F. J. VAUX.

TRAP BUSHING FOR RADIATORS.

APPLICATION FILED AUG. 25, 1919.

1,402,389. Patented Jan. 3, 1922.

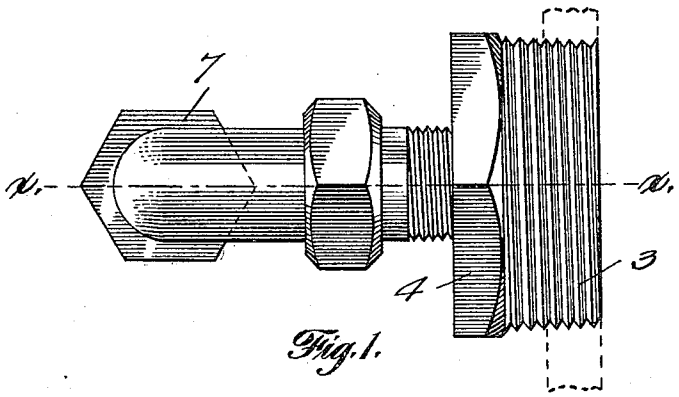

Fig. 1.

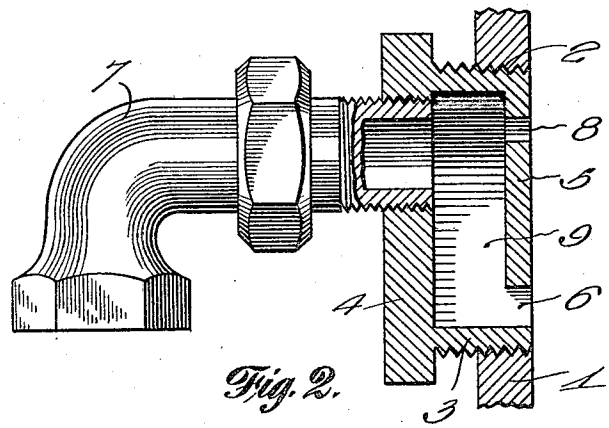

Fig. 2.

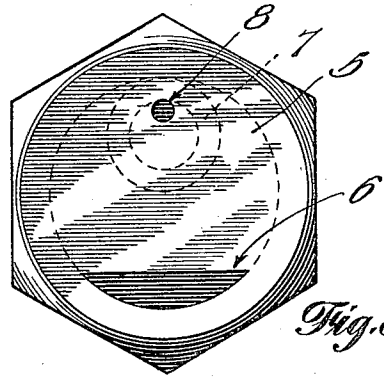

Fig. 3.

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TRAP BUSHING FOR RADIATORS.

1,402,389. Specification of Letters Patent. Patented Jan. 3, 1922.

Application filed August 25, 1919. Serial No. 319,553.

To all whom it may concern:

Be it known that I, FREDERICK JOHN VAUX, a citizen of the United States, residing at Lancaster, in the county of Lancaster and State of Pennsylvania, have invented certain new and useful Improvements in Trap Bushings for Radiators, of which the following is a specification.

This invention relates to a trap bushing or water seal for combined steam and water radiators or like purposes, and is designed for the purpose of being placed in the lower hub of the radiator in place of the usual bushing which is put in to receive the pipe connection from the steam return pipe.

Another object of the invention is to produce a cheap, simple and durable means for taking the place of the usual expensive trap or seal, which is now in use for this purpose.

The device is specially adaptable with the class of radiators known as "bi-loop radiators" in which the loop of the radiators is divided into a water compartment and a steam compartment.

The device in question communicates with the steam compartment and forms a water trap or lock to prevent the return flow of steam from the return piping or other radiators, which may be connected to the same piping system, which is required in the modulating system, to which this device is particularly adaptable.

With these and other objects in view, my invention consists in certain construction and combination of parts as will hereinafter be fully described and claimed in the specification, and illustrated in the accompanying drawings, which form a part of this application, and in which like figures of reference refer to corresponding parts in all of the views; but it is fully understood that while I have here described my device as shown, that I do not confine myself to the exact design, as slight changes may be made in the construction and arrangement of the several parts without departing from the spirit of the invention.

In the drawings:

Figure 1 is a top plan view of the trap bushing applied to a radiator.

Fig. 2 is a view taken in part on line *x*—*x* of Figure 1, and showing the bushing in vertical section.

Figure 3 is an end view of the trap bushing.

The radiator section is indicated by the numeral 1, and is formed with the usual thread 2, in which is screw-threaded my improved bushing, which comprises a body portion 3, formed with the outer end or hub 4, and an inner diaphragm 5, which extends to within a short distance of the bottom, leaving an opening 6, while the return pipe 7 is threaded into the outer wall or hub 4, near the top thereof, while opposite and slightly above the center of said pipe 7 is formed a small vent hole 8, in the diaphragm 5. The opening 6 allows water to accumulate in the lower part of the chamber 9, to a level with the lower surface of the pipe 7, thus producing a water seal in the chamber 9, and the lower part of the steam chamber 10 in the radiator section, while the vent hole 8, allows a slight escapement of air, which is required in the operation of the device.

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

1. As an article of manufacture, a trap bushing for radiators comprising a hollow bushing, a diaphragm formed on the inner end of said bushing and extending downward to within a slight distance of the bottom, the hub of said bushing formed with a return outlet opening near the upper end thereof, and a vent hole formed in said diaphragm near the upper end thereof.

2. A trap bushing for radiators, comprising a screw-threaded bushing having an inner and an outer wall, the inner wall cut away near the lower end thereof, and the outer wall formed with a return outlet opening near the upper end thereof, and a vent hole formed in the inner wall near the upper end thereof.

3. A trap bushing for radiators, comprising a bushing having an inner and an outer wall forming a chamber between said walls, said inner wall having an opening formed in its lower portion, said outer wall having an outlet opening near its upper end, thus forming a sealing chamber in the lower portion of said bushing, for the purpose set forth.

4. The trap bushing for radiators herein shown and described, consistsing of a unit of

narrow cylindrical sleeve-form, having a closed end formed with an enlarged portion shaped to receive a wrench and having a reduced portion formed with exterior screw threads to engage the threaded opening of the radiator, said closed end having a threaded opening near its upper edge, and said unit being further provided with a diaphragm at its inner end provided near its upper portion with a vent and near its lower portion with a passage.

In testimony whereof I affix my signature.

FREDERICK JOHN VAUX.