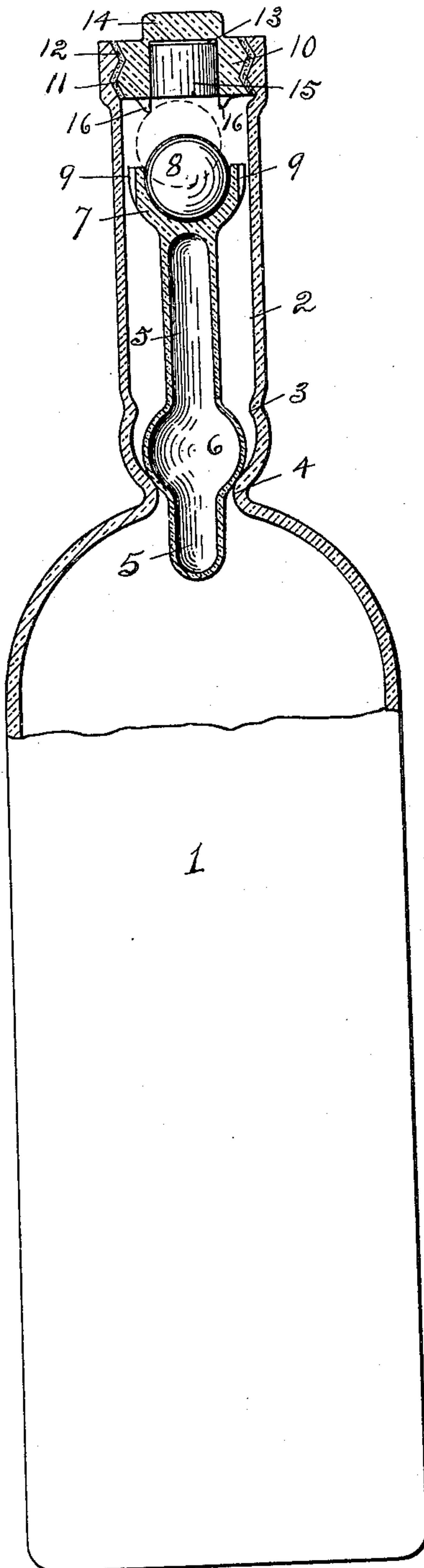


No. 822,542.

PATENTED JUNE 5, 1906.

J. F. MULLARKEY.  
NON-REFILLABLE BOTTLE.  
APPLICATION FILED APR. 17, 1906.



WITNESSES:

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# UNITED STATES PATENT OFFICE

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TO HENRY HERZOG, OF TOLEDO, OHIO.

## NON-REFILLABLE BOTTLE.

No. 822,542.

Specification of Letters Patent.

Patented June 5, 1906.

Application filed April 17, 1905. Serial No. 255,977.

*To all whom it may concern:*

Be it known that I, JOHN F. MULLARKEY, a citizen of the United States, and a resident of West Toledo, in the county of Lucas and State of Ohio, 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 drawing, and to the figures of reference marked thereon, which forms a part of this specification.

My invention relates to non-refillable bottles, and has for its object the provision of simple and efficient means adapted when positioned within the neck of the bottle to permit the pouring of liquid from such bottle, but prevent the refilling thereof.

Objection is frequently raised to the use of non-refillable bottles, due to the fact that the operative parts thereof contain more or less metal in their construction, which metal has an injurious effect upon certain liquids, thus restricting their use to bottles containing liquids that are not so affected.

A very important object of my invention is to overcome this objection by constructing all of the parts of glass.

Further objects will be apparent by reference to the following description and to the accompanying drawing, which shows in elevation a bottle comprising my invention with a portion of said bottle and the operative parts shown in central vertical section.

Referring to the drawing, 1 represents a bottle of any suitable shape or size which has its upper end formed with the usual neck 2. The neck 2 is interiorly formed at its lower end with two annular seats 3 and 4, the upper one of which has its opening of greater diameter than the lower to enable a valve to be passed therethrough and rest upon the lower seat.

The valve of my invention comprises a hollow elongated glass bulb 5, which is provided intermediate of its ends with an enlarged spherical portion 6, forming the valve proper, for resting upon and forming a close joint with the lower valve-seat 4. At the upper end of the stem 5 is formed an enlarged portion 7, which has its upper surface concaved to form a seat for the ball 8, said ball being

preferably made solid and of glass and has for its primary object to weight down and retain the bulb on its seat, as shown, thus tightly closing the valve-opening at the lower end of the neck except when the bottle is turned up.

The diameter of the portion 7 is slightly smaller than that of the interior of the neck 2 to enable said portion to be loosely received therein and is provided around the circumference thereof with a plurality of vertically-disposed grooves 9, which permit of the passage of liquid thereby during the pouring operation.

When a bottle has been filled, the valve member 6 and ball 8 are positioned within the neck 2 and the mouth thereof closed by the plug 10, preferably of glass, which is formed on its periphery with two or more threads 11 for engaging corresponding threads in the neck and is securely fastened against removal by a suitable glass-cement 12, being deposited between the meshing threads of the neck and plug, as shown. Formed centrally in the under side of the plug 10 is a socket 13, which has its upper or inner end terminating at and concentrically with the base of the boss or projection 14, which is formed integral with said plug and intended to be broken off when it is desired to open the bottle in the first instance. This boss acts both as a seal of the manufacturer or bottler and as a gripping-surface by which the plug may be held while being turned or secured within the neck. A cork 15 is inserted within the socket 13 prior to its being secured within the neck 2 and is sealed against removal by the boss 14, which must be broken off before the cork can be withdrawn. Projecting from the lower side of the plug 10 around the rim of the opening 13 are a series of lugs 16, which prevent a close seating of the ball 8 against the edge of said opening when the bottle is turned up and a consequent stoppage of the flow of liquid there-through. The space between the under side of the plug 10 and the top of the portion 7 is less than the diameter of the ball 8, thereby preventing said ball from entirely leaving its seat when the bottle is turned up.

The operation of my invention is as follows: The bottle being filled the valve is placed in position in the neck of the bottle, with the portion of the bulb 5 projecting be-



low the spherical portion 6 extending through and below the valve-seat 4. This extension of the valve is most important to the proper operation thereof, as it is found by experimenting that the omission of said portion 5 impairs the closing of the valve when attempt is made to refill the bottle. After the positioning of the valve the mouth of the neck is closed by a suitable plug or stopper, 10 as above described. To open the bottle, the boss or seal 14 is first broken off and the cork 15 then withdrawn. As the bottle is turned on its side the ball 8 partially rolls from its seat, and the liquid striking the light end of the bulb causes it to float and be raised laterally and rest in the concavity between the two seats 3 and 4, thus opening the passage and permitting the liquid to flow around the valve portion 6, past the portion 7, and out 20 through the opening 13. Should the bottle be submerged in a liquid for the purpose of refilling, the bulb 5 will instantly rise and close the valve, thus preventing the refilling thereof.

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

30 1. A bottle having its neck formed with a valve-seat, a hollow elongated valve member mounted in the neck and having an enlarged bulbous portion for seating on the valve-seat formed intermediate of its ends whereby to permit the lower portion of the valve mem-

ber to extend through the valve-seat, and means in the neck for limiting the movement 35 of the valve member.

2. A bottle having a portion of its neck contracted to form a valve-seat, a hollow elongated valve member mounted in the neck and having a bulbous portion for nor- 40 mally seating on the contracted portion of the neck formed intermediate of its ends whereby to permit the lower portion of the valve member to extend through the valve-seat, means for normally retaining the valve 45 member, on its seat, and means comprising an apertured plug for limiting the movement of the valve member.

3. A bottle having its neck formed with a valve-seat, a hollow elongated air-tight valve 50 member of glass having a bulbous portion formed intermediate of its ends for seating on the valve-seat whereby the lower portion of said member projects through the valve-seat and having a seat formed at its upper end, a 55 movable weight member mounted in said seat, and means for limiting the movement of the valve and weight members.

In witness whereof I have hereunto signed my name to this specification in the presence 60 of two subscribing witnesses.

JOHN F. MULLARKEY.

Witnesses:

C. W. OWEN,  
MARY I. SHAY.