(No Model.)

J. E. DAVIS.

FUSIBLE PLUG.

No. 394,102. Patented Dec. 4, 1888.

Fig. 1.

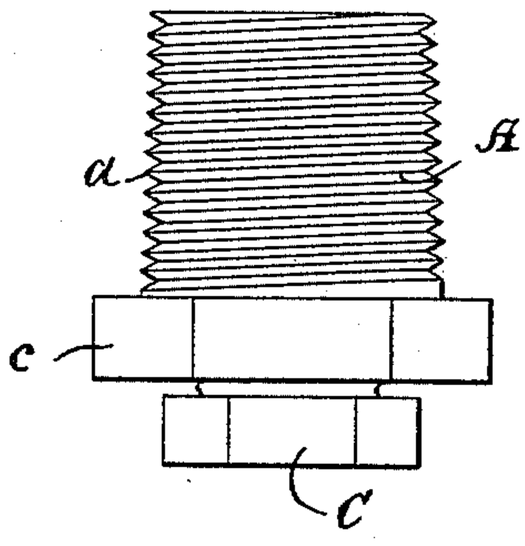


Fig. 2.

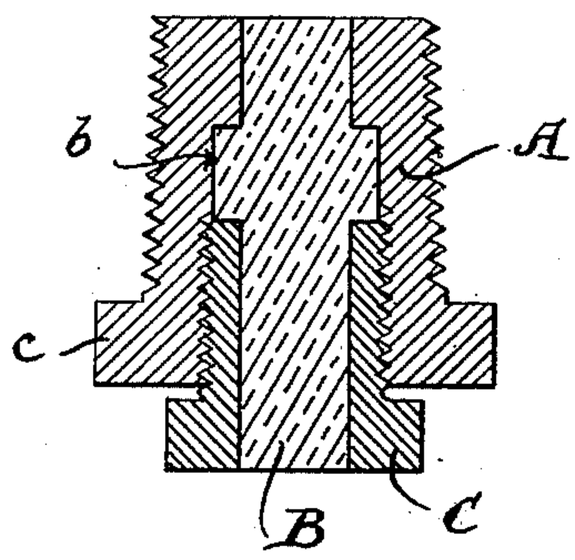


Fig. 3.

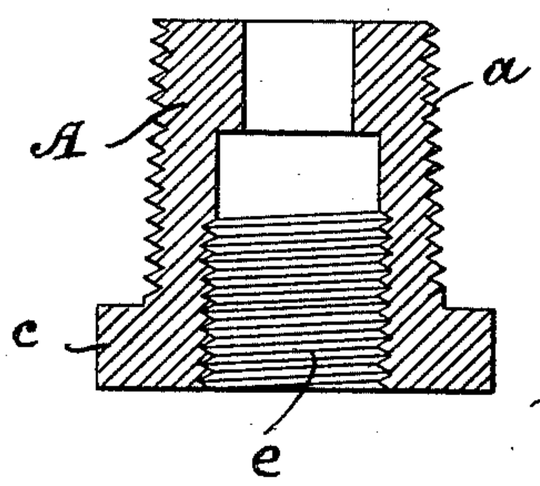


Fig. 4.

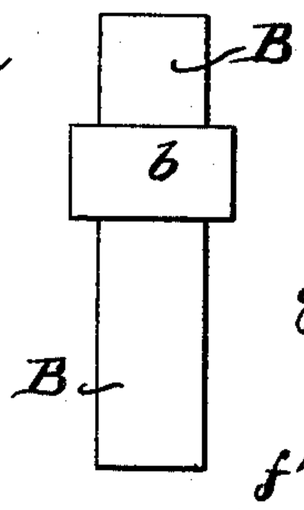


Fig. 5.

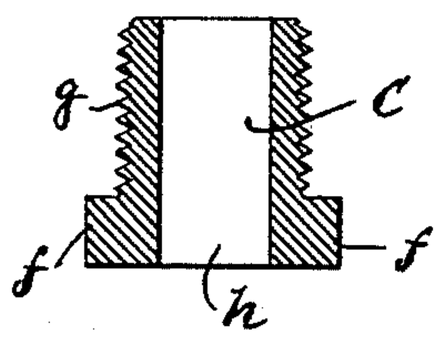
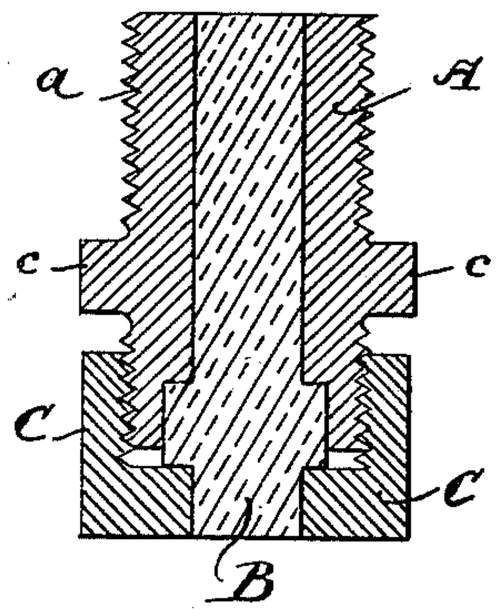


Fig. 6.



Witnesses.
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UNITED STATES PATENT OFFICE.

JAMES E. DAVIS, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO SAMUEL H. KIMBALL, OF SAME PLACE.

FUSIBLE PLUG.

SPECIFICATION forming part of Letters Patent No. 394,102, dated December 4, 1888.

Application filed April 13, 1887. Serial No. 234,703. (No model.)

To all whom it may concern:

Be it known that I, JAMES E. DAVIS, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Fusible Plugs, of which the following is a specification.

My invention relates to improvements in fusible plugs for steam-boilers, by means of which a fresh piece of fusible metal can be readily inserted when required or desired, thereby avoiding the danger so common with fusible plugs of ordinary construction, the fusible metal of which cannot be removed and often becomes so hard by the action of the heat that it will not fuse, or else becomes so coated with scale that it melts too slowly or not at all; and the invention consists of certain details of construction hereinafter set forth.

Referring to the accompanying drawings, Figure 1 represents a side view of a fusible plug embodying my invention. Fig. 2 is a longitudinal section through the same. Fig. 3 is a sectional view of the outer shell or casing. Fig. 4 is a view of the fusible metal. Fig. 5 is a sectional view of the follower or hollow set-screw. Fig. 6 shows a modification.

A represents the outer shell or casing, B the plug of fusible metal, and C the follower or hollow set-screw.

The plug B is made of a round piece of fusible metal with a collar or projection, *b*, and the outer shell or casing, A, is formed internally to admit the plug B and follower C, as shown in Fig. 2, it being provided with an internal screw-thread, *e*, and externally it is provided with a slightly-tapering screw-thread, *a*, and a flange, *c*, preferably of hexagon form.

The follower is provided with a flange, *f*, and external screw-thread, *g*, that fits the internal thread, *e*, in the shell A. A hole, *h*, is formed through the follower to admit the long end of the plug B.

In applying the plug to a boiler a hole is drilled and tapped in the desired position and the outer shell or casing, A, screwed therein. The plug B is then inserted and the follower or hollow plug C screwed tightly in, as shown in Fig. 2.

It will be seen that the plug B is flush at one end with the end of the casing A, thereby preventing it being covered with mud and scale, and the other end of the plug being flush with the face of the follower C there is no place for soot or dirt to lodge. The plug passes a short distance into the boiler, and is constantly surrounded with water and consequently kept at a temperature below fusing-point; but should the water become too low in the boiler the heat will cause the fusible metal to melt, thereby allowing the steam to escape, thus relieving the pressure in the boiler, and at the same time put out or deaden the fire. When a plug has been burned out, or it is desired to insert a new plug, all that has to be done is to unscrew the follower C, then insert a new plug, and replace the follower. When putting in a new plug, if after the follower C has been removed it is found that the old plug has become stuck, the end projecting down below the outer casing, A, can be struck with a hammer, thereby readily loosening the same. The opening through the follower or hollow set-screw C may be made tapering to facilitate the flow of the metal when it fuses; or it may be straight, as shown.

The plug may be of any length found necessary and the fusible metal of any desired form.

What I claim as my invention is—

The combination of the outer shell or casing, A, adapted to be screwed into a boiler-plate, in combination with a plug of fusible metal, B, provided with a collar or projection, *b*, and the follower C, substantially as shown and described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JAMES E. DAVIS.

Witnesses:
L. W. HOWES,
E. PLANTA.