

(No Model.)

G. W. HOGLEN.
FIRE EXTINGUISHER.

No. 455,209.

Patented June 30, 1891.

Fig. 1.

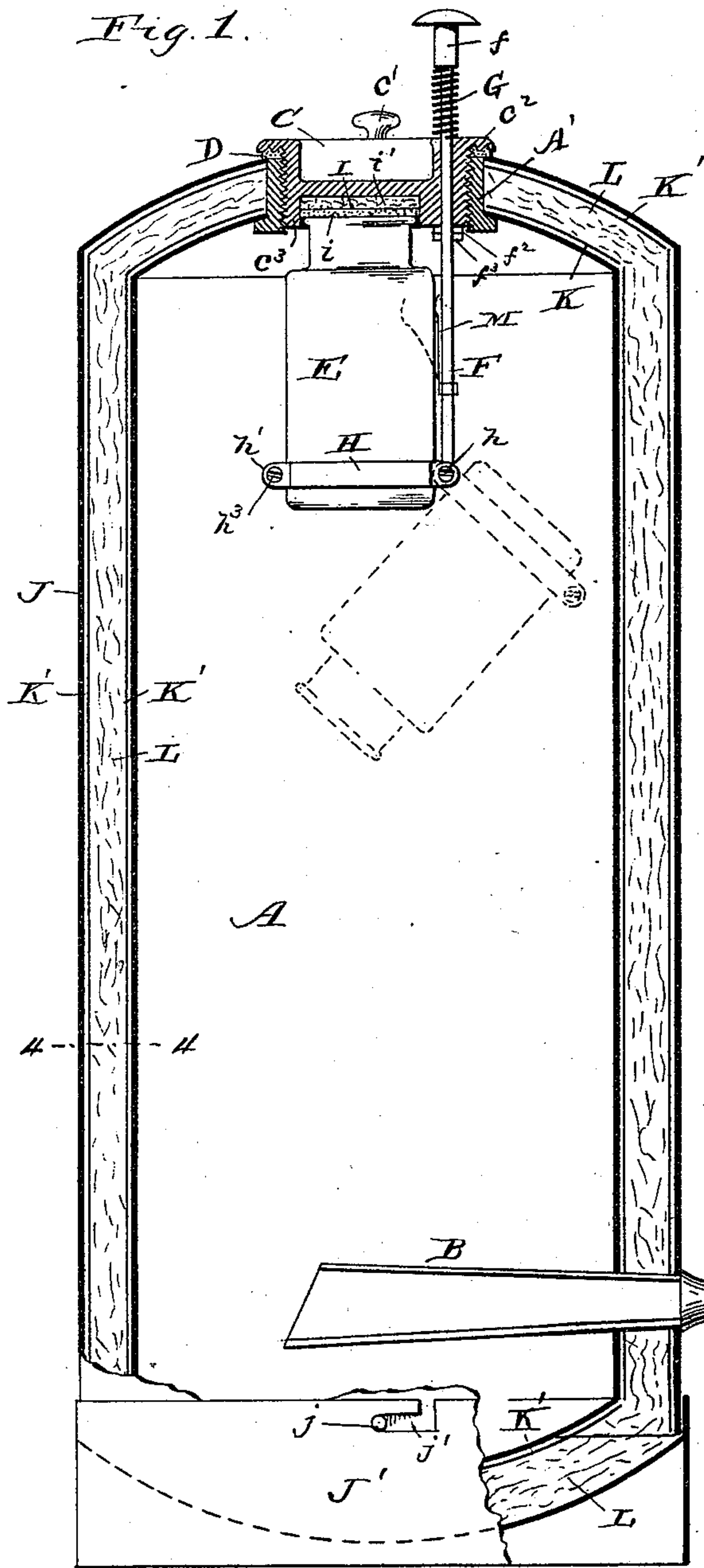


Fig. 2.

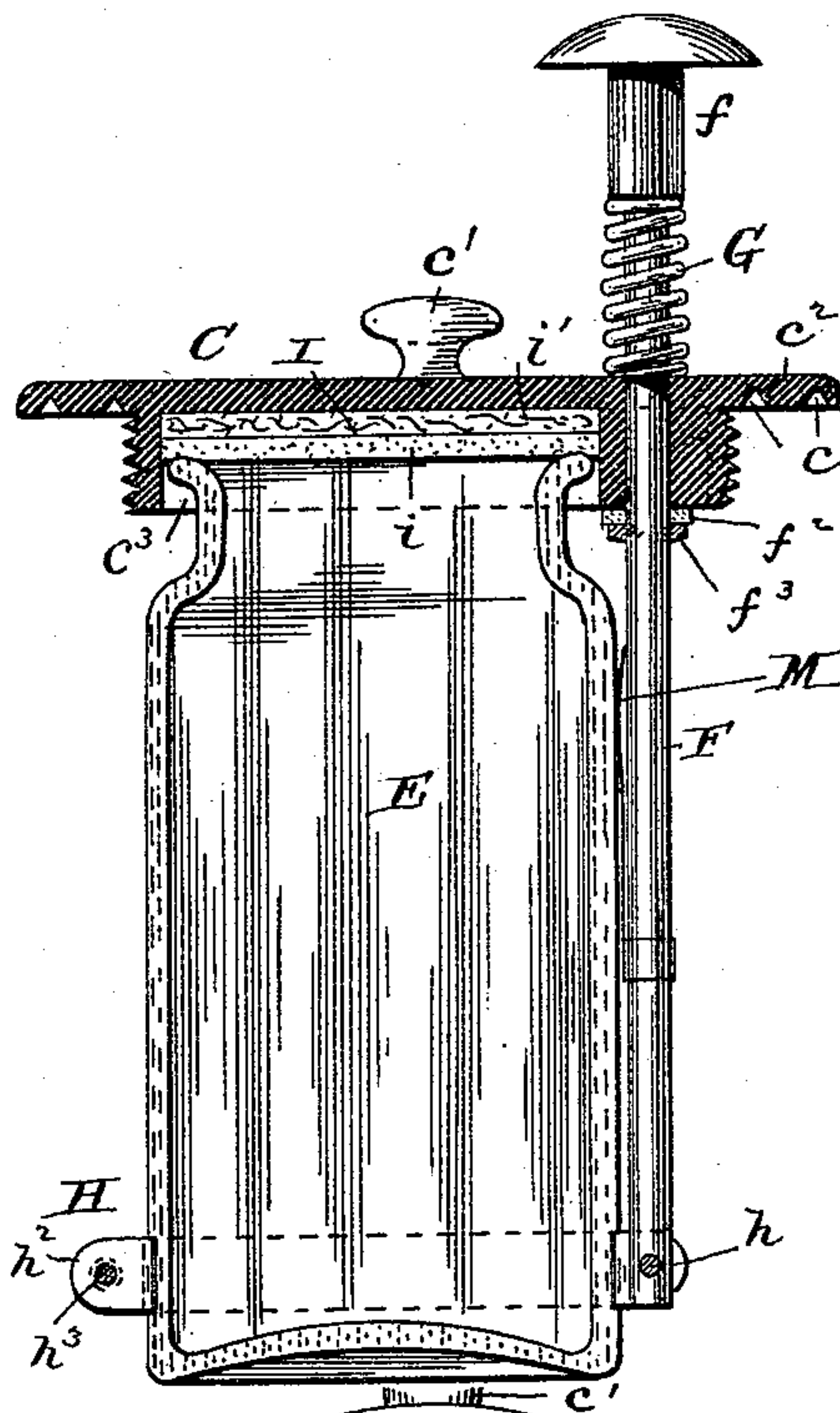
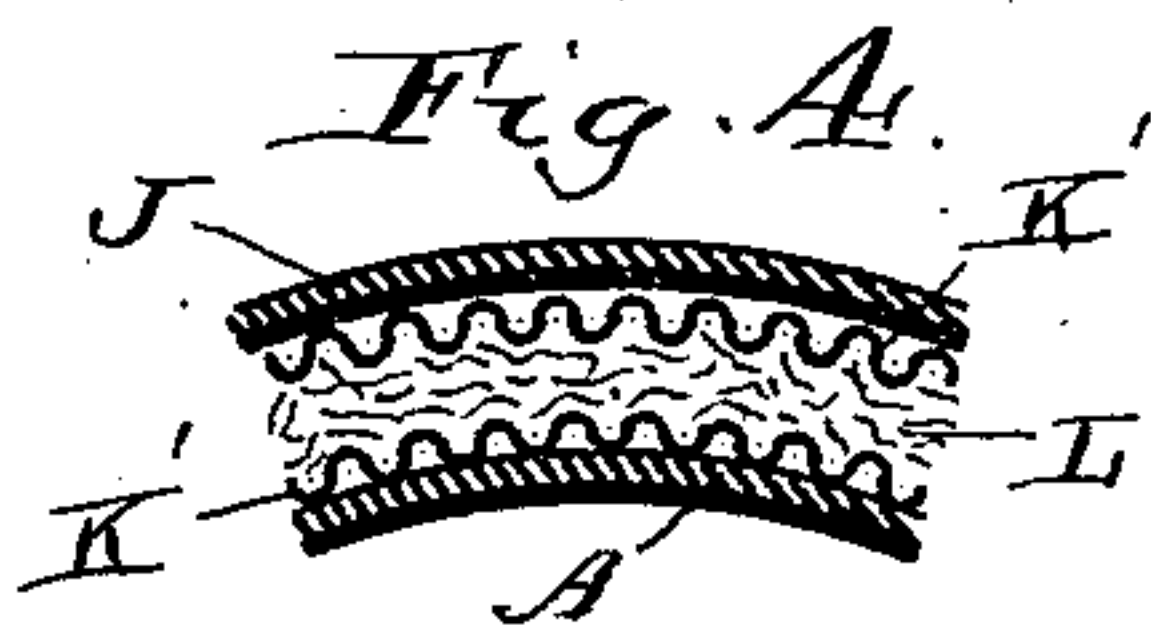
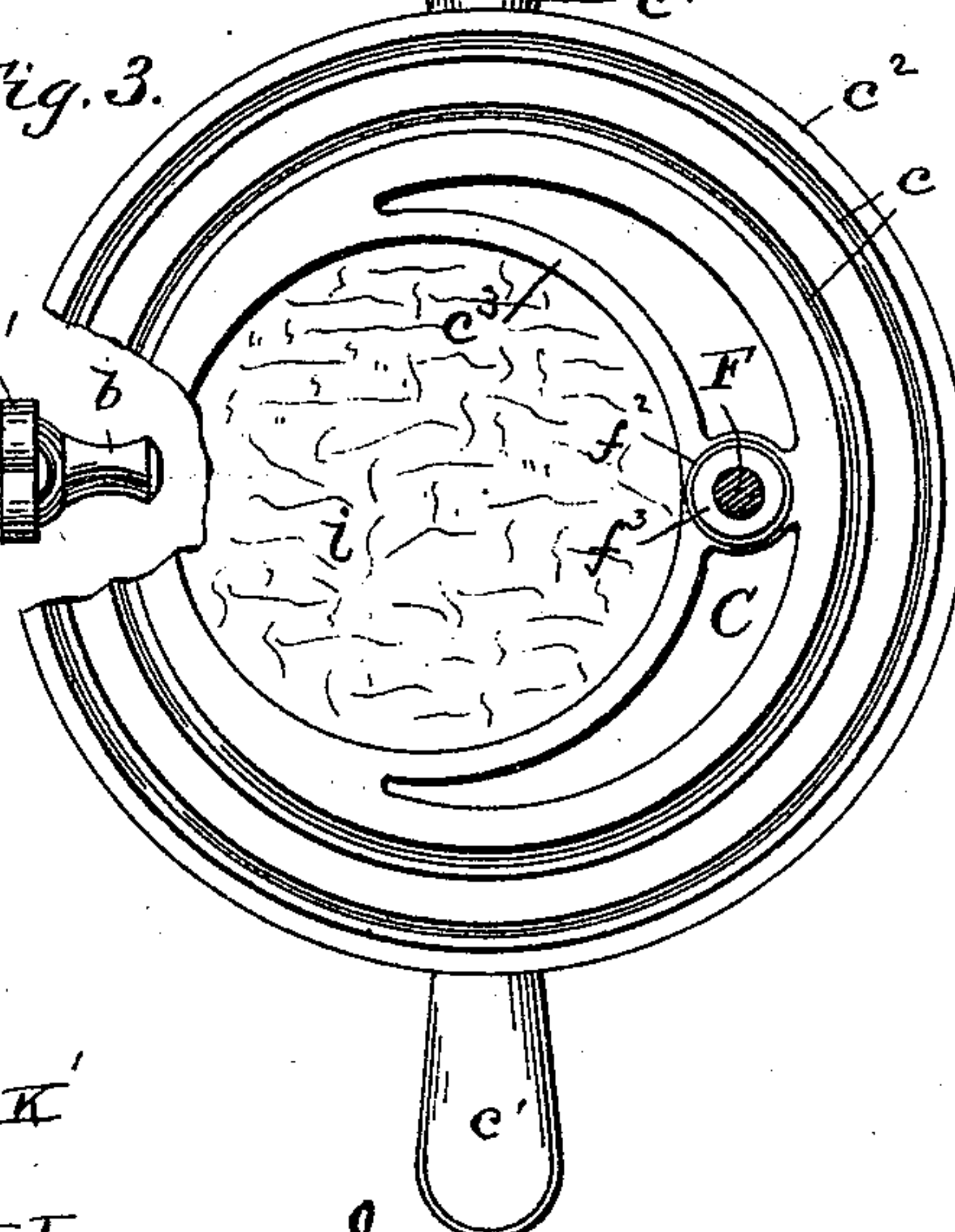


Fig. 3.



Witnesses:
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UNITED STATES PATENT OFFICE.

GEORGE W. HOGLEN, OF DAYTON, OHIO.

FIRE-EXTINGUISHER.

SPECIFICATION forming part of Letters Patent No. 455,209, dated June 30, 1891.

Application filed October 29, 1890. Serial No. 369,706. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. HOGLEN, a citizen of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in 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.

It is the object of my invention to provide an improved means for more effectually keeping separate and, when desired, for readily mingling the alkaline and acid elements ordinarily employed in chemical fire-extinguishers.

My invention further relates to improved means for preventing the freezing of the liquid contents of the extinguisher.

With such objects in view my invention consists in the parts and combinations thereof hereinafter more particularly described and claimed, without, however, intending to limit myself to the exact construction which, for the sake of illustration, I have set forth.

In order to make my invention more clearly understood, I have shown in the accompanying drawings means for carrying the same into practical effect.

In said drawings, Figure 1 is a vertical sectional view of a fire-extinguisher embodying my improvements. Fig. 2 is a sectional view, on a larger scale, of the vessel or bottle for containing the acid and the means whereby it is supported, stoppered, and emptied. Fig. 3 is a bottom plan view of the cap or stopper of the extinguisher. Fig. 4 is a sectional view on line 4 4 of Fig. 1.

Referring to the drawings, A indicates a water and gas tight chamber of sufficient strength to bear the necessary pressure—say one hundred or one hundred and fifty pounds—provided at its lower end with a pipe B, having a delivery-nozzle *b* and controlling-cock *b'*. At its upper end said chamber is provided with a neck *A'*, riveted or soldered thereto, and having at its inner upper end a screw-thread.

C indicates a correspondingly-screw-threaded cap or stopper having a horizontal flange *c*², provided with V-shaped annular grooves

c c and with handles *c'*, by which it may be tightly screwed into place.

D is a rubber ring situated between the flange *c*² and the upper end of the neck *A'* and adapted to be forced by the pressure of the cap into the grooves *c*, and thereby caused to effect a perfect closure of the chamber and also be prevented from being forced outward from beneath the flange.

The chamber A is adapted to contain an alkaline solution of any usual or preferred character.

The vessel (preferably and ordinarily a bottle) for holding the acid is indicated at E. It is supported by a vertically-movable rod F, passing through the top of the chamber A or through the cap C, preferably the latter, and having at its upper end a handle *f*, by which it may be readily depressed. The rod is normally held in its highest position by a spring G, which bears against the top of the cap and under side of the handle *f*. Below the cap the rod F is provided with a flange or collar *f*² and between said collar and the cap with a soft or compressible washer *f*³, which will be held tightly against the under surface of the cap by the pressure of the spring G, thereby perfectly closing the opening through which the rod passes.

H is a ring, preferably made in the form of a clasp and hinged at *h* to the lower end of the rod G. This ring may be divided only at the point where it is hinged to the rod; but in order to adapt it to bottles of slightly-varying size I prefer to divide it also at the side opposite the hinge, providing one end with an ear *h'*, having a smooth bearing, and the other end with an ear *h*², having a screw-threaded aperture. These ears are engaged and adapted to be forced together to clasp firmly a bottle E by a screw *h*³. If preferred, the bottles may be provided near their lower ends with a shallow external groove adapted to receive the ring or clasp H.

On the under side of the cap C is cast or soldered an annular depending flange *c*³, within which is seated an elastic packing I, adapted to close the mouth of the bottle when the latter is held against it firmly by the pressure of the spring G. The outer layer or surface *i* of this packing is non-corrodible, and preferably

of mineral wool, while I have found a thick soft woolen fabric suitable for the backing *i'*. By these means the acid will be kept from 5
spilling during all ordinary motions or shocks to which the extinguisher may be subjected as it is being carried or handled.

When it is desired to use the device, it is simply necessary to strike or to press the rod F by means of the handle *f*, whereupon the 10
vessel E, being eccentrically supported by the pivot *h*, will swing downward and become inverted in the position indicated by dotted lines in Fig. 1, thereby discharging its acid contents into the alkaline solution. The usual 15
reaction at once takes place, and the extinguisher is ready for use and will deliver a stream of great force through the nozzle *b*.

In order to prevent the freezing of the alkaline solution, I provide the extinguisher-chamber A with a non-conducting covering, 20
which will protect it from sudden changes of temperature. According to my improvements the chamber A is surrounded by a casing J, between which and the chamber is left a considerable space. The outer surface of the 25
chamber and the inner surface of said casing are covered, Fig. 4, with a layer of corrugated tar board or paper K', and between these layers the space is filled with wool, felt, or other equivalent material L. The contents of the 30
chamber A are thus most effectually protected, while any moisture or water of condensation forming upon the metal surface will be permitted to pass down the corrugations of the 35
paper and prevented from dampening the felt and causing it to lose its non-conducting character. The bottom J' of the casing may be removable, as illustrated, for the purpose of causing access to the packing. Pins *j*, fixed in the 40
casing J, and slots *j'* in the bottom, Fig. 1, serve to securely hold the latter in place. The cap C (shown in Fig. 2) is adapted for an extinguisher having a single wall, (without a casing J,) and is consequently of less vertical 45
dimension than that shown in Fig. 1. The sudden downward impulse communicated to

the bottle by striking the handle *f* will tend to cause the bottle to swing away from the rod F and around the pivot *h*; but I further insure the prompt inversion of the bottle by 50
a spring M, attached to the rod and pressing against the bottle.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is— 55

1. In a fire-extinguisher, the combination of a movable rod, a clasp or holder hinged thereto, a vessel secured in said holder and situated with its center of gravity above the hinge, a stationary stopper for the vessel, and 60
means for supporting said rod to hold the vessel in place, substantially as set forth.

2. In a fire-extinguisher, the combination of a movable rod, a separable clasp or holder hinged thereto and adapted to receive bottles 65
of varying sizes and provided with the clamping-screw *h*³, a vessel secured in said holder and situated with its center of gravity above the hinge, a stationary stopper for the vessel, and means for supporting said rod to hold the 70
vessel in place, substantially as set forth.

3. In a fire-extinguisher, the combination, with the chamber, of one or more reciprocatory rods F, a clamp hinged thereto, a spring for 75
tilting the bottle relative to said rods, and a stationary stopper for the bottle, substantially as set forth.

4. In a fire-extinguisher, the combination of a movable rod, a cap having a bearing therefor, a clasp or holder hinged to said rod 80
and carrying a vessel or bottle, a spring G for supporting the rod, and a packing-valve or washer carried by the rod and adapted to be held by the spring tightly against the under surface of the cap, substantially as set forth. 85

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

GEORGE W. HOGLEN.

Witnesses:

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