GENERAL

7. Drifting throttle must be used at all times while engine is in motion to provide sufficient steam to atomize and distribute the oil or it will accumulate on the valve spools and on the bottom of the valve chambers between bushings in considerable quantity, depending upon the length of time this condition prevails.

When steam is again used, any accumulation of oil will be suddenly boiled and partially vaporized, flushed out and wasted, coating the exhaust passages of cylinders, valves and exhaust nozzles. To prevent air from entering cylinders while hot which would furnish the necessary oxygen for combustion resulting in destroying the lubrication in steam chests and cylinders, carbonizing oil on the steam chest and cylinder passages, cylinder cocks should not be left open while drifting or immediately after a stop is completed.

It must be borne in mind that oxygen must be present to support combustion and the use of a small amount of steam at all times will prevent the entry of air and consequent combustion.

8. When engine is moving at high speed more drifting throttle will be required to furnish necessary steam than when moving at slow speed to prevent vacuum being formed in the cylinders which will result in drawing flue gases down through exhaust nozzle into steam chests and cylinders. When a point is reached where the use of steam is not necessary and engine can be allowed to drift, the throttle should be closed gradually to a point where the amount of steam entering cylinders is just sufficient to break the vacuum. As speed decreases throttle opening should be reduced accordingly and as speed increases throttle opening should be increased accordingly. On engines equipped with back pressure gage, an effort should be made to maintain gage hand as close to the zero point as possible, never allow hand to indicate vacuum. Preferably the hand should indicate a slight pressure.

9. When making a stop, as engine slows down the pressure in the cylinders will increase. However, the throttle should not be shut off completely until engine stops.

10. Engines should not be drifted at high speed with valves in short cut-off as this causes undue stresses to be set up in machinery, track and road bed. This condition is indicated by excessive vibration and rough riding of locomotive.

11. With Walschaert Valve Gear, after arriving at a point where locomotive is to be drifted, throttle should be left slightly open and reverse lever placed in full forward position.

12. With Stephenson Link or Baker Valve Gear, while drifting, the reverse lever should be adjusted according to speed; at high speed it should be moved forward, but never to full forward position, making sure that drifting throttle is used.