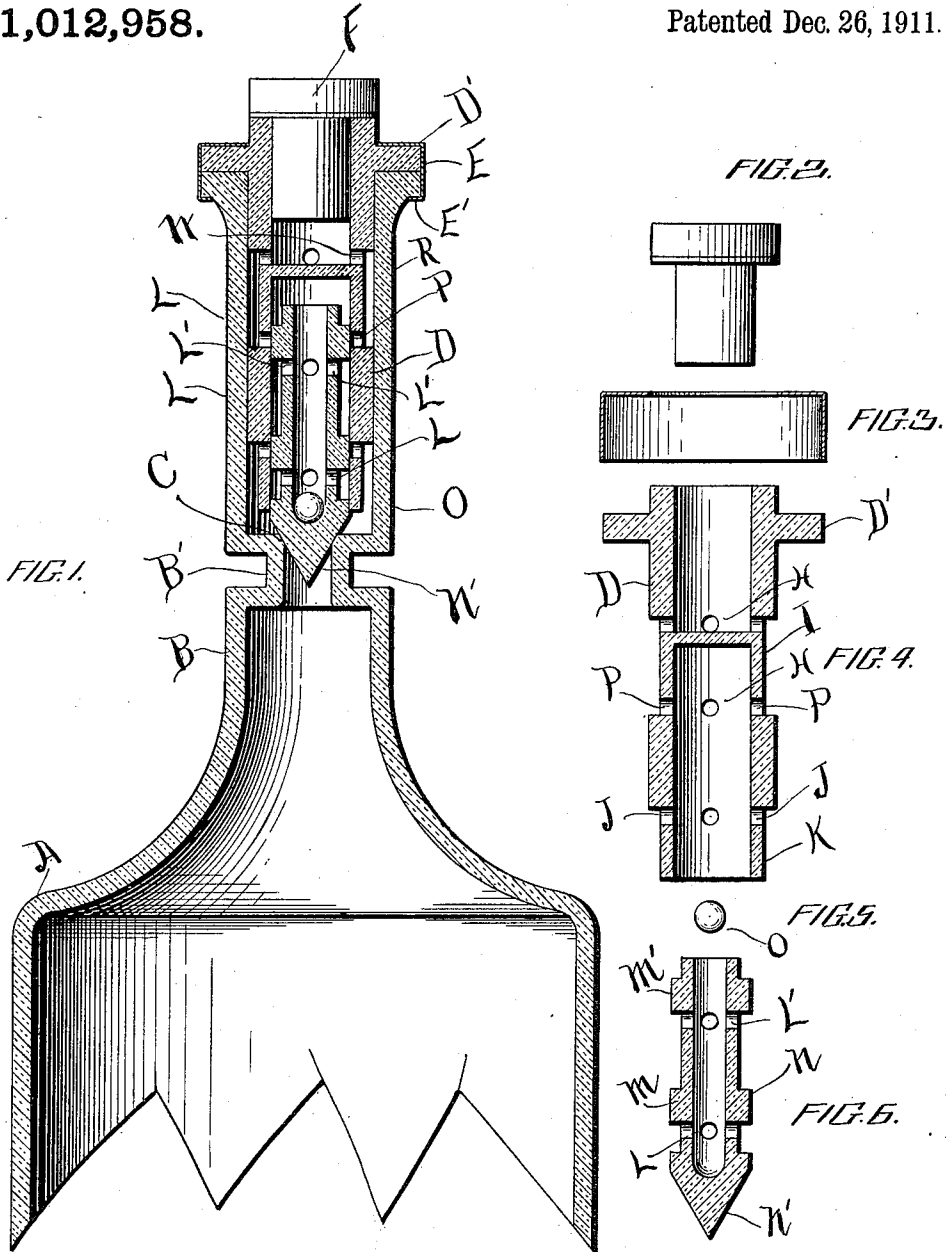


R. L. & C. E. YOUNG.
NON-REFILLABLE BOTTLE.
APPLICATION FILED OCT. 13, 1911.

1,012,958.

Patented Dec. 26, 1911.



WITNESSES:

H. F. Roy
A. L. Hough

INVENTORS

Robert L. Young
C. E. Young
BY *Franklin D. Hough*
Attorney

UNITED STATES PATENT OFFICE.

ROBERT L. YOUNG AND CLIFTON E. YOUNG, OF WASHINGTON, DISTRICT OF COLUMBIA.

NON-REFILLABLE BOTTLE.

1,012,958.

Specification of Letters Patent.

Patented Dec. 26, 1911.

Application filed October 13, 1911. Serial No. 654,516.

To all whom it may concern:

Be it known that we, ROBERT L. YOUNG and CLIFTON E. YOUNG, citizens of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Non-Refillable Bottles; and we 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, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to new and useful improvements in non-refillable bottles and the object in view is to produce a simple and efficient device of this nature so arranged that the liquid may be dispensed from a bottle equipped with our invention and affording means whereby any tampering with the gravity valve within the neck of the bottle may be prevented.

The invention consists further in the provision of a non-refillable bottle so arranged that, even though the bottle be inverted, liquid may not be forced by the valve into the bottle.

The invention comprises various details of construction and combinations and arrangements of parts which will be hereinafter fully described, shown in the accompanying drawings and then specifically defined in the appended claims.

We illustrate our invention in the accompanying drawings, in which:—

Figure 1 is a vertical sectional view transversely through the neck of the bottle, showing the application of our invention thereto. Fig. 2 is an end elevation of the stopper. Fig. 3 is a sectional view through a clamping flange or member. Fig. 4 is a sectional view through the casing held within the neck and within which the gravity valve is mounted. Fig. 5 is a detail view of a ball adapted to cause the valve to seat, and Fig. 6 is a sectional view through the gravity-operated valve.

Reference now being had to the details of the drawings by letter, A designates a bottle having a neck B with a constricted portion B', the end portion of which is beveled forming a valve seat C. Mounted within the neck of the bottle is a shell D which is hollow and open-ended and is provided

with a laterally projecting flange D' adapted to rest upon the top of the neck, as shown clearly in Fig. 1 of the drawings.

E is a circular-outlined angled flange fitted over the projecting end of the shell and resting upon the flange D' and having its free edge E' bent underneath a shoulder formed upon the neck and forming means whereby the shell may be securely held within the neck of the bottle. A stopper F is mounted within the end of the shell, which may be removed when it is desired to dispense liquid from the bottle. Said shell is provided with series of circumferential apertures H and has contracted portions I and K formed in the circumference thereof through which said apertures are formed.

A gravity valve, designated by letter N, has a conical-shaped end N', the surface of which is preferably ground and adapted to contact with the beveled seat C when the bottle is in an upright position. Said valve is hollow and is provided with a gravity ball O in order to assist gravity in seating the valve. The wall of the valve is provided with apertures L and L', the former of which afford means whereby the liquid may pass through the apertures J upon the neck of the bottle into the chambered portion of the valve, when the same is inverted, and make exit through the apertures L' and into the space R formed intermediate the contracted portion I of the shell and the wall of the neck. The liquid in its further course in making exit from the bottle from the space R would pass through the apertures W into the interior of the shell, as will be readily understood.

It will be noted upon reference to Figs. 1 and 5 of the drawings that the valve is provided with enlarged circumferential portions M and M' which, when the valve is seated, serve as valves for closing respectively the apertures J and P, thus affording three sets of valves as a security against the refilling of the bottle.

By the provision of a non-refillable bottle made in accordance with our invention, it will be observed that the valve, as the bottle is inverted, will be unseated by reason of the weight of the liquid coming in contact with the valve N', assisted by the gravity of the valve itself and, when the apertures come into registration with one another, an open passageway is afforded for the dispensation of the liquid, whereas,

when the bottle is returned to an upright position, the apertures are closed as well as the conical end of the valve seat and, by reason of the shell being locked within the bottle, it will be quite impossible to refill the same.

What we claim to be new is:—

1. A non-refillable bottle comprising a bottle having a neck with a contracted portion forming a valve seat, a shell mounted within the neck and having contracted portions, the walls of which are apertured, a hollow gravity valve provided with circumferential apertures said valve being adapted to contact with said valve seat in the neck and having a series of circumferential valves normally closing said apertures in the shell when the valve is seated, as set forth.
2. A non-refillable bottle having a neck with a contracted portion forming a valve seat, an open-ended hollow shell fitted within the neck and having a flange resting upon the end of the neck, means for holding the shell within the neck, said shell having contracted portions, the walls of which are apertured, a hollow gravity valve mounted within the shell and having apertures in the walls of contracted portions thereof, adapted to register with the apertures in the shell when the valve is unseated,

ed, and enlarged portions of the circumference of the valve adapted to form closures to the apertures in the shell when the valve is seated, as set forth.

3. A non-refillable bottle having a neck with a contracted portion forming a valve seat, an open-ended hollow shell fitted within the neck and having a flange resting upon the end of the neck, means for holding the shell within the neck, said shell having contracted portions, the walls of which are apertured, a hollow gravity valve mounted within the shell and having apertures in the walls of contracted portions thereof, adapted to register with the apertures in the shell when the valve is unseated, enlarged portions of the circumference of the valve adapted to form closures to the apertures in the shell when the valve is seated, said shell having a transverse portion adapted to limit the movement of the valve in one direction, and a weighted member within the valve, as set forth.

In testimony whereof we hereunto affix our signatures in the presence of two witnesses.

ROBERT L. YOUNG.
CLIFTON E. YOUNG.

Witnesses:

A. L. HOUGH,
FRANKLIN H. HOUGH.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."