

(No Model.)

E. M. ENGELMAN.
BOTTLE.

No. 566,387.

Patented Aug. 25, 1896.

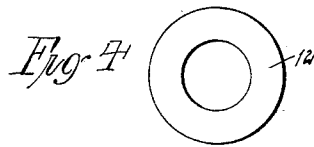


Fig 2

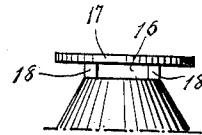
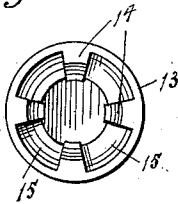


Fig 3

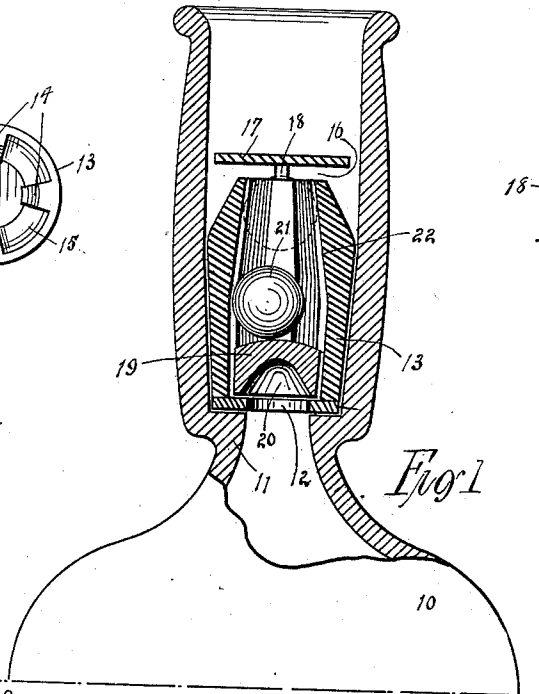


Fig 1

WITNESSES:

Bertiam H. Saunders
Edward L. Coman

INVENTOR

Eugene M. Engelman
BY
W. B. Hutchinson
ATTORNEY.

UNITED STATES PATENT OFFICE.

EUGENE M. ENGELMAN, OF DETROIT, MICHIGAN.

BOTTLE.

SPECIFICATION forming part of Letters Patent No. 566,387, dated August 25, 1896.

Application filed December 10, 1895. Serial No. 571,620. (No model.)

To all whom it may concern:

Be it known that I, EUGENE M. ENGELMAN, of Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Bottles, of which the following is a full, clear, and exact description.

My invention relates to improvements in bottles, and particularly to that class of bottles which are intended to contain liquors and which have devices to prevent them from being fraudulently refilled.

The object of my invention is to produce an extremely simple non-refilling device which is located in the neck of the bottle, which does not add materially to the cost of the bottle, which permits the liquor to flow freely from the bottle, but which prevents any liquor from being forced into the bottle, and thus to provide a simple means of preventing bottles from being filled with spurious materials.

To these ends my invention consists of certain features of construction and combinations of parts, which will be hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a broken side elevation of the bottle, showing my improvements, the neck and parts therein being shown in longitudinal section. Fig. 2 is an inverted end view of the plug in the bottle-neck. Fig. 3 is a broken side elevation of the said plug, showing the upper part thereof; and Fig. 4 is a detail plan view of the washer which is used in connection with the plug.

The bottle 10 may be of any approved kind, and it has in its neck a shoulder 11, on which rests the washer 12, which, as illustrated, is open at the middle to permit the passage of liquor through it, and which serves as a valve-seat, the washer being preferably of cork, although it can be made of glass, rubber, or any suitable material. The washer is preferably separable from the neck and plug, as illustrated and described, but it will be seen that the valve seat or washer may be made a fixture in the neck if desired.

Above the washer 12, and resting firmly thereon, is the hollow plug 13, which is reduced at the top and which fits snugly in the bottle-neck, being preferably ground in, although it can be fastened in any suitable manner. The plug 13 is provided with internal ribs 14, which form channels 15 between them, running the whole length of the plug from top to bottom, as shown in Fig. 2, through which channels the liquor can run freely when the bottle is tipped, as hereinafter described, and the ribs serve as guides for the valve and ball, to be hereinafter referred to.

The plug discharges near the top through side ports 16, above which is a frangible shield 17, which prevents anything from being inserted in the plug, and the shield is formed integral with the plug 13, the parts 18 being left to support the shield when the ports 16 are made. The frangible shield 17 is larger in diameter than the reduced top portion of the plug 13, and so, if an attempt is made to force a wire into the plug to tamper with the valve, the wire is deflected by the shield upon the tapering or reduced upper part of the plug and so prevented from entering the plug. If the above result does not take place, the frangible shield is almost certain to be broken, and thus will show that the valve has been tampered with and that the liquor in the bottle is most likely spurious. The plug by having this reduced upper portion can be inserted tightly by means of a small wedge or suitable tool; but if an attempt is made to remove the plug, the reduced or inclined top portion causes the tool to slip from it, and so the plug cannot be removed and the shield 17 will be broken.

Within the plug and working freely up and down is a valve 19, which is preferably convex on top and is hollowed out on the bottom, as shown at 20, this construction giving to the valve a comparatively sharp annular lower edge, which is adapted to fit closely against the washer or valve-seat 12. By having the valve concave on the under side, as illustrated, the outflowing liquor is sure to strike the valve so as to remove it from its seat, and by having the top convex the ball

21 above it is surer to act on it and force the valve to its seat. The valve 19 is of the same diameter as the interior of the plug at the bottom between the ribs 14, and so fits snugly and acts quickly.

The valve 19 should be made of cork or other light material, but anything suitable for the purpose may be used, and the ball 21, which is held above the valve and rolls freely in the plug, should be heavier than the valve, so that when the bottle is inclined the action of the ball will force the valve to its seat. To further facilitate this action, the plug is tapered toward the top on its inner side, as shown at 22, and hence when the bottle is held in a nearly horizontal position with just inclination enough to slightly raise the neck the ball will roll against the valve and place it against the seat, thus preventing the bottle from being filled by first laying it on its side and attempting to work the liquor gently into it. The tapering part 22 of the plug extends from the top to a point a little below the center of the plug and is absolutely straight from this point to the bottom, and so if the bottle is level or even has the top slightly below its center the ball 21 will still run downward when an attempt is made to fill the bottle and force the valve 19 to its seat.

When the bottle has been filled with liquor, the device to prevent the refilling is fastened in the neck, after which the ordinary stopper may be placed in the neck, and when the bottle is to be emptied the stopper is removed and the bottle used in the ordinary way, when the outflowing liquor displaces the valve 19 and passes out through the channels 15 and ports 16 of the plug. As the liquor flows out the ball 21 fills the top part of the plug 13, and the liquor passes out through the channels formed between the ribs 14. When, however, an attempt is made to refill the bottle, the inflowing liquor acting on the valve 19 forces the latter to its seat and so closes the bottle-neck, this action being facilitated by the pressure of the ball 21 against the valve, and if it is attempted to float the liquor in slowly by laying the bottle on its side the ball 21 runs down the incline 22 of the plug and strikes the valve so as to push the latter to its seat.

Having thus described my invention, I

claim as new and desire to secure by Letters Patent—

1. The combination with the bottle-neck, of the plug fastened therein, the plug being open at each end and having a reduced or inclined top portion, and a longitudinal bore adapted to contain a valve with internal side channels extending the full length of the bore, the said bore being tapered from a point near the center to the top of the plug, and being straight in its lower part, substantially as described.

2. The combination with the plug shaped to fit a bottle-neck and with a longitudinal bore extending completely through it endwise and having a reduced top portion, the plug being adapted to contain a valve, of the frangible top or shield formed integral with the plug and supported slightly above the bore, the edges of the shield projecting outward beyond the sides of the bore, substantially as described.

3. The combination with the bottle, of the plug open at each end contained in the bottle-neck and provided with an externally-reduced top, a longitudinal bore tapering from a point near the center to the top, side channels extending the full length of the plug in the walls of the bore, a seat in the bottom of the plug, a frangible shield held slightly above the top and extending across the bore, a valve fitting closely in the bottom part of the plug, and a ball riding on the valve and adapted to fit in the tapering top, substantially as described.

4. The combination with the bottle having a shoulder in its neck, of the washer on the shoulder forming a valve-seat, the hollow plug open at each end held in the neck above the washer and provided with a longitudinal bore having side channels in the walls thereof extending the full length of the plug, said bore being tapered from a point near the center to the top and straight in its lower part, a frangible shield held slightly above the top and extending across the bore, a valve fitting closely in the lower part of the plug, and a ball riding on the valve, substantially as described.

EUGENE M. ENGELMAN.

Witnesses:

WARREN B. HUTCHINSON,
WILLIAM D. PECK.