

(No Model.)

J. W. BIRKETT.
AUTOMATIC FIRE EXTINGUISHER.

No. 280,009.

Patented June 26, 1883.

Fig. 1.

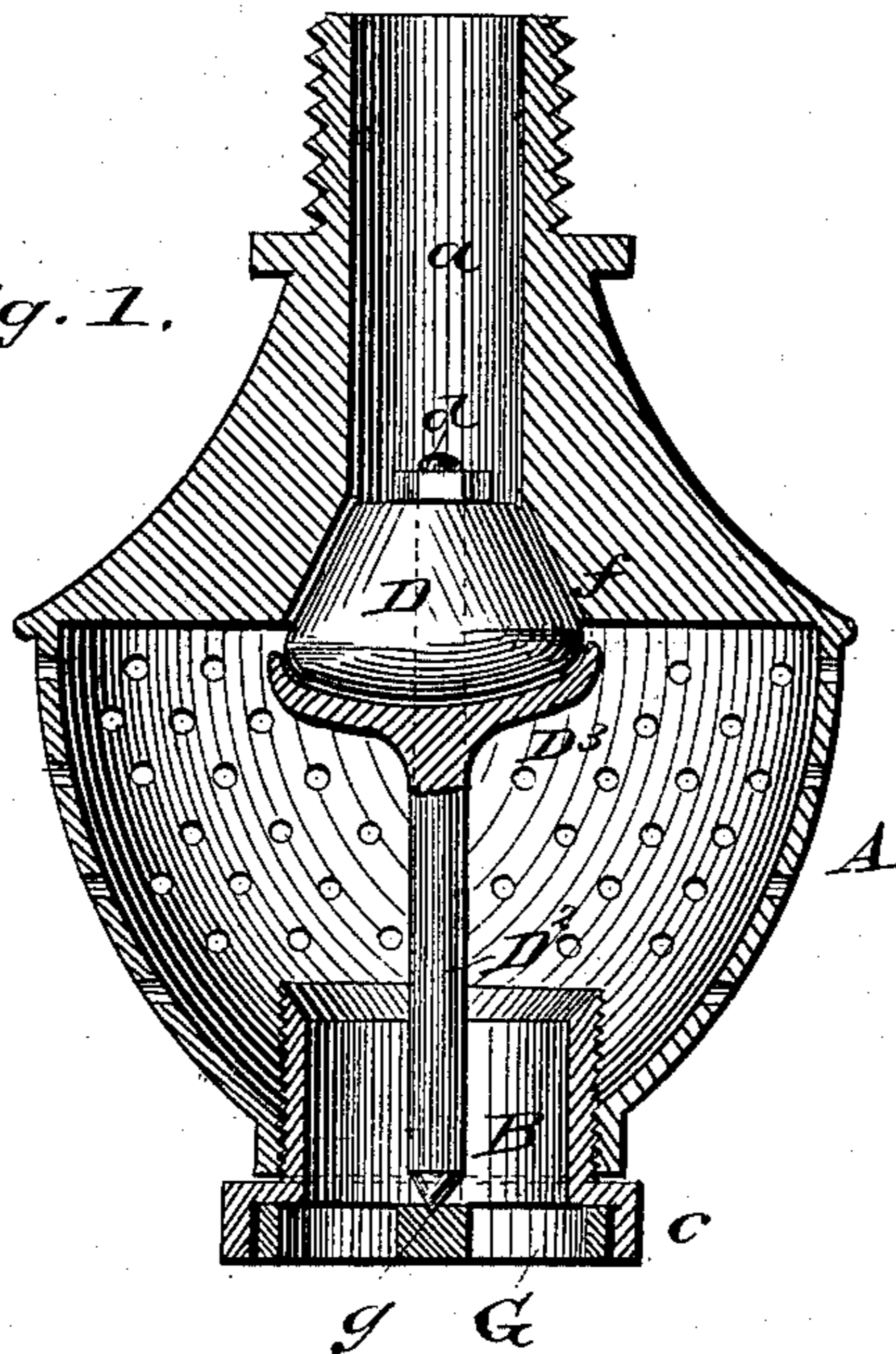


Fig. 2.

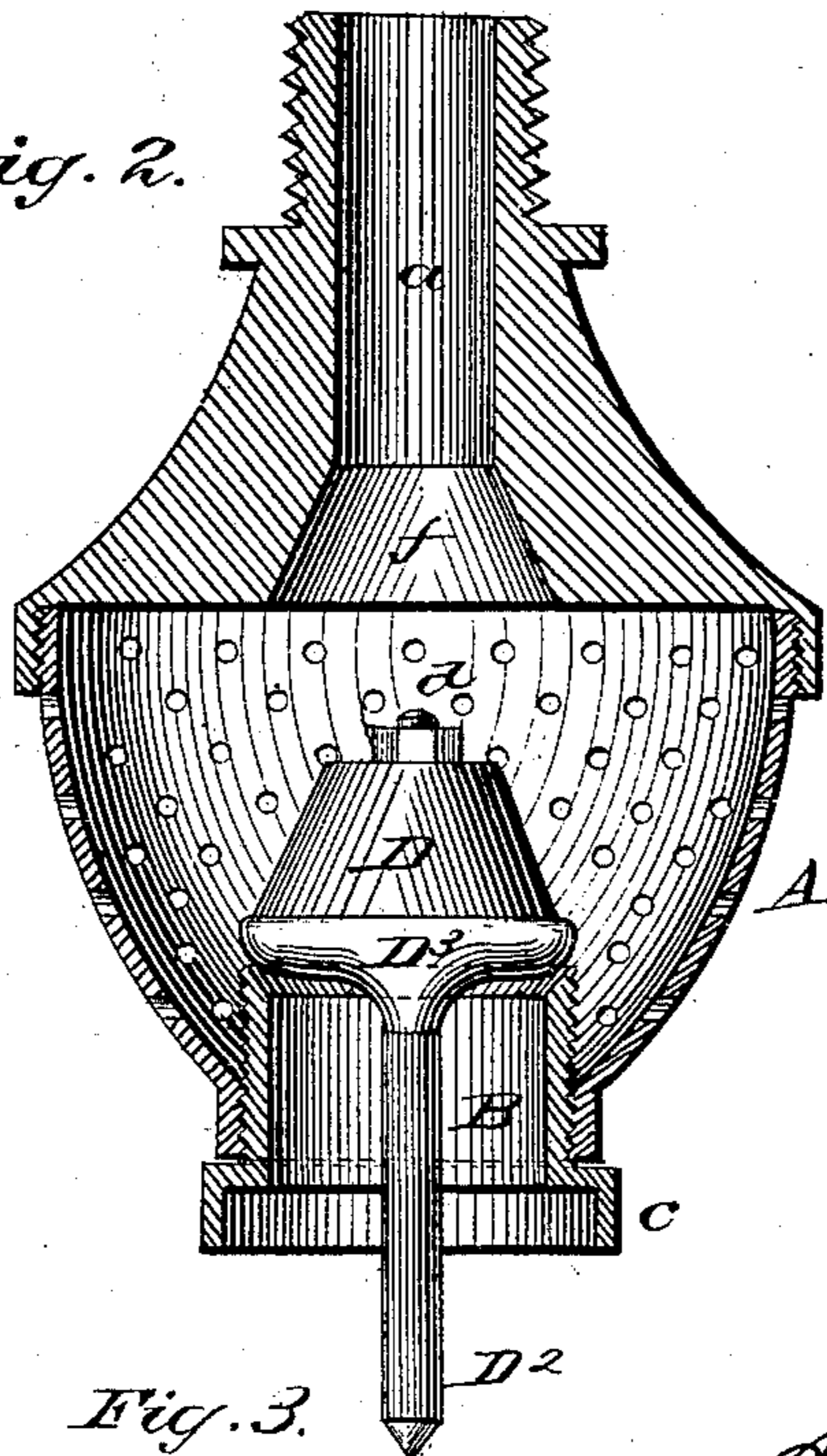
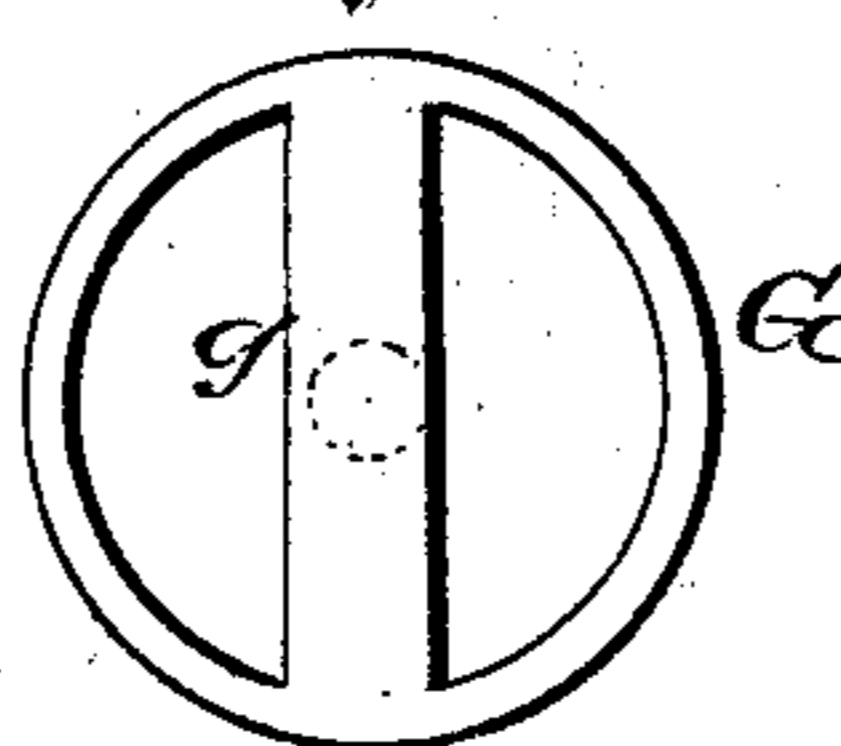


Fig. 3.



Witnesses.

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AUTOMATIC FIRE-EXTINGUISHER.

SPECIFICATION forming part of Letters Patent No. 280,009, dated June 26, 1883.

Application filed May 25, 1883. (No model.)

To all whom it may concern:

Be it known that I, JAMES W. BIRKETT, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Automatic Fire-Extinguishers; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to that class of automatic fire-extinguishers in which a valve is held in place by means of solder which is fusible at a low degree of temperature.

In the accompanying drawings, Figure 1 represents a vertical sectional view of an apparatus embodying my improvements in position for use. Fig. 2 is a similar view, showing the position of the parts when the solder has been fused and the valve released. Fig. 3 is a detail view of the open ring or band employed for holding the valve in place.

A represents a perforated shell or casing, the lower half of which may be of an approximate hemispherical form, and the upper half of tapering or other suitable form. This shell or casing may be cast in one piece, as shown in Fig. 1, or made in two sections connected by a screw-threaded joint, as shown in Fig. 2. At the upper end of the shell or casing is a hollow neck, *a*, which is screw-threaded for the purpose of attaching it to a water-pipe. At the lower end of the interior of this neck is a tapering valve-seat, *f*. At the lower end of the shell or casing is a screw-threaded opening, in which is screwed a bushing, B, the lower end of which is enlarged so as to form a collar, *c*.

The valve consists of a tapering plug, D, which may be made of rubber, metal, or other suitable material. It is carried by a saucer-like holder, D³, which is provided with a downwardly-extending stem, D². The holder is also provided with an upwardly-extending pin or stem, which passes through the center of the plug and is secured by a nut, *d*.

G represents an open ring or band, provided with a diametrical cross-bar, *g*. This ring or

band fits nicely in the interior of the enlargement or collar *c*, and is secured thereto by solder fusible at a low temperature. The valve and holder having been inserted in the shell, the bushing B, with the ring attached, is inserted in the opening, so that the lower end of the valve-stem D² rests on the cross-bar *g*, and is screwed up until the valve-plug is home in the seat *f*. The apparatus is then ready for application to a water-pipe.

The parts being in the position shown in Fig. 1, when the temperature becomes sufficiently high to fuse the solder, the ring or band G drops out from the bushing and allows the pressure of the water in the pipe to force the valve from its seat. As the water flows through the neck *a* it strikes the tapering plug D and is deflected thereby so as to pass through the perforations in the shell in all directions. When the valve falls, the holder D³ rests on the upper end of the bushing B, which is flared or chamfered so as to form a valve-seat, and the water is prevented from passing out through the bushing and compelled to pass out laterally through the perforations in the shell. The valve is thus a double-acting valve.

By having the valve-stem supported by an open ring or band, instead of solid plate or disk, the heat is enabled to reach the solder from two opposite directions at the same time, and thus accomplish the desired purpose more speedily.

Having thus described my invention, I claim—

In an automatic fire-extinguisher, the combination, with a perforated shell or casing, of the bushing B, formed into a valve-seat at its inner, and a collar, *c*, at its outer portion, a saucer-shaped valve-holder, D³, formed with stem D², and provided with suitable plug, D, and an open ring or band, G, having cross-bar *g*, adapted, when secured within the collar *c* by fusible solder, to support the stem and plug until liberated by the melting of the solder, as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES W. BIRKETT.

Witnesses:

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