

No. 845,136.

PATENTED FEB. 26, 1907.

W. T. SOLOMON.
VALVE FOR NON-REFILLABLE BOTTLES.
APPLICATION FILED MAY 23, 1906.

FIG. 1.

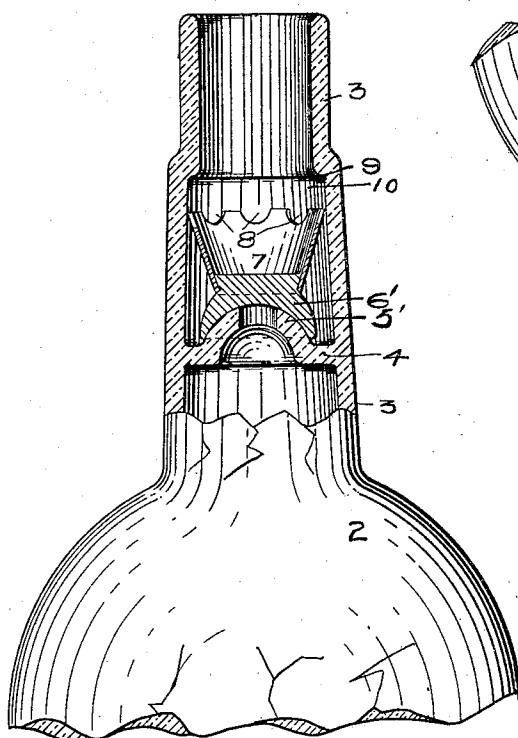


FIG. 2.

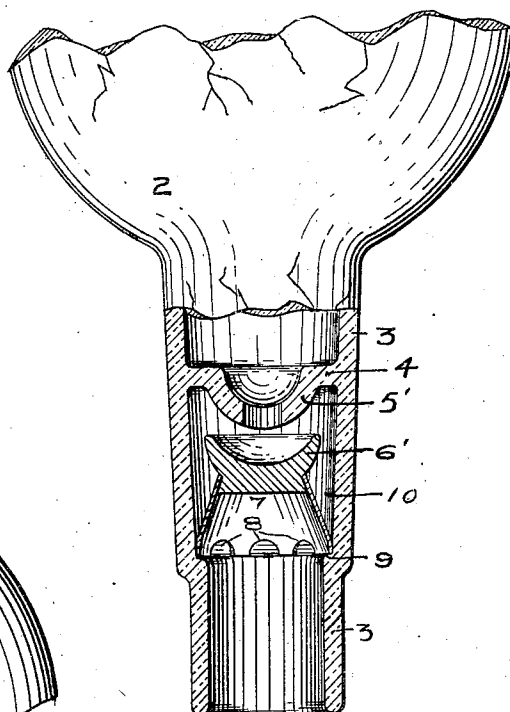
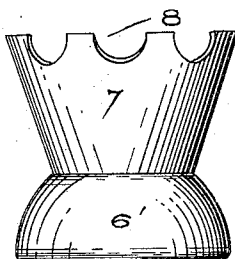


FIG. 3.



WITNESSES.

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UNITED STATES PATENT OFFICE.

WILLIAM T. SOLOMON, OF LOUISVILLE, KENTUCKY, ASSIGNOR TO ROBERT C. HALL, OF PITTSBURG, PENNSYLVANIA.

VALVE FOR NON-REFILLABLE BOTTLES.

No. 845,136.

Specification of Letters Patent.

Patented Feb. 26, 1907.

Application filed May 23, 1906. Serial No. 318,291.

To all whom it may concern:

Be it known that I, WILLIAM T. SOLOMON, of Louisville, in the county of Jefferson, State of Kentucky, have invented a certain new and useful Valve for Non-Refillable Bottles, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side elevation, partly in section, of the upper portion of a bottle provided with my improved valve. Fig. 2 is a like view, the bottle being in an inverted position; and Fig. 3 is a side elevation of the valve.

My invention relates to that class of non-refillable bottles in which a gravity-stopper or puppet-valve is so arranged as to normally close the aperture of the neck of the bottle.

I will now describe my invention, so that others skilled in the art may manufacture and use the same.

In the drawings, 2 represents the body, and 3 the neck, of the bottle, which neck may be integral with the body or it may be formed separately and then secured thereto, as will be understood by those skilled in the art. In the neck 3 is an annular shoulder 4, curved upwardly to a convex valve-seat 5', the opening being of sufficient size to permit the free passage of the liquid from the body of the bottle. Above this valve-seat 5' is the valve or stopper 6', which is preferably formed of a material of such hardness as not to be readily perforated by a spike or any other sharp instrument and has a concave face adapted to fit over the convex valve-seat 5'. Secured to the body portion 6' of the valve is a flaring crown 7, formed of a flexible material, such as rubber or leather, in the shape of an inverted frustum of a hollow cone. This crown 7 is provided with openings 8 on its upper edge. In the interior circumference of the neck of the bottle a short distance above the crown 7 is a stop 9, which may be formed by contracting the neck of the bottle or by forming a shoulder of less circumference than the normal circumference of the top of the crown 7 therein, as is shown in the drawings. The two shoulders 4 and 10 define

the limits of the valve-chamber within which the valve 6' and 7 has a limited movement.

The operation is as follows: The bottle is filled with the desired liquid before the valve 6' is inserted in the neck of the bottle. After the bottle has been filled the valve 6', having the crown 7, is pushed through the upper portion of the neck of the bottle into the valve-chamber 10, the body portion 6' of the valve being of such diameter as to pass freely through the neck, while the crown 7, being of flexible material, contracts sufficiently to allow its passage to the chamber 10. The valve having passed into the chamber 10 seats itself on the seat 5', and at the same time the apron 7 expands within the chamber in such manner as to be of greater diameter than the shoulder 9. By tipping the bottle the liquid will flow through the opening in the valve-seat 5' and through the openings 8 in the crown 7. It will be impossible, however, to refill the bottle, for the reason that not only does the body of the valve 6' seat itself on the seat 5', and thus close the opening in the valve-seat 5', but the apron 7, as soon as liquid is poured into the neck, acts as a cup and is extended against the sides of the neck of the bottle by the pressure of the liquid.

The advantages of my invention will be appreciated by those skilled in the art.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a non-refillable bottle, a valve consisting of a body portion having a concave base in combination with a funnel-shaped crown.

2. In a non-refillable bottle, the combination of a neck having a convex seat, a valve having a concave bottom adapted to fit on the seat, a funnel-shaped crown secured to the valve, and a stop situated above the crown.

In testimony whereof I have hereunto set my hand.

WILLIAM T. SOLOMON.

Witnesses:

JAMES K. BAKEWELL,
C. E. EGGERS.