

W. H. EASTLACK.
NON-REFILLABLE BOTTLE.
APPLICATION FILED MAY 31, 1911.

1,016,679.

Patented Feb. 6, 1912.

Fig. 1.

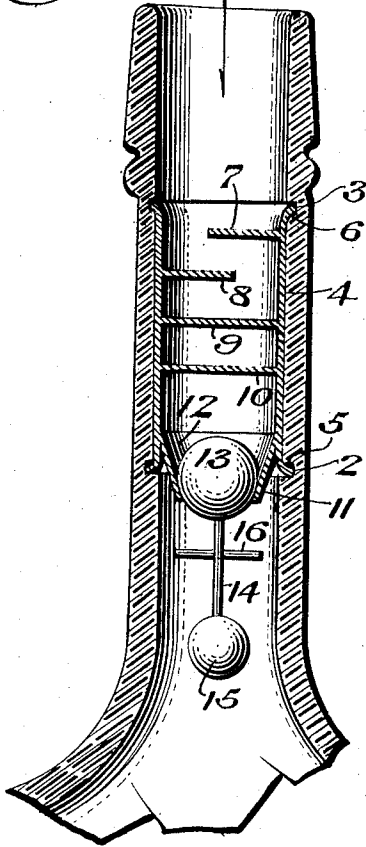


Fig. 2.

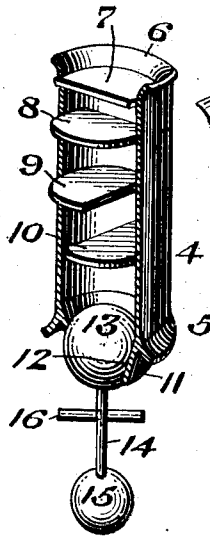
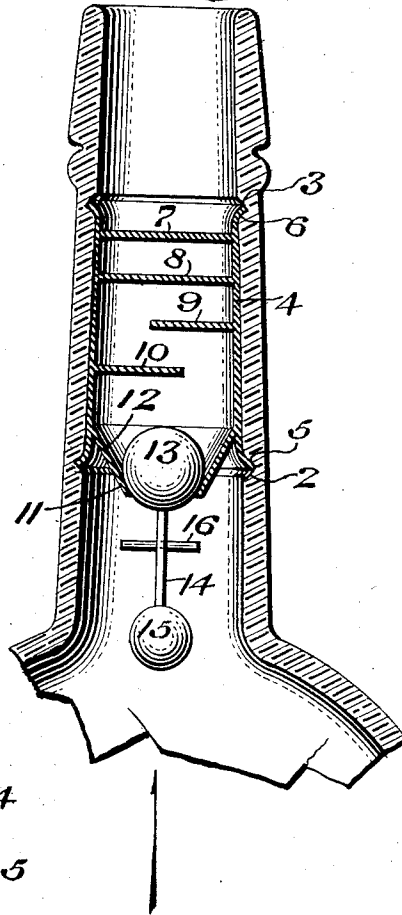


Fig. 3.

WITNESSES

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WALTER H. EASTLACK, OF MERCHANTVILLE, NEW JERSEY.

NON-REFILLABLE BOTTLE.

1,016,679.

Specification of Letters Patent.

Patented Feb. 6, 1912.

Application filed May 31, 1911. Serial No. 630,461.

To all whom it may concern:

Be it known that I, WALTER H. EASTLACK, a citizen of the United States, residing at Merchantville, county of Camden, State of New Jersey, have invented a new and useful Non-Refillable Bottle, of which the following is a specification.

My present invention consists of a novel construction of a bottle which may be economically manufactured and which is constructed in such a manner that the same is practically incapable of being refilled or tampered with.

It further consists of a novel construction of a valve mechanism which is adapted to be inserted in the neck of the bottle and which when inserted in position cannot be removed.

It further consists of a novel construction of a non-refillable bottle wherein the bottle neck is provided with a plurality of grooves with which are adapted to co-act resilient extensions of a shell, which latter is provided with a valve seat and a plurality of baffle plates, there being also provided a novel construction of a valve member adapted to co-act with said seat.

It further consists of other novel features of construction, all as will be hereinafter fully set forth.

For the purpose of illustrating my invention, I have shown in the accompanying drawings one form thereof which is at present preferred by me, since the same has been found in practice to give satisfactory and reliable results, although it is to be understood that the various instrumentalities of which my invention consists can be variously arranged and organized and that my invention is not limited to the precise arrangement and organization of these instrumentalities as herein shown and described.

Figure 1 represents a sectional elevation of a non-refillable bottle embodying my invention. Fig. 2 represents a sectional elevation of my device wherein the valve mechanism is adapted to be inserted during the process of making the bottle. Fig. 3 represents a sectional elevation of my novel device the same being shown in detached position.

Similar numerals of reference indicate corresponding parts in the figures.

Referring to the drawings:—1 designates the neck of a bottle having a plurality of

internal grooves therein and in the present instance I have shown two of such grooves as indicated at 2 and 3.

4 designates a casing or shell provided with outwardly extending resilient flanges 5 and 6 which are adapted to interlock with the grooves 2 and 3 respectively.

7, 8, 9 and 10 designate baffle members, each of which preferably consists of a disk having a portion removed so that a little more than half of the disk is left, it being understood that any desired number of such disks may be employed and that they are arranged in staggered order and in different horizontal plane so as to prevent tampering with the valve mechanism.

11 designates an extension having a conical seat 12 with which co-acts a ball valve 13 to which is secured a rod 14 which latter is also secured to a ball or weight 15 which if desired may be of a different weight or size than the valve 13. The lower end of the shell is bifurcated or divided upwardly from below, one section bent outwardly, forming the bottom resilient flange 5, and the other section being bent inwardly forming the conical valve seat 11.

16 designates a cross rod secured to the rod 14 which limits the movement of the valve 13 toward the mouth of the bottle and prevents such valve from engaging with the lower baffle 10 and furthermore preventing the weight 15 from closing the valve seat from below. The members 7, 8, 9 and 10 may be constructed integral with the shell 4 or secured thereto in any desired manner, but the shell with its baffle plates and valve seat are practically integral as such and they form as it were a single member which may be forced into the neck of the bottle, when as stated, the resilient flanges being outturned or salient spring into the grooves 2, 3, respectively and so the device in its entirety is seated immovably in position, the shell and its flanges fitting tightly against the contiguous portions of the neck of the bottle and the grooves, 2, 3, therein, thus preventing the passage of an implement to the valve 13 to raise the same, it being noticed that the valve seat 12 extends below the lower flange 5 of the shell and serves to deflect such implement should the latter possibly be pushed under said flange, and thus the exterior of the valve seat acts as a guard against the upward opening of said valve.

In Fig. 1, my novel device is shown as

being placed in position with respect to a cold and finished bottle, in which case the shell 4, having the baffle plates, valve and its adjuncts in assembled position, is pushed into the bottle from the mouth in the direction of the arrow until the resilient members 5 and 6 interlock with the grooves 2 and 3 respectively, after which it is impossible to remove the shell 4 and its adjuncts without breaking the neck of the bottle.

In Fig. 2 I have illustrated one manner in which the shell 4 and its adjuncts are placed in position while the bottle is hot and during its process of manufacture and before the bottom is closed. In this case the shell 4 is drawn toward the mouth of the bottle after the bottle is filled, until the flexible portions 5 and 6 interlock with the grooves 2 and 3 respectively. Owing to the manner in which the baffle plates or disk are arranged, it is impossible for one to hold the valve in open position by the insertion of a wire or other implement. When the bottle is inclined or tilted the valve 13 will move from its seat 12 and permit the fluid within the bottle to pass therefrom, and owing to the provision of the ball or weight 15, the valve 12 will positively return to its closed position when the bottle is brought to a vertical position.

Special attention is directed to the fact that in my present device the baffle plates serve a double function, inasmuch as they not only prevent any tampering with the valve mechanism but they also prevent the air from escaping from the bottle when any one attempts to refill the bottle. It will also be apparent that owing to the provision of the weight 15, the valve 13 will close in time to prevent air escaping or flowing thereinto, such as is the case in prior devices of this character with which I am familiar. The baffle plates also serve to regulate the flow of the liquid and cause a more uniform flow.

In the embodiment seen in Fig. 2, the shell 4 and its adjuncts are placed in the bottle in the process of manufacture, but the shell 4 is not drawn into this position seen in Fig. 2 until the bottle is filled, after which, by means of any suitable implement engaging one of the baffles, such as for example the baffle 7, the shell 4 is drawn outwardly to-

ward the mouth of the bottle until the resilient flanges 5 and 6 interlock with the grooves 2 and 3, respectively, it being of course understood that any suitable packing material may be employed in conjunction with the shell 4, if desired.

When my novel device is employed it is unnecessary to employ an independent stopper, although the same may be used, if desired. The shell 4 may be made of any desired material and is preferably constructed of material which will closely engage the wall of the bottle neck in order to form an air tight engagement therewith. My novel construction of the valve seals the opening in such a manner that no air can enter into or escape from the bottle.

It will now be apparent that I have devised a novel and useful construction of a non-refillable bottle, which embodies the features of advantage enumerated as desirable in the statement of the invention and the above description, and while I have, in the present instance, shown and described a preferred embodiment thereof which has been found in practice to give satisfactory and reliable results, it is to be understood that the same is susceptible of modification in various particulars without departing from the spirit or scope of the invention or sacrificing any of its advantages.

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

In a non-refillable bottle, a bottle, a baffle-carrying shell fitting tightly the interior wall of the neck thereof, an outturned resilient flange on the upper part of said shell adapted to interlock with said wall, and a bifurcation on the lower end of said shell, one section of said bifurcation extending outwardly comprising a resilient flange which is adapted to interlock with said wall, and the other section thereof extending inwardly comprising a conical valve seat, and a gravitating valve on said seat.

WALTER H. EASTLACK.

Witnesses:

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