

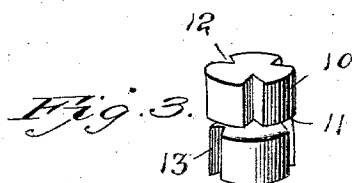
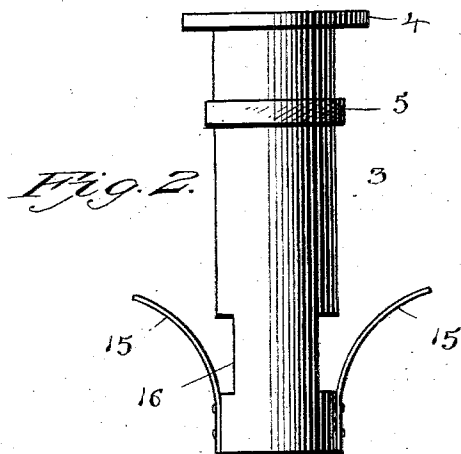
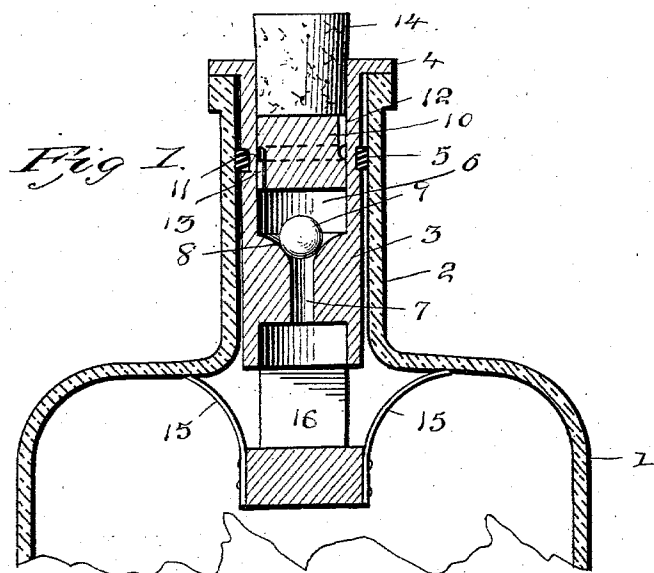
No. 752,473.

PATENTED FEB. 16, 1904.

H. L. SHANNON.
BOTTLE CLOSURE.

APPLICATION FILED APR. 18, 1903.

NO MODEL.



Witnesses

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HARRY L. SHANNON, OF FINDLAY, OHIO.

BOTTLE-CLOSURE.

SPECIFICATION forming part of Letters Patent No. 752,473, dated February 16, 1904.

Application filed April 18, 1903. Serial No. 153,323. (No model.)

To all whom it may concern:

Be it known that I, HARRY L. SHANNON, a citizen of the United States, residing at Findlay, in the county of Hancock and State of Ohio, have invented new and useful Improvements in Bottle-Closures, of which the following is a specification.

This invention relates to improvements in non-refillable bottles; and the object is to provide a simple, cheap, and effective construction for preventing the refilling of the bottle after its contents have been removed.

With the above object in view the invention consists in the novel features of construction hereinafter fully described, particularly pointed out in the claims, and clearly illustrated by the accompanying drawings, in which—

Figure 1 is a longitudinal sectional view of the upper portion and neck of a bottle provided with my invention; Fig. 2, a side elevation of the invention removed from the bottle, and Fig. 3 a perspective view of the guard-plug.

Referring now more particularly to the drawings, 1 designates a bottle of ordinary construction, and 2 the neck thereof. Adapted to be positioned in the neck 2 after the bottle has been filled is a plug 3, having at its upper end a circumferential flange 4 to seat upon the flange of the bottle-neck. The plug is formed in its circumference intermediately of its ends with an annular groove to receive a packing 5, of suitable material, which serves to prevent passage of liquid between the plug and inner wall of the neck. The plug is formed in its upper portion with a cavity 6, at the lower end of which is a liquid-passage 7, establishing communication with the interior of the bottle. A valve-seat 8 is formed at the upper end of this passage for a ball-valve 9, which controls the communication between the cavity and interior of the bottle. Secured in cavity 6 a sufficient distance above the valve to permit the latter to unseat is a guard-plug 10, which not only serves to prevent tampering with the valve, but also forms, together with the walls of the cavity 6, a valve-chamber for said ball-valve. Said plug is formed in its circumference intermediately of its ends with an annular groove 11, with which up-

wardly-extending passages 12 and downwardly-extending passages 13 communicate, the former communicating with the exterior of the plug 10 and the latter with the valve-chamber. These passages 12 and 13 are arranged to alternate, so that being out of line a wire or tool cannot be inserted to reach the valve. The plug 10 is of such size that a cork-receiving space is provided thereabove to receive a cork 14, which closes the outlet end of passages 12 and seals the bottle.

The lower end of plug 3 is solid and flattened on diametrically opposite sides, to which flattened portions the outwardly and upwardly flaring spring-arms 15 are attached. The plug is of sufficient length to extend into the upper portion of the body of the bottle, and as soon as it has been pushed downwardly in the bottle a sufficient distance arms 15 spring outwardly at their upper ends, so as to engage the upper wall of the bottle-body and prevent removal of the plug. The side walls of the plug adjacent to its lower end, excepting portions 16 to support said lower end, are cut away to permit passage of the contents of the bottle to the liquid-passage 7.

In operation when the bottle is tilted to pour the contents therefrom the liquid passes through passage 7, unseats the valve, and through passages 12 and 13 and from the bottle, the cork having of course been removed.

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

1. A device for preventing the refilling of bottles, comprising a plug to fit in the neck of the bottle and of greater length than the latter so that a portion thereof will depend below the inner terminal of the bottle-neck when applied, the said plug having a valve-chamber, a liquid-passage communicating with said chamber and the interior of the bottle, and circuitous outlet-passages also communicating with the valve-chamber, a gravitating valve in the valve-chamber, means carried by the plug for preventing inward displacement thereof, and resilient means carried by the lower end of the plug for preventing its removal from the bottle.

2. A device for preventing the refilling of

bottles comprising a plug adapted to fit in the neck of the bottle having a cavity opening through its outer end, a plug positioned in said cavity intermediately of the ends thereof
5 to form a valve-chamber therebeneath and a cork-receiving space thereabove, a liquid-passage communicating with said valve-chamber and the interior of the bottle, a valve in said chamber controlling said passage, circuitous
10 passages formed in said inner plug communicating with the valve-chamber and the exterior of said plug, and means carried by the device for preventing its removal from the bottle.

15 3. A device for preventing the refilling of bottles comprising a plug adapted to fit in the

neck of the bottle and project into the body of the bottle and formed with a valve-chamber, a liquid-passage communicating with the valve-chamber and interior of the bottle, a
20 valve in said chamber controlling said passage, an outlet from said valve-chamber, and spring-arms carried by that portion of the plug projecting into the bottle-body adapted
25 to engage the upper wall of the bottle-body and prevent withdrawal of the plug.

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

HARRY L. SHANNON.

Witnesses:

J. W. SHANNON,
JOHN SHANNON.