

(No Model.)

F. GRINNELL.

AUTOMATIC FIRE EXTINGUISHER.

No. 248,827.

Patented Oct. 25, 1881.

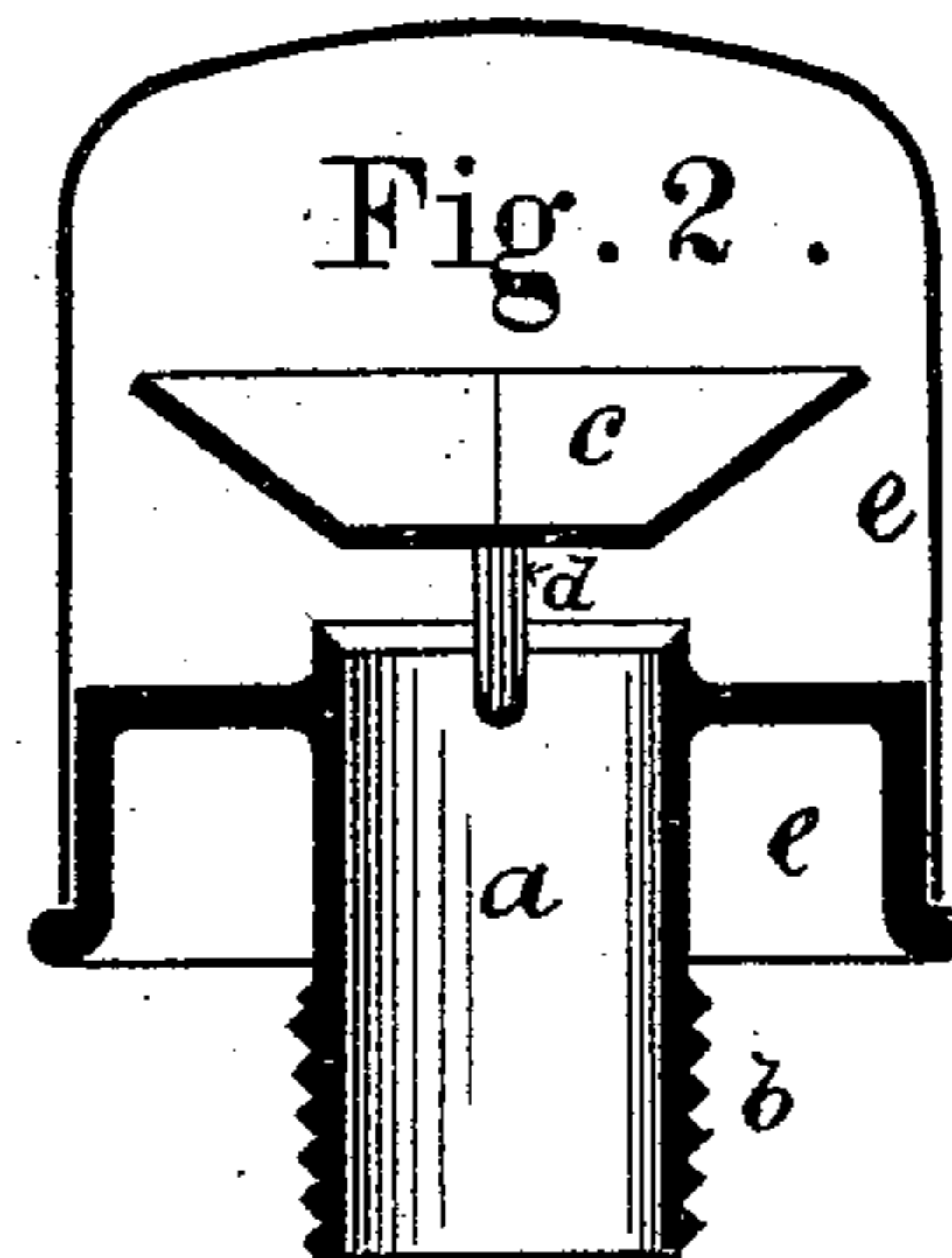
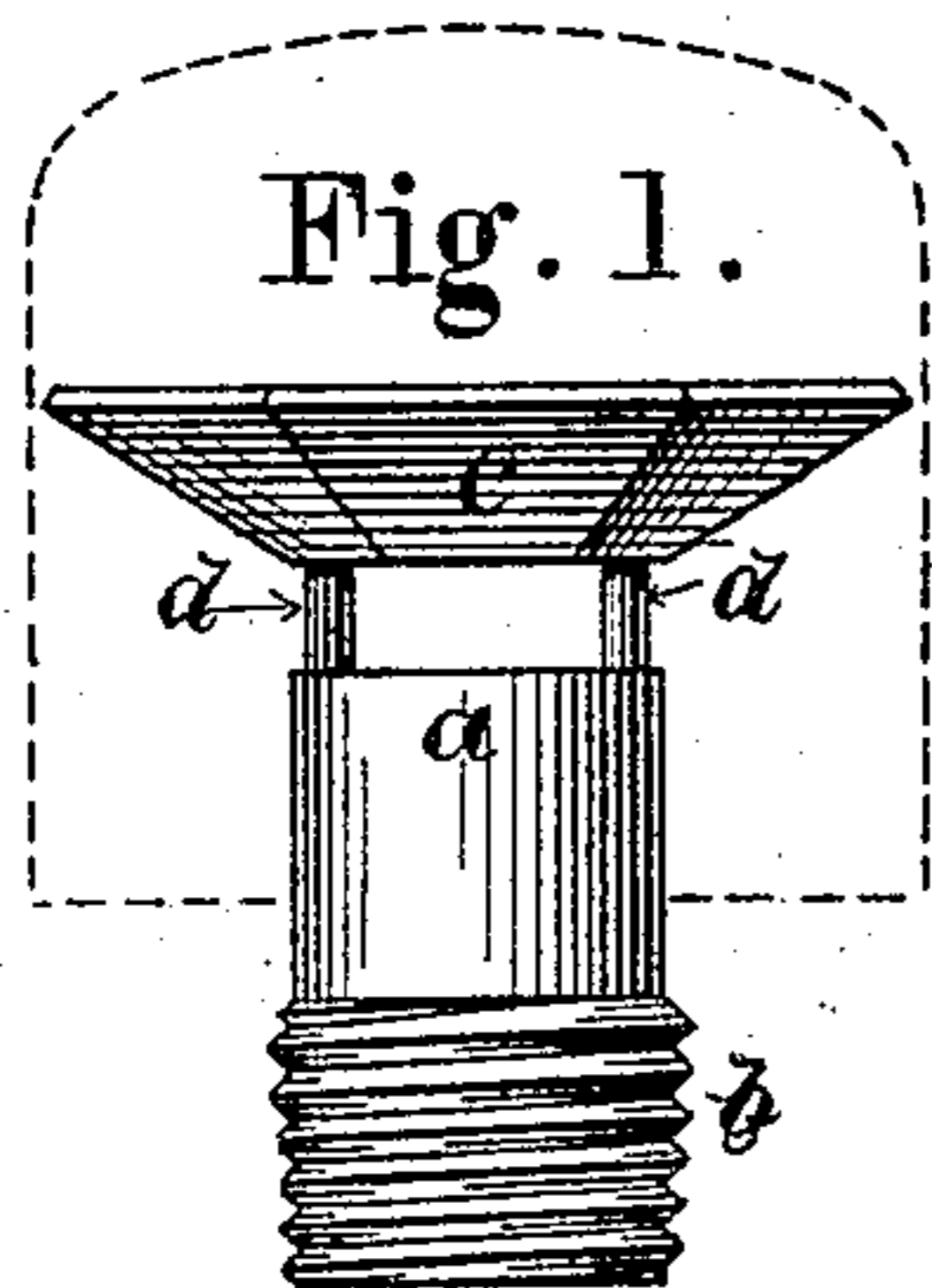


Fig. 3.

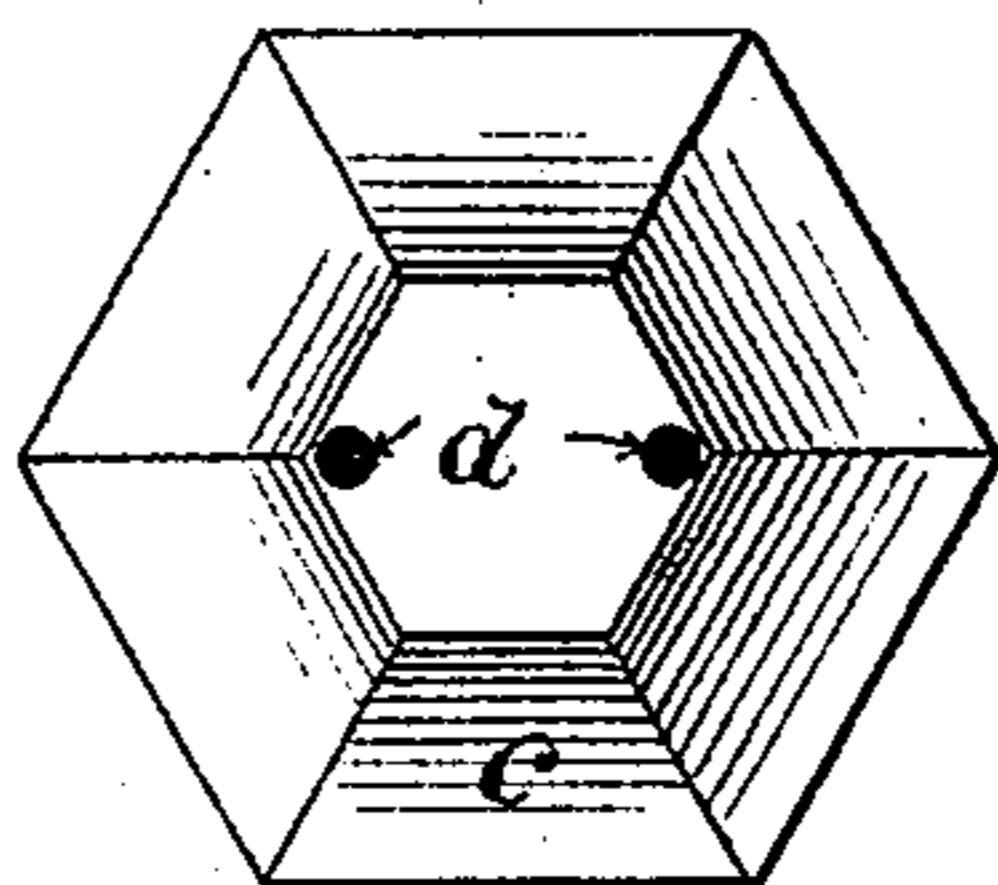
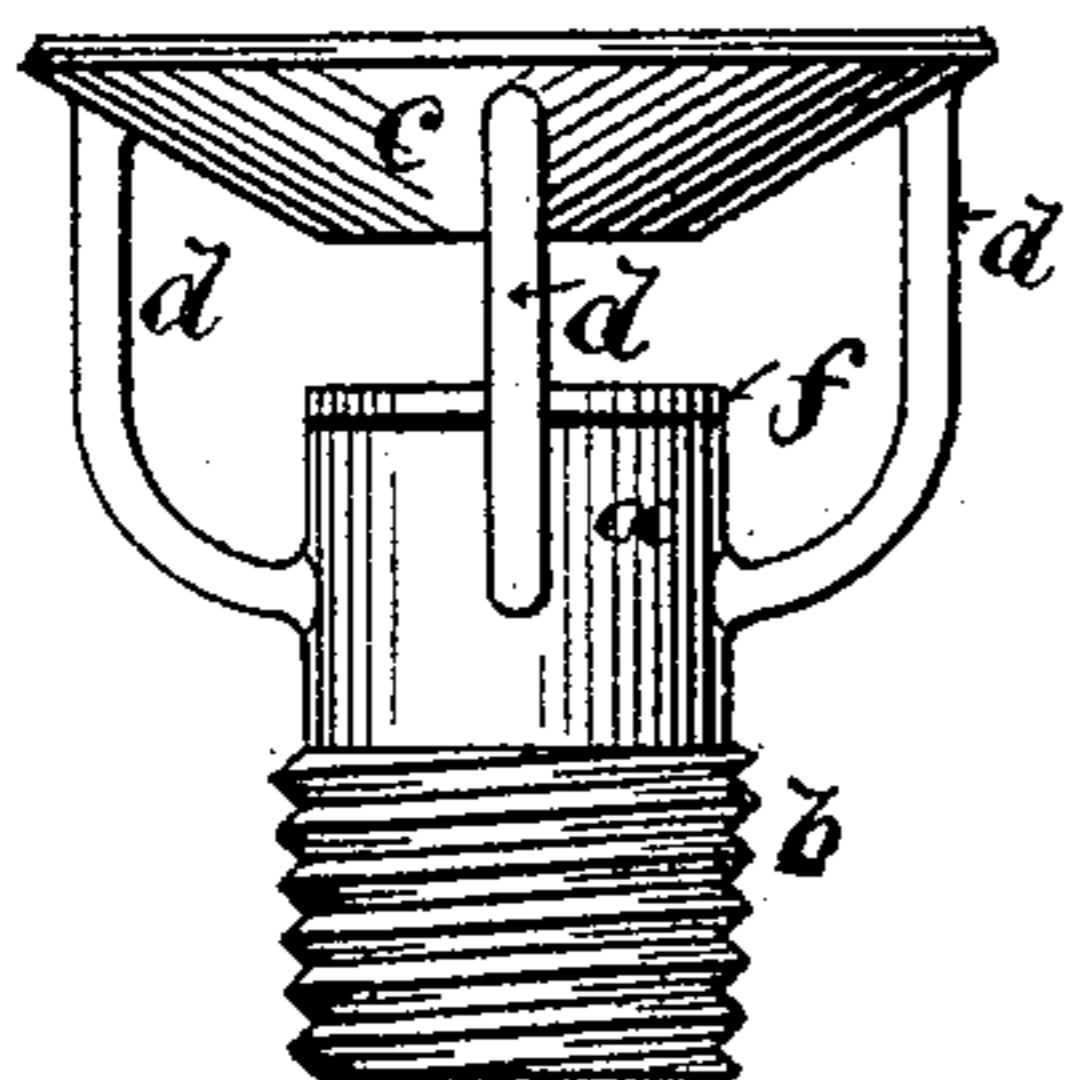


Fig. 4.



WITNESSES:

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UNITED STATES PATENT OFFICE.

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AUTOMATIC FIRE-EXTINGUISHER.

SPECIFICATION forming part of Letters Patent No. 248,827, dated October 25, 1881.

Application filed June 13, 1881. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK GRINNELL, of the city and county of Providence, and State of Rhode-Island, have invented a new and useful Improvement in Automatic Fire-Extinguishers; and I hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification.

This invention has reference to an improvement in devices for distributing water supplied through a system of pipes, which water is retained by means of a seal secured by a solder made of a material fusible at a low temperature, so that by the action of heat on the solder the seal is released and removed by the pressure of the water.

The invention consists in securing opposite the outlet thus sealed a deflector, by which the water rushing from the outlet is deflected and distributed over a large area, as will be more fully set forth hereinafter.

Distributers for automatic fire-extinguishers have been heretofore provided with perforations through which the water is discharged. Such perforations are liable to become obstructed by sediment, if the device is constantly filled with water, or they are as liable to be obstructed by dust, and more particularly so in factories where the air is filled with impurities, when the same are exposed.

To avoid all these defects and reduce the cost of construction is the object of this invention.

Figure 1 is a view of an outlet provided with a deflector having the form of the frustum of a hexagonal cone permanently secured in front of the outlet. The broken lines indicate how a cap may be placed over the same. Fig. 2 is a sectional view of an outlet, in front of which a deflector is secured, the whole being inclosed with a cap secured to the base by a solder-fusible at a low temperature. Fig. 3 is a view of the hexagonal deflector; and Fig. 4 is a view of a pipe-nipple, the outlet of which is closed by a disk secured to the end of the pipe by a solder fusible at a low temperature and a dished deflector secured to the pipe-nipple, so that when the seal is removed by the action of heat on the solder the water will impinge on the deflector and, forced laterally, descend in a spray on the fire.

It is obvious that the deflectors may be formed in any desired shape, so as to deflect the outrushing water in the desired directions—that is to say, the deflector may be a straight disk, a concave or convex disk, or conical, many sided, or round, provided the same is fixed in front of the outlet and will deflect the water so as to cover considerable area with the spray.

Various devices may be used to restrain the water and prevent its flow from the outlet until the action of the heat from a fire shall open the outlet and allow of the discharge of the water.

In the drawings, *a* is a short piece of pipe or nipple provided at one end with the screw-thread *b* by which it may be screwed into any kind of pipe-fitting—such as an elbow, a T-piece, or a union.

c is the deflector, secured to the pipe or nipple *a* by means of the rods *d d*, or in any other suitable manner.

e, Fig. 2, is a cap extending over the deflector and outlet, and secured to the base *e'* by means of a solder fusible at a low temperature.

f is a disk soldered to the end of the pipe *a*, also by a solder fusible at a low temperature.

The operation of the device is as follows: One of the pipes, *a*, provided with a deflector and sealed up by any one of the methods described, is secured to each one of the branches of a system of pipes extending through a room or building. When a fire breaks out the heat of the fire releases the seal, and the water or other fluid forced through the pipes encounters, as it rushes from the outlet, the deflector *c*, which disperses the water over a large area and causes the same to fall on the fire in a finely-divided spray, which, flashing into steam, materially assists the succeeding water to extinguish the fire.

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

In an automatic fire-extinguisher, the combination, with the outlet, of a deflector fixed in front of the outlet and constructed to disperse the water over a large area, and a seal held by a solder fusible at a low temperature, as described.

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Witnesses:

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