No. 687,938. Patented Dec. 3, 1901.

F. W. LEUTHESSER.

VALVE FOR RADIATORS.

(Application filed May 10, 1901.)

(No Model.)

Fig. 1.

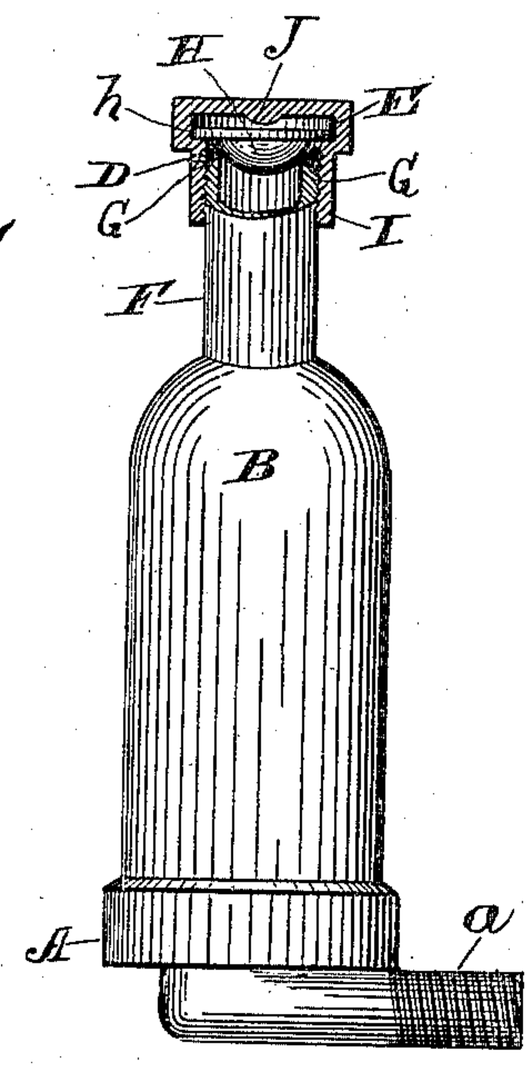
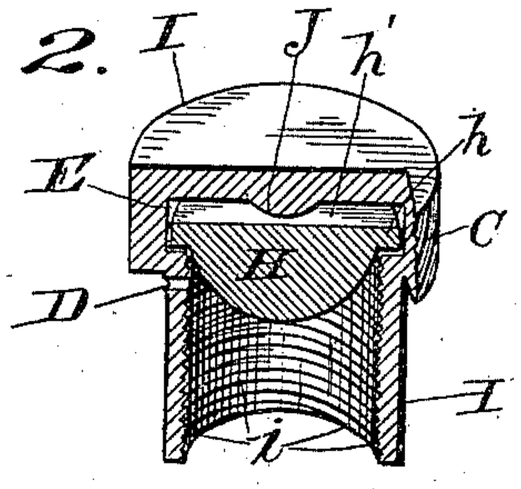


Fig. 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

FRED W. LEUTHESSER, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE MONASH YOUNKER CO., OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

VALVE FOR RADIATORS.

SPECIFICATION forming part of Letters Patent No. 687,938, dated December 3, 1901.

Application filed May 10, 1901. Serial No. 59,600. (No model.)

To all whom it may concern:

Be it known that I, FRED W. LEUTHESSER, 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 Valves for Radiators, of which the following, when taken in connection with the drawings accompanying and forming a part hereof, is a full and complete description sufficient to enable those skilled in the art to which it pertains to understand, make, and use the same.

This invention relates to air-valves for radiators in steam-heating systems, such air-valves being used to vent the radiators of the air contained therein; and the object of this invention is to obtain an air-valve by means of which the air contained in the radiator when vented therefrom will be prevented from returning thereinto such valve when the contents of the radiator are below atmospheric pressure.

The further object of this invention is to obtain an air-valve of the kind described and which will also constitute a check-valve, as set forth, which will be of small initial cost, efficient, and durable.

In the drawings referred to as forming a part hereof, Figure 1 is a side elevation of an air-valve embodying this invention with a portion of the outer shell or casing of the neck thereof broken away to show the particular construction embodying the invention herein described and claimed; and Fig. 2 is a perspective view of the cap of the air-valve, showing such cap and the inner construction and contents thereof in section.

A reference-letter applied to designate a given part is used to indicate such part throughout both figures wherever the same appears.

A is the base of the valve, and *a* is the stem of such base, such stem being screw-threaded to fit into corresponding screw-threads in the radiator to which the valve is attached.

B is the shell or casing of the radiator.

Base A, with projection *a*, and the casing B are the ordinary construction of such parts in radiator-valves and are well-known in the art.

F is the neck of the casing B.

G is a valve-seat at the upper end of the neck F of casing B, and H is an elastic valve seating on the valve-seat G to close the same.

I is the casing of ball H, such casing forming a cap to the upper end of neck F, and *i i* are screw-threads therein fitting over corresponding screw-threads on neck F.

D is an aperture or hole through the cylindrical wall of cap I.

E is a groove extending circumferentially around the cap I, on the inner wall thereof, at the upper end of such cap, and C is the knurled peripheral part of cap I, by means of which such cap is readily attached to or detached from neck F by turning it. The cap I is not made adjustable on the neck F relative to the valve-seat G, groove E being made of greater depth than is the peripheral flange of valve H, so that when the cap is screwed tightly to its place on neck F the valve H will rest upon valve-seat G and arranged to be forced upward sufficiently to permit air to pass into the cap I and out therefrom to passage-way D.

To insert the valve H, constructed as illustrated and described, in the cap I with the peripheral flange *h* in groove E, such valve must be constructed of elastic material, as, say, rubber, and when so constructed I find it necessary to provide means to prevent such valve adhering to the under surface of the cap I, and J is a projection on the under face of the cap I, with which projection the upper surface *h'* of the valve H is forced into contact by the pressure of the contents of the valve when air is escaping therefrom, as heretofore described.

By placing the valve H and valve-seat G at the extreme upper end of the neck I obviate the necessity of providing or stuffing which shall at all times be air-tight between the inner wall of the neck F and any valve-seat or other apparatus adjustably set in such neck.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is--

1. In an air-valve for radiators, a casing provided with a neck, a cap removably attached to the neck of the casing and such cap provided with a peripherally-extending groove on the inside thereof, a valve-seat at

the upper end of the neck of the casing, and a valve of elastic material in the cap, such valve provided with a peripheral flange fitting loosely in the groove of the cap, with an aperture through the walls of the cap permitting the passage therefrom of the contents thereof above the valve-seat; substantially as described.

2. In an air-valve for radiators, a casing provided with a neck, a cap, provided with a peripherally-extending groove on the inside thereof and with a projection on the under surface of the upper end thereof, removably attached to the neck of the casing, a valve-seat at the upper end of the neck of the casing and a valve provided with a peripheral flange loosely fitting in the groove of the cap and such cap provided with an aperture through the walls thereof communicating with its interior above the valve-seat on the neck of the casing; substantially as described.

3. In an air-valve for radiators, a casing provided with a neck, a cap provided with a peripherally-extending groove on the inside thereof and with a projection on the under surface of the upper end thereof fitted to the neck of the casing, a valve-seat at the upper end of the neck of the casing, such cap provided with an aperture through the wall thereof communicating with the interior above the valve-seat on the neck of the casing, and a valve in the cap, such valve provided with a peripheral flange fitting loosely in the peripheral groove in the cap and provided with a flat upper surface to contact with projection on the under surface of the upper end of the cap and provided with a convex under surface contacting with the valve-seat; substantially as described.

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