

(No Model.)

O. A. STEMPEL.  
FIRE EXTINGUISHER.

No. 549,617.

Patented Nov. 12, 1895.

Fig. 1.

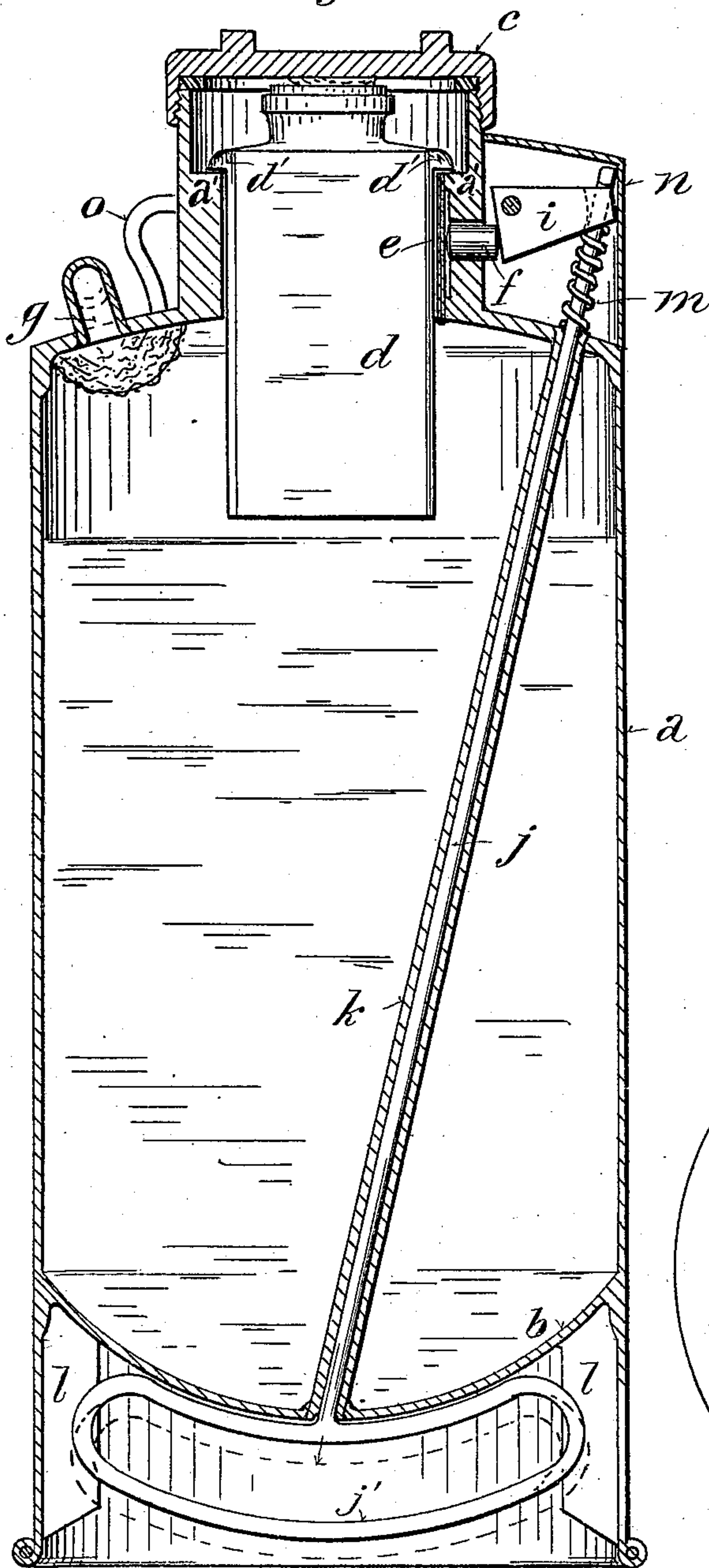


Fig. 3.

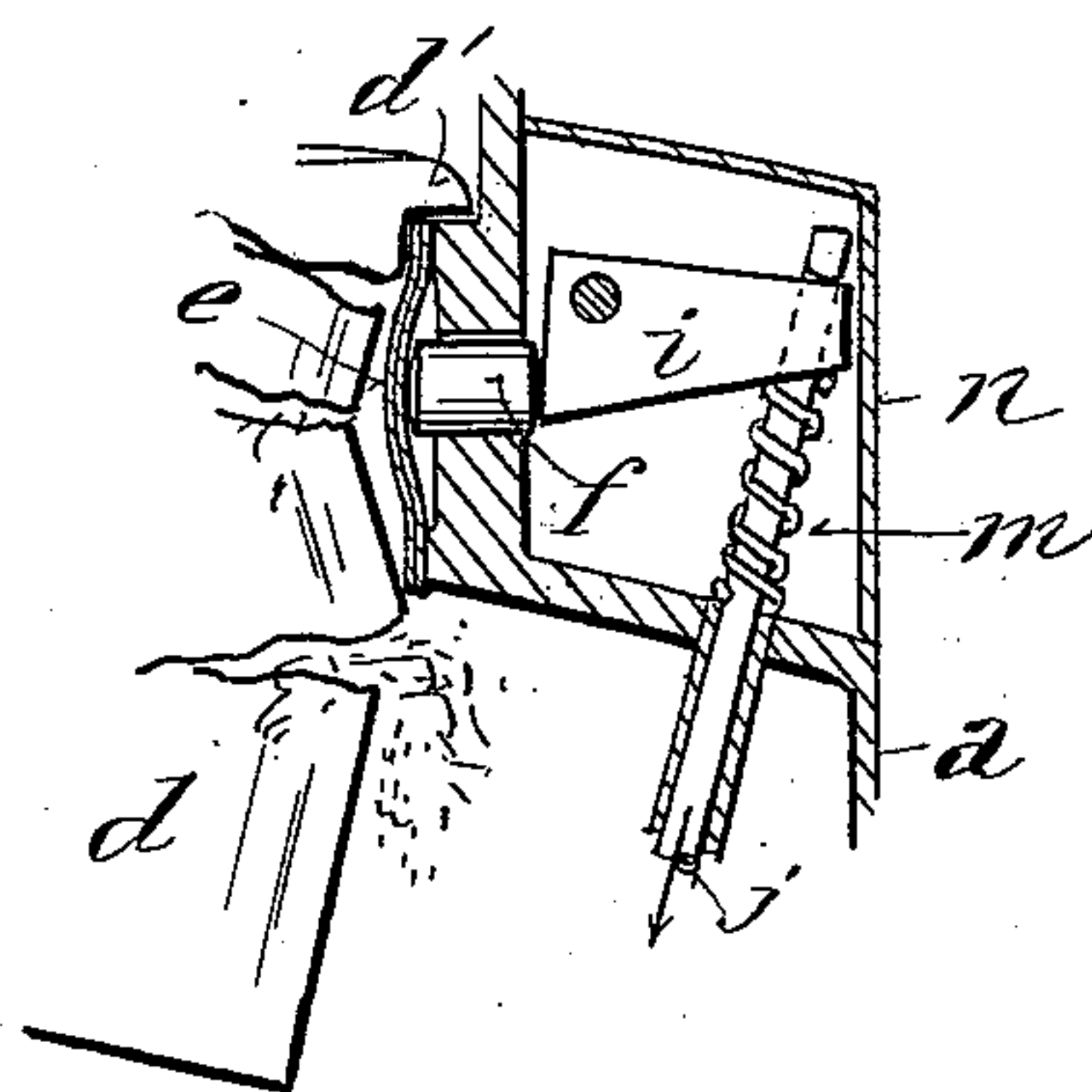
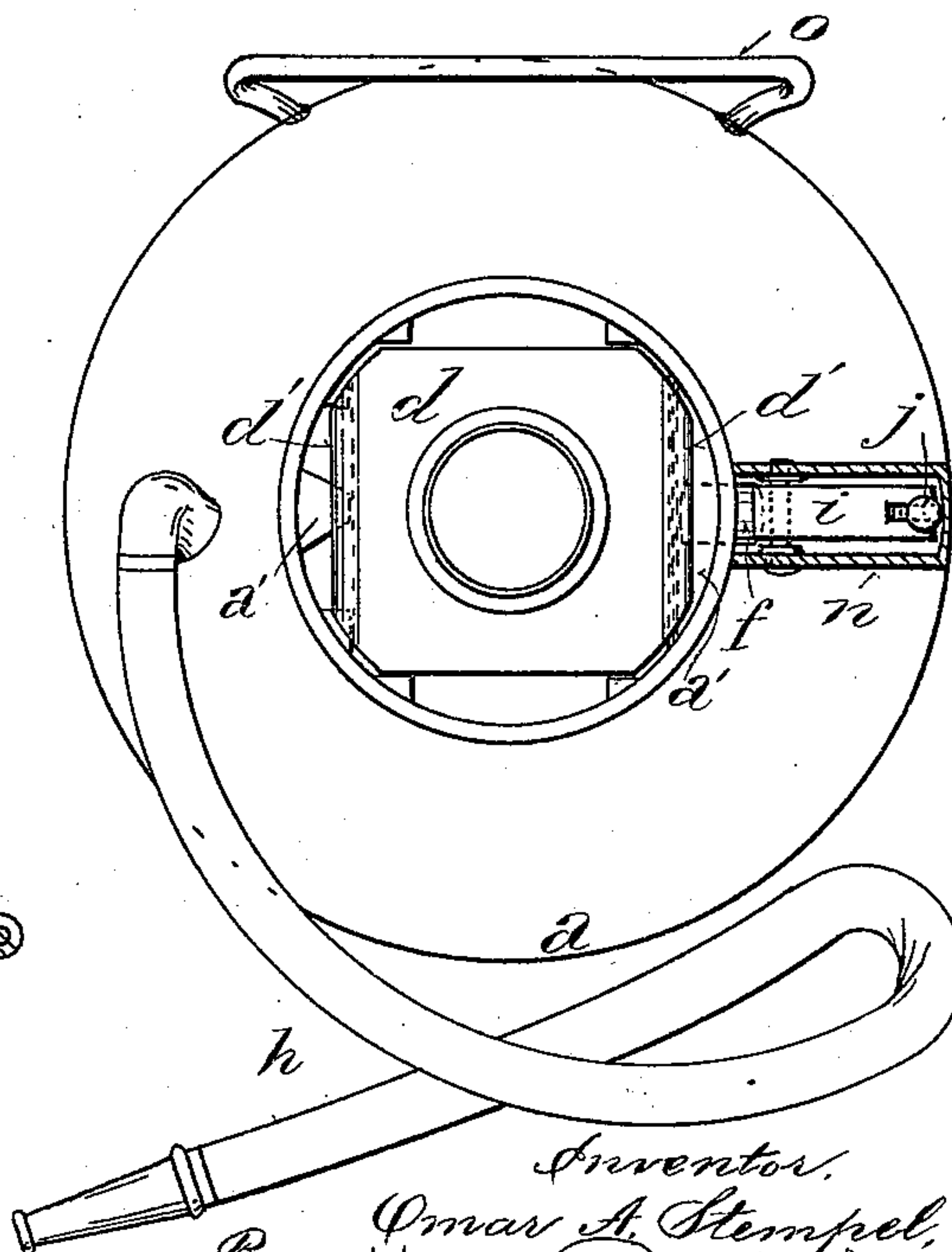


Fig. 2.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

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## FIRE-EXTINGUISHER.

SPECIFICATION forming part of Letters Patent No. 549,617, dated November 12, 1895.

Application filed September 15, 1894. Serial No. 523,126. (No model.)

*To all whom it may concern:*

Be it known that I, OMAR A. STEMPEL, a citizen of the United States, residing at St. Louis, State of Missouri, have invented certain new and useful Improvements in Fire-Extinguishers, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in fire-extinguishers of the effervescent-chemical type.

The object of my improvements is to provide a fire-extinguisher in which the mixture of the chemicals is effected by new and improved operative means outside of the inclosing receptacle or tank and out of any contact with or exposure to the chemical contents to avoid corrosion.

To this end my improvements have reference to an operating-rod having a handle normally hidden at the bottom of said extinguisher, but where it will naturally be grasped by the hand when reversing the extinguisher; have reference to a pressure or bulge piece acted on by the weight of the extinguisher, adapted to discharge the latter; and also to a yielding plate forming a yielding partition between said bulge-piece and a charging-bottle within the tank, whereby the bottle may be broken.

In the accompanying drawings, on which like reference-letters indicate corresponding parts, Figure 1 represents a vertical sectional view through an extinguisher of my preferred construction; Fig. 2, a top view with the cap removed and a part in section, and Fig. 3 a partial view like Fig. 1, showing the breaking of the bottle.

The letter *a* designates a cylindrical tank or other suitable receptacle for an alkali solution provided with a raised bottom *b* and a cap *c*, fitting tightly on the mouth. A charging-bottle *d* containing the acid element is supported by lugs or flanges *d'* upon shoulders *a'* in the neck of the tank. A portion of the neck opposite the bottle has an aperture that is closed liquid-tight by a yielding plate or partition *e*, brazed, soldered, or otherwise secured to the inner wall at a distance from the edge of the aperture, so as to be flexible and adapted to be bulged inward against the

bottle by external pressure. This plate is preferably formed of several layers of sheet metal, such as copper, to give thickness yet pliancy, like a leaf-spring. It practically forms part of the wall of the tank. In the aperture is mounted a pressure-piece *f* acting as a plunger. By forcing inward this pressure-piece the yielding plate will be bent or bulged inward, breaking the bottle and mixing the chemicals, as indicated in Fig. 3. The effervescing contents find their outlet through a screened discharge-opening *g*. The preferred form of discharge mechanism is that shown in the drawings. A pivoted block *i*, like a bent lever, acts on the piece *f* with its short arm when its long arm is pulled by a sliding rod *j*, mounted in a tube *k*, connecting the top and bottom of the tank, as shown in Figs. 1 and 3. The lower end of the rod has a handle *j'*, mounted in guides *l*, while a spring *m* normally maintains the rod raised, as shown. A hood *n* forms an inclosed compartment that hides and protects the discharge mechanism.

A handle *o* serves to hang the extinguisher on a nail. When required for use it is reversed and supported by the lower handle. The weight of the extinguisher and contents then acts on the yielding plate to break the bottle.

Excessive pressure, sufficient to perforate the plate *e*, is not desired.

The recharging is done by inserting another charging-bottle.

Thus it will be seen that the discharge mechanism is entirely outside the alkali tank, does not enter it to discharge the extinguisher, nor is it exposed to the chemicals in action. There is thus no liability of corroding the operating parts, they require no attention to keep them in order, and the extinguisher may be set aside for an indefinite period and its positive action at any time assured. Neither is it liable to be accidentally discharged by falling from a nail or shelf, since it can only be operated in the preferred construction by pulling the handle-rod away from the bottom, as shown in dotted lines.

This feature of inclosing the operative parts so that the extinguisher may be carelessly handled and knocked around without danger



of discharging it, and may even be reversed, as long as it is not supported by the handle *j*, is a practical feature and advantage in my construction. The spring *m* tends to keep  
 5 the handle and its connecting-rod tightly against the bent lever or block *i*, which latter is raised and also inoperative upon the pressure-piece *f*, whatever the position of the extinguisher, till the handle *j* be pulled, as  
 10 described.

I do not confine myself to the exact construction and arrangement herein shown and described, but claim the same broadly.

The term "yielding plate" in this applica-  
 15 tion designates a yielding layer or layers, whether integral with the tank-wall or forming a distinct portion.

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

1. A fire extinguisher comprising a yielding plate near the top of the tank, an interior charging bottle, a handle at the bottom of the tank, and a compression device opposite said  
 25 yielding plate consisting of a pressure piece to bear on the plate, and a lever connected to said handle to act compressively on said pressure piece under the weight of the reversed extinguisher supported by said handle.

30 2. A fire extinguisher comprising a tank having an opening in its wall, an interior charging bottle, a yielding plate of two or more thicknesses soldered or otherwise secured by its edges over the said opening on  
 35 the inside, a hood forming an inclosed compartment about the outside of said opening, a compression device mounted in said hood adapted to bear on said plate, a handle at the bottom of said extinguisher and a connection  
 40 between said handle and said compression de-

vice to operate the latter when the extinguisher is supported by said handle.

3. A fire extinguisher comprising a tank having a raised bottom and an interposed open  
 45 tube, interiorly located, a handle at said bottom, a compression device at the top of the tube, a connection within the tube between the handle and said device, a charging bottle inside said tank and a yielding plate between  
 50 said bottle and compression device.

4. A fire extinguisher comprising a tank provided with a yielding plate, a charging bottle, and a compression device consisting  
 of a pressure piece slidably mounted opposite said plate, a bent lever, the short end to  
 55 engage with said pressure piece, and a handle connected to the long end, to exert an operative pressure upon the said plate and charging bottle, through said sliding piece.

5. An improved fire extinguisher, consisting  
 60 of a tank, a yielding plate forming a portion of its wall, a charging bottle inside adjacent to said plate, a sliding rod having a handle, and a bent lever operatively connected to said rod, substantially as described.  
 65

6. A fire extinguisher comprising a tank having a raised bottom, a tube between the  
 bottom and the top, an operating rod slidably mounted inside said tube and having a han-  
 70 dle on its lower end below said bottom, and a discharge mechanism at the top of said tank connected to said rod, to be operated when the extinguisher is supported by said bottom handle.

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

OMAR A. STEMPEL.

Witnesses:

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H. M. PLAISTED.