(No Model.)

A. EICHHORN.

FEED AND RETURN FITTING FOR STEAM RADIATORS.

No. 566,151. Patented Aug. 18, 1896.

Fig. 1.

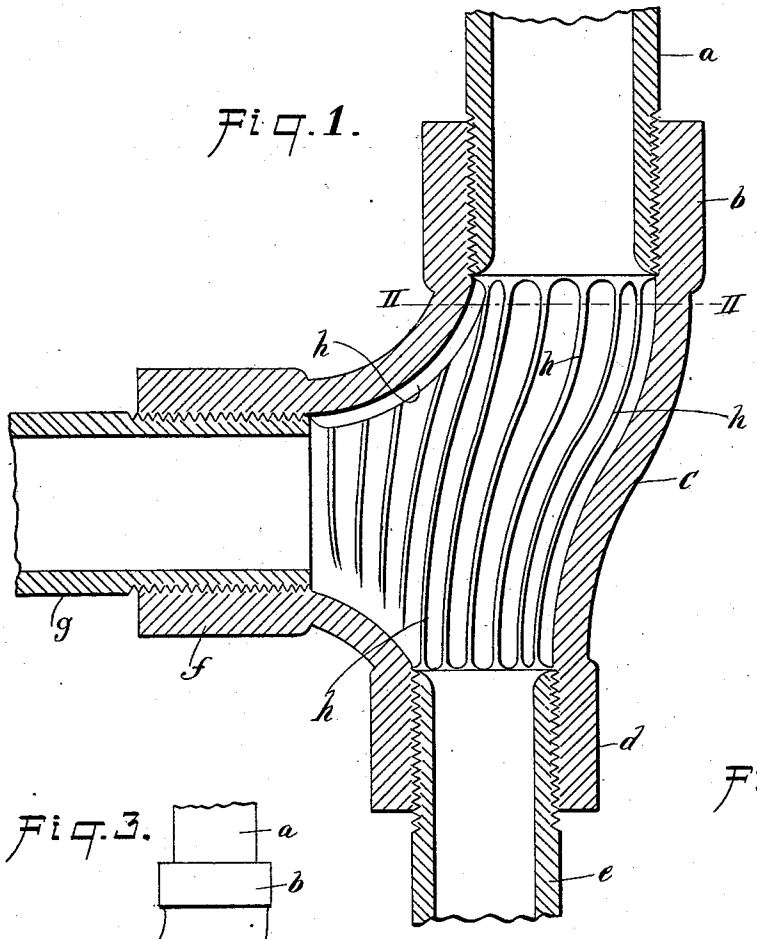


Fig. 3.

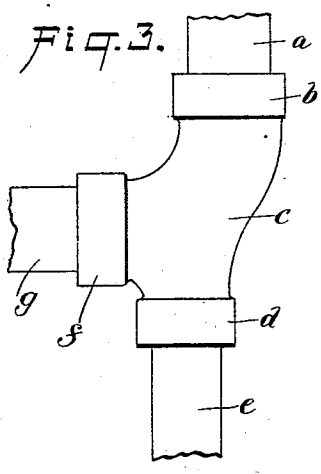


Fig. 2.

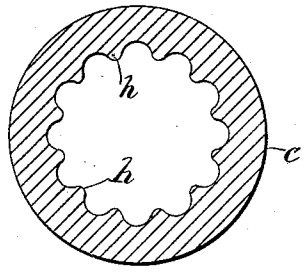
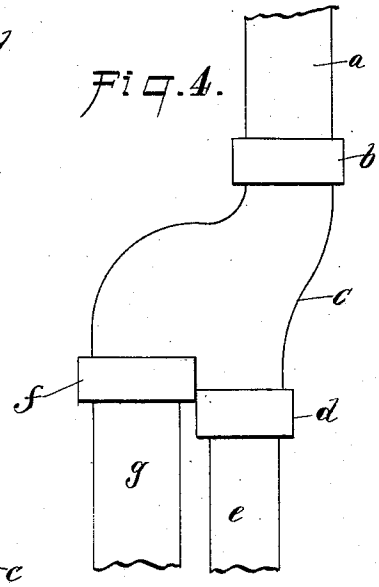


Fig. 4.



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FEED AND RETURN FITTING FOR STEAM-RADIATORS.

SPECIFICATION forming part of Letters Patent No. 566,151, dated August 18, 1896.

Application filed April 30, 1896. Serial No. 589,691. (No model.)

To all whom it may concern:

Be it known that I, AUGUSTUS EICHHORN, of Orange, in the county of Essex and State of New Jersey, have invented a new and Improved Feed and Return Fitting for Steam-Radiators, of which the following is a full, clear, and exact description.

The object of this invention is to provide superior means for introducing to a steam-radiator the steam necessary to the operation thereof, and for permitting the return by the same pipe of the water of condensation from said steam. I attain this end by means of a three-way fitting or union, to one passage whereof is connected the single pipe of the steam-radiator, and to the two remaining passages thereof are respectively connected the steam-supply and water-return pipes, the division of the steam and water being effected and maintained by the peculiar form of the fitting and by curved ribs which are made on the interior of the fitting and form channels for leading the water to the return-pipe and from the direction of the steam-supply pipe. The invention will be fully described hereinafter, and defined in the claim.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a sectional view of a fitting embodying the essential characteristics of my invention. Fig. 2 is a sectional view on the line II II of Fig. 1. Fig. 3 is a reduced exterior view of the device shown in Fig. 1, and Fig. 4 is a similar view of a modification of my invention.

Referring to Figs. 1 to 3, inclusive, the pipe *a*, proceeding to the radiator, enters my improved fitting through the flange *b*, and by these means communicates with the body *c* of the fitting. The fitting is circular in cross-section, and its right-hand wall, as shown in Fig. 1, curves leftward and downward, the fitting terminating at its lower end in a flange *d*, through which the water-return pipe *e* has communication with the body of the fitting.

Projecting transversely from the left-hand side of the body *c* is a flange *f*, through which the steam-supply pipe *g* has communication with the interior of the body *c*. Formed on the interior of the body *c* are the ribs *h*, which have different curves, so that all may lead to the flange *d*. The exact form of these ribs *h* is inessential, the sole essentiality being the capability in the ribs of forming small passages, all leading to the flange *d* and water-return pipe *e*.

The diameter of the pipe *g* is preferably not greater than the diameter of the space between the innermost edges of the ribs *h*, so that the steam from the pipe *g* may have ample room to expand without crowding itself into the spaces between the ribs *h* and taking up the space provided for the water of condensation.

In the operation, therefore, the steam passing through the pipe *g* will proceed through the body portion *c* and pipe *a* to the radiator, while the water of condensation dripping down the pipe *a* will fall into the channels formed by the ribs *h*, and since these channels all lead to the pipe *e* the water of condensation will be directed to this pipe, through which it returns to the boiler. By these means the steam and water are effectively kept from confusion with each other and a thorough circulation is maintained.

The form of my invention shown in Fig. 4 consists merely in turning the flange *f* downwardly, so that the pipe *g* may have a similar trend. In other respects the circulation is the same, and this form of the invention therefore requires no further description.

The fitting need not be located directly adjacent to the radiator, but may be arranged at any other point in the system.

It will be seen that when the valve of the pipe *a* is closed the steam-pressure in the pipe *g* will fall in the pipe *e* and prevent the back pressure of the steam in the boiler from raising in the pipe *e* the water contained in said pipe and in the boiler.

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

A fitting for steam-radiators, the fitting having a body formed with three orifices, two of which are vertically disposed and approximately in longitudinal alinement and the third of which enters the body at an angle to the first two, the interior of the body being free and unobstructed to form a passage through which steam may freely pass from

the said third orifice to the upper of the two alined orifices and the interior sides of the body being provided with ribs which extend directly from one alined orifice to the other and form channels leading the water of condensation from the upper of said orifices downward to the lower, the channels being capable of preventing the confusion of the steam and water and of allowing the steam to pass freely upward in a direction opposite to that taken by the water, substantially as described.

AUGUSTUS EICHHORN.

Witnesses:
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