

No. 775,802.

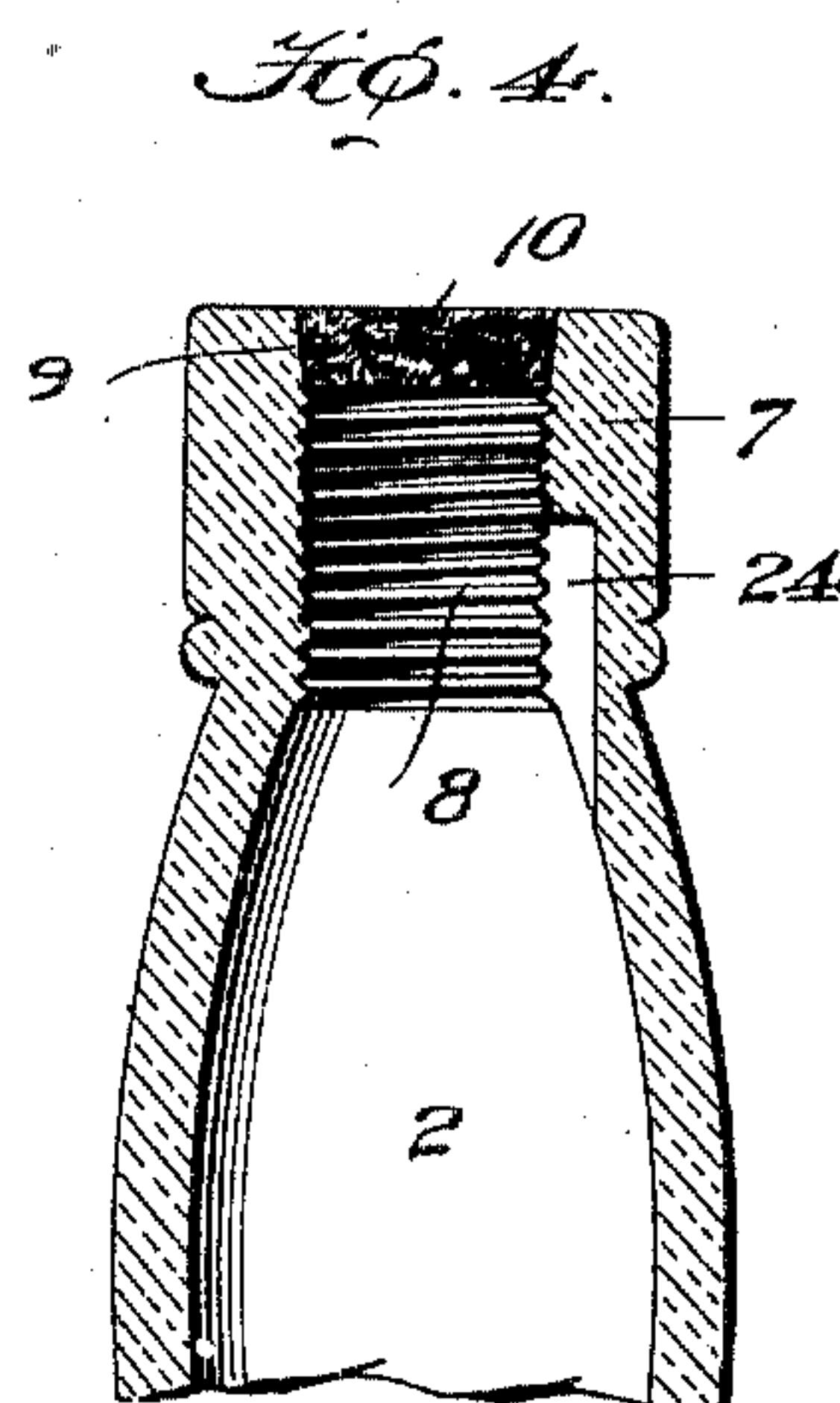
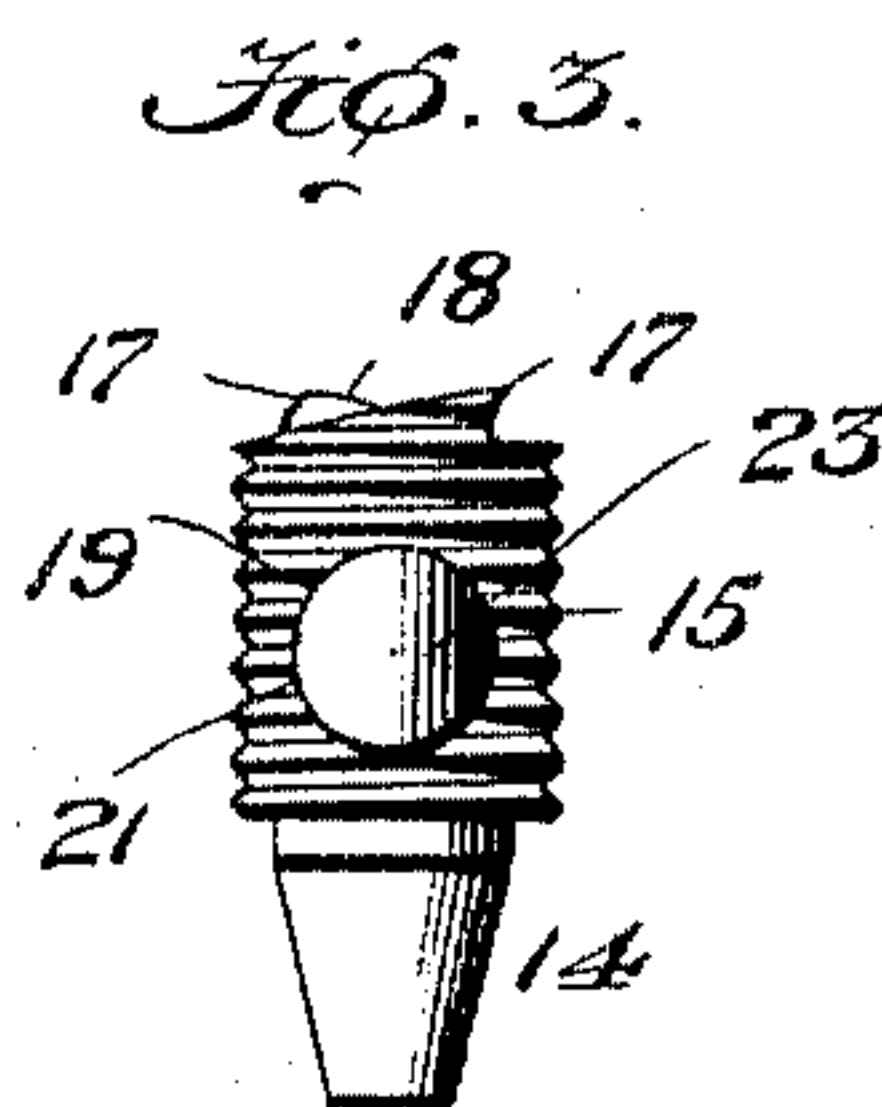
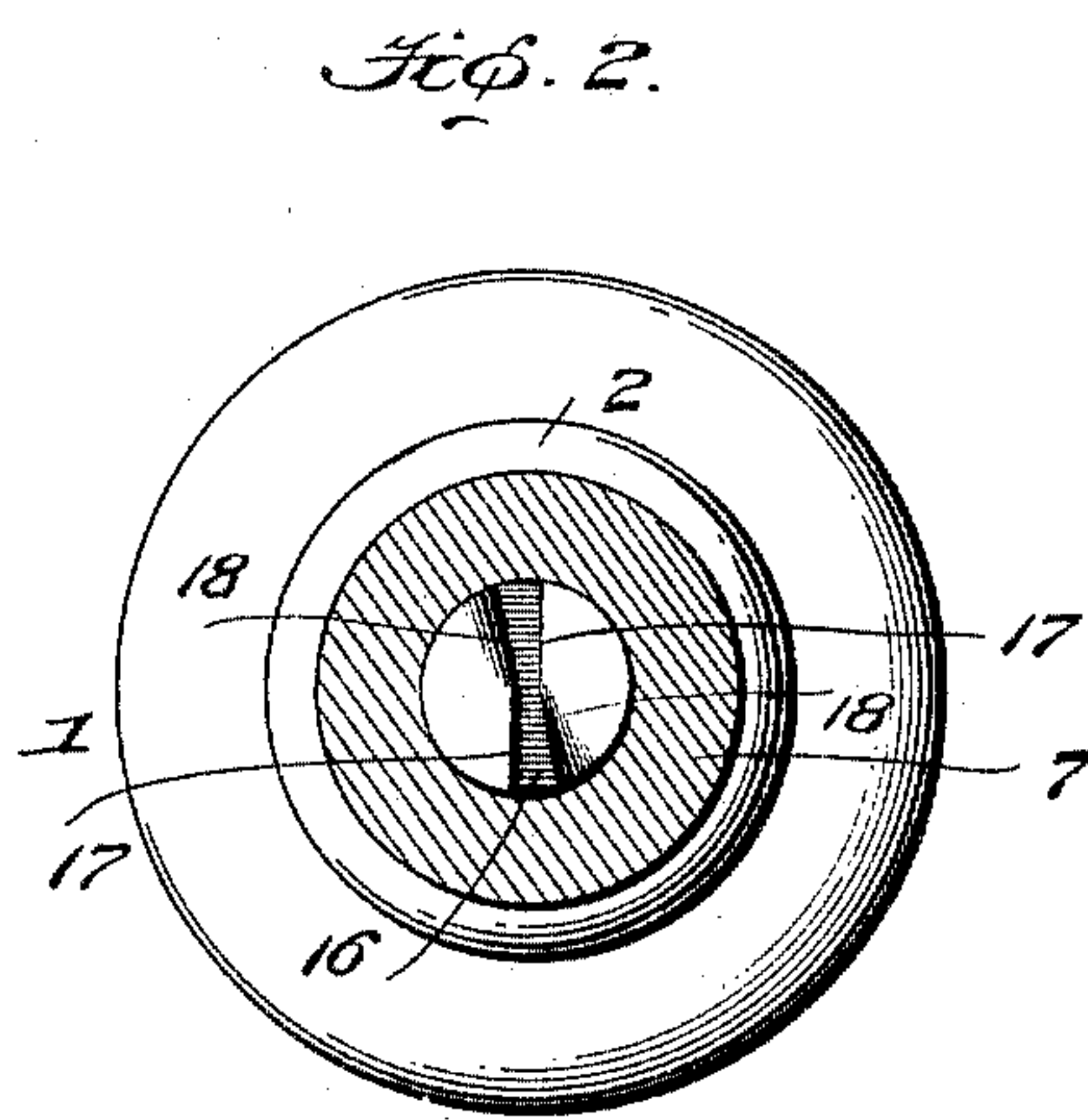
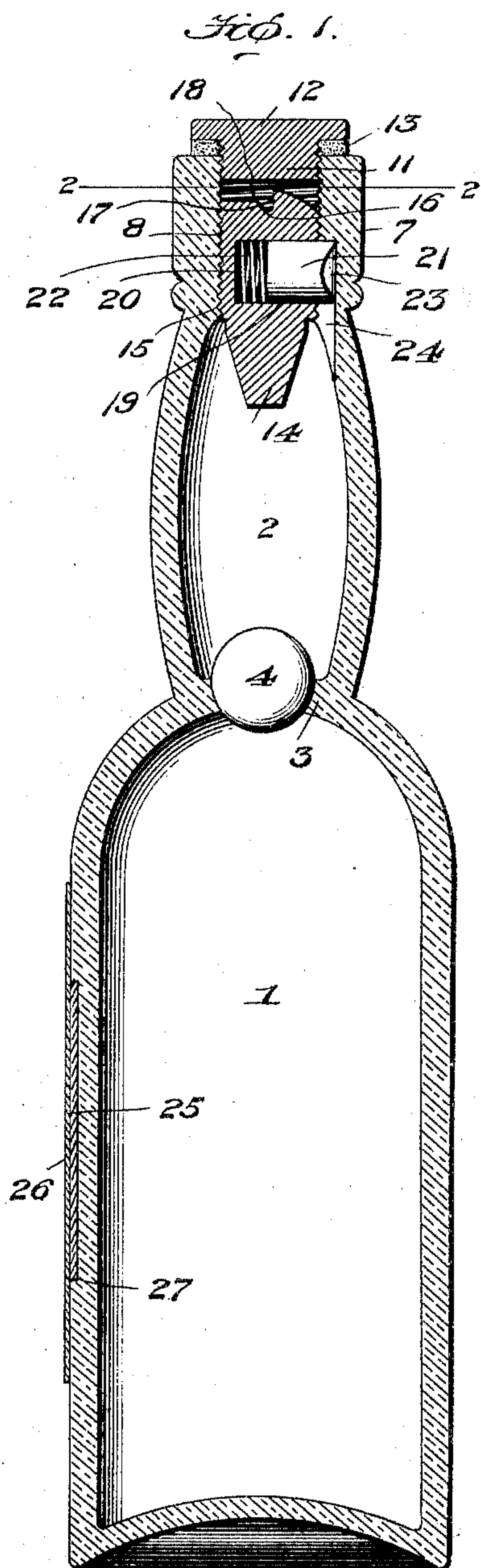
PATENTED NOV. 22, 1904.

G. P. DENCE.
BOTTLE.

APPLICATION FILED JUNE 2, 1904.

NO MODEL.

2 SHEETS—SHEET 1.



Inventor



— George P. Bence. —

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Marion Marion

Attorney

Witnesses

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2 SHEETS—SHEET 2.

Fig. 5.

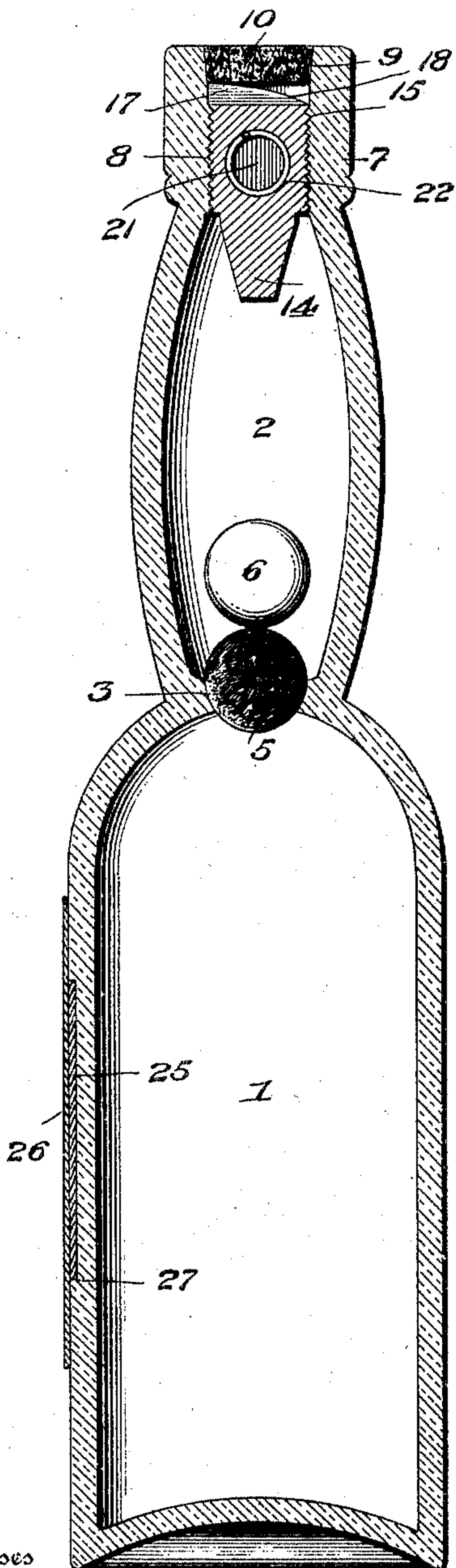
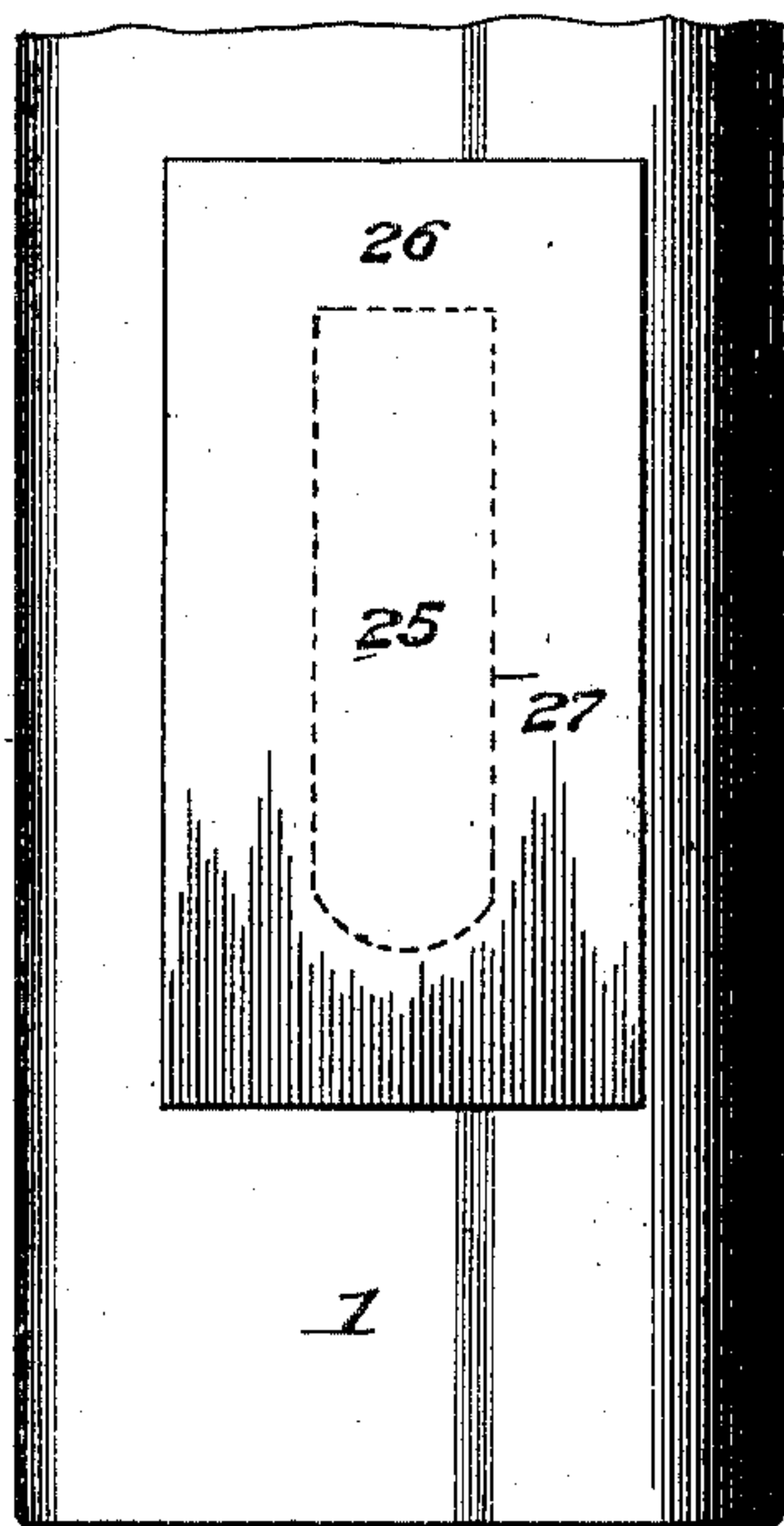


Fig. 6.



Witnesses

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UNITED STATES PATENT OFFICE.

GEORGE P. DENCE, OF SYDNEY, CANADA.

BOTTLE.

SPECIFICATION forming part of Letters Patent No. 775,802, dated November 22, 1904.

Application filed June 2, 1904. Serial No. 210,866. (No model.)

To all whom it may concern:

Be it known that I, GEORGE P. DENCE, a subject of the King of England, residing at Sydney, Cape Breton county, Canada, have invented certain new and useful Improvements in Bottles, of which the following is a full, clear, and exact specification.

This invention relates to certain new and useful improvements in bottles of that class styled "non-refillable;" and it has for its objects, among others, to provide a simple and efficient form of bottle, capable of manufacture at minimum cost, which after being once filled and corked cannot be opened without bearing evidence to that fact and which at the same time cannot well be refilled. I so construct the bottle and the stopper that when once in position within the neck of the bottle the stopper cannot be withdrawn and the only way to obtain access to the contents of the bottle is by screwing the stopper inward till it is disengaged from the neck of the bottle, when it will fall within the neck portion, from whence it cannot by any means be again engaged within the neck as at first. I form the stopper not only with a peculiar form of groove or grooves at its outer end, so that it cannot be turned outward by a screw-driver or any other implement, but also equip it with a positive means for locking it against such withdrawal, should, perchance, some means be devised whereby the stopper might otherwise be turned so as to withdraw it. Thus I have a double guard against its removal. The neck portion is elongated and is designed to receive a ball or balls which serve an important function, as will be hereinafter made apparent. Where more than one ball is employed, I make one of them of cork or some analogous material, so that should the bottle be turned upside down in an attempt to refill it the cork ball would float or move to the upper end of the neck portion and prevent the entrance of the liquid to the interior of the bottle. The bottle-neck is designed to receive a cork or other form of stopper after the non-removable stopper has been placed in position. The implement by which the stopper

is screwed inward is designed to be placed in a recess or the like in the bottle under the label, which latter must be removed or mutilated in order to obtain access to the said implement to manipulate the stopper and remove the contents of the bottle.

Other objects and advantages of the invention will hereinafter appear, and the novel features thereof will be specifically defined by the appended claims.

The invention in its preferable forms is clearly illustrated in the accompanying drawings, which, with the numerals of reference marked thereon, form a part of this specification, and in which—

Figure 1 is a substantially central longitudinal section through a bottle embodying my invention. Fig. 2 is a cross-section through the same on the line 2 2 of Fig. 1. Fig. 3 is an elevation of the stopper. Fig. 4 is a sectional view of the neck portion, showing the recess for coöperation with the locking-bolt. Fig. 5 is a view at right angles to Fig. 1, showing a slightly-modified form of construction. Fig. 6 is a detail in elevation, showing the manner of holding the stopper-operating implement beneath the label on the bottle.

Like numerals of reference indicate like parts throughout the several views.

The bottle may be of any desired shape and capacity designed for containing any liquid, and while those forms herein illustrated are such as are suitable for some uses it is to be understood that the present invention is in no wise restricted to such configuration of bottle. The invention is applicable to any and all forms of bottles, as will hereinafter appear.

Referring to the drawings, 1 designates the bottle, having a neck portion 2, which may assume any desired form. It is essential, however, that it be of a length sufficient to accommodate the ball-valve and the stopper when the latter has been forced inward and disengaged from its connection with the outer portion of the neck. At the lower end of the neck portion 2 there is formed a seat 3 for a ball-valve 4, which, in the form shown in Fig. 1, is preferably of glass; but when two

balls are employed, as in the form shown in Fig. 5, one (the lower one) is formed of cork or the like and the other of glass or analogous material. These two balls 5 and 6 are of such diameter relatively to the diameter of the neck portion as to always insure the same relative position for a purpose which will soon be made apparent.

The extreme neck portion 7 is interiorly screw-threaded, as seen at 8. In Fig. 5 the screw-threads do not extend entirely to the outer end of this portion of the neck, but terminate at a short distance therefrom to provide the plain portion 9 to allow of the employment of a cork 10 when desired. In Fig. 1 the screw-threads extend to the outer end of this portion of the neck to receive a screw-threaded shank 11 of a stopper 12, which may be of glass or any other suitable material, a washer or ring 13 being employed, as indicated, to insure a tight joint.

14 is the stopper. It is of glass screw-threaded, as seen at 15, and upon its outer end it is formed with grooves 16, which are so formed that a screw-driver or analogous implement may be used to screw the stopper inward, but cannot get any hold to turn the same outward. The grooves have the square shoulders 17, which are so arranged that they both receive the implement when turning inward; but when an attempt is made to turn the stopper outward the implement finds no resistance and moves over the inclines 18, one opposite each of said shoulders; but this is not the only thing that prevents removal of the stopper. I provide another safeguard, as follows: The stopper is bored horizontally, as seen at 19, the bore extending nearly but not quite through the stopper, as shown, so as to leave a resisting-wall 20, and in this bore is located a locking-bolt 21, which is seated against a spring 22, of any suitable character, tending to force the bolt outward. This bolt is rounded or inclined upon one side, as seen at 23, to enable it to readily pass the shoulder on the inner face of the neck of the bottle now to be described. This shoulder 24 is seen best in Figs. 1 and 4. The inner wall of the neck is formed with a recess the wall of which is gradually inclined toward said shoulder, so that as the stopper is turned the bolt may readily pass the shoulder in one direction; but when an attempt is made to turn the stopper in the opposite direction the square end of the bolt engages the said shoulder and prevents retrograde movement of the stopper in a manner which will be readily understood. It will thus be seen that while the stopper can be readily turned inward it cannot be turned outward, for two reasons—first, the grooves in the end of the stopper are such that no implement can get a hold thereon, and, second, even if perchance any means

might be devised whereby the stopper might be unscrewed the locking-bolt absolutely prevents such action.

While any suitable implement may be employed for screwing in the stopper, I provide a flat piece of steel, preferably of substantially the shape shown by dotted lines in Fig. 6 at 25. This is placed under the label 26 in a recess 27 in the bottle, as seen clearly in Figs. 1 and 5, and when it is desired to get access to the contents of the bottle the label is torn and the implement 25 removed and the stopper turned inward until it is disengaged from its connection with the neck, falling into the neck portion 2; and it should be here noted that this neck portion is of a diameter somewhat less than the diameter of the stopper, with the bolt fully extended, so as to prevent the bolt from falling out and dropping into the bottle. After the stopper has been screwed in the bottle can be turned upon its side and the contents poured out.

If an attempt be made to refill the bottle, the ball-valve will seat itself in such a manner as to prevent the liquid from entering the bottle, and in case of the employment of the two balls, as seen in Fig. 5, the cork ball will be floated to its seat and shut off all entrance into the bottle. The neck may or may not be provided with grooves for the ready flow of the liquid from the bottle.

Modifications in detail may be resorted to without departing from the spirit of the invention or sacrificing any of its advantages.

What is claimed as new is—

1. A bottle having a stopper provided with means for preventing its being turned in one direction, and spring-actuated means slidably mounted in the stopper for preventing the withdrawal of the stopper.

2. A bottle provided with a stopper having threaded engagement with the neck of the bottle, means on the end of the stopper to prevent its being turned in one direction, and means within the body of the stopper to prevent its withdrawal.

3. A bottle provided with an interiorly-threaded neck, and a recess with shoulder, combined with a stopper having exterior threads and a spring-actuated bolt to engage said shoulder.

4. A bottle provided with a screw-threaded neck, a stopper engageable with the threads of the neck and having at its outer end grooves constructed to allow turning of the stopper in one direction and preventing its turning in the opposite direction, and means movable within the body of the stopper to engage a shoulder within the neck to prevent withdrawal of the stopper.

5. A bottle provided with a stopper having means to turn the same in one direction only, and means within the stopper and movable at

right angles to the length of said stopper to further prevent withdrawal of the stopper, and a ball-valve within the neck portion.

6. A bottle having an interiorly-threaded neck, a stopper having threaded engagement with said neck and provided with means to turn the same in one direction only, and means for preventing its withdrawal, and a ball-valve

and a controlling-weight within said neck, said ball-valve being of buoyant material. 10

In witness whereof I have hereunto set my hand in the presence of two witnesses.

GEORGE P. DENCE.

Witnesses:

FRANCIS S. MAGUIRE,
E. H. BOND.