(No Model.)

J. R. BROWN.

AUTOMATIC FIRE EXTINGUISHER.

No. 278,215. Patented May 22, 1883.

Fig. 1.

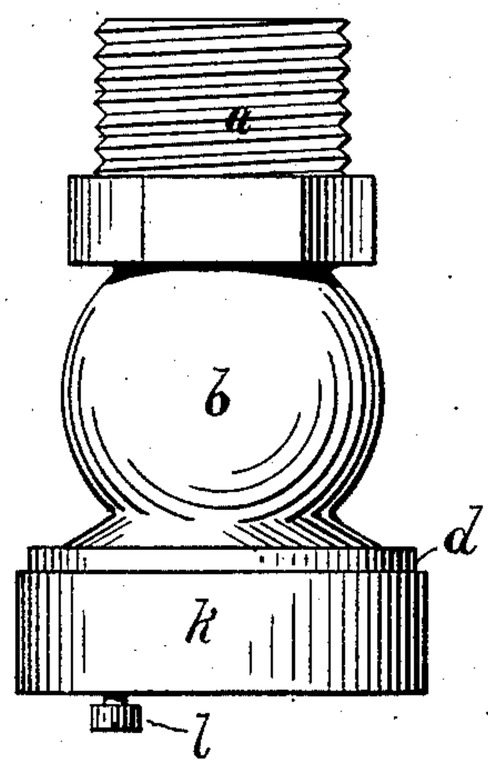


Fig. 2

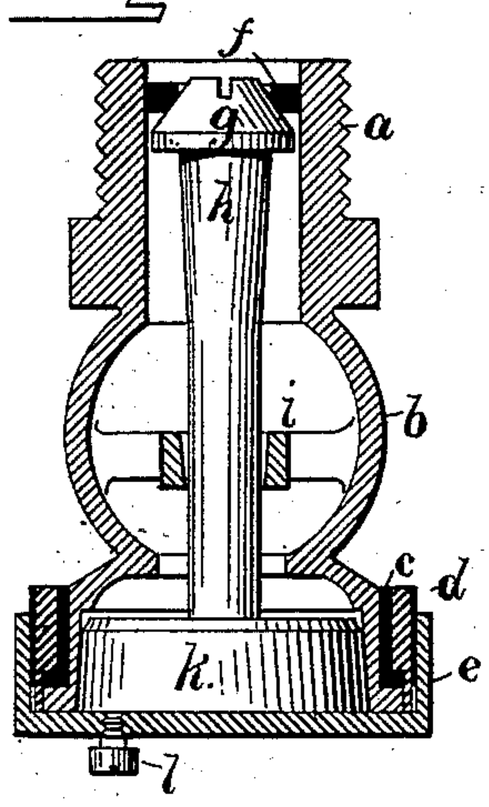


Fig. 3.

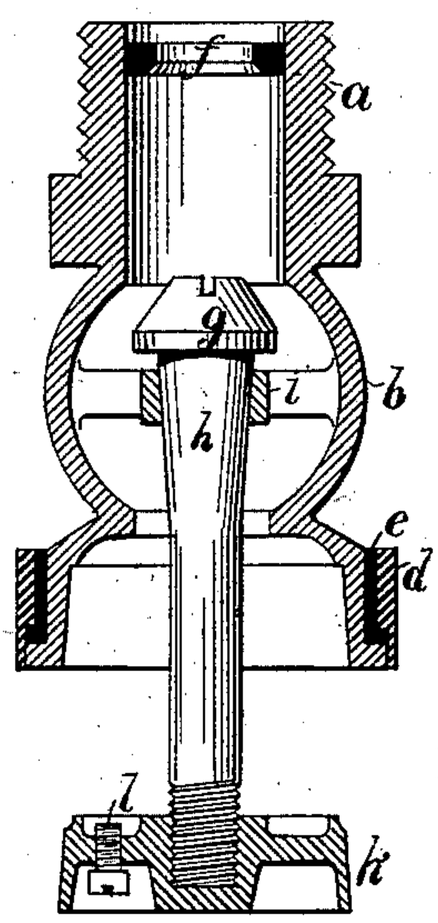
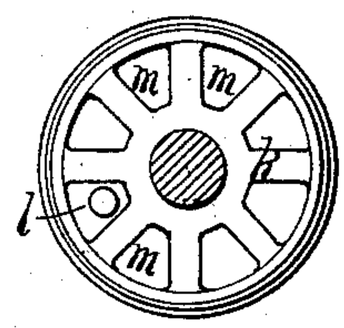


Fig. 4



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UNITED STATES PATENT OFFICE.

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AUTOMATIC FIRE-EXTINGUISHER.

SPECIFICATION forming part of Letters Patent No. 278,215, dated May 22, 1883.

Application filed February 21, 1883. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH R. BROWN, of Bridgeport, in the county of Fairfield and State of Connecticut, have invented a new and useful Improvement in Automatic Fire-Extinguishers; and I hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification.

This invention has reference to the class of automatic fire-extinguishers in which the valve or seal by which the outlet is closed is constructed to move a short distance from the outlet and act as a deflector to the water discharged by the outlet, and is an improvement on the automatic fire-extinguisher for which a patent was granted to me on the 16th day of August, 1881, and which is numbered 245,916.

The invention consists in the peculiar construction of a cap secured by solder to a rim, which is separated from the extinguisher proper by an annular ring formed of a poor conductor of heat.

It further consists in providing any kind of automatic fire-extinguisher with a small outlet closed by a simple device, which can be removed and the system tested, either to prove that the valves are tight or that the pipes are open to deliver water when required.

Another part of my invention consists in placing a soft-metal ring into the bore of the inlet in connection with a conical valve, so that the pressure of the water will force the ring between the valve and the sides of the inlet and make a water-tight joint, as will be more fully set forth hereinafter.

Figure 1 is a view of my improved automatic fire-extinguisher. Fig. 2 is a sectional view of the same shown in the position when sealed. Fig. 3 is a sectional view of my improved automatic fire-extinguisher shown in the position when in operation. Fig. 4 is a view of the deflector-disk.

In the drawings, *a* is the screw-threaded nipple by which the extinguisher is secured to the usual fittings and connected with the system of pipes extending through the building to be protected.

b is the body of the device.

c is a ring made of any material or composition that is a slow conductor of heat, such as caoutchouc, cork, or other material.

d is a ring forced over the ring *c*. To this ring *d* the cap *e* is secured by a solder fusible at a low temperature. By this interposition of the non-conducting ring *c* between the body of the extinguisher and the ring *d*, to which the cap *e* is secured by solder, the heat is allowed to act more readily on the solder, and the joint will be more promptly released on the breaking out of a fire.

f is a ring made of some soft metal—such as lead, bismuth, or other soft metal—or composition of metals. It is fitted into the bore of the inlet and rests on the conical valve *g*. The pressure of the water on the ring *f* forces the same tightly between the wall of the inlet and the conical valve *g*, and thus insures a tight joint, by which the water is prevented from entering the interior of the device, and by its capacity to absorb heat prevents the prompt melting of the solder.

h is the valve-stem, the upper part of which is made tapering, so as to fit into the tapering hole in the bridge *i*, and give a firm support to the valve-stem and to the deflector *k*, secured to the same. The deflector *k* may be directly secured by solder into the recess in which it is placed; or it may be made to fit loosely in the same.

l is a screw secured in a tapped hole in the cap *e*, as shown in Figs. 1 and 2, when the cap is used, or in the deflector *k* when the deflector is directly secured by solder; but it or some equivalent device may be secured in any other part of the device, the object being to open some part of the automatic fire-extinguisher and ascertain whether the interior and the water-supply are in the required condition.

m m are cavities made in the deflector *k* for the purpose of breaking up the discharged water into spray and dispersing it over a large area.

This construction of automatic fire-extinguisher is very sensitive to the action of heat, as no water comes sufficiently near the soldered joint to effect the prompt melting of the same.

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

1. The combination, with the extinguisher-

head provided with the nipple *a*, of the conical valve *g*, and the annular ring *f*, made of soft material and adapted to make a water-tight joint, as described.

2. The combination, with the body *b*, of the ring *c*, which is a poor conductor of heat, the ring *d*, and the cap *e*, arranged to facilitate the melting of the solder, as described.

3. The combination, with an automatic fire-extinguisher, of a test-tap constructed to open a small outlet, so as to ascertain the condition of the device, as described.

4. The combination, with an automatic fire-extinguisher, of the screw *l*, constructed to open or close an outlet, so as to ascertain the condition of the interior, as described.

5. An automatic fire-extinguisher provided with a deflector constructed to close the outlet and when released distribute the discharged water, an auxiliary valve arranged to exclude the water from the extinguisher when not in use, and a test-tap constructed to ascertain the interior condition, as described.

In witness whereof I have hereunto set my hand.

JOSEPH R. BROWN.

Witnesses:
MORRIS B. BEARDSLEY,
CHARLES E. WILMOT.