UNITED STATES PATENT OFFICE.

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STEAM-RADIATOR VENT.

1,424,663.

To all whom it may concern:

Be it known that I, William Mc Donald, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented a certain new and useful Improvement in Steam-Radiator Vents, of which the following is a specification:

My invention relates to improvements in steam radiator vents.

The object of my invention is to provide a vent of the kind described, which is simple, cheap to make, durable, not liable to get out of order, which is readily accessible for cleaning or repairing, which is easily applied to a radiator, and which is efficient in operation.

The novel features of my invention are hereinafter fully described and claimed.

In the accompanying drawing, which illustrates the preferred embodiment of my invention,

Fig. 1 is a central vertical sectional view of my improved vent.

Fig. 2 is a cross section on the line 2—2 of Fig. 1.

Fig. 3 is a front elevation, partly broken away, of the vent.

Similar reference characters designate similar parts in the different views.

The vent is provided with a casing comprising a circular base member 1, having at its rear side a central rearwardly extending tubular threaded stem 2, adapted to be screwed into a hole provided therefor in a steam radiator 3.

The stem 2 is provided with a longitudinal passage 4, communicating with a chamber 5, in the casing 1 and adapted to communicate interiorly with the radiator 3.

The casing 1 is provided with an annular forwardly extending flange 6, which forms the side wall of the chamber 5, and which in its upper side is provided with a screw-threaded hole in which is fitted a threaded bushing 7, having a vertical outlet opening 8, adapted to be closed by a valve 9, mounted upon the upper side of a hollow float 10, which is mounted in the chamber 3, and which is adapted to be supported upon the upper side of a transverse thermostatic bar comprising, preferably, a brass plate 11, rigidly attached to the upper side of an iron plate 12, the ends of the bar being respectively mounted in two horizontal slots 13, provided in opposite sides respectively of the flange 6.

Secured to the under side of the float 10 is a vertical pin 14, which is vertically slideable in a central hole 15, provided through the thermostatic bar.

Extending across the passage 4 and seated against a shoulder 16 provided therein is a wire screen 17, which is retained against the annular shoulder 16, by an externally threaded ring 18, fitted in the threaded inner end of the passage 4.

A cup-shaped cover 19 is internally threaded and is fitted to the threaded periphery of an annular flange 20, provided on the casing member 1.

A circular gasket 21 is held against the outer end of the flange 6, by the cover 19. The latter is provided in its lower side with a drainage opening 21.

In the operation of my invention, water passing from the radiator 3 through the passage 4 into the chamber 5 will lift the float 10, so that the valve 9 will close the outlet opening 8, thus preventing the escape of water from the vent.

Air driven from the radiator 3 will pass out of the chamber 5 through the opening 8 and will enter the annular space 22, between the cap 19 and the flange 6, and will escape through the opening 21 to the atmosphere.

When steam passes into the chamber 5 from the radiator, the thermostatic bar will be heated and in expanding will lift the float 10 so that the valve 9 will close the opening 8, thus preventing the escape of steam from the vent into the room.

The screen 17 prevents scale and coarse dirt entering the vent through the passage 7.

Access to the interior of the vent may be obtained by removing the cap 19 and the gasket 21. By having the outlet 8 in the upper side of the flange 6, and the outlet 21 in the lower side of the cap, unauthorized access to or meddling with the valve through the outlet 21 is prevented. The provision of an annular thermostatic bar with its ends
mounted in the slots 13 affords a cheap and efficient means of mounting the thermostatic bar. I do not limit my invention to the structure shown and described, as many modifications, within the scope of the appended claims, may be made without departing from the spirit of my invention. What I claim is:—

1. A steam radiator vent comprising a circular base member having a central tubular inlet stem adapted to be mounted in a radiator, the base member having an annular flange concentric with said stem provided in its upper side with an outlet and provided on its inner side with two oppositely disposed horizontal slots, an arcuate thermostatic bar having its ends mounted respectively in said slots, a float vertically slideable on and supported by said bar, a valve carried by said float adapted to close said outlet when said bar lifts said float to a predetermined position, a cup-shaped cap mounted on the periphery of said base member and spaced apart from the said annular flange and forming therewith an annular chamber and provided in its lower side with an outlet, and a gasket disposed between and bearing against said cap and said flange, substantially as set forth.

2. A steam radiator vent comprising a casing having an annular flange extending from end to end of the casing and forming therein an inner chamber and an outer chamber, the latter encircling the inner chamber, the casing having an inlet communicating with the inner chamber and adapted to communicate with a radiator, the annular flange being horizontally disposed and provided in its upper side with an outlet, the outer chamber having an outlet diametrically opposite the outlet in the flange, a float in the inner chamber, a valve carried by the float arranged to close the outlet in said flange, and thermostatic means in the inner chamber on which the float is vertically slideable arranged to lift the float to close said valve at a predetermined temperature in the inner chamber, substantially as set forth.

In testimony whereof I have signed my name to this specification.

WILLIAM McDONALD.