(No Model.)

W. H. BAILEY.

FUSIBLE PLUG.

No. 343,218. Patented June 8, 1886.

FIG. 1.

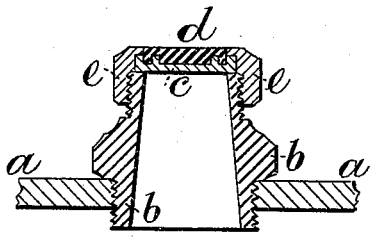


FIG. 2.

FIG. 3.

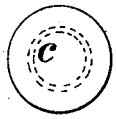
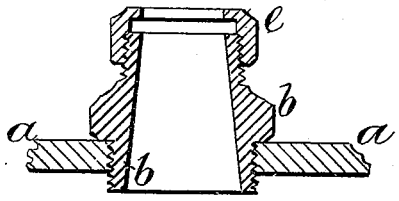


FIG. 4.



Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM H. BAILEY, OF SALFORD, COUNTY OF LANCASTER, ENGLAND.

FUSIBLE PLUG.

SPECIFICATION forming part of Letters Patent No. 343,218, dated June 8, 1886.

Application filed April 12, 1886. Serial No. 198,656. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM HENRY BAILEY, a subject of the Queen of Great Britain, residing at Salford, in the county of Lancaster, England, have invented a certain new and useful Improvement in Fusible Plugs, of which the following is a specification.

My invention relates to the plugs of fusible metal, which are placed in the skins of boilers or in the fire-boxes, so as to melt and allow the steam to escape when a dangerous heat is reached, my object being to insure the more complete and certain fusing of the metal of which the plug is composed. To effect this, I cover entirely and completely the fusible metal plug with a disk or cap of copper, brass, or other hard metal instead of, as at present, placing a small disk of hard metal in the center of the plug only and leaving the rest of the fusible metal exposed to the chemical action of the water, causing the formation of the scale. By the use of this disk or cap the water cannot come in contact with the fusible metal, and as soon as the plug fuses the steam forces the hard-metal cap out, thus opening the plug to its fullest extent and allowing sufficient steam to escape and extinguish the fire.

In order that my invention may be fully understood and readily carried into effect, I will describe the accompanying sheet of drawings, reference being had to the figures and letters marked thereon.

Figure 1 is a sectional elevation of my improved fusible plug fixed in position. Figs. 2 and 3 are detailed views of the plug, and Fig. 4 is a view of Fig. 1 after the plug has fused, showing a clear passage for the escape of steam.

The boiler-plate *a* is tapped to receive the screwed end of a tube, *b*, which is open to the flue or fire-box, and projects into the water-space of the boiler. On the end of this tube *b* rests the fusible-metal disk *c*, secured centrally to the under side of a smaller disk or cap, *d*, of copper, brass, or other suitable hard metal. (See Figs. 2 and 3.) The disks *c* and *d* are secured in position on the end of the tube *b* by the brass or other metal cap *e*, the center of which is bored out to exactly fit the copper disk *d*, and which is tapped to screw onto the outside of the tube *b*.

As soon as the level of water in the boiler sinks below the top of the cap *e* and sufficient heat is generated the soft-metal disk *c* fuses, and the steam forces the hard-metal disk or cap *d* out, thus opening the plug to its fullest extent and leaving a free passage, as shown in Fig. 4, for steam to escape from the boiler through the tube *b* and extinguish the fire in the flue beneath.

What I claim as my invention, and desire to secure by Letters Patent of the United States, is—

The combination of a safety-valve tube with a fusible-metal disk closing the end thereof, an annular cap which holds said disk in place, and a protecting-plate which fits within said cap and over said fusible disk, and is attached to the latter, but free to be expelled by the steam when the fusible metal melts, substantially as set forth.

The foregoing specification of my improvement in fusible plugs signed by me this 29th day of March, 1886.

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Witnesses:
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