

No. 816,170.

PATENTED MAR. 27, 1906.

R. I. MAXWELL.
CORKLESS NON-REFILLABLE BOTTLE.
APPLICATION FILED JAN. 2, 1906.

FIG. 1.

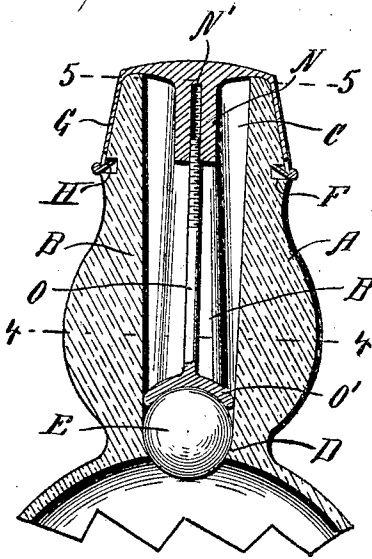


FIG. 2.

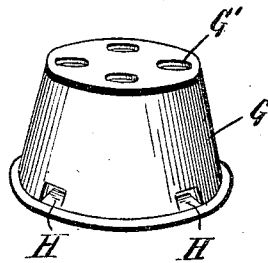


FIG. 3.

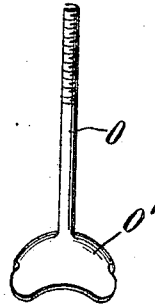


FIG. 4.

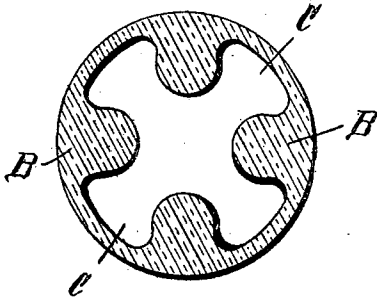
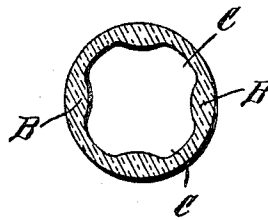


FIG. 5.



WITNESSES:

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CORKLESS NON-REFILLABLE BOTTLE.

No. 816,170.

Specification of Letters Patent.

Patented March 27, 1906.

Application filed January 2, 1906. Serial No. 294,233.

To all whom it may concern:

Be it known that I, ROSCOE IRVING MAXWELL, a citizen of the United States, residing at White Plains, in the county of Westchester and State of New York, have invented certain new and useful Improvements in Corkless Non-Refillable Bottles; and I 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 of reference marked thereon, which form a part of this specification.

This invention relates to new and useful improvements in corkless non-refillable bottles; and the object in view is to produce a simple and efficient device of this character in which a ball-valve is employed which is held to its seat by means of a plunger to prevent the contents of the bottle passing into the neck when in transportation, &c., and comprises various details of construction and arrangements of parts, which will be hereinafter fully described and then specifically defined in the appended claims.

My invention is illustrated in the accompanying drawings, in which—

Figure 1 is a sectional view centrally and longitudinally through the neck of a bottle, showing the application of my valve and locking mechanism. Fig. 2 is a detail view in perspective of the cap. Fig. 3 is a perspective view of the plunger. Fig. 4 is a sectional view on line 4 4 of Fig. 1, and Fig. 5 is a sectional view on line 5 5 of Fig. 1.

Reference now being had to the details of the drawings by letter, A designates the neck of a bottle, which has longitudinal rib-sections B projecting from the inner surface thereof, as shown clearly in the sectional view of the drawings, thereby leaving channels C intermediate the ribs through which liquid may be poured from the bottle. At the lower end of the neck is a valve-seat D, which is preferably ground to conform to the spherical surface of the ball-valve E, which when the bottle stands in an upright position rests by gravity thereon. Said ball-valve is of such diameter as to have a play intermediate the several longitudinal ribs described as the bottle is tilted. About the circumference of the neck at any suitable location is an annular groove F, and G is a cap adapted to fit over and conform to the portion of the neck

above said annular groove and made, preferably, of metal. Portions of the circumference of said cap are indented, forming integral resilient lugs H, which when the cap is inserted over the top of the neck are adapted to spring into the annular groove and securely lock the cap in place. The top of the cap is provided with apertures G', which are adapted to register with the openings or channels in the neck of the bottle and through which liquid may be allowed to flow as the ball rolls from its seat as the bottle is tilted. Projecting from the under surface of the top of the cap is a lug N, having a threaded outlined aperture N' therein designed to receive the threaded end of the plunger O. The lower end of said plunger has a head O', designed to fit between said ribs, and is concaved on its under surface and is adapted to be screwed down for the purpose of holding the ball seated.

In adjusting the parts of my valve mechanism for bottles the ball is first inserted and afterward the plunger screwed into the threaded hole in the lug N and inserted within the neck of the bottle, the cap being pushed down so that the resilient lugs H thereon will engage the annular groove in the outer circumference of the neck. This being done, the cap is securely locked in place, and by turning the cap in one direction the plunger may be screwed down, so that it will hold the ball seated, and by a reverse movement of the cap the plunger may be drawn from the ball-valve, allowing the latter to unseat as the bottle is tilted, thus allowing the liquid to run from the bottle through the channels between the ribs and make exit through the apertures of the cap.

From the foregoing it will be noted that by the provision of a valve apparatus for bottles embodying the features of my invention a simple and efficient means is afforded for allowing the liquid to be dispensed from the bottle when the latter is tilted by first withdrawing the plunger and affording a secure locking means for the valve by screwing the plunger down upon the valve.

What I claim is—

1. A stopper for bottles comprising, in combination with a bottle with a neck, a valve-seat therein, said neck having ribs upon its inner surface terminating adjacent to said valve-seat, with channels intermediate the ribs, a ball-valve, a cap, means for locking the same to the neck, and a plunger carried

by said cap and adapted to hold the valve seated, as set forth.

2. A stopper for bottles comprising, in combination with a bottle with a neck, a valve-seat therein, said neck having ribs upon its inner surface terminating adjacent to said valve-seat, with channels intermediate the ribs, a ball-valve, a cap, means for locking the same to the neck, and a plunger having threaded connection with the cap and adapted to be moved longitudinally as the cap is turned in one direction or the other, as set forth.

3. A stopper for bottles comprising, in combination with a bottle with a neck, a valve-seat therein, said neck having ribs upon its inner surface terminating adjacent to said valve-seat, with channels intermediate the ribs, a ball-valve, a cap, means for locking the same to the neck, an integral lug projecting from the inner surface of the top of the cap and having a threaded outlined hole therein, and a plunger having a threaded end engaging the threads of said lug and its opposite end designed to bear against said valve to hold the same seated, as set forth.

4. A stopper for bottles comprising, in combination with a bottle with a neck, a valve-seat therein, said neck having ribs upon its inner surface terminating adjacent to said

valve-seat, with channels intermediate the ribs, a ball-valve, a cap, means for locking the same to the neck, a lug projecting from the inner surface of the top of the cap and provided with a threaded outlined lug, a plunger having a threaded end engaging the threads of said lug, the other end of said plunger flaring and having a scalloped circumference adapted to receive the ribs on the inner surface of the neck, the lower end of said plunger being concaved and adapted to bear against the ball, as set forth.

5. In combination with the neck of a bottle having longitudinal ribs therein with channels intermediate the same, a valve-seat, a ball-valve mounted within said neck, the circumference of the neck having an annular groove, a cap having apertures in the top, resilient lugs integral with said cap adapted to engage said groove, and a plunger having threaded connection with the cap and adapted to bear against said ball-valve to hold the same seated, as set forth.

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

ROSCOE IRVING MAXWELL.

Witnesses:

GEORGE G. TARBELL,
WILLARD W. BLOOD.