H. E. WALKER.

NON-REFILLABLE BOTTLE.

APPLICATION FILED JUNE 25, 1908.

948,536.

Patented Feb. 8, 1910.

Fig. 1.

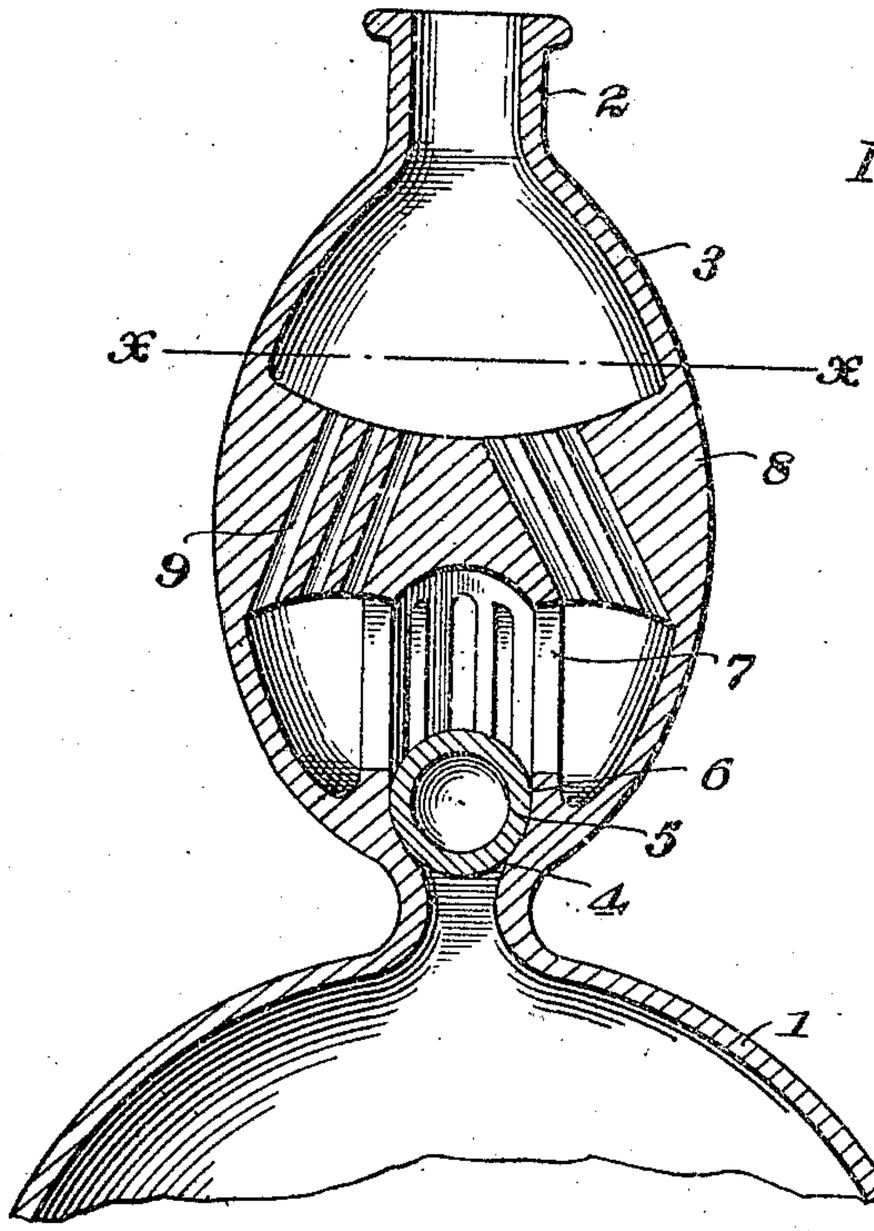
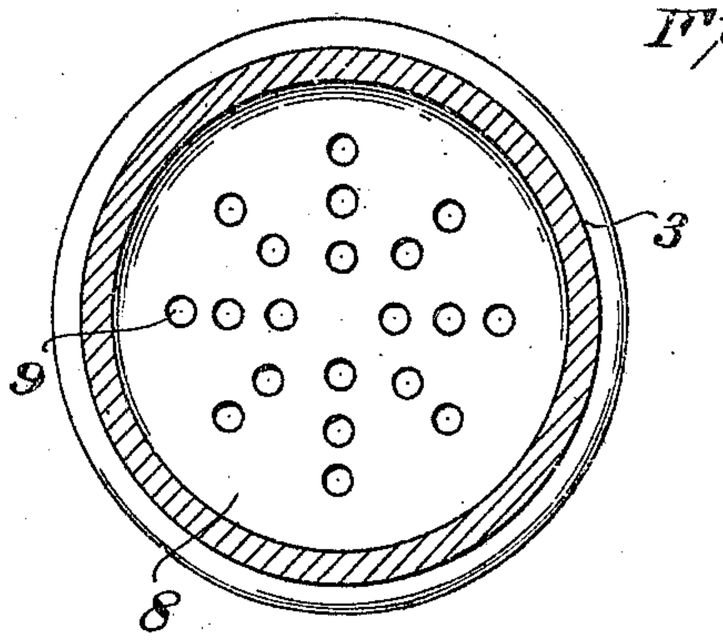


Fig. 2.



Witnesses

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NON-REFILLABLE BOTTLE.

948,536. Specification of Letters Patent. Patented Feb. 8, 1910.

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To all whom it may concern:

Be it known that I, HORACE E. WALKER, citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Non-Refillable Bottles, of which the following is a specification.

This invention contemplates certain new and useful improvements in non-refillable bottles, and the object of the invention is an improved vessel of this character that embodies a peculiar valve mechanism which in nowise interferes with the ready egress of the liquid from the bottle, but which effectually prevents refilling of the bottle after it has become emptied or partially emptied, thereby protecting the manufacturers of certain liquids, since it eliminates the fraudulent practice of refilling the bottle with a cheaper grade of liquid and placing it upon the market as an original package under the name or distinctive mark of the former manufacturer.

With this and other objects in view that will more fully appear as the description proceeds, the invention consists in certain constructions and arrangements of the parts that I shall hereinafter fully describe, and then point out the novel features thereof in the appended claim.

For a full understanding of the invention and the merits thereof, and to acquire a knowledge of the details of construction, reference is to be had to the following description and accompanying drawing, in which:

Figure 1 is a vertical section of a non-refillable bottle constructed in accordance with my invention; Fig. 2 is a horizontal section on the line *x*—*x* of Fig. 1.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawing by the same reference characters.

My improved non-refillable bottle embodies a body portion 1 which may be of any desired construction or design, and a neck 2 that communicates with the body portion and that is formed intermediate of its ends with an enlarged or distended portion 3 provided at its lower end with a valve seat 4. This valve seat is designed to be controlled by a ball valve 5 which may be of any desired material, of less specific gravity than the liquid filling the bottle. This ball valve is mounted within a cylindrical valve chamber or cage 6 that, in the present instance, is formed of glass and that extends vertically upwardly from the valve seat 4 in spaced relation to the neck, as shown, the internal diameter of this valve chamber being substantially equal to the diameter of the ball valve, so as to permit the vertical movement of the latter, but prevent any rolling thereof from side to side. The lower portion of the wall of the valve chamber is solid, while the upper portion is longitudinally slitted, as indicated at 7, so as to establish communication between the valve chamber and the interior of the neck. The neck 2 is provided, contiguous to the upper end of the valve chamber, with a transverse partition or baffle plate 8 having upper and lower concaved faces, communication being established between the portions of the neck on opposite sides of the baffle plate by means of a series of downwardly diverging openings 9 leading from the space between the cage and the enlarged portion 3, as shown.

The arrangement of the openings 9 effectually prevents the successful introduction of a wire or similar tool into the neck to tamper with the valve element and hold the ball valve from its seat. By having the lower portion of the wall of the valve chamber solid, as previously described, a wire or the like inserted through one of the openings 9 and following the line of the neck of the bottle, is prevented from reaching the ball valve to fraudulently manipulate the latter.

In the practical use of my improved non-refillable bottle, the ball valve normally rests upon the valve seat 4 to close the same when the bottle is in an upright position, and in order to obtain the contents of the bottle, it is necessary to completely invert the latter so that the ball valve will fall from its seat and permit the liquid to pass therethrough into the valve chamber, through the slits 7 in the latter, and then through the openings 9 into the mouth of the bottle from which it is discharged into the desired vessel.

As the ball valve normally rests upon its seat when the bottle is in an upright position, any attempt to refill the bottle will obviously be unsuccessful, since the weight of the liquid introduced into the neck 2 will only serve to further hold the ball valve in an operative position. Any attempt to refill the bottle when the latter is upon its side or inverted or in any intermediate position, will be frustrated, since as the valve is of

less specific gravity than the liquid which the bottle is used to package, it will be carried against its valve seat by the incoming liquid, and siphoning or pressure will only serve to more forcibly maintain it in position.

From the above description, in connection with the accompanying drawing, it will be apparent that I have provided a simple, durable and efficient construction of non-refillable bottle that is controlled by an improved valve mechanism, the parts of which may be all formed of glass and blown integral with the neck of the bottle, or otherwise suitably secured therein, and that is positive in action so as to effectually prevent the introduction of any liquid into the bottle, after the same has been emptied.

Having thus described the invention, what I claim is:

A bottle having a bulbous neck, the side walls of which are contracted at their juncture with the body of the neck to form a valve seat, a ball valve engaging said seat, an integral partition extending across the center of the neck of the bottle and defining superposed compartments, one of which is unobstructed and provided with inclined interior walls converging in the direction of the mouth of the neck, and the other compartment having its interior walls converging in the direction of the valve seat and provided with an integral tubular member extending vertically from the valve seat to the lower face of the partition and forming a continuation of the side walls of said valve seat, said tubular member being imperforate at the valve seat and provided above said valve seat with spaced vertical slots communicating with the lower compartment, there being a depression formed in the lower face of the partition at said tubular member for the reception of the valve when the bottle is inverted, the upper and lower faces of the partition being concave and imperforate at the center thereof and provided with a plurality of inclined discharge passages on each side of the imperforate portion, said passages forming a source of communication between the upper and lower compartments and converging in the direction of the mouth of the neck.

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

HORACE E. WALKER. [L. S.]

Witnesses:

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JOSEPHINE WALKER.