(No Model.)

A. EICHHORN.

STEAM FITTING.

No. 571,612. Patented Nov. 17, 1896.

Fig. 1.

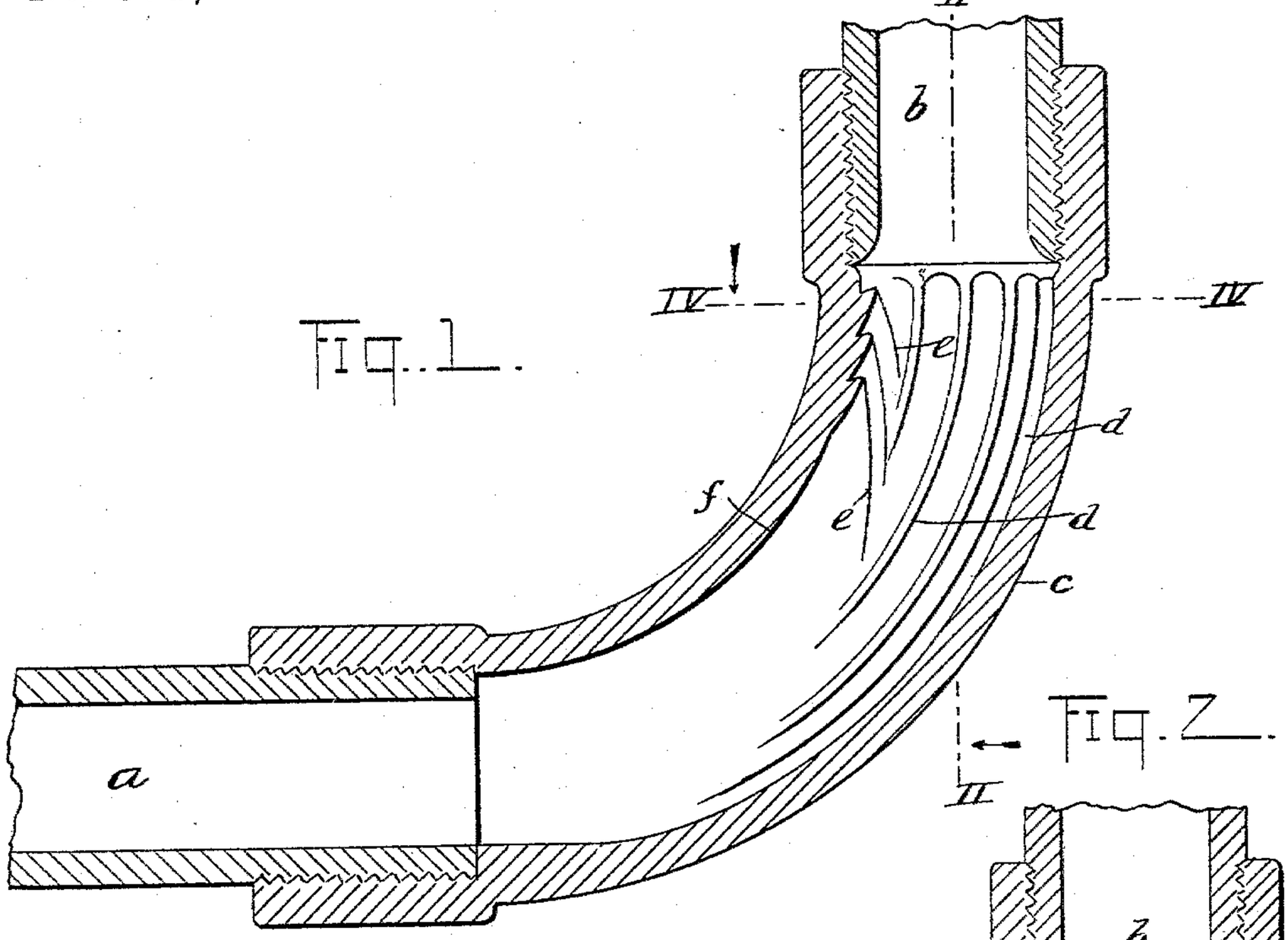


Fig. 2.

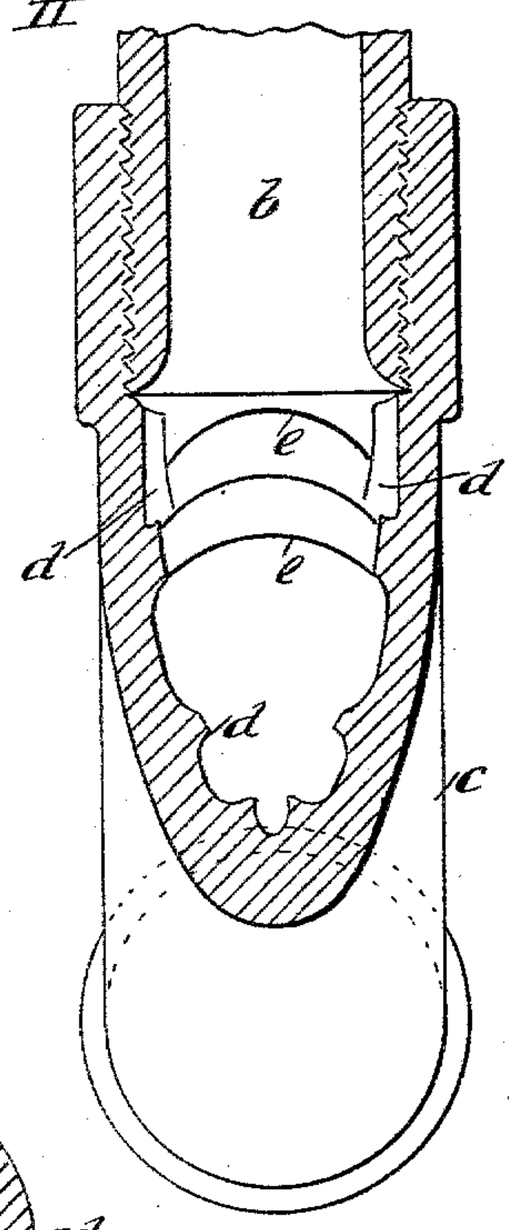


Fig. 3.

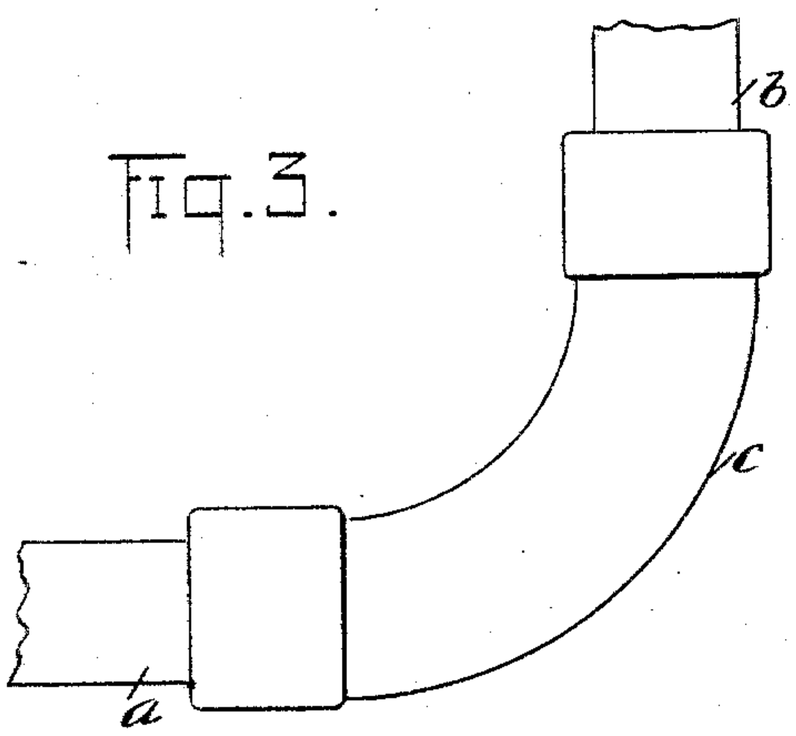
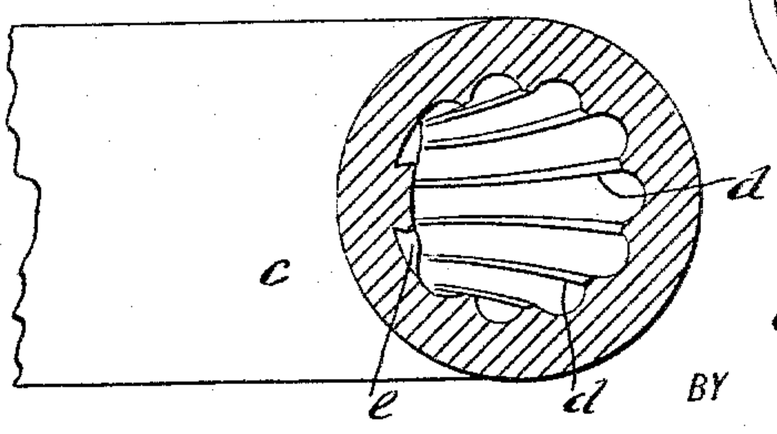


Fig. 4.



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AUGUSTUS EICHHORN, OF ORANGE, NEW JERSEY.

STEAM-FITTING.

SPECIFICATION forming part of Letters Patent No. 571,612, dated November 17, 1896.

Application filed September 15, 1896. Serial No. 605,911. (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 Steam-Fitting, of which the following is a full, clear, and exact description

The invention relates to that class of steam-fittings in which the fitting is provided on its interior with a series of channels by which the water of condensation may be led along the side of the pipe and out of contact with the steam, so as to prevent confusion of the steam and the water of condensation when such elements are moving in opposite directions through the same pipe.

The invention consists in a curved fitting having two openings, the upper portion of the fitting being provided on the interior side of its outer portion with longitudinal channels running to approximately the center of the fitting and being provided also on the interior side of its inner portion with curved channels running transversely and leading sidewise to the longitudinal channels, the object being to lead the drip-water down the interior side of the outer portion of the fitting and to take it from the inner side, so as to prevent the drip from falling across the curve of the pipe and so as to lead the drip easily to the discharge or lower end of the fitting.

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 views.

Figure 1 is a longitudinal section of my invention. Fig. 2 is a section on the line II II of Fig. 1. Fig. 3 is an exterior view of the invention, and Fig. 4 is a sectional view on the line IV IV of Fig. 1.

The pipe *a* leads from the source of steam and serves both to feed the live steam and to carry off the water of condensation. The remaining pipe *b* leads from the improved fitting *c* up to the radiator or whatever part that it may be desired to supply with steam. The pipes are screwed into the ends of the fitting *c*, as shown.

The fitting *c* is formed of a curved pipe, the upper portion of which is provided with a series of ribs *d*, running longitudinally with the fitting and leading down the interior side of the outer portion of the fitting. The central of the ribs *d* is longest, and the remaining ribs *d* are gradually shortened in length on each side of the central rib, as may be seen in Fig. 1.

The ribs *d* occupy about two-thirds the interior circumference of the fitting, as may be seen in Fig. 4. The interior of the inner portion of the fitting is provided at its upper end with curved ribs *e*, highest at their central portions and sloping downward and outward toward either side, such ribs leading into the channels formed by the ribs *d* and being arranged so as to prevent the passage of the water of condensation down the interior side of the inner portion of the fitting. It will thus be seen that water dripping down the left-hand side of the pipe *b* and entering into the channels formed by the ribs *e* will be prevented from falling across the curve of the fitting so as to become confused with the upgoing steam, but will, on the other hand, be led sidewise to the ribs *d*, by which the water is carried downward to the central lower portion of the fitting and allowed to pass off freely and without confusion to the pipe *a*. The lateral extent which the ribs *e* have is not material, except that it is necessary for the ribs to lead sidewise sufficient to take the drip which comes down the left-hand side of the fitting fully into the channels formed by the ribs *d*. In the drawings they are shown to extend in this manner. It is obvious that the exact length of these ribs may be accordingly varied.

The invention is exclusively adapted to fittings in which a single pipe is used, both to bring the steam to a radiator or other device and to carry off the water of condensation from said radiator or other device. Were the ribs *e* run longitudinally, like the ribs *d*, the water would follow down the interior side of the inner portion of the fitting and upon reaching the point *f* would drop from the inner portion of the fitting and fall across to the bottom thereof. The drip being thus spread through the volume of steam would be confused therewith and the object of my invention defeated. It is necessary to this invention, therefore, that the water at the interior side of the inner portion of the fitting

be carried sidewise. This work is performed by the ribs *e*. The fitting is adapted principally to be used in connection with steam-radiator systems, though it need not be placed directly adjacent to the radiator.

The fitting may be located in any part of the system, but at all times it will serve the functions ascribed to it above. It will prevent the confusion of oppositely-moving water and steam through the same pipe.

It will be obvious that these specific ribs *d* and *e* are only employed to produce channels in the interior surface of the fitting and that any means may be provided to produce the channels, whether the means be concavities or grooves or any other known device.

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

A feed and return fitting for steam-pipes, the fitting consisting in a curved tube, the upper end of which is provided with a series of channels on the inner side of its outer portion, the channels running longitudinally and downward and leading the water of condensation to the lower outer portion of the fitting and the fitting also having at the interior side of the inner and upper portion a series of curved channels running across the fitting and leading outward and slightly downward at each side so as to conduct the water of condensation laterally into the first-named channels and so as to prevent the water of condensation from passing down the interior side of the inner portion of the fitting and dropping across the interior of the fitting, substantially as described.

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