

No. 619,096.

Patented Feb. 7, 1899.

W. M. SPERA.
CHEMICAL FIRE EXTINGUISHER.

(Application filed Dec. 8, 1897.)

(No Model.)

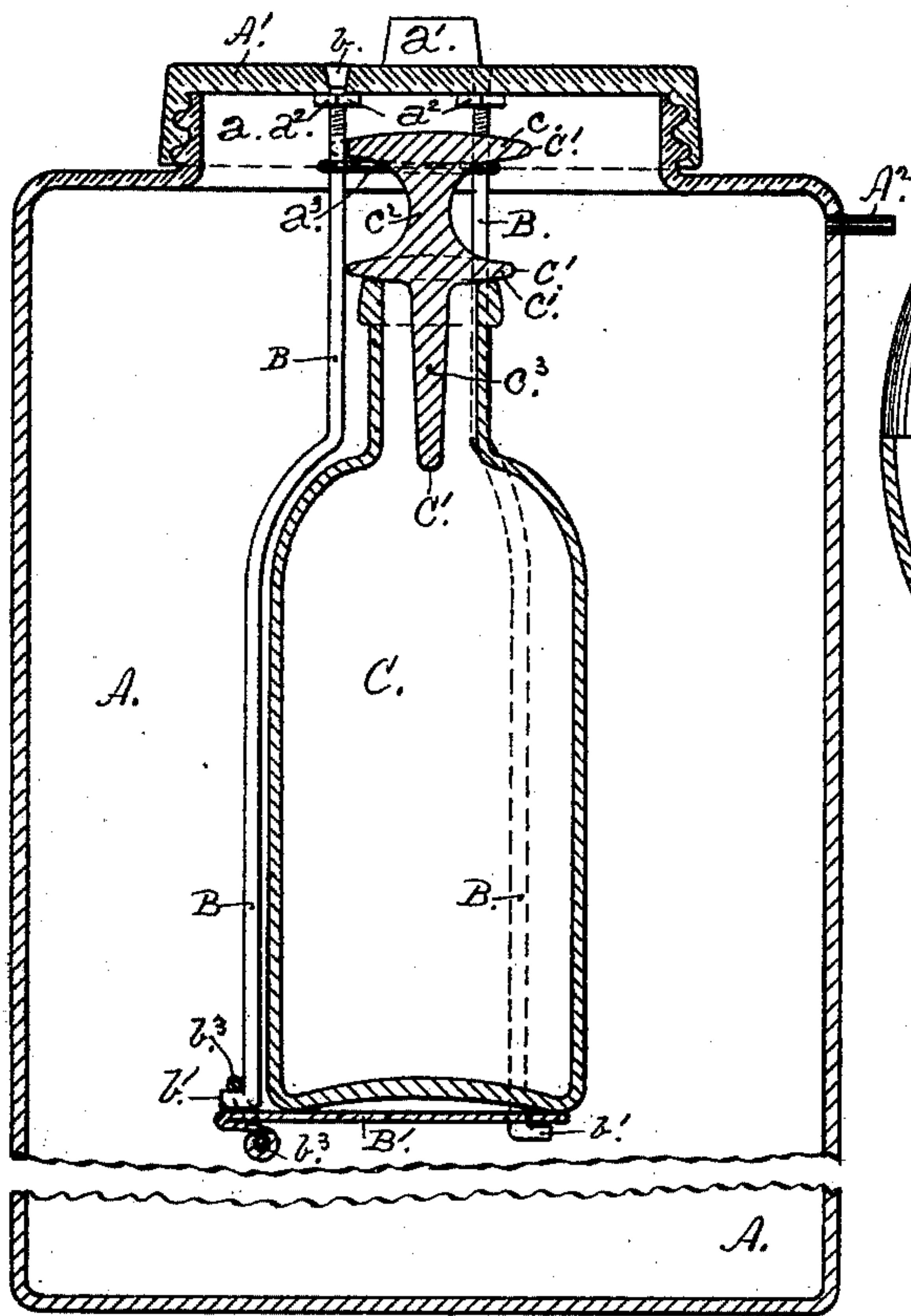


Fig. 1.

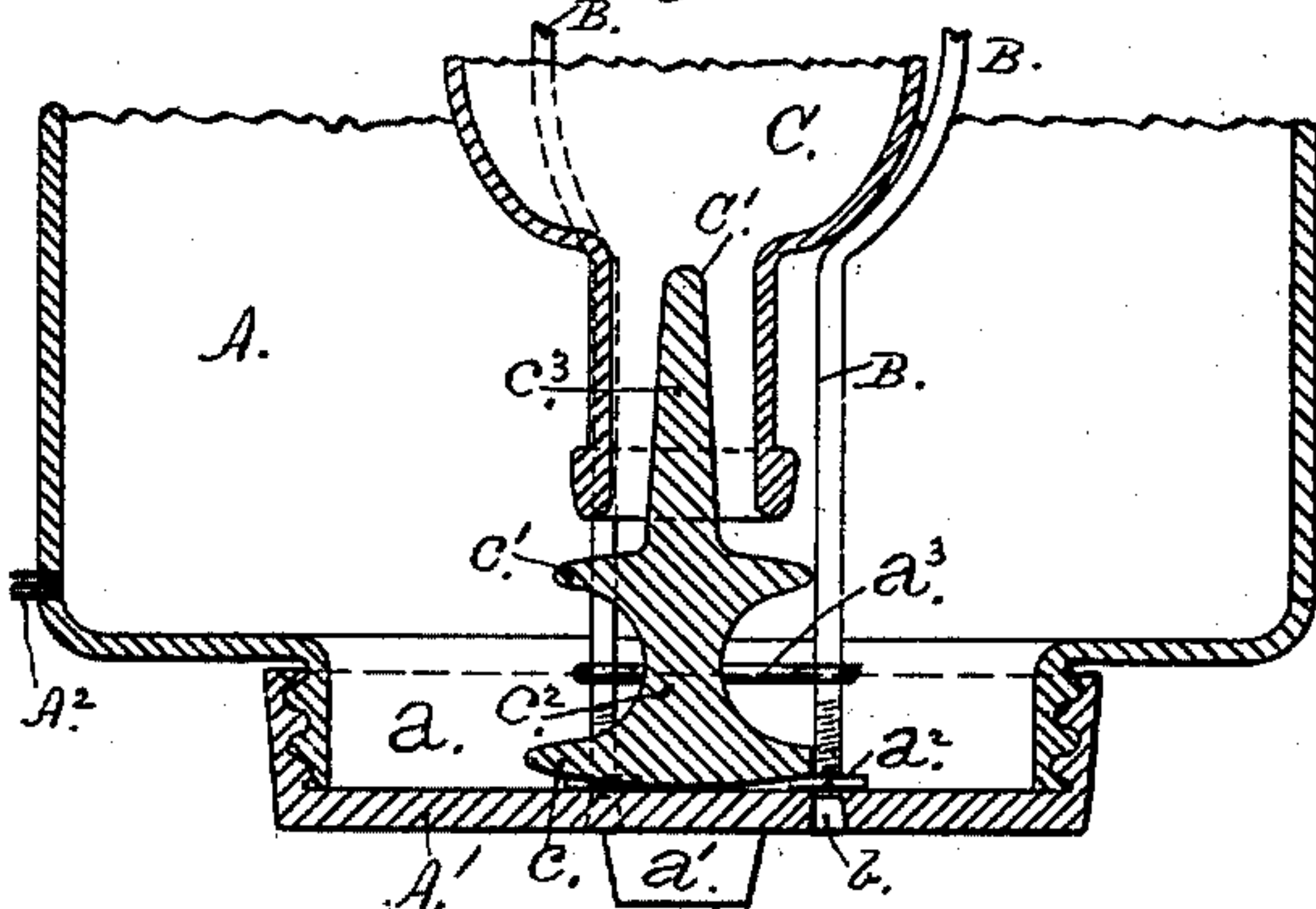


Fig. 3.

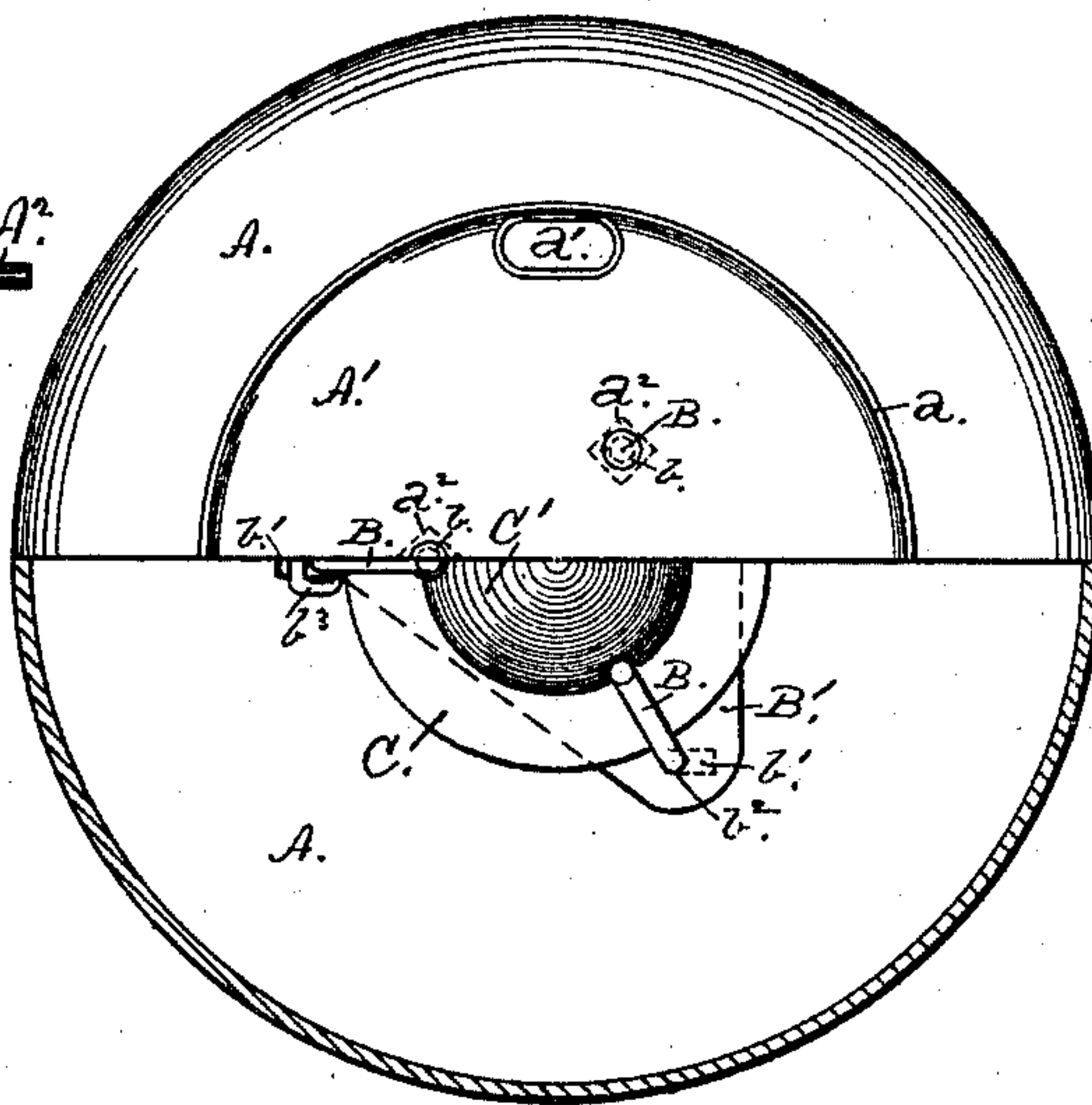


Fig. 2.

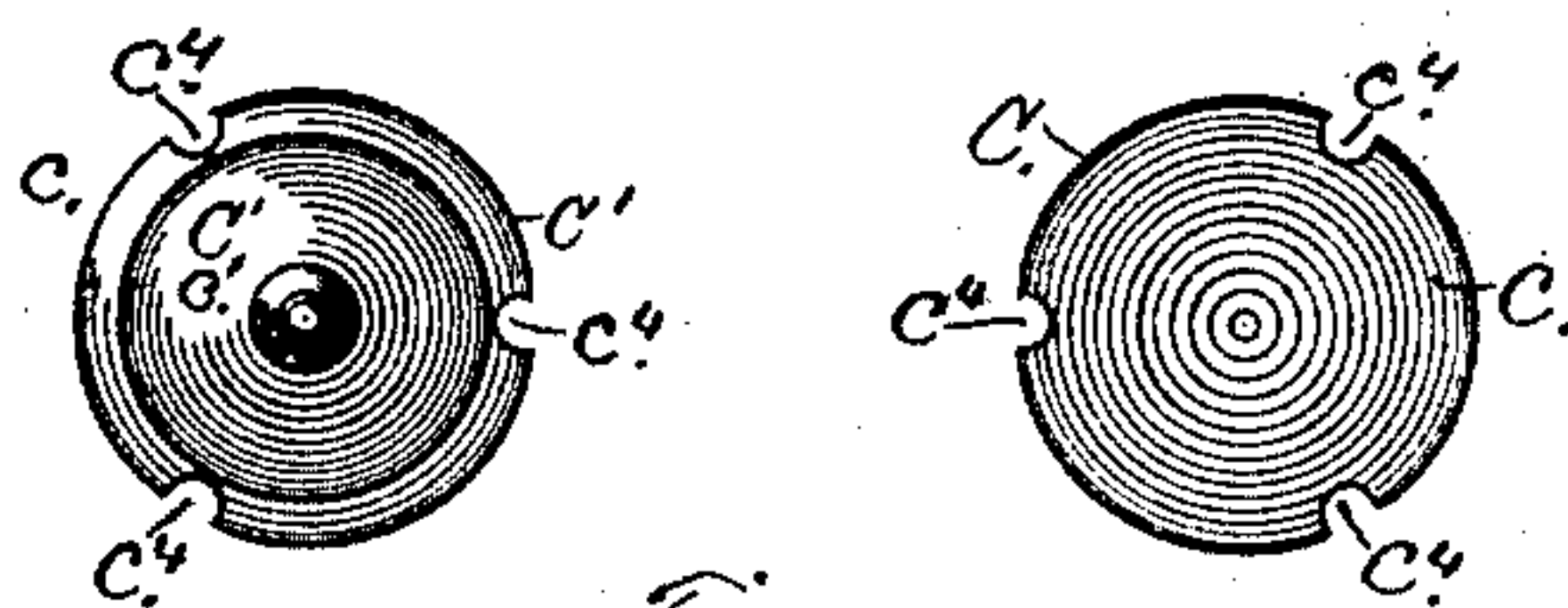


Fig. 4.

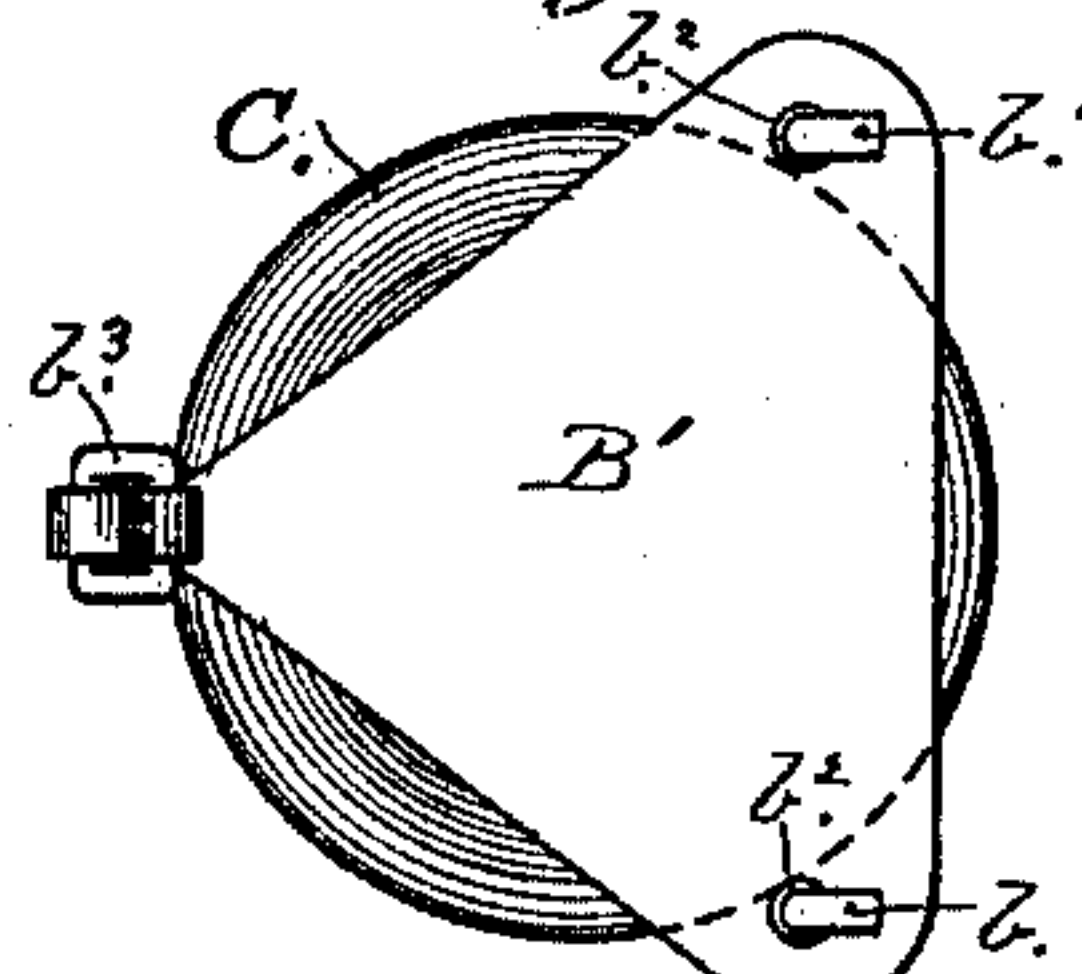


Fig. 5.

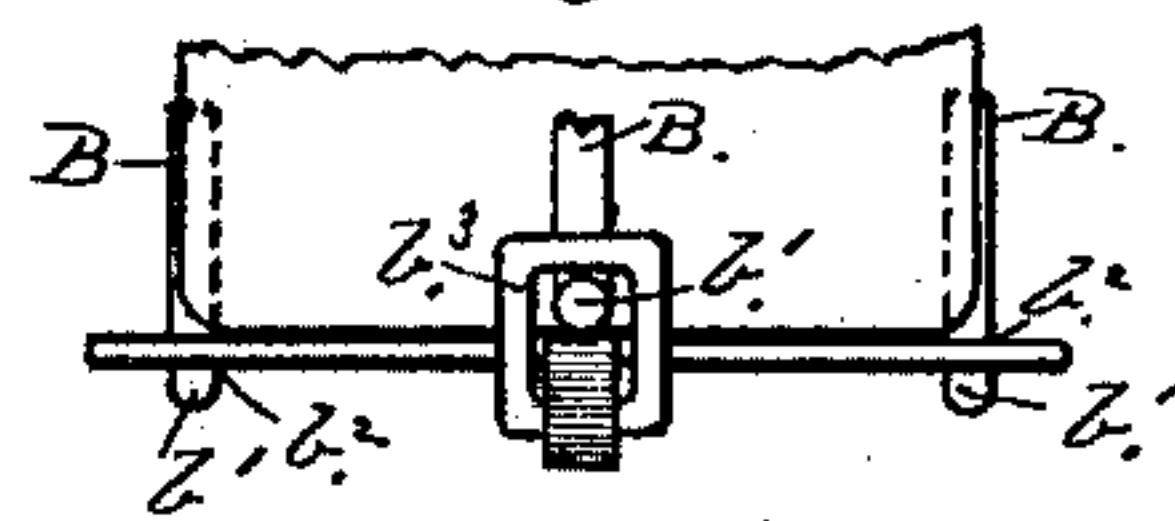


Fig. 6.

Witnesses.

C. Emile Urban
Grant Huston

Inventor.

William M. Spera.

By

Paul F. Herr.
Attorney.

UNITED STATES PATENT OFFICE.

WILLIAM M. SPERA, OF COLUMBIA, PENNSYLVANIA.

CHEMICAL FIRE-EXTINGUISHER.

SPECIFICATION forming part of Letters Patent No. 619,096, dated February 7, 1899.

Application filed December 8, 1897. Serial No. 661,193. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM M. SPERA, a citizen of the United States, residing at Columbia, in the county of Lancaster and State of Pennsylvania, have invented certain new and useful Improvements in Chemical Fire-Extinguishers; and I do hereby 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.

The invention relates to improvements in a chemical fire-extinguisher of that class in which a liquid-retaining receptacle is suspended, depending from its top plug or closing-cap, within a suitable vessel or casing containing a second liquid.

One object of the invention is to provide ready means to conveniently suspend a prescribed liquid within a second prescribed liquid, holding it separately in place; and a further object of the invention is to provide adjustable means whereby the former liquid will be evenly emptied or distributed into the second liquid, insuring a uniformity of mixture, with better results than can otherwise be obtained.

The elements of the invention will severally and at large appear in the following description, and they will be separately and collectively set forth in the claim.

The purposes of the invention are attained by the mechanism, devices, and means illustrated in the accompanying drawings, with similar reference characters to designate like parts throughout the several views, in which—

Figure 1 is a central vertical section of a fire-extinguisher embodying the elements of the invention, with the intermediate portion of the outer casing or vessel removed. Fig. 2 is a top view of the extinguisher with a portion of the casing removed, showing a portion of the therein-suspended device in place. Fig. 3 is a view showing the upper portion of Fig. 1 in inverted position. Fig. 4 shows direct and inverted plans of the valve-stopper in detached positions. Fig. 5 is an inverted plan of the suspended portion in Fig. 1 as it appears when completed; and Fig. 6 is a direct elevation of Fig. 5 as it appears when viewed from the left, showing the lower portion thereof.

In the drawings, A designates the cylindrical vessel or outer casing of a chemical fire-extinguisher well known to the trade to contain one of the liquids referred to in the opening paragraphs hereto, while A' designates the usual screw-plate or covering-cap screwed onto a neck *a*, projecting from one end of said vessel and adapted to close the opening thereinto through said neck, *a'* representing one lug or ear, the other being on the removed portion, whereby said cap is turned, and A² designates the nipple or tube secured through the side near the cap end of the vessel, to which the usual hose is attached, giving exit to the liquid therefrom in the usual way.

So far nothing new has been described; but the special elements constituting the distinctive features of the invention will now be set forth, with the knowledge, however, that it is old to suspend one vessel within another and to release the liquid therefrom, mingling it with that contained in the other, while this invention aims to gage the release of said liquid so that said release will be regular and even and said intermingling uniform.

The suspension device of the invention comprises a number of wires B, preferably three, of approved metal and bent or shaped as shown when a bottle is used, but otherwise conforming to the shape of the vessel to be suspended. Said wires are triangularly arranged along the sides and neck of said bottle or vessel, with their upper ends rigidly secured into the body of the covering-cap, as by riveting at *b*, and their lower ends turned out into hooks *b'*, two of the wires having a prescribed length greater than the third. Preferably a triangular plate B', (best shown in Fig. 5,) having orifices *b²* *b³* through its body near two of its angles, and a link *b³*, hinged thereto underneath the third or opposite angle through said orifices, is passed onto the hook *b'* of the longer wires, while the link *b³* is passed over the hook *b'* of the shorter wire, removably attaching said plate to the lower ends of said wires, completing the suspension device or the first part of the invention.

A bottle C having been inserted between the wires B and the plate B' turned up against the bottom thereof, with the link *b³* at its forward end engaging the hook *b'* of the shorter

wire, it will be seen that the lower portions of the wires B, lying close to the body of the bottle, embracing its sides and rounded top, constitute a housing, serving to hold said bottle steadily and securely in place, and that the upper ends or straight portions of said wires in lying close to its neck and extending a prescribed distance beyond the upper end or head thereof serve to gage its distance from the cap and to constitute guides, keeping a stopper or plug-valve, yet to be described, in place while performing its functions, moving up and down thereon, giving exit to the liquid from said bottle. To this end the stopper or plug-valve C' comprises two circular disks or bodies c c' of different diameters, with a round neck c^2 axially joining the two, the larger or greater one being above and the smaller or lesser resting on the bottle-neck, covering or closing its mouth, with a finger or arm c^3 projecting axially from the under side thereof and extending downwardly practically through the length of said neck. The upper or larger disk is provided in its edge with recesses or notches c^4 to embrace or engage the straight portions of the wires, as shown, while the peripheral edge of the lower or smaller disk engages the inner edges of said wires, being thus kept steady or from wobbling in its motion up and down thereon.

On the upper ends of the wires, next to the covering-cap, are placed screw-nuts a^2 , movable up and down thereon to gage the distance the valve shall move in opening the mouth of the bottle to the exit or distribution of the liquid contained therein, while two of the wires are joined with a wire a^3 , placed between the stopper-disks, as shown, constituting a bridge or stop for the upper disk to rest upon, keeping the stopper in place or from

dropping farther down when the bottle shall be removed for any cause.

Having now described the invention and ascertained and shown the manner in which it is performed, what I do consider new, and desire to secure by Letters Patent, is—

The combination, in a fire-extinguisher having a casing or shell with an opening in one end thereof and a covering-cap closing said opening, with three wires triangularly arranged and each wire having one end secured into the body of said cap, and a bottom plate with one end hinged to the free ends of two of said wires and a link hinged to the opposite end of the plate engaging the free end of the third wire, and a bottle inserted between the wires and resting on said plate, of a plug-valve or stopper movable up or down in the space between said wires, said valve or stopper comprising an upper disk and a lower disk with an axial neck between the disks and joining them, said upper disk having guide-notches in the peripheral edge thereof in which said wires engage, and said lower disk resting on and covering the mouth of the bottle with an axial finger projecting into the neck thereof and with the peripheral edge of the disk engaging on the inner edge of the wires; with gage-screws provided on the upper portions of the wires, adjacent to the covering-cap, and a bridge or stop wire between the disks, with its extremities secured to two of the wires, all substantially as described and for the purpose hereinbefore set forth.

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

WILLIAM M. SPERA.

Witnesses:

HARVEY B. LUTZ,
DANIEL H. HERR.