

A. JACKSON.
 RADIATOR VENT VALVE.
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1,074,624.

Patented Oct. 7, 1913.

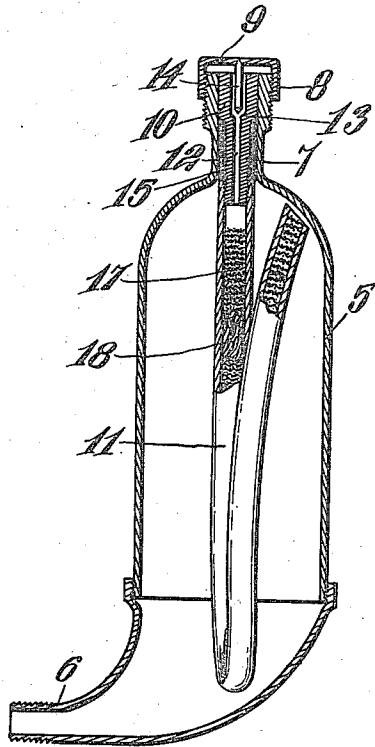


Fig. 1.

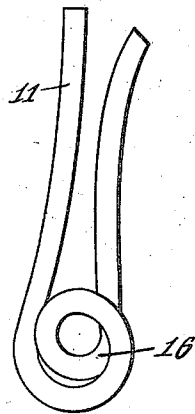


Fig. 2.

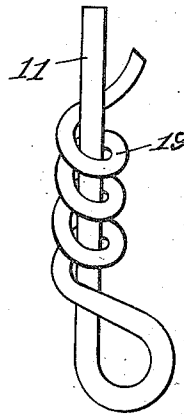


Fig. 3.

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RADIATOR VENT-VALVE.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ANDREW JACKSON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Radiator Vent-Valves, of which the following is a specification.

This invention relates to vents for permitting the escape of air from radiators when steam is turned into the same.

It is the object of the present invention to provide in a device of this kind a muffler which permits the air to escape without noise, and which prevents hissing of escaping steam.

A further object of the invention is to provide novel and improved means whereby clogging and flooding of the vent is prevented.

The invention is illustrated in the accompanying drawing forming a part of this specification, in which drawing,

Figure 1 is an elevation of the vent partly in section. Figs. 2 and 3 are elevations showing modified forms of muffler tubes.

Referring specifically to the drawing, 5 denotes the shell or casing of the vent, the same having at its lower end a sidewise extending nipple 6 for connection to the radiator. The top of the shell has a reduced portion or neck 7 which is externally screw-threaded so that a cap 8 may be screwed thereon, said cap having an outlet aperture 9. In the neck 7 is mounted a plug 10 having a reduced externally screw-threaded lower end on which is screwed a muffler tube 11. The plug also has a longitudinal outlet channel or bore 12 terminating at its upper end in an enlargement 13 which forms a seat for a needle valve 14 extending from the cap 8, the latter being spaced a short distance from the outer end of the plug so that the air may pass through the aperture 9 as it issues from the valve seat 13. The reduced lower end of the plug 10 forms a shoulder on the latter, between which shoulder and the upper end of the tube 11 is placed a packing 15 to prevent leakage. This packing is located in the neck 7 and forms a tight closure for the same. The muffler tube 11 is bent into the form of a trap. As shown, the tube extends to the bottom of the shell 5 where the bend is made, and it then extends upward and terminates near the top of the shell.

The tube is filled with disks 17 of fine metal gauze, which are placed close together one above the other. In one portion of the tube an oily rag 18 is substituted for some of the gauze disks.

In operation, the steam entering the shell 5 at the bottom rises and enters the upper end of the upward bend of the tube 11 and then slowly works its way through the gauze fragments 17, so that its pressure is constantly reduced. Upon passing through the rag 18, the steam is sufficiently baffled and it passes out of the vent without noise. Varying degrees of heat may be obtained by regulating the needle valve 14 by means of the cap 8, so that the circulation of steam in the radiator is hastened or retarded. The valve may also be entirely closed.

It will be seen that clogging of the tube 11 will be prevented because all solid particles in the steam settle to the bottom of the shell 5 as the steam passes upward to the entrance end of the tube. Flooding is prevented because if the shell should fill with water, the same will not pass the muffling means inclosed in the tube, and the packing 15 prevents leakage at the neck 7. Ordinarily, the water will not rise in the shell to the height of the inlet of the tube.

In the modified form of muffler tube shown in Fig. 2, the lower end thereof, at the bend, has a coil 16, and in the modified form of muffler tube shown in Fig. 3, the upward bend is coiled around the depending portion of the tube as indicated at 19.

I claim:

1. A radiator vent comprising a shell having an inlet and a valve controlled outlet, a bent tube located in the shell and connected to the outlet, the inlet end of the tube being at the top of the shell from which it extends downward and then upward to the aforesaid outlet.

2. A radiator vent comprising a shell having an inlet and a valve controlled outlet, a bent tube located in the shell and connected to the outlet, the inlet end of the tube being at the top of the shell from which it extends downward and then upward to the aforesaid outlet, and muffling means in the tube.

3. A radiator vent comprising a shell having a bottom inlet and a top neck, a plug seating in the neck and having an outlet channel and a valve seat therefor, a cap

closing the neck, said cap having an outlet and carrying a valve for the seat, and a bent tube in the shell and connected to the outlet channel of the plug.

5 4. A radiator vent comprising a shell having a bottom inlet and a top neck, a plug seating in the neck and having an outlet channel and a valve seat therefor, a cap closing the neck, said cap having an outlet and
10 carrying a valve for the seat, a bent tube in the shell and connected to the outlet channel of the plug, and muffling means in the tube.

5. A radiator vent comprising a shell having a bottom inlet and a top neck, a plug seating in the neck and having an outlet channel and a valve seat therefor, a cap mounted on the neck, said cap having an outlet and carrying a valve for the seat, said
20 cap being adjustable on the neck to effect

adjustment of the valve, and a bent tube in the shell connected to the outlet channel of the plug.

6. A radiator vent comprising a shell having a bottom inlet and a top neck, a plug 25 seating in the neck and having a reduced portion, said plug also having an outlet channel and a valve seat therefor, a cap closing the neck, said cap having an outlet and carrying a valve for the seat, a bent 30 tube connected to the reduced portion of the plug to open into the outlet channel, and a packing in the neck around the reduced portion of the plug.

In testimony whereof I affix my signature 35 in presence of two witnesses.

ANDREW JACKSON.

Witnesses:

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