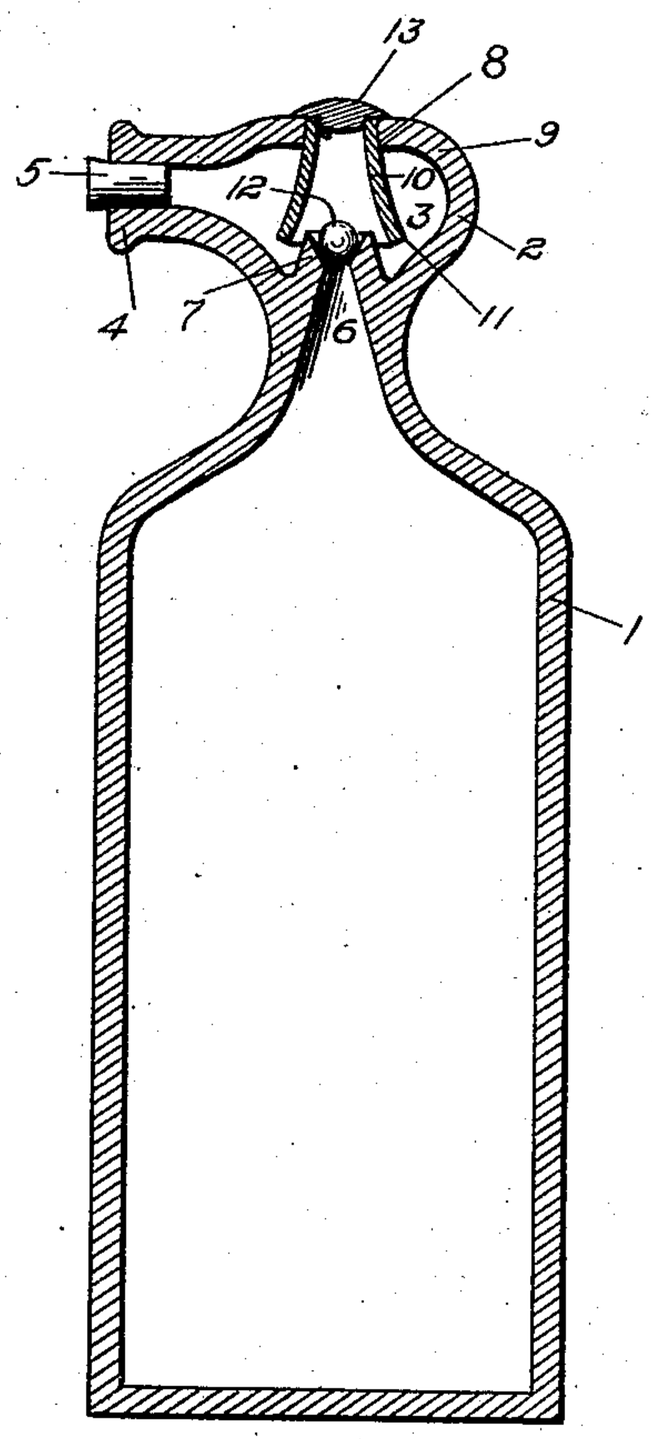
No. 891,491. PATENTED JUNE 23, 1908.

R. A. LITTLE.

NON-REFILLABLE BOTTLE.

APPLICATION FILED MAR. 4, 1908.



WITNESSES:

E. D. Stevens

F. Leyw Waters

INVENTOR

Robert A. Little.

UNITED STATES PATENT OFFICE.

ROBERT A. LITTLE, OF BUFFALO, NEW YORK.

NON-REFILLABLE BOTTLE.

No. 891,491. Specification of Letters Patent. Patented June 23, 1908.

Application filed March 4, 1908. Serial No. 419,079.

To all whom it may concern:

Be it known that I, ROBERT A. LITTLE, citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in 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 letters or figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in non-refillable bottles and involves a novel departure from the various types now known to the state of the art.

One important feature of my invention is to combine with the automatic closing valve, the application of a seal, which is applied to the bottle after such bottle has received its original contents, it then being impossible to refill such bottle without breaking and removing the seal. In addition to this feature my invention embraces other novel elements, all of which will be fully hereinafter described and claimed.

The figure of the drawing is a central vertical section of my improved bottle.

Referring to the drawings, 1 is the body of the bottle, having upon its upper end the anvil-shaped top 2, inclosing the upper chamber 3, having the side opening 4, through which the contents of the bottle are discharged. 5 is the cork or stopple for closing such opening.

6 is the contracted passage extending up from the body of the bottle into the chamber 3. A valve-seat 7 is located in the upper end of the passage 6.

8 is a central opening in the top wall 9 of the upper chamber 3.

10 is a flaring or bell-shaped tube extending downwardly from the opening 8, its lower open end 11, surrounding the valve-seat 7 in the contracted passage 6. A loose floatable ball 12 of any suitable material, whose specific gravity is lighter than the liquid in the bottle, is placed within the bell-shaped tube 10 and is securely locked therein by a seal 13 which closes the opening 8 in the top wall 9 of the chamber 3.

The operation of filling the bottle is as follows: The ball 12 is first removed from the tube 10, through the opening 8. The liquid contents are poured down through the now unobstructed tube 10 into the body of the bottle. The ball 12 is now dropped through opening 8 into the tube 10 and the seal 13 is then applied to the opening 8 to lock the ball within its chamber.

To empty the bottle, the cork 5 is removed and the liquid contents will readily pass out, on tipping the bottle. As long as the seal 13 remains in its locking position, it is an impossibility to refill the bottle, for, if the liquid is poured into the chamber 3, through its side opening 4, the attendant suction in passing down through the valve-seat 7 will cause the ball to seat therein and prevent the liquid from passing into the body of the bottle. This operation applies particularly to the bottle in an upright position. If the bottle is held at any angle between the vertical and horizontal positions, the ball will either roll to its locked position on the valve-seat 7 before the liquid reaches it, or it will be carried by such incoming liquid to its locked position on such valve-seat, thus effectually preventing the introduction of the liquid into the body of the emptied bottle. Any suitable type of seal may be employed.

I claim,

A non-refillable bottle comprising a chamber in its upper portion having a side opening for the discharge of the contents of such bottle, and a contracted passage extending up from the body of the bottle into the chamber, a valve-seat in the upper end of such passage, the top wall of the upper chamber being provided with an opening, a flaring or bell-shaped tube extending downwardly from such opening, its lower open end surrounding the valve-seat in the contracted passage, a loose floatable ball in such bell-shaped tube and a seal for application to the opening in the top wall of the upper chamber for locking the floatable ball within the bell-shaped tube, all combined and operating as and for the purpose stated.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

ROBERT A. LITTLE.

Witnesses:

MAY G. VALENTINE,

ELIZABETH A. BYRNE.