. Wells	88	May 8, '16	Death	1000	June 15, '16	Struck by train	
6407	Chas. T. Flynn	215	May 8, '16	Death	1500	June 15, '16	Frozen in car	
6408	Jas. A. Powell	497	May 8, '16	Death	1500	June 15, '16	Consumption of lungs	
6409	Jas. A. Powell	497	May 8, '16	Death	1500	June 15, '16	Heart disease	
6409	John J. Kennedy	250	May 8, '16	Disab.	1500	June 15, '16		Amputation of hand
6412	Albert P. Meade	446	May 8, '16	Disab.	3000	June 15, '16		Amputation of foot
6414	Maxie Ruthart	593	May 10, '16	Disab.	1500	June 15, '16		Consumption of lungs
6418	Walter A. Sturm	190	May 10, '16	Death	500	June 15, '16	Consumption of lungs	
6417	Geo. Stahl	65	May 10, '16	Death	1500	June 15, '16	Pneumonia	
6418	Chas. J. Vaughn	67	May 10, '16	Death	1500	June 15, '16	Striking bridge	
6419	John Allen	318	May 10, '16	Death	1500	June 15, '16	Heart disease	
6420	Frank A. Wospell	311	May 12, '16	Death	1000	June 15, '16	Myocarditis	
6421	Richard J. Gibbons	228	May 12, '16	Death	1500	June 15, '16	Heart disease	
6422	John B. Everitt	272	May 12, '16	Death	1500	June 15, '16	Derailing of engine	
6423	Geo. W. Bowser	316	May 12, '16	Death	1500	June 15, '16	Appendicitis	
6424	Harvey S. Peye	333	May 12, '16	Death	1500	June 15, '16	Pneumonia	
6425	Celestin A. Knappe	664	May 12, '16	Death	500	June 15, '16	Traumatic peritonitis	
6428	Leslie Smith	685	May 12, '16	Death	1500	June 15, '16	Oedema of lungs	
6430	Chas. S. Gelsinger	673	May 15, '16	Disab.	2000	June 15, '16		Amputation of foot
6431	Lyman E. Parmenter	26	May 15, '16	Death	1500	June 15, '16	H't & B't's disease	
6432	Louis D. Wenzel	115	May 15, '16	Death	1500	June 15, '16	Operation liver tr'ble	
6433	David McHarg	392	May 15, '16	Death	1000	June 15, '16	Consumption of lungs	
6434	James Voyce	262	May 15, '16	Death	1000	June 15, '16	Killed in battle	
6435	J. Howard Partlo	608	May 15, '16	Death	1000	June 15, '16	Collision	

Statement of Funeral Benefit Claims

FILED WITH THE GENERAL SECRETARY AND TREASURER DURING THE MONTH ENDING MAY 15, 1916.

No. of Claim	NAME OF MEMBER	No. of Lodge	Date of Filing	Amount of Ben. Cert.	When Payable if Approved	Cause of Death
128	John Harris	76	May 2, '16	\$175	June 15, '16	Apoplexy

Statement of Funeral Benefit Claims

PAID BY THE GENERAL SECRETARY AND TREASURER FROM MARCH 31, 1916, TO APRIL 30, 1916.

Claim No.	Lodge No.	NAME	Class	Amount	Cause of Death
180	88	Mike Pitts	N. B.	\$175.00	Pneumonia
183	80	Cyril Dumont	Hon.	175.00	Gastritis
111	240	E. E. White	Hon.	175.00	Bright's disease
112	480	Chas. H. Edmonston	Hon.	175.00	Paralysis
113	482	Otto C. Brauns	Hon.	175.00	Heart disease
114	845	Joseph Desmond	N. B.	175.00	Struck on head with club
116	490	Joel E. Corey	Hon.	175.00	Pneumonia

7 claims, aggregating \$1,225.00

Statement of Consumption Allowances

PAID BY THE GENERAL SECRETARY AND TREASURER FROM MARCH 31, 1916, TO APRIL 30, 1916, UNDER THE PROVISIONS OF PARAGRAPH (b), SECTION 12 OF ARTICLE 12, OF THE CONSTITUTION.

Claim No.	Lodge No.	NAME	Amount
6159	259	John P. McCabe	\$ 0.00
6154	552	John F. Kelleher	50.00
6278	512	Elmer O. Browning	50.00

3 Claims, aggregating \$ 150.00
 Paid on Claims previously published 2,400.00
 Total..... \$3,550.00

Statement of Benevolent Claims

PAID BY THE GENERAL SECRETARY AND TREASURER, FROM MARCH 31, 1916, TO APRIL 30, 1916.

Claim No.	Lodge No.	NAME	Amount Carried	Amount Allowed
5628	249	Geo. Embrey (f)	\$1,500.00	\$ 500.00
5630	157	Winfield S. Davison	1,500.00	1,000.00
5310	073	E. J. Greenawalt	1,500.00	500.00
5370	14	John F. Eusey	1,500.00	500.00
5636	309	Robert C. Anderson	2,000.00	1,500.00
0152	522	Benj. F. Reeves	1,000.00	500.00
4283	731	Chester A. Spurgin (a)	1,000.00	500.00
4800	247	Ernest C. Head (a)	1,500.00	500.00
5150	441	Wm. F. Maher (a)	1,500.00	500.00
5222	11	Hugh A. Beers (c)	1,500.00	500.00
5254	287	John M. Boyer (a)	8,000.00	500.00
5428	708	Luther B. Waites (a)	1,000.00	500.00
5427	24	Geo. Heffner, Jr. (a)	1,500.00	500.00
5400	404	Arthur E. Seelye (a)	1,500.00	500.00
5442	421	Ernest Gay (a)	1,500.00	500.00
5602	182	Wesley H. Cosner (a)	1,000.00	500.00
5670	67	John B. McSwain (a)	1,000.00	500.00
5684	5	John J. J. Binns (a)	8,000.00	500.00
5725	415	Geo. Washburn (a)	1,500.00	500.00
5742	82	Arthur H. Crowley (a)	2,000.00	500.00
5781	26	Patrick Corcoran (a)	1,500.00	500.00
5770	574	Eli Sankh (a)	1,500.00	500.00
5776	626	J. Harrison Randall (c)	1,000.00	500.00
5833	265	Toddy Fisher (a)	1,500.00	500.00
5890	88	Daniel J. Haynes (a)	2,000.00	500.00
5890	78	John E. Johnson (a)	1,500.00	500.00
5874	54	Thos. L. Fox (c)	500.00	500.00
5833	58	Harry L. Chapman (a)	500.00	500.00
5907	448	Jas. W. Moore (c)	500.00	500.00
5927	298	Florida W. Bell (a)	1,000.00	500.00
5942	48	A. J. Johnson (a)	1,000.00	500.00
5947	160	Otto I. Lenters (a)	1,000.00	500.00
5950	268	Frank D. Smith (a)	1,500.00	500.00
6001	107	Wm. I. Morrison (a)	1,500.00	500.00
6014	287	William H. Greer (a)	1,000.00	500.00
6015	427	Wm. J. McDonald (a)	1,500.00	500.00
6022	100	Henry B. Dellus (b)	2,000.00	500.00
6040	448	Michael J. Gibbons (a)	1,500.00	500.00
6047	77	Henry W. Becker (a)	500.00	500.00
6080	33	Wm. B. York (a)	1,500.00	500.00
6120	606	Willoughby Gilbert (a)	1,000.00	500.00
6150	106	Philip Kaine (a)	1,500.00	500.00
4614	302	H. N. Geiger (c)	1,500.00	500.00
5104	411	Way B. Peters (c)	1,000.00	500.00
5224	898	I. C. Johnson (a)	1,500.00	500.00
5308	276	John Bohorn, Jr. (a)	1,500.00	500.00
5743	449	Simon Parker (a)	500.00	500.00
5973	407	Allison A. West (a)	500.00	500.00
5680	828	Chas. B. McCoy (c)	1,500.00	500.00
6000	124	Frank E. Munko (a)	1,000.00	500.00
5648	175	John I. Dollison (a)	1,000.00	500.00
6000	98	Henry Lettner (c)	1,500.00	500.00

52 Claims, aggregating \$ 5,415.00
 Paid on claims previously published 1,895.00
Total..... \$ 7,310.00

- (a) Payable \$25.00 per month.
- (b) Payable \$25.00 per month.
- (c) Payable \$20.00 per month.
- (d) Payable \$40.00 per month.
- (e) Payable \$15.00 per month.
- (f) \$30.00 paid April 1st, 1916, balance at \$20.00 per month.

Beneficiary, General, Protective, Funeral Benefit and Local Assessments for the Month of July, 1916.

To all Members of Subordinate Lodges:

OFFICE OF THE GRAND LODGE, B. OF L. F. AND E. }
PEORIA, ILL., JUNE 1, 1916. }

SIRS AND BROTHERS—You are hereby notified that Beneficiary Assessment for the payment of death and disability claims, General Fund Assessment, Protective Fund Assessment, Funeral Benefit and Local Assessment, are now payable and must be paid to the Financial Secretary of your lodge on or before July 1, 1916, in the following amounts, viz.:

	Beneficiary Assessment.	General Fund Assessment.	Protective Fund Assessment.	Funeral Benefit
Class E Members.....	\$8 30	\$0 25	\$0 10	.....
Class F Members.....	2 75	25	10	.....
Class D Members.....	2 20	25	10	.....
Class A Members.....	1 65	25	10	.....
Class B Members.....	1 10	25	10	.....
Class C Members.....	55	25	10	.....
Non-Ben. Members .....	.....	25	10	\$0 25
Honorary Members .....	.....	25	10	25



Local Lodge Assessment in such an amount as may be determined by your lodge, but in no case to be less than twenty-five (\$0.25) cents.

Any member failing or declining to make payment, as above provided, will be subject to expulsion from the order as per Section 8, Article 19 of the Constitution, said expulsion taking effect July 2, 1916.

Yours fraternally,

W. S. CARTER,
President.

A. H. HAWLEY,
General Secretary and Treasurer.

Notice to Financial Secretaries.

OFFICE OF THE GRAND LODGE, B. OF L. F. AND E. }
PEORIA, ILL., JUNE 1, 1916. }

To Financial Secretaries of Subordinate Lodges:

SIRS AND BROTHERS—You are hereby notified to collect Beneficiary, General Fund, Protective Fund and Local Assessment (now due and payable on or before July 1, 1916), from all beneficiary members on the rolls of your lodge June 30, 1916, and *Funeral Benefit Assessment from all Honorary and Non-Beneficiary Members*. General and Protective Fund Assessments from all members in the following amounts, viz.:

	Beneficiary Assessment.	General Fund Assessment.	Protective Fund Assessment.	Funeral Benefit
Class E Members.....	\$8 30	\$0 25	\$0 10	.....
Class F Members.....	2 75	25	10	.....
Class D Members.....	2 20	25	10	.....
Class A Members.....	1 65	25	10	.....
Class B Members.....	1 10	25	10	.....
Class C Members.....	55	25	10	.....
Non-Ben. Members .....	.....	25	10	\$0 25
Honorary Members .....	.....	25	10	25

You will collect from all members Local Lodge Assessment in such an amount as may be determined by your lodge—in no case to be less than twenty-five (\$0.25) cents. All Grand Lodge Assessments to be forwarded on the forms furnished by the Grand Lodge, same to reach the General Secretary and Treasurer not later than the 20th of July, 1916.



Every member whose application for Beneficiary Certificate is approved by the General Medical Examiner during the month of June will be liable for double the above amount for Beneficiary Assessment for the month of July, according to class of certificate.

Yours fraternally,

W. S. CARTER,
President.

A. H. HAWLEY,
General Secretary and Treasurer.



Notice.

Communications intended for publication in the Ladies' Department of the Magazine should, in all cases, be addressed to the Editress, Agnes G. Strong, 527 Green Street, Boone, Iowa.

Matter for the Grand President should be addressed to Mrs. Maude E. Moore, 15 Market Place, Stratford, Ontario, Canada, and that for the Grand Secretary and Treasurer to Mrs. Mary E. DuBois, 711 Story Street, Boone, Iowa.

Correspondents are requested, when sending communications for publication in the Magazine, to kindly write on one side of the paper only, and if matter is typewritten it should be written double space.



A Greeting to Delegates.

It does not seem possible that we are again about to assemble in convention, and what a pleasure it is for the Grand Lodge officers to be able to come and report a steady progress in the work of our lodges, encompassed by a genuine spirit of co-operation and harmony.

It is true that some of our lodges have had both sunshine and shadows, but did it ever occur to you, sisters, how they are interwoven in life as in nature? Did you ever stop to think how necessary the shadows are and that continual sunshine means a desert land or a parched self-

centered life? They balance in most cases and give the needed poise and social understanding to an otherwise selfish and over-balanced existence. So the seeming dark places in your lodge life have been made bright by the great love and Christian charity.

Although many questions which require careful attention have arisen, the best interests of our lodge have always been conserved. We stand as a unit in loyalty to our foundation principles which are more closely defined than ever before by the one word "Sisterhood." As the experiences of life have come to us in the passing of months, we have not lost sight of "individual growth" or "charity towards all our sisters," but we have learned better how to help the great masses of struggling humanity. The years have been saddened by the tragic sorrow in Europe, and are memorable for the beginning of not only the greatest war in the history of nations but the greatest in the history of the mechanical and physical sciences, a war which involves the earth, the ocean, and the skies. Many of our lodges have expended time, strength, and finances to alleviate the suffering beyond the seas, and in so doing have had a part in the world's work, not simply or chiefly in developing the resources of the mind and heart but in exemplifying our beautiful teachings.

To the delegates we extend greetings, the cordiality of which, we trust, may ex-

press our sisterly welcome. And as the scroll of our year's work is finished, a new one awaits the pencil of our deeds in the years before us. But before we add the finished one to the archives of the past, it is our custom to meet together, to scan each word and line—not in egotistical spirit but to see if our hopes of our last convention have been in a measure realized. If we can, with the searchlight of truth, scan this year that is past, and find that we have kept the vows of usefulness which we made at our last convention, as we listened to the ideal held up to us at that time, then happy are we, and great things may we hope for the future. Let us hold "Life's Mirror" before the record of this last year and see if we may expect that the "Best" shall come back to us.

"Give love, and love to your heart will flow,

A strength in your time of need;
Have faith, and a score of hearts will show

Their faith in your word and deed.
For Life is the mirror of king and slave,

'Tis just what you are and do;
Then give to the world the best that you have,

And the best will come back to you."
AGNES G. STRONG.



Notes.

Our Grand President, Sister Maude E. Moore, was honored by being elected as Assistant Vice President of the Board of Managers of the Home for Aged and Disabled Railroad Employes at their annual meeting last month.

Sister Moore is worthy of the honor bestowed upon her.

It was Robert Burns who said: "O wad some power, the giftie gie us to see ourselves as ithers see us." Now we can't even imagine that he meant that or even wished it, for just suppose other people knew us as well as we know ourselves, wouldn't this be a terrible world?

Sidney Smith once said that his idea of "hades" was to hate somebody. Kindness involves denial, sympathy carries sacrifice, affection or aid of any sort is to some degree costly. But it costs more to be spiteful, ugly and mean. Spite and ill nature are, as Dr. Johnson said, among the most expensive luxuries of life, revenge is a poor investment. It pays small dividends and calls for large assessments. All evil passions work their first and most serious injury to their possessor. The one you hate and plot against may neither know or care. Life is such that we must

Is it not better to expend them in kindness that uplifts than in spite that debases? Is it good sense to dwarf one's soul in efforts to make some one recognize that you are their enemy and trying to hurt them? What we give we get back in kind. "Love is the light in which we see and live. Hates are malarial mists in which we blindly grope and miserably die."

Miss Edith Blinn, a former Colorado girl, yet in her 20's, has come to the front in the world of fiction and is being lauded by eastern critics as having "arrived" to stay. "The Ashes of My Heart" is the title of her book that has attracted so much and such favorable comment. Miss Blinn received her early inspiration from the Colorado Rockies and how can one help being inspired that ever looked upon them? She went from Denver to Los Angeles a few years ago. In this novel are some beautiful passages and pictures of the emotions of womanhood. We want to give you only one:

"—Celia stood, bending over a flower bed, and in a firm, inquiring voice asked: 'What is love?'"

The author's definition, as voiced in the answer received by her fair young heroine of "The Ashes of My Heart," reads:

"Love is the greatest power we have in our world, my dear. It is the tonic of life. It builds us mansions. It forms cities and homes. Love gives us the beauty we have in our lives. It makes us look up to the blue skies and to the sun of gold. It makes us hear the sweetness in the songs of the birds. It makes us reach out our hands and touch everything with gentleness. It teaches us contentment, harmony and happiness. We hear it whispered everywhere."

Read the book and you will enjoy it.



The Lilac-Scented Midnight.

(JEAN DE ROSIN)

Out from the lilac-scented midnight,
Rich with the countless stars,
The roses broke from their prison
Of green and shell-pink bars.
Love tapped at my chamber-window—
I threw the lattice wide,
And into my soul came sweeping
The joys from the Other Side.

The horizon, gray as the mother-of-pearl,
Bent low to touch the plain,
As the breath of the roses and lilacs
Came back to my soul again.
The moon flooded the garden with glory.
Silver and white like a bride,
While into my soul came sweeping
The joys from the Other Side.

The Big Ten.

Below is given the membership of the ten largest lodges of the Ladies' Society of the B. of L. F. and E., as reported May 1, 1916:

1. No. 3, Hazel, Peoria, Ill.....	173
2. No. 125, Charity, Jackson, Mich.	128
3. No. 81, E Pluribus Unum, Logansport, Ind.....	120
4. No. 38, Hyacinthe, Ft. Wayne, Ind.....	118
5. No. 60, Pride of 174, Harrisburg, Pa.....	108
6. No. 142, Empire, Buffalo, N. Y.	105
7. No. 10, Helpmate, Elkhart, Ind.	102
8. No. 36, Autumn Leaf, Sayre, Pa.	101
9. No. 59, Easter Lily, Pt. Jervis, N. Y.....	91
10. No. 4, Hope, Huntington, Ind....	82
11. No. 234, Mary Lincoln, Columbus, Ohio.....	82



Charter Applications.

Charter applications have been requested and sent to the following places and the new lodges, when organized, will have the following numbers:

- 336, St. Joseph, Mo.
- 136, Chicago, Ill.
- 200, Kansas City, Mo.



New Lodges Organized.

115, Pride of the Desert, Needles, Calif. Organized March 27, 1916, with nineteen charter members.

Organizer, Stena Ward, Mina, Nev.

136, Chicago, Chicago, Ill. Organized April 12, 1916, with twenty charter members.

Organizer, Maude E. Moore, Stratford, Ontario, Canada.



Another New Lodge for Ohio.

On March 6th, last, Capital City Lodge 355 was organized by Sister Elizabeth Smith of Columbus, Ohio, with twenty charter members. The new officers took hold of their work with very encouraging enthusiasm, which it is hoped will always continue, for it takes the co-operation of every sister to make a lodge successful.

We have several applications on file and we fully expect many more in the near future.

Our worthy President, Sister Edna Christian, entertained the sisters and their husbands at her home a short time ago and a most delightful evening was spent.

We serve a lunch at the close of each meeting in order to give the new members a chance to get acquainted with each other.

The brothers of Arch City Lodge 774 were very kind in assisting us financially and in locating members for us, and we hope some day to be able to show our appreciation by giving them a grand "feed" and a general good time.

We send our best wishes and kind regards to all the sister lodges and also to our Eddress, Sister Agnes G. Strong.

CATHARINE CARMAN,
Columbus, Ohio.



New Lodge for Indiana.

A new lodge was organized March 31, 1916, at Richmond, Ind., with a membership of twenty.

Richmond was founded by the early Quakers in 1816 and has ever been called the Quaker City of the West, therefore in honor of our home town the lodge shall be known as "Quaker City Lodge 283."

All were delighted with our Instructor, Sadie E. Schoenell, of Huntington, Ind., and unite in extending her a vote of thanks for her careful work in teaching us.

The B. of L. F. and E. families were invited for the evening and refreshments were served. A very instructive talk was given by Sister Schoenell, which was appreciated by all.

We had as a guest Mr. H. C. Hartman of Columbus, Ohio, a member of Advisory Committee Relief Department of Pennsylvania Lines, who also gave a very interesting talk. We appreciate every kindness shown, also the donation from the brothers, as well as the greeting from the Ladies' Auxilliary from the G. I. A. that accompanied the beautiful bouquet of carnations received from them at our first meeting.

Our meeting days are the second and fourth Fridays of each month. A cordial invitation is extended to all visitors to all meetings.

We wish our sister lodges success and prosperity.

MRS. D. E. STUART,
Richmond, Ind.



District Meeting.

Orange Blossom Lodge 98, Los Angeles, Calif., decided to have a "School of Instruction," and at Sister Stena Ward's suggestion we invited all lodges in California and those in Nevada and Arizona.

They were all delighted with the idea. Had been wishing for just such an opportunity to learn the work of the Ladies' Society better.

The meeting was held March 31st and April 1st with twenty-six delegates. We held morning and afternoon secret sessions and a joint meeting with the brothers of Orange Grove 97 in the evening.

We organized a District Association to meet once a year. The next meeting will be held July 31, 1917, in San Francisco.

Trust.

A few Sundays ago Rev. F—— told in his sermon about a prosperous farmer and his wife in an adjoining state. They were well along in years, had been industrious, thrifty and conscientious in all their dealings and had accumulated wealth until they had a beautiful farm home, with all modern improvements.

One thing taught them in youth had always been their motto, "Remember the Sabbath Day, and keep it holy."



STATE MEETING OF THE LADIES' SOCIETY OF THE B. OF L. F. AND E.

Held in Trinidad, Colo., March 21, 22 and 23, 1916

The secretary of the Association is Sister C. W. Fowler, Sparks, Nev.

These meetings are great inspirations for better work, and bring us closer together. We don't feel that we are just a "Lodge" and have some insurance but are women working for the mutual good of each other. We asked the brothers of this district to co-operate with us and meet at the same time in San Francisco and they promised to take the matter up with their individual lodges.

All returned to their homes much benefited and looking forward to a still better time next year.

IDA MAY PIPER,
Los Angeles, Cal.

It was harvest time, and the broad wheat fields were waving with ripening grain. It was ready to harvest. On the Sabbath the farmer and his dear old wife went to the little country church, where for years they had received the spiritual help so much needed. When driving home their neighbors could be seen here and there harvesting the lovely fields of grain. On Monday a terrible storm came. First thunder, as the black clouds rolled blacker and nearer, then fierce flashes of lightning; then the rain, falling in torrents; and then hail stones, so large and thick that the lovely field of wheat was beaten in the ground, a total loss.

The farmer stood at the window with

a look of despair on his face. He could see in all directions, as the storm passed, his neighbors' grain all cut and in shocks, while his was a total loss. Then the dear wife went to him and put her arms around his neck and looked up in his face with the trustful shining face and said, "But, father, God is good, isn't He?"

MUSING.



A Pleasant Day

On April 11th it was my good fortune to visit Keystone Helpmate Lodge 20 at Susquehanna, Pa. At Binghamton I changed cars and at the station I found Sisters Kane and Dow, President and Treasurer respectively of Chenango Valley Lodge awaiting me and I was taken out to lunch, thus breaking very pleasantly the long journey. Sister Kane accompanied me to Susquehanna where we were met by Sister Cecile Graves and escorted to the lodge room, where we spent a most charming half hour chatting with the sisters. Promptly at three o'clock the President, Sister Isable Beebe, called the meeting to order and the work was dispatched with an accuracy that was a pleasure to us all. A delightful letter was read by the secretary from the Grand President, Sister Maude E. Moore, accepting an invitation to be present at their 10th anniversary celebration held on April 25th. At the close of the meeting delicious ice cream and cake were served, and remarks made by the visitors and sisters, after which Sister Kane and myself were each presented by Sister Mattie Hogan in behalf of the lodge with a beautiful china nut bowl. Our visit will long be remembered and from our hearts we sincerely wish Keystone's Helpmate 20 many long and prosperous years.

In my own lodge here in central New York, despite the long winter just passed, we have been busily moving onward, holding social afternoons twice a month and having a fine attendance at our regular meetings. Like all of the rest of our lodges, our eyes are just now turning towards the big glittering city of Denver and wondering what it will mean to the future of the Ladies' Society. Sister delegates, you have the welfare of our Society in your hands for the next three years, so far as the making of our laws is concerned. Think well, act wisely and ask God's blessing upon your work. Out there among the beautiful mountains of Colorado you have a work to do. Let me give you the words that were written to me in an old-fashioned autograph album

years ago. If you follow them truthfully you will work upon our new laws with an honest endeavor:

"Daughter—I would have you kind and gentle,
Always quiet mannered, too,
And give measure to your neighbor
As you'd have him give to you."

The words have outlived the hand that penned them, but the beautiful thought like her teachings live on to comfort and encourage when the way is sometimes dark.

IMOGENE BATES.



Third Annual Ohio State Meeting.

The Third Annual Ohio State Meeting of the Ladies' Society of the B. of L. F. and E. met in A. I. A. Hall, Lorain, Ohio, Tuesday, April 25, 1916, with fourteen of the Ohio lodges represented and 156 members present. The meeting was called to order and opened in ritualistic form by Superior Lodge 44, Lorain. The morning session was opened by a reception of visitors followed by the registration of delegates. The address of welcome was given by Sister Jennie Altman of Lorain, to which Sister Elizabeth Smith, Chairman of the Board of Grand Trustees and State Organizer, of Columbus, Ohio, responded.

At noon a splendid dinner was served by the church ladies.

During the afternoon the exemplification of the ballot by Lorain officers and Columbus Drill Team; exemplification of installation by Lake Shore Helpers 356, Cleveland; exemplification of draping charter, Success 42, Conneaut; exemplification of taking up old and receiving new pass, Forest Flower 15, Cleveland; questions answered by Grand Lodge Officer, Sister Elizabeth Smith; the closing ceremonies conducted by Lodge 44, Lorain, Ohio.

At the close of the afternoon's session twenty autos were in waiting to drive all guests around the city. This was made possible through the courtesy of Chamber of Commerce.

Supper was served by the church ladies and was most excellent. At eight o'clock there was an entertainment with official drill by Ladies' Society 324 of Columbus, Ohio. Ice cream and cake were served.

And thus another happy day was brought to a close for those fortunate enough to be in attendance at the third Ohio State meeting. Next year we meet in Toledo and it is hoped that even more members can be in attendance.

ONE WHO WAS THERE.

The Common Way.

(E. F. THOMPSON)

When the history is written of the age
we're passing through.
Tales of war and awful bloodshed, battle-
fields of crimson hue.
Kings and generals exalted for the vic-
tories they have won,
Will the common man get credit for the
things which he has done?

When the record of great railroads built
by Harriman and Hill,
And the wonderful achievements of the
factory and mill
Have been written on the pages of the
history soon begun,
Will the common man get credit for the
things which he has done?

When the tales of great invention have
received their rightful place,
When discoveries of science that have
blessed the human race
Have been spread upon the pages of the
record, one by one,
Will the common man get credit for the
things which he has done?

Common men in grewsome trenches 'mid
the dying and the dead,
On the railroad, in the factory, toiling for
their daily bread,
Shoved aside to want and suffer when
their usefulness is done,
Tell me, will they get the credit for the
good that they have done?

As in past, so in the future—and it
ever will be true,
Men who find a place in history are
among the favored few;
While the men who bear life's burdens,
wheresoe'er their lot is cast,
Are the men too soon forgotten; present,
future, and the past.

But a record's being written on a clear
and spotless page
Where the men of every station, every
language, every age,
Will receive each one full credit; 'tis
complete: 'tis not in part—
God looks not upon appearance, but He
looketh on the heart.

When among earth's teeming millions,
gathered from both near and far
To receive each one his portion at God's
righteous judgment bar,
From the long forgotten ages, we shall
hear the doleful sound,
"Men of war, thy brothers' blood now
crieth to me from the ground."

And behold the wage of hiring, how
you through trick and fraud,
Will not be passed by in judgment, when
a just and righteous God
Shall have summoned you before Him, for
'tis written in the book,
Where the man of every station and each
age shall have his nook.

And I fancy when that record has been
opened for our gaze,
We'll find men long since forgotten, there
emerging from the haze,
Coming forth as kings and conquerors,
each to wear a jeweled crown,
Who have had no earthly power, riches,
honor, or renown.

Onward then, my brother, onward; though
the way seem dark and drear,
This is not man's habitation, we are only
pilgrim's here,
Journeying toward a better country,
where each one will get his part,
For God looks not on appearance, but He
looketh on the heart.

* * *

**Union Meeting Held in Roxbury,
Mass.**

The Roxbury, Mass., Union Meeting was called to order by Sister Helen Lougee of Lodge 260, with eleven lodges represented.

Sister Lougee welcomed the delegates and visitors in her usual pleasing manner and then introduced our Grand President, Sister Maude E. Moore, of Stratford, Ontario, she responding in a few well chosen remarks. Sisters Reynolds and Briggs and presidents from other lodges were presented and responded in a pleasing way.

The sisters were asked to rise as their lodge number was called and were escorted by the warden to the secretary's desk to register, about fifty signing at this time.

The opening ceremonies were conducted by Commonwealth Lodge and the Installation exemplified by Lodge 155 in a most beautiful manner, after which questions were in order, which brought out many helpful explanations by the Grand President.

At noon a most bountiful repast was served in the dining room by the ladies of 260, after which we again met in session with the regular officers of 260 in the chairs. Roll call found 65 present. The balloting for candidates was then exemplified and splendidly done. The officers of 155 exemplified the initiatory work in a beautiful and impressive manner. The

Grand President again instructed in the work, which was much appreciated.

A rising vote was taken to continue the union meeting next year and unanimously carried. An invitation from Fitchburg, Mass., to hold the meeting next year with them was accepted, the president of that lodge to be chairman of the union meeting. Sister Pettingill of 131, Concord, New Hampshire, was elected secretary and Sister Campbell of 257, Woodville, N. H. treasurer.

Exemplification of taking up the pass and giving the new was given by Lodge 155.

Penny drill resulted in \$5.73. A rising vote of thanks was extended Commonwealth Lodge for our entertainment, after which the closing exercises were performed and our second annual Union Meeting was history written in the Book of Life of our Grand Order. "Blest be the tie that binds our hearts in fellowship almost divine."

MATTIE A. PETTINGILL,

Secretary Union Meeting Association,
Concord, New Hampshire.



A Lodge That Does Things.

As the time draws near for our convention, which is to be held in Denver, Colo., Frank P. Sargent Lodge 319 extends a hearty welcome to all delegates and visitors who may come to our beautiful city. We are joyfully anticipating another reunion with our sisters and are planning to make this convention one long to be remembered by all permitted to be present.

With our motto for our guide, we have extended a helping hand in all directions—to the sick, distressed and unfortunate. For a sister in needy circumstances we bought a sewing machine and also made her house dresses and clothes for three children.

At Christmas and Thanksgiving time money was given and baskets full of good things were donated to brighten the days for many an unfortunate, not only to those in our own lodge but to all whom we know to be worthy.

To a sister who has suffered much sickness and now has been visited by death, which took a little son four years old, we extend our heartfelt sympathy.

To the Railroad Men's Home at Highland Park, Ill., we donated five dollars, and to the Big Brothers Fund five dollars. With flowers and gifts and offers of help and sympathy we hasten to all our sick brothers and sisters, ever striving to make our motto our watchword and guide.

If our funds are low, our enthusiastic members give a dance, social or entertainment, which are not only well attended and enjoyed by all, but which soon replenish our treasury.

To our sister, Lulu Hammer, who was unanimously re-elected president for this year, we look for help and guidance. With her untiring zeal and encouragement, we have forged ahead, overcoming all troubles and dissension which has crossed our path.

When our newly elected officers were installed we gave a chicken dinner and in appreciation of Sister Hammer's work presented her with a beautiful silver set of knives and forks and the secretary with a hand painted dresser set.

No. 319 sent three delegates to the State Meeting at Trinidad, Colo.

Once again Denver extends a hearty welcome to all sisters who may find it possible to attend the convention.

ELIZABETH CONNELLY,
Lodge 319, Denver, Colorado.



First Aid to the Injured.

Brother Davison of Las Animas Lodge 344 gave an address on "First Aid to the Injured" at the opening session of the Fourth Annual State Convention held in Trinidad, Colo., on March 21st, 22nd and 23rd last. He imparted some valuable information as to how to care for the injured in accidents, how to treat and nurse the sick in time of need, also the prevention of contagious diseases amongst young and old. He said in part:

The question has often been asked, "What is first aid?" "First aid" is what to do before the doctor arrives. It is not intended to take place of a doctor, but as an illustration, "first aid" is a bridge over which the injured person is carried to permanent medical treatment.

"First aid" stops when the injured person is placed in the hands of some medical practitioner.

The best "first aid" student is the one who knows when to stop. Brother Davison referred to a person's kindness in helping an injured person from a railroad track suffering from a simple fracture of the leg, for should a person be dragged from the scene of the accident without the bones being brought together by improvised splints and bandages, there is some danger of the said fracture becoming compound, which would mean the chances of mortification arising from some unskilled person not having the knowledge of "first aid." Bleeding from arteries has the same illustration.

Persons must have some knowledge as

to the different parts of the body and limb where the arteries are situated before final results are obtained. For instance, take the main artery (femoral) in the thigh, being severed, a person would bleed to death in a few seconds if not being checked, also, several other arteries are more or less dangerous. Another instance where a switchman is working about the yard, through some accidental means, he falls between the wheels and has his leg severed between the hip joint and the knee, the blood from the artery is spurting out in jets from the pulsation of the heart's action, a tourniquet is applied around the limb to stop the bleeding by some unskilled person, but fails, why, because the person who applied it hadn't the knowledge of "first aid work"; and furthermore didn't know in which direction the arteries were situated.

What would have become of our soldiers and sailors in war time had it not been for the Red Cross nurses and transportation of the wounded? Fits and poisons are frequent occurrences in young and old, epileptic fits being termed a serious affliction in persons ranging between the ages of fourteen and forty-five years. In medicine, epilepsy is termed the "falling sickness," unconsciousness following like "Death's Call." These fits can happen to a fireman on a limited train traveling between fifty to sixty miles per hour, to a lady at a cooking stove, to a builder standing upon a platform many stories high, in fact, to any one.

"First aid" teaches you how to treat such cases.

Poisons are often taken by mistake for medicines, etc. Don't forget that "first aid" instructions have saved thousands of lives from painful deaths, by giving small quantities of such prescriptions as described in the "First Aid" book to encourage vomiting, to rid the stomach from such deadly, poisonous substances.

Railroads, factories, foundries, mines, schools and many other important places, such as amusements, should be furnished with "first aid outfits" to treat such accidents until the doctor arrives upon the scene, but what is the use of such if the employes don't learn the methods and practical knowledge of "first aid."

Brothers, our sisters can become nurses to attend the sick and injured in large hospitals. Why can't we all become "first aid" workers and help one another in time of accident? It just means a little practice and perseverance.

Glad to know that the "Union Pacific Railroad System" is pushing the good work along with their "first aid car."

In conclusion, let this be of some re-

membrance to our brothers belonging to the Tried and True, by showing some example to their families and neighbors how to relieve the suffering.

Brother Davison distributed fifty "first aid books" to the delegates and visitors of the Brotherhood and Ladies' Society attending the Convention, kindly sent by "Johnson and Johnson," medical and surgical manufacturers, New Brunswick, New Jersey. The above-named manufacturers or Bro. Chris. Davison, Box 307, Trinidad, Colorado, would be pleased to give any information at any future time regarding the benefit of "First Aid to the Injured."

Brother Davison was a member of the St. Johns Ambulance Association, England, from 1904 until August, 1912, and is a possessor of two qualification certificates, one medallion and six first class certificated medals, furthermore is a holder of the King George V medal presented to him at the coronation, 1911, for merit, and instructor in "first aid work."

President LOUIS J. ZENTHOEFER,
Lodge 344, B. of L. F. and E.



Letters From Friends.

FROM L. S. 328—(*Elizabeth A. Hochberg, Lehighton, Pa.*) We recently had the pleasure of having with us our Organizer, Sister Lillian Youngs. She is certainly an earnest and enthusiastic worker for the order. It is indeed a pleasure to go through the work with her as instructor. If we could only have her with us oftener it would instill in us that zeal and enthusiasm which at the present time is so sadly missing. There was a delegation of sisters from Black Diamond Lodge 269 of Mauch Chunk present at our meeting. Our membership is not increasing very fast and the attendance at our meetings is not what it should be.

White Star sisters extend a standing invitation to any sisters visiting in our vicinity and assure them a hearty welcome.



FROM L. S. 153—(*Mary E. Whent, Schreiber, Ontario, Can.*) Beaver Lodge 153 has been silent for some time but thanks to our faithful few we are still on the road to progress. We meet the first and third Thursdays in the afternoon in Mechanic's Institute Hall. All meetings are held regularly, with a fairly good attendance, and we always strive to live up to our splendid motto.

There has been much sickness in the homes of our members which has been a cause of non-attendance at meetings.

Sister E. Birch was re-elected president and we are all pleased to have her handle the gavel again, as her work in the past year brought good cheer and harmony as well as progress. We wish her the best of success. Sister Whent was installed in the duties of secretary and correspondent, which office she has now held for three years. Sister Wilson accepted the office of collector and Sister Rugg the office of treasurer, and I feel sure that with the help of the members 1916 will be our banner year.

One of our pleasant social affairs was when we went in a body to the home of our vice president, Sister Holmes, and gave her a real surprise by presenting her with a suitable token of the esteem in which she is held—the occasion being her birthday. After an enjoyable evening spent in cards, a dainty luncheon was served.

Sisters Bryson and Turner gave an "at home" to the members of 153 at the home of Sister Turner on March 2nd. Cards were enjoyed, followed by a fine luncheon.

Sister Wilson invited the sisters to her home on March 17th and an evening of cards and games was again enjoyed until a late hour, followed by a dainty luncheon served by the hostess. I now see where a few more social gatherings are in sight.

I suppose all of our sister delegates for the coming convention are being instructed. I think it will be splendid, especially if our delegates all join in and remain firm in their convictions and work for the good of our Ladies' Society. Sisters, if you think of anything that will better the welfare of our beloved order, now is the time to speak, not when it is too late.

I hope 1916 will bring better progress to our order, and don't let us forget our B. of L. F. and E. brothers who are at the front doing their bit.

I wish our Editress and all lodges the best of success.



FROM L. S. 322—(*Vera Mae Benton, Spencer, North Carolina.*) Sister Bostian organized our lodge last fall. We were organized with fifteen charter members and of course were very enthusiastic over the work of our lodge, but when the second and third meetings came our attendance was bad, our work was small, but our interest never wavered. It seemed we worked under unusual circumstances or at least something kept business from going along smoothly—now, this is what we thought. Last month,

our Sister Bostian whom we wanted to give us a better knowledge of how to do things. Our lodge showed Sister Bostian the courtesy of good attendance and close attention. She took up with us the most important points of business and drilled us thoroughly. Instead of discouragement we received praise from her—"you are getting along just splendidly," said she—"as good as I have ever seen a newly organized lodge."

We are very grateful to Sister Bostian for her kindness and feel that we were greatly benefited by her coming. We found that we had no cause to be discouraged and that we expected more than was possible in the beginning. Our last meetings have been good ones and we hope to be of help in any way we can to our sisters in "Friendship and Charity."



FROM L. S. 80—(*Mrs. Julia A. Lemon, Little Rock, Ark.*) In beginning 1916 we all decided to try and make all happy and to have social meetings and other amusements to bring the sisters closer together.

On the first Monday in January we had a turkey supper. A nice time was had. We next had a valentine social.

We, too, have had our sadness. There has been much sickness among our members and their families. We were called to part with one of our members, dear Sister Sarah McGowan, whom all the sisters loved. She was always ready to do her part and we miss her loving council. We sympathize with her loving children in their sad loss and can only commend them to God, who alone can comfort them.

We also extend sympathy to Sister Lena Opitz in the loss of her dear brother and Sister Virgil Wiseman in the loss of her dear sister. We had much sickness and sorrow the past winter but with the budding of the springtime we have been cheered and will take hold of our work with renewed energy. We are going to have our drill team started again and all parts of the work look brighter.

I send best wishes to our dear worthy Editress and all sisters.



FROM L. S. 60—(*Mrs. Lulu Wadsworth, Harrisburg, Pa.*) Pneumonia caused the death of our dear sister, Lillian G. Felix, wife of J. L. Felix. She was aged about 48 and was sick but one week.

She was a faithful worker and always at her post. We are never quite ready for her death being a great shock to all of us. The passing of our friends, but sorrow is no respecter of persons, and is the Grand

But, while our tears are falling, the voice of faith comes softly through the gloom, saying "He knoweth best."

The funeral services were held from her late residence, the Rev. Hartman, pastor of St. John's Reform Church, of which she was a member, officiating. The funeral was largely attended by relatives and friends and the floral tributes were many and beautiful. Pride No. 60, of which the deceased was a member, presented her with a handsome blanket and attended the services in a body.

With these few words we join in sympathy with the husband and son, Alson, who survive.

FROM L. S. 145—(*Mamie Morgan, El Dorado, Ark.*) Rosewood Lodge has not been heard from for some time, but am glad to say that we are progressing nicely.

We have not gained in membership, but will have two candidates for initiation at the next meeting. We are waking up and I am sure all are going to get busy, as each sister who secures a new member is to be given a lodge emblem pin.

Bro. J. H. Tomlinson had his foot badly mashed and is now in Little Rock in the hospital, but is reported doing nicely.

The first and fourth Tuesday in every month we get together and serve ice cream and cake and have a jolly good time.

We enjoy the letters in the Magazine from other sisters so much. How many lodges give their members pins for new members? I think it a very good plan, don't you?

To all sisters and Grand Lodge Officers we extend our best wishes for success and prosperity in 1916.

FROM L. S. 238—(*Alice M. Hollis, Portland, Maine.*) We feel as though Forest City Lodge had taken on a new lease of life.

We have been at a standstill for some time but this last year we have added twelve new members and several more are planning to join us a little later.

In March Great Eastern Lodge 4 entertained us with a fine entertainment and banquet and in April a joint meeting was held. Sister Isabel Reynolds, our instructor, was present on both occasions.

After our regular meetings we plan to have light refreshments served, a committee being appointed each time to take charge of the same.

A committee of seven, four from the Ladies' Society and three from the P^rotherhood, has been appointed to for-

mulate plans for joint meetings to be held often in the future, also to arrange for socials to be held by both lodges.

Another future plan which we hope will materialize a little later, is a field day held at some one of the parks that Portland is famous for. So with all these plans ahead of us and new members coming into both lodges we feel sure that the future of Forest City Lodge is assured.

With all good wishes to the Grand Lodge Officers and all sister lodges. May peace and prosperity attend us all.

FROM L. S. 327—(*Mrs. Mary Kennaw, Middleport, Ohio.*) Ohio Valley Lodge is up and doing. We are small in numbers but we are interested. The sisters have begun to realize that we must work together if we would meet with success in our lodge work.

The new officers are working hard and we hope for a very successful year.

The death angel entered the home of Brother and Sister Bennett and claimed a nine-months-old baby and their oldest son. We extend to our heart-broken sister and brother our deepest sympathy in this their great loss and can only commend them to "Him who doeth all things well."

We meet the second and fourth Thursday afternoons at two o'clock and we will welcome any visiting sisters who come our way.

FROM L. S. 199—(*Stella Grove, Seattle, Wash.*) In January we had joint installation of officers with the brothers of 407, Lodge 199, L. S., being guests of the brothers. After the installation ceremonies were completed a banquet was served to which a number of visitors were invited. Needless to say a pleasant time was enjoyed by all.

We have recently completed a series of card parties and have thus added a neat little sum to our treasury.

Our attendance at meetings is very good, considering the number of sisters who live out of the city and are unable to attend.

We hope to double our membership roll during 1916. We have initiated seven candidates thus far this year and are going to have a contest in the near future for new members. We hope to be numbered with the "Big Ten."

FROM L. S. 220—(*Ida A. Weldon, Oak Park, Ill.*) The fact that No. 220 has not been heard from for the past few months is not because we have been inac-

tive in the least, but rather because we have been too busy.

The public installation of officers held in January was largely attended by the brothers of Lodge 499. A very nice musical program was given by members of 220 and their friends, after which refreshments were served.

The dance and reception recently given by Lodges 499 and 188 of the B. of L. F. and E. were well attended by the ladies of 220, and we wish to extend to the brothers of these lodges a vote of thanks for the fine time shown us on these occasions.

Among the most notable of our social festivities was a card party which was under the direct supervision of Sister Ellen Taylor and resulted in a grand success both socially and financially. Great credit is due Sister Taylor for the systematic and businesslike manner in which this affair was handled.

While our membership has not increased as fast as could be desired, still we hope to initiate several candidates into our fold in the very near future.

FROM L. S. 114—(*Annie E. Bourgo, Poquonnock Bridge, Conn.*) The sisters of Silver Link Lodge held an entertainment April 1st last. A free luncheon was served, aprons, holders, home-made candy and ice cream and cake were sold. Short addresses were delivered by some of the sisters and a selection was read by one of the sisters which was entitled "Only a Dream." Sorry it cannot be printed in full, but on account of space must be omitted for the present.

We are going to give an entertainment once a month, as we had such good success with our first one, and we will not be so timid in starting another. We netted ten dollars for our first effort.

FROM L. S. 230—(*Edith L. Johnson, Duluth, Minn.*) During the past year our lodge has been prosperous and has added a number of new members. This was done by a contest which we started during last summer. Two captains were chosen and each member lined up on either side. The winners were banquetted by the losers, and the losing side surely did entertain the winning side with a banquet and a dance just for ourselves and brothers of Agate Lodge 519. We surely enjoyed ourselves.

Each member made a New Year's resolution to do more this year than the year previous, and all are willing to do anything that will be a benefit to our lodge.

We are entertained each month with

the sisters. We usually have a good attendance. This helps us to become better acquainted with our sisters, and one thing sure, we have a fine time and look anxiously forward for the next one. We recently gave a dance and card party and later a progressive card party which was well attended and enjoyed. The funds from both functions went to increase our treasury.

FROM L. S. 227—(*Anna E. Patton, Meadville, Pa.*) At our last meeting we tied a quilt for one of our sisters and had a delightful lunch afterwards. We stayed for lodge in the evening and after lodge we put on our drill.

We feel that our work should count for something good and we should endeavor to let in a little more sunshine wherever possible.

FROM L. S. 263—(*A Member, Oklahoma City, Okla.*) As Pride of 688 has not been heard from through the Magazine, we want you to know that we are working diligently with the hope that by January, 1917, we will have added to our membership several new members.

One of the most pleasant social affairs was when our president, Sister Fisher, entertained in her home all of our members, also the firemen's wives, mothers and sisters. The object of this meeting was to get better acquainted with all eligibles with the hope of adding them to our membership. It being on a patriotic day, many suggestions of it were carried out in decorations, entertainment and refreshments. The afternoon was thoroughly enjoyed by all guests present. Our fourth annual social was held in Odd Fellows' Hall in March, the hall being artistically decorated in our lodge colors. The early evening hours were spent in reception and getting better acquainted with our families and friends. An interesting program consisting of songs, piano solos and readings was followed by refreshments, and after that dancing. Our music was furnished by Frisco Firemen's Orchestra and was truly appreciated by all present. It was a most enjoyable evening, with all guests wishing us many more annual socials, with the assurance of their full appreciation of our efforts. The guests numbered 250.

FROM L. S. 154—(*Myrtle Reece, Newport, Vt.*) The year 1915 has been a pleasant and prosperous one for Memphremagog sisters—the attendance good at meetings and each working for the good of the order.

ready and willing to try and make 1916 the banner year for 154.

We are getting ready a box to send the soldiers and many other good deeds are on our calendar to work out.

If each one of our members would make a study and practice our motto "Friendship and Charity" it would surely draw each one closer together—it would bring more harmony in our lodge, making our work a pleasure instead of a duty.

Let those help now who never have helped before, and those who have always helped—help now the more.

We extend a welcome to all sisters who may come our way.



FROM L. S. 241—(*Mayflower Lodge, Lima, Ohio.*) The year 1915 has been a very successful one in many ways to us. We have added a number of new members to our lodge.

We gave a card party recently from which we cleared the neat little sum of \$23.70. We have also organized a "social ten" which meets once a month with one of the sisters as hostess. Each one present pays ten cents, which sum is added to our treasury.

Sincere wishes to all lodges.



FROM L. S. 346.—(*Mrs. Lizzie Potts, Newark, N. J.*) Lackawanna Lodge does not want to be forgotten. We want you to know that we have a nice little lodge and a good, faithful set of officers. We do not add as many new members as we would like, although we have added one new member thus far this year, Sister Charlotte Thorne.

Two of our sisters have lost their mothers and we deeply sympathize with them.

Our collector, Sister Marion Vennet, has been very ill since December, but am glad to report her improving steadily in health.

We held public installation of officers at which time Sister Katie B. Coots, of Jersey City, was with us and did the installing. She was presented with a cut glass vase filled with our emblematic flowers. We also had guests from Benevolence Lodge 129 and Katonah Lodge 108.

We sprang a surprise on Sister Hingate, of Lyndhurst, and had a most delightful afternoon and evening. Sister Thomas, of Newark, gave a leap year luncheon at the home, and all present report Sister Thomas a charming hostess.

Grand Dues Notice.

GRAND LODGE
LADIES' SOCIETY OF THE BROTHERHOOD
OF LOCOMOTIVE FIREMEN AND
ENGINEMEN.

Office of
GRAND SECRETARY AND TREASURER.
BOONE, IOWA, June 1, 1916.

To All Subordinate Lodges:

SISTERS—Pursuant to the requirements of the laws, you are hereby notified that the amount of fifty (50) cents for Grand Dues for the six months ending December 31, 1916, will be due and payable by all members whose names appear upon the rolls of membership July 1, 1916, to the collector of the lodge, on or before July 1, 1916. The collector is required to deliver the amount thus collected, together with proper statements, to the treasurer of her lodge not later than July 5, 1916, and the treasurer is required to forward the same so as to reach the office of the Grand Secretary and Treasurer not later than July 10, 1916.

Fraternally yours,

MARY E. DU BOIS,

Grand Secretary and Treasurer.

Approved:

MAUDE E. MOORE,

Grand President.



Death Report.

Nellie Prouty, Lodge 287, Portola, Calif.; died March 3, 1916. Cause of death, pneumonia with complications. Amount of insurance, \$500.00.

Mildred Price, Lodge 80, Little Rock, Ark.; died March 30, 1916. Cause of death, tuberculosis. Amount of insurance, \$500.00.

Nellie Harned, Lodge 36, Sayre, Pa.; died March 21, 1916. Cause of death, pneumonia. Amount of insurance, \$500.

Emma Commers, Lodge 288, Cone-maugh, Pa.; died March 21, 1916. Cause of death, cancer of uterus. Amount of insurance, \$400.00.



Acknowledgment.

"Yours to Gain" Lodge 376 desire to thank the brothers of Enderlin Lodge 657 for the courtesy and kind assistance extended them. They appreciate their help and hope to be able some day to return the favor.

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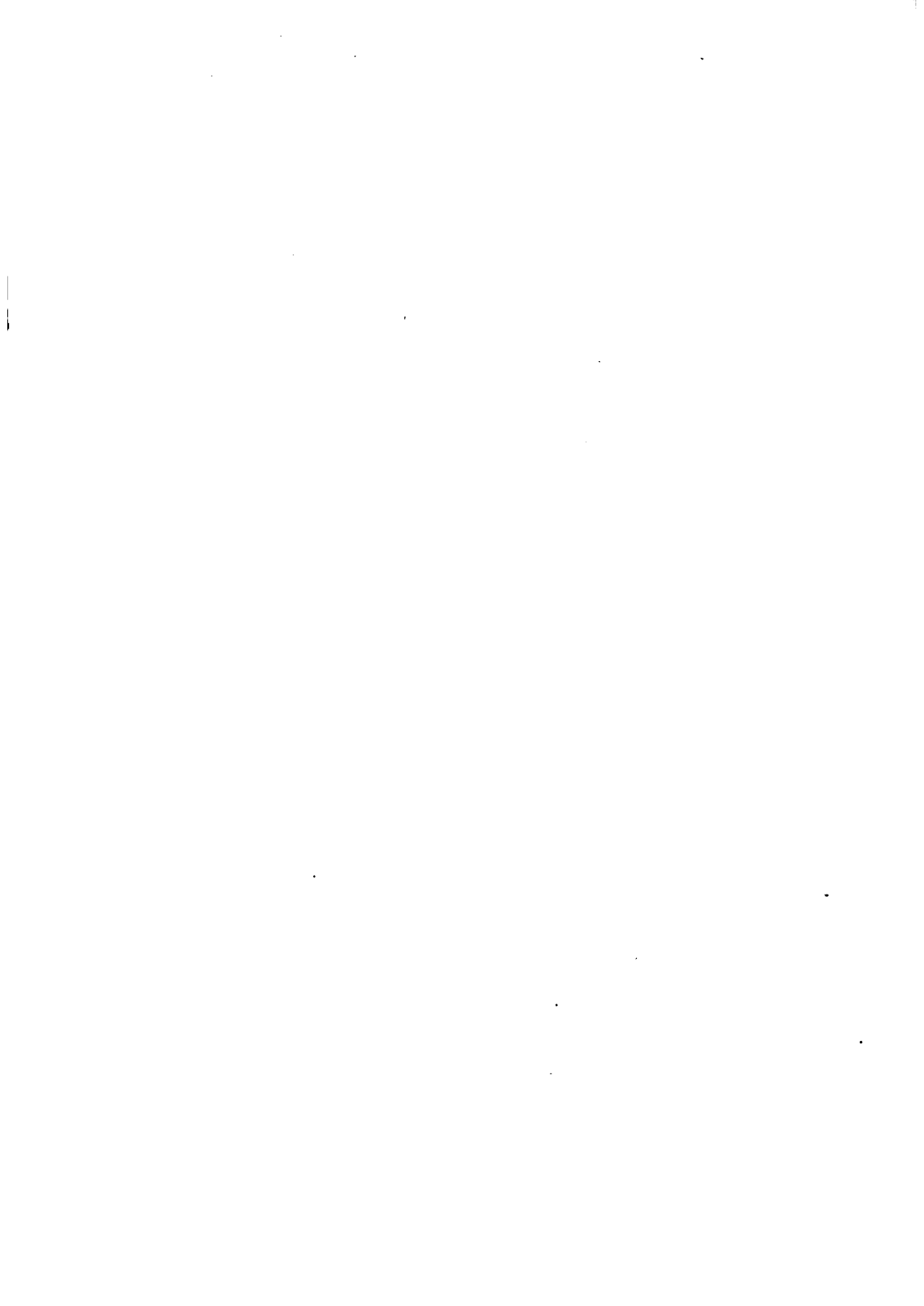
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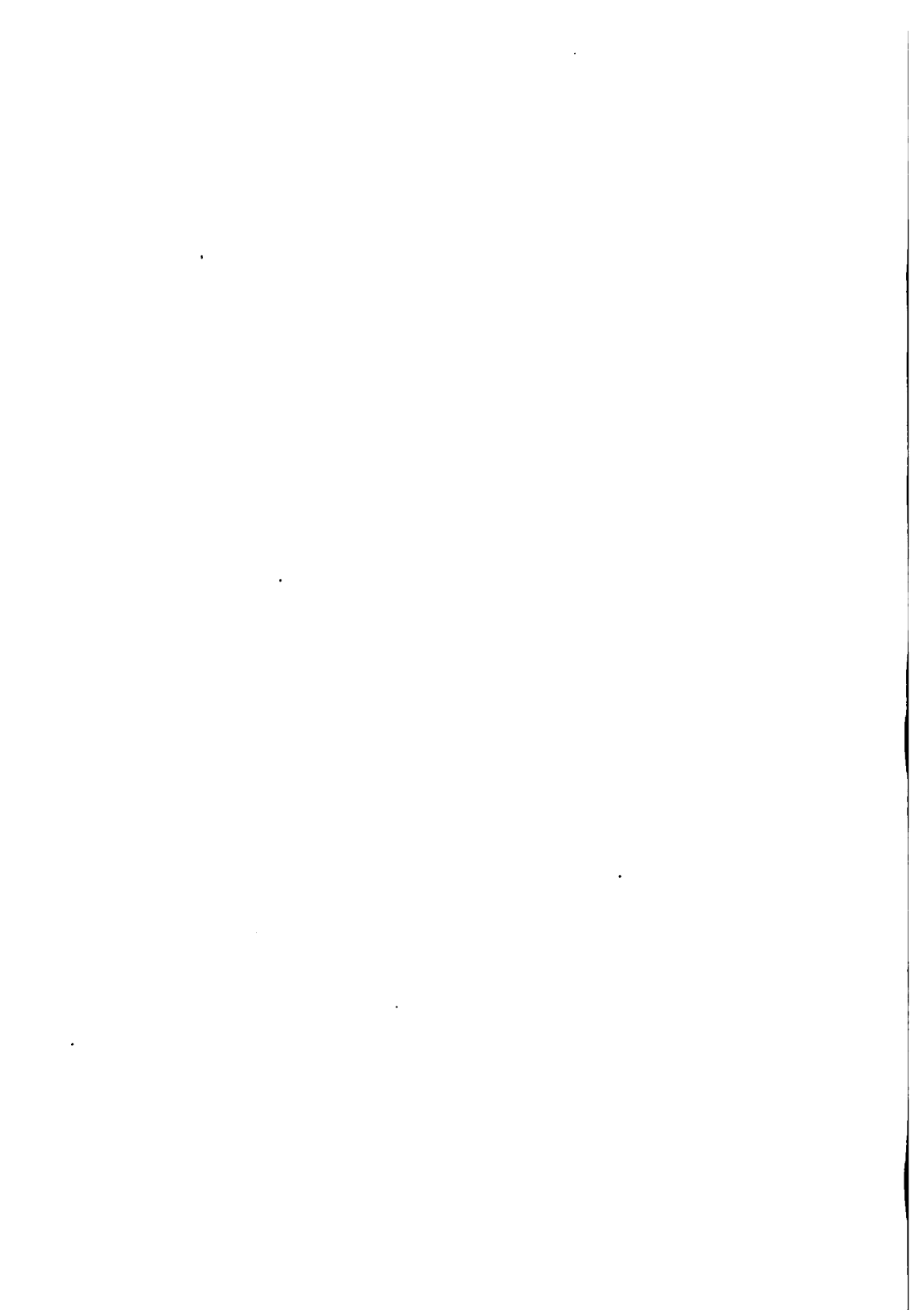
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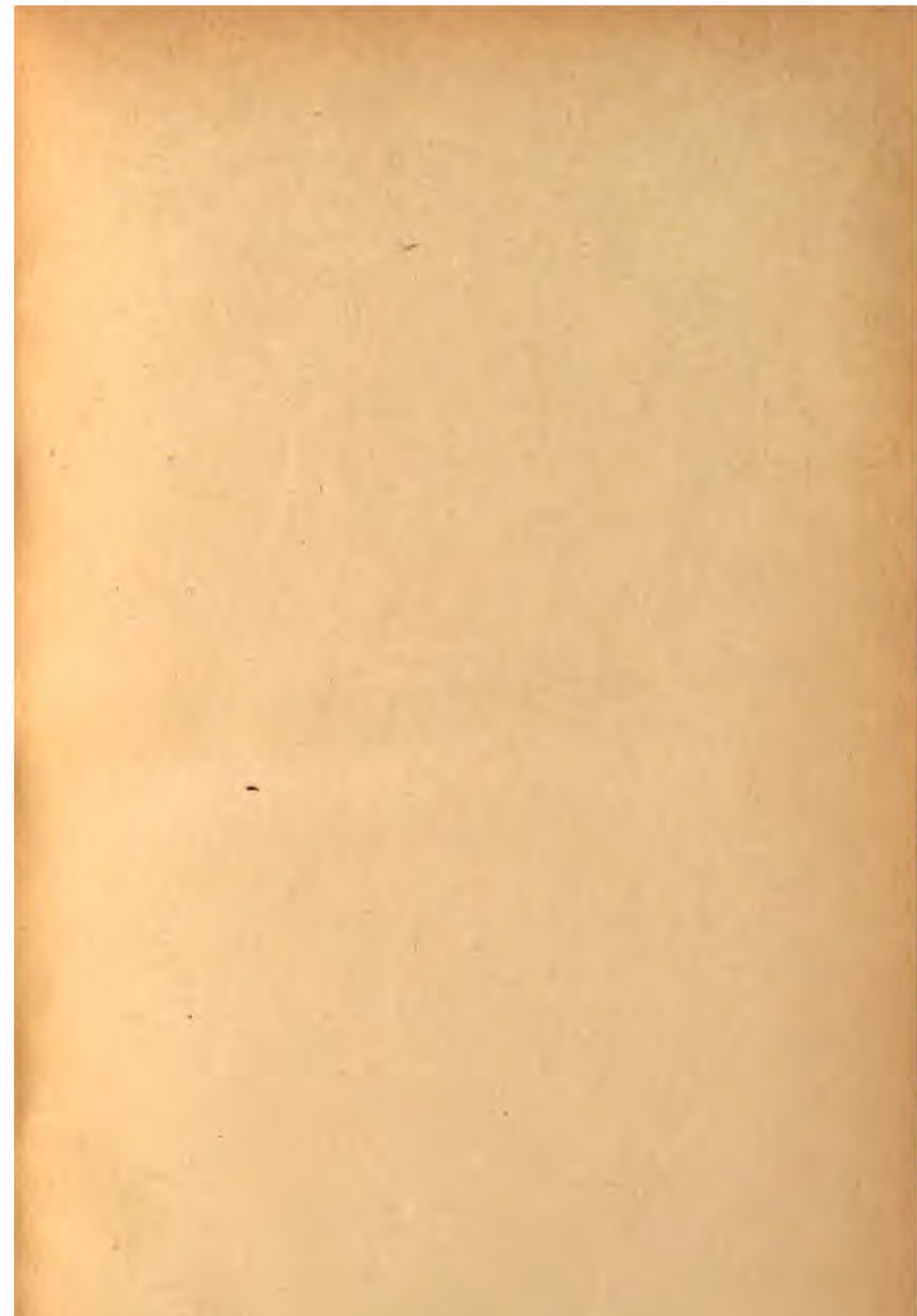
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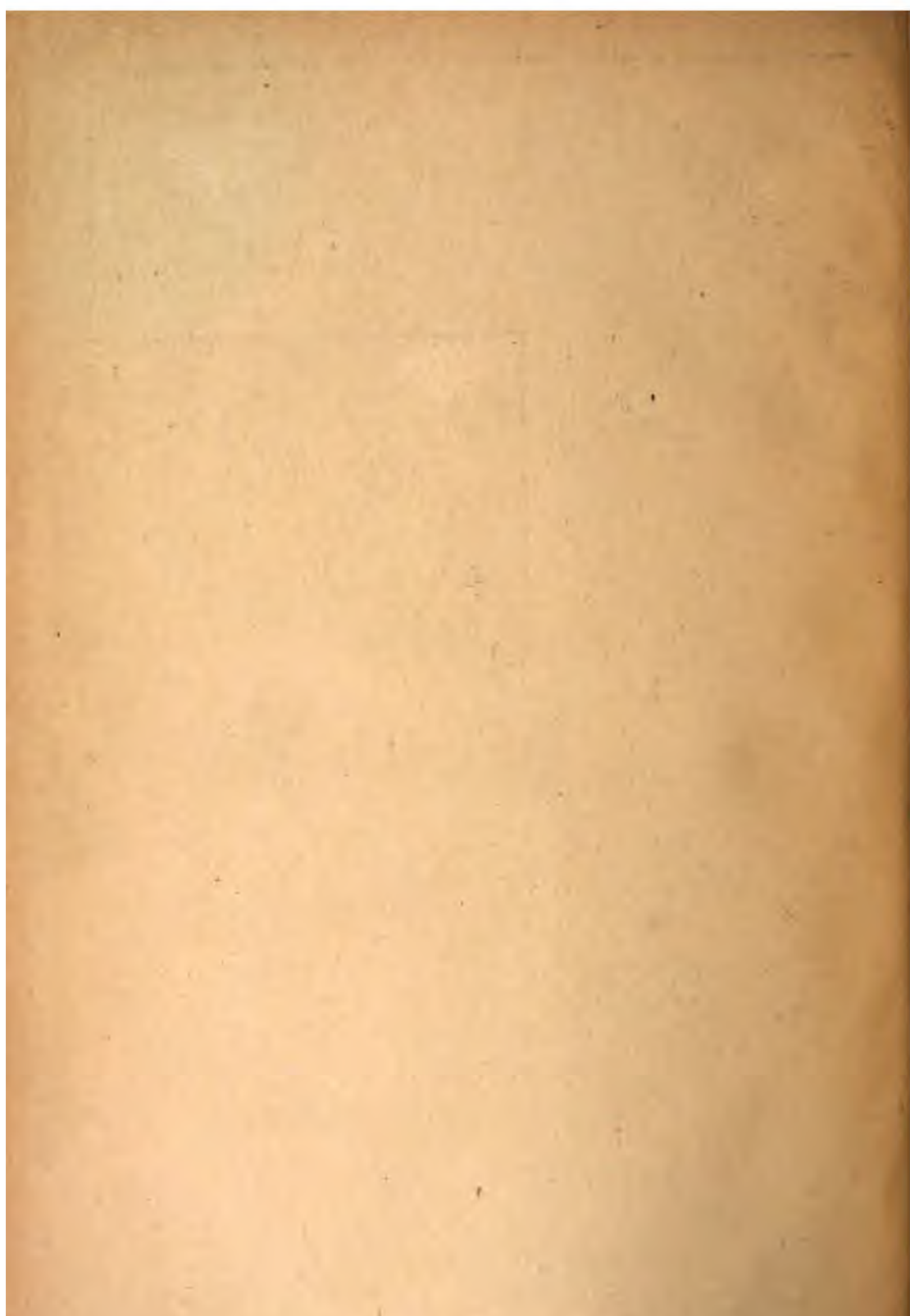
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