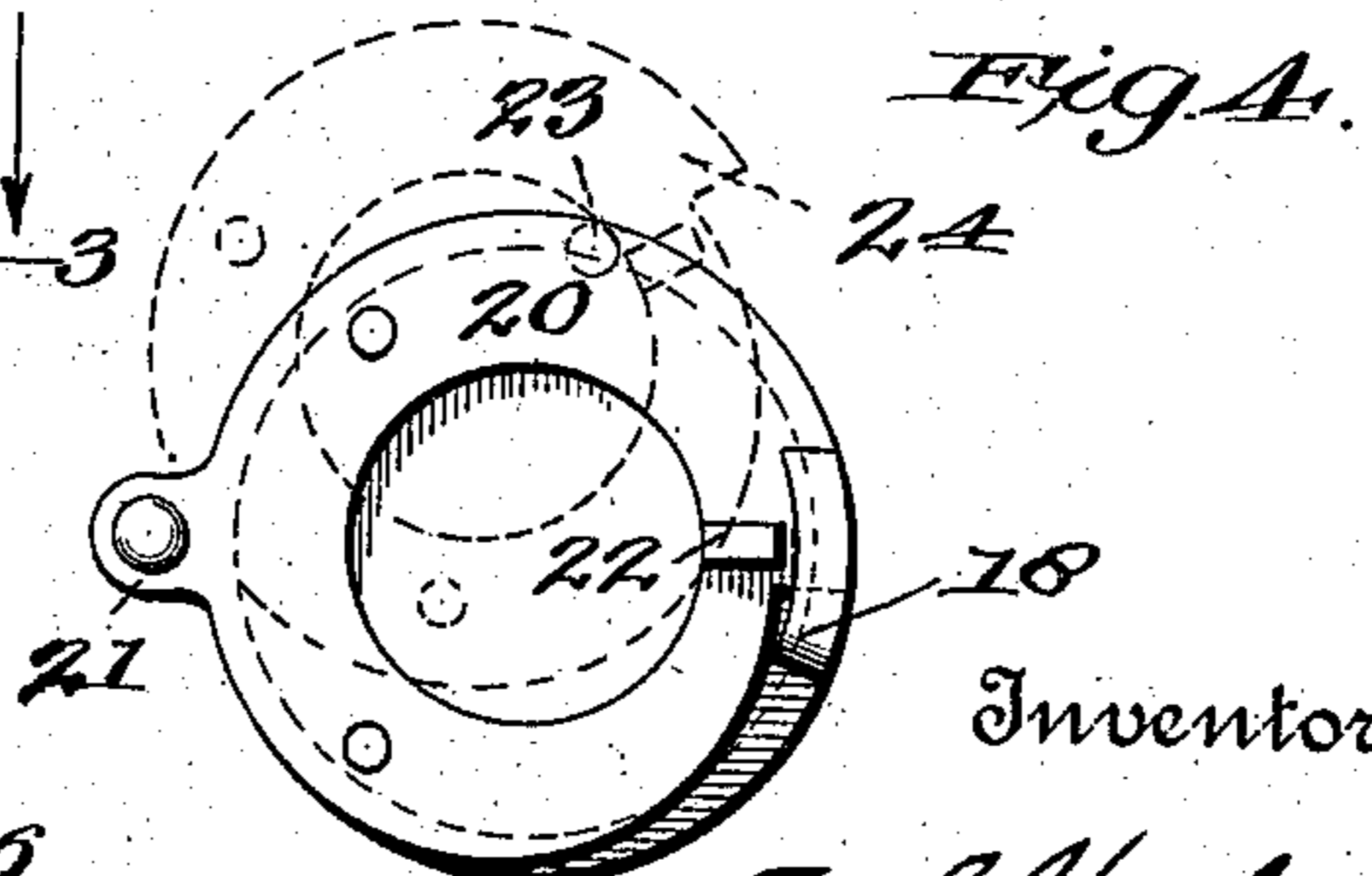
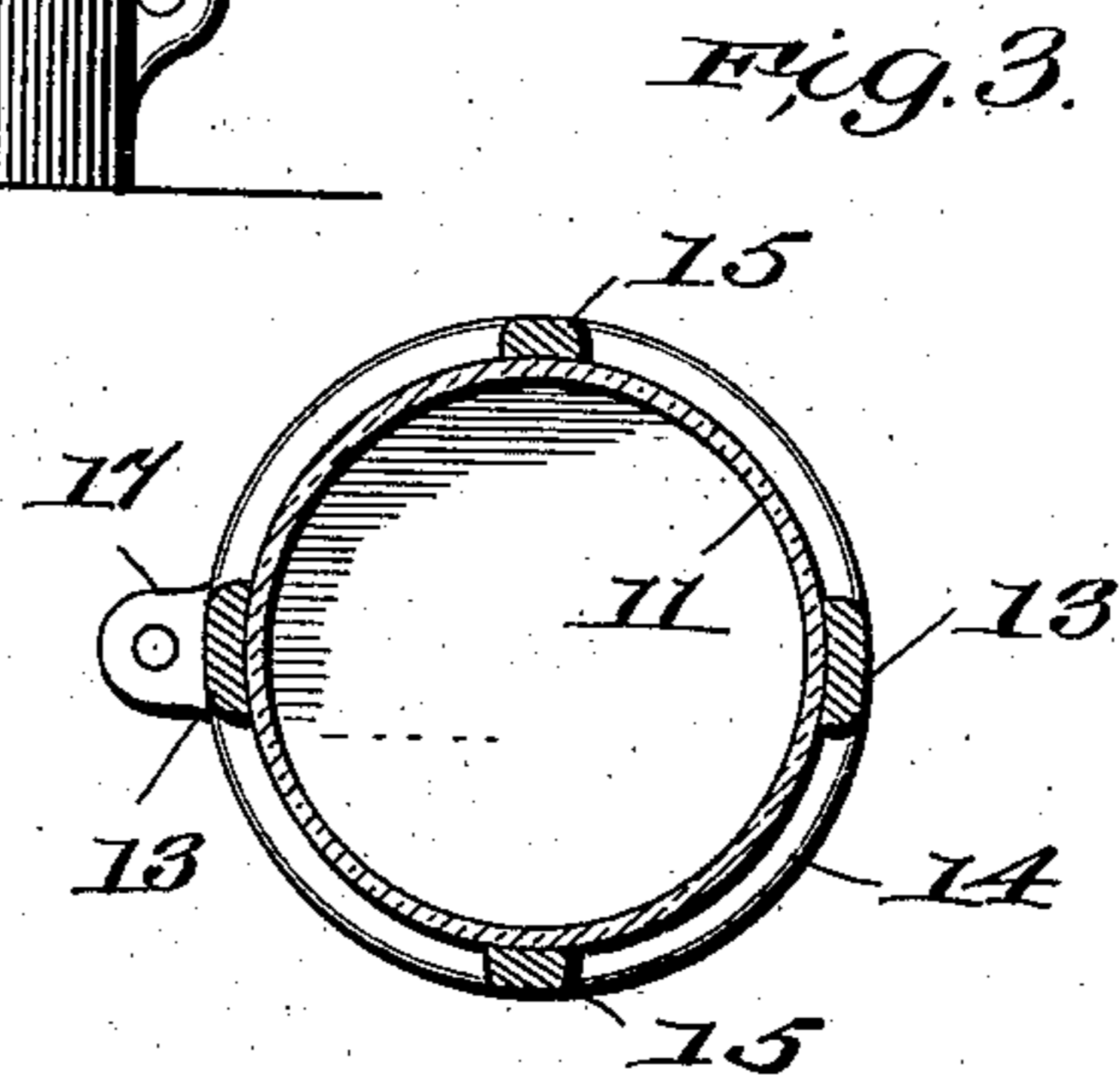
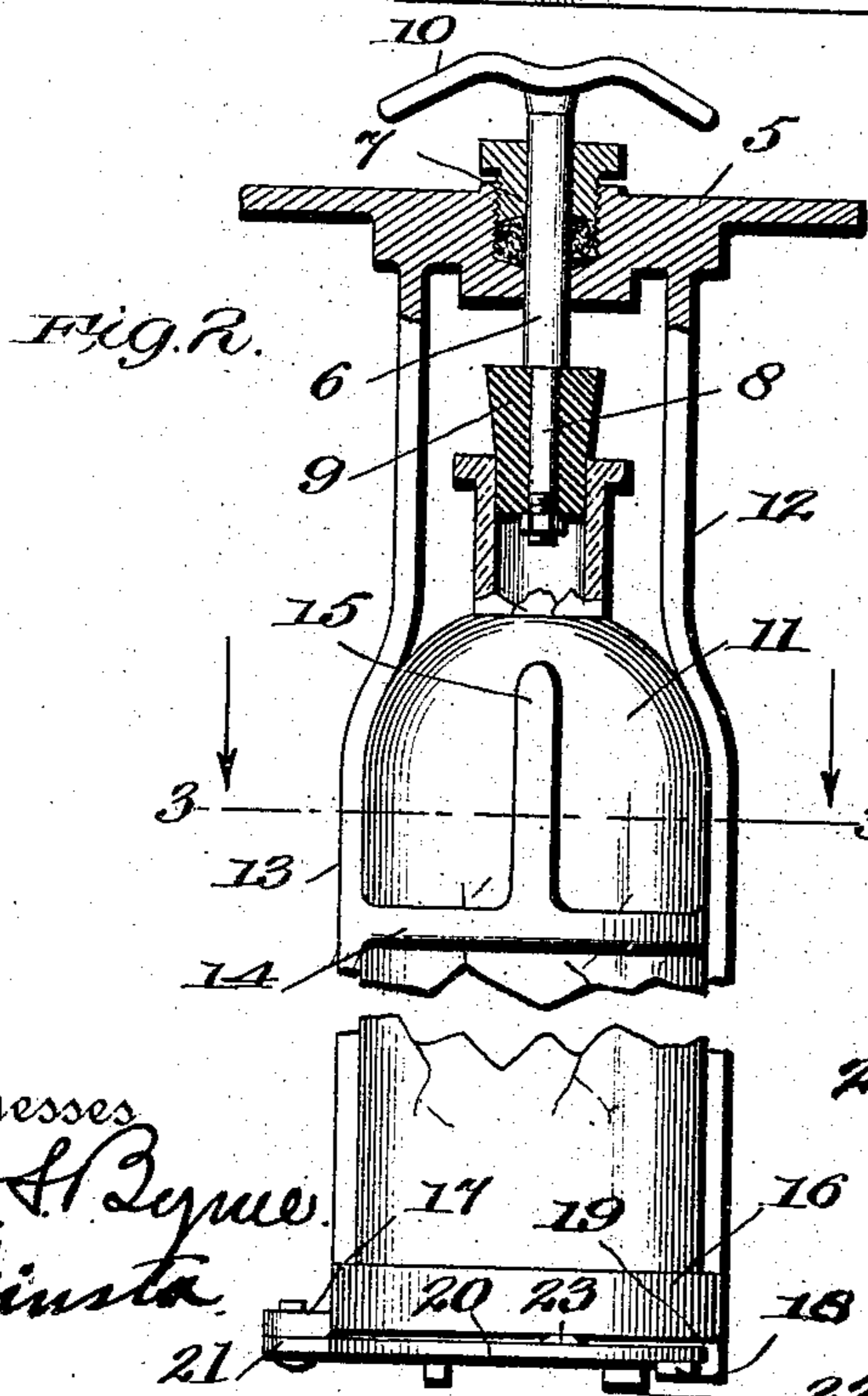
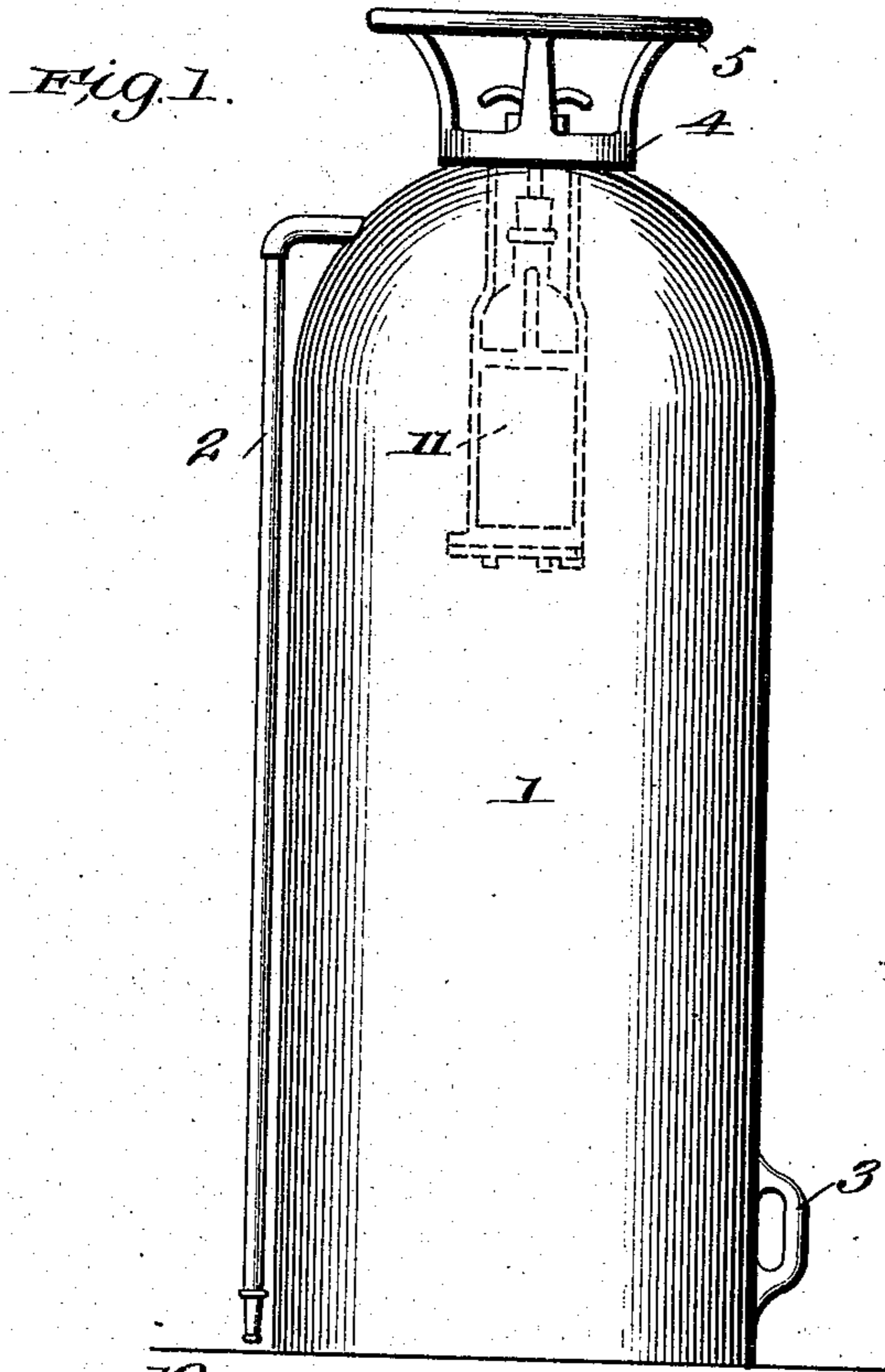


No. 894,636.

PATENTED JULY 28, 1908.

W. A. HARLAND.  
CHEMICAL FIRE EXTINGUISHER.

APPLICATION FILED OCT. 25, 1907.



Witnesses  
Geo. A. Byrne  
J. H. Smith

Inventor

Walter A. Harland

By William, J. J. & Witherston  
his Attorneys

# UNITED STATES PATENT OFFICE.

WALTER A. HARLAND, OF JERSEY CITY, NEW JERSEY, ASSIGNOR TO GLOBE FIRE APPARATUS COMPANY, OF JERSEY CITY, NEW JERSEY, A CORPORATION OF NEW JERSEY.

## CHEMICAL FIRE-EXTINGUISHER.

No. 894,636.

Specification of Letters Patent.

Patented July 28, 1908.

Application filed October 25, 1907. Serial No. 399,221.

*To all whom it may concern:*

Be it known that I, WALTER A. HARLAND, a citizen of the United States, residing at Jersey City, in the county of Hudson and State of New Jersey, 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.

This invention relates to improvements in chemical fire extinguishers of that type in which there is associated together a large tank containing water, and a small bottle within said tank containing a suitable acid, cooperating when discharged into the large tank to form a gaseous mixture under great pressure, enabling the operator to control the discharge of the contents of the tank through a small pipe or tube, and thus effectively apply the extinguishing agent to the flame.

For the purpose of disclosure reference is had to the accompanying drawings illustrating a practical embodiment of the invention in which like letters designate the same parts in the several views, and in which—

Figure 1 is a view in elevation of a fire extinguisher of this character, with the present invention, shown in dotted lines, applied to the same. Fig. 2 is a local view of the hanger for the bottle, the outer cylinder being removed, and the head thereof for supporting the hanger being shown in section on the line of the plunger rod. Fig. 3 is a section on the line 3—3 of Fig. 2, looking in the direction of the arrow, and Fig. 4 is a bottom plan view showing the gate support for the bottle in its closed position in full lines and in an open position in dotted lines.

1 designates the usual form of outer cylinder having an outlet and pipe 2 therefor, and a suitable handle 3, the cylinder 1 being provided with a short screw-threaded neck fitting into the internally screw-threaded head 4, provided with the usual form of protecting rim 5, which latter also acts as a means for handling the device.

6 designates any suitable longitudinally-movable plunger rod. In the drawings, Fig. 2, this plunger rod 6, instead of being screw-threaded or otherwise operable, is shown as consisting simply of a shank longitudinally movable through the cap 5, provided with a suitably packed bushing 7, the

lower end of the shank being provided with a reduced pin 8 supporting a stoppering means 9 preferably consisting of rubber, or other suitable non-corrosive material, and preferably being of a conical or tapering shape for a purpose hereinafter referred to. This plunger rod or stem is provided with a suitable operating handle 10.

Depending from the head 5 is a suitably constructed hanger for supporting a bottle 11, the bottle being of the ordinary commercial type. In the drawings, this hanger support is illustrated as comprising two depending bars 12 bent outwardly and downwardly, as at 13, to form a casing for the body of the bottle, and also provided with the annular band 14 having upwardly-extending inwardly-bent fingers 15 for holding the bottle rigidly in position against movement towards the head 5, and the lower ends of the bars 13 being provided with an annular base ring 16. On one side of this base ring is formed an ear 17, and on the opposite side is formed a circumferentially disposed hook 18 forming a slot 19 with the band 16 to receive a flat ring or gate 20, provided with an ear 21 pivoted to the ear 17. On the lower side, this hinged gate is provided with a lug 22 for opening same, and on the upper side is provided with a slight projection 23 which will slightly bind against the lower edge of the band 16, and when the tongue portion 24 of the gate 20 is passed within the slot 19, this lug 23 will rest on the inside of the band 16 and hold the swinging gate 20 against ordinary displacement.

The rubber stopper may be secured to the stem 8 in any suitable way, and in the drawings this is simply illustrated in the ordinary form of a threaded end provided with a nut, the cork being bored to receive the stem 8.

From the foregoing, it will be seen that in operation any suitable bottle of normal shape may be inserted in the bottle support and held securely against displacement by the casing formed and the base support or swinging gate. The same having been placed in position with the acid therein, the plunger may be operated downwardly, forcing the tapering stopper into the neck of the bottle, and thus effectively sealing the same against discharge, whether or not the device is standing on either end. The head containing the bottled acid may then be screwed onto the main cylinder, and the device ready for use

upon releasing the stopper, with the bottle neck in a downwardly-inclining position, the release of the stopper being accomplished by a direct pull on the handle 10 operating the plunger. It will also be seen that the degree of discharge can be controlled, depending upon the degree of movement of the longitudinally-reciprocating plunger rod containing the tapering stopper.

10 Having thus described the invention, what I claim is—

1. The combination of an outer cylinder, a detachable head therefor provided with a rigid bottle support consisting of depending arms having inwardly-projecting curved shoulders adapted to engage the top of the bottle when shoved home, a swinging gate at the base of said support engaging the bottom of the bottle and forcing same home against said curved shoulders, the base of said support being provided with a cylindrical ring having a slotted projection on its base and the top of said swinging gate having a lug on its upper face adapted to ride over the bottom edge of said base rim and engage the inside thereof when the gate is forced home in said slotted projection to securely lock said gate against ordinary displacement and hold said bottle rigidly against

said curved shoulders, substantially as described. 30

2. The combination of an outer cylinder, a detachable head therefor provided with a rigid bottle support consisting of arms extending downwardly as at 12, thence bent outwardly and downwardly as at 13, the outward bends forming shoulders against upward displacement of the bottle when mounted in said support and said support being provided with circumferentially-disposed rims 14 and 16 with upwardly-directed longitudinally-projecting inwardly-curved fingers 15 cooperating with said curved shoulders to form additional shoulders in alinement therewith and adapted to engage the upper body of the bottle, a swinging gate 20 at the base of said support cooperating with and adapted to enter the slotted lug 18 on the base of the rim 16 and being provided with a lug 23 adapted to engage the inside face of said rim 16 to prevent ordinary displacement of said gate when closed, substantially as described. 40 45 50

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

WALTER A. HARLAND.

Witnesses:

ALEX MORTON,  
JOS. D. BEALE.