

**WESTINGHOUSE TRACTION BRAKE CO.**  
**Instruction Pamphlet No. T 5009**  
**November, 1906**

(SUPERSEDING ISSUE OF JANUARY, 1904.)

**Air Whistling Devices.**

The Whistle Set consists of a Chime Whistle, a Whistle Valve, and a Cut-out Cock.

The Whistle Valve, illustrated in Fig. 2, is of the globe pattern, having its valve held on its seat by a spring supplemented by the air pressure, the stem of the valve passing through the body and engaging with a lever to which the whistle cord is attached. When the cord is pulled, the stem is pushed in by the lever, thereby compressing the spring and unseating the valve which allows air to flow to the whistle. When the cord is released, the spring under the valve, assisted by the air pressure, forces the valve to its seat, and shuts off the supply of air.

The Cut-out Cock is placed in the whistle pipe so as to cut off the supply of air to the whistle set, whenever necessary.

In case of a car equipped with controlling apparatus at both ends, there should be a set of whistle apparatus as above described, at each end of the car.

**WHISTLE RESERVOIR AND DUPLEX CHECK VALVE.**

Besides the three items included in this set as just described, the following are frequently used with the Automatic Brake Equipment.

A 12" x 33" Whistle Reservoir.

A Duplex Check Valve, with feed spring set at three pounds below cutting in pressure of the compressor governor.

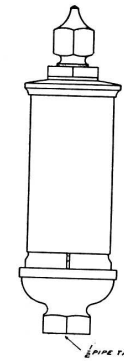


Fig. 1, Kinsley Whistle.

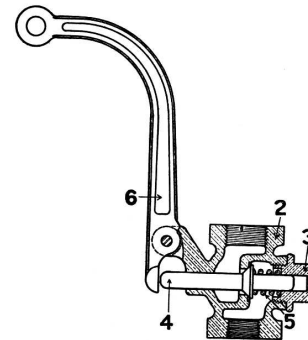


Fig. 2, The Whistle Valve.

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The Whistle Pipe is, in this case, connected to the Whistle Reservoir and not to the Reservoir Pipe. In the connection between the whistle reservoir and the reservoir pipe is placed the Duplex Check Valve, with its inlet marked "P. R." connected toward the reservoir pipe.

THE DUPLEX CHECK VALVE is shown in Fig. 3. Air coming from the reservoir pipe through the inlet "P. R." enters chamber *a* and thus acts upon the upper side of diaphragm 11. The chamber *b*, below the diaphragm, is connected to the atmosphere through the small hole *d*, in the spring case 3. The spindle 15 is secured to the diaphragm by nut 9 and washer 10. Spring 14 is adjusted by nut 16 to a pressure three pounds below that at which the compressor governor is set to cut the compressor into action—normally 77 pounds. When the air pressure in *a* is greater than that amount, diaphragm 11 and spindle 15 are forced down, unseating the plug valve 8 and allowing air to flow into *c* and so to the whistle reservoir. If, for any reason, the main reservoir pressure falls below the amount above stated, spring 14 forces diaphragm 11 up again and plug valve 8 is seated, thereby cutting off any further supply to the whistle system till the main reservoir pressure is above 77 pounds. It will be noted, however, that check valve 6 permits air to flow from the whistle reservoir to the main reservoir whenever the pressure in the latter falls slightly below that of the former, thereby making the whistle reservoir a part of the main reservoir and increasing the volume of the latter by a considerable amount. Check valve 6 is forced onto its seat by small spring 7 as soon as air ceases to flow from the whistle reservoir into the main reservoir pipe.

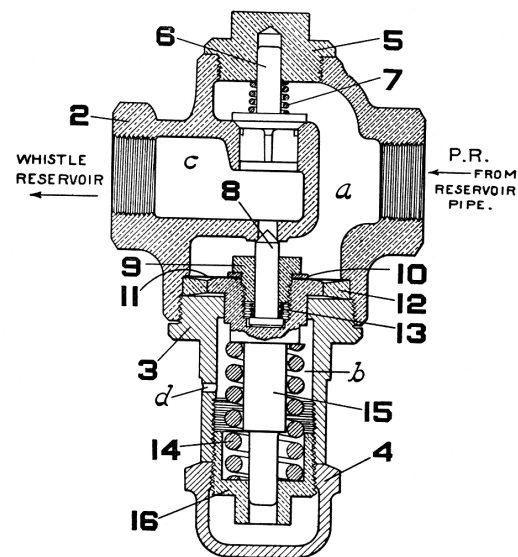


Fig. 3, Duplex Check Valve.

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It is readily seen that the object of the Duplex Check Valve is to make it impossible for the motorman, by too frequent and prolonged use of the whistle, to reduce the main reservoir pressure to a point where it might fail to release the brakes after an application; also to convert the whistle reservoir into a part of the main reservoir supply system.

On a car operated from both ends, both whistles are piped to the whistle reservoir, as shown in Instruction Pamphlet No. T. 5010, the whistle pipe entering at the end opposite to that at which the connection from the reservoir pipe and duplex check valve is made.

### INSTALLATION OF THE WHISTLE SET.

Whenever possible, the whistle should be placed just above the roof of the motorman's cab and connected by a  $\frac{1}{2}$ " pipe to the whistle valve. The latter should be placed inside the cab and as close to the whistle as practicable. The valve must be so placed that the pressure of the air tends to close it. With the Straight-Air Equipment, connect the whistle valve to the reservoir pipe at the nearest point with  $\frac{3}{8}$ " pipe, interposing the  $\frac{3}{8}$ " cut-out cock at a convenient location, preferably inside the cab. A cord may be run from the end of the whistle-valve lever across the cab with such an amount of slack that it comes within easy reach of the motorman.

On open cars the whistle may be placed below the platform and operated by means of a wire attached to the lever handle and brought up through the floor. We do not recommend the operating of the whistle with the foot, as it invariable leads to a waste of air.

### AIR WHISTLING DEVICES.

In connection with the Automatic Equipment the Whistle-pipe should be connected to the 12" x 33" Whistle Reservoir instead of to the Reservoir pipe.

The Whistle Reservoir should be suspended from the car flooring similarly to the main reservoir, and at any convenient location. The  $\frac{3}{8}$ " pipe to the Whistle should be connected at one end, and the branch pipe from the main reservoir pipe at the other.

The Duplex Check Valve should be placed in the connection between the Whistle Reservoir and the main reservoir pipe with its inlet marked "P. R." towards the reservoir pipe. The Safety Valve, which is in the reservoir pipe should never be placed on the Whistle Reservoir side of the Duplex Check Valve, or in any part of the Whistle pipe either on the platform or under the car.

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