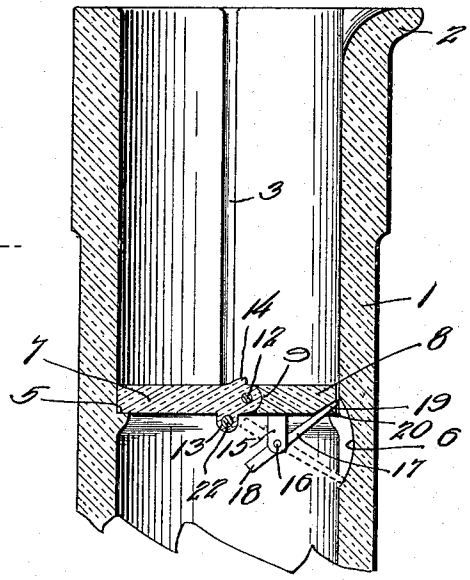
A. C. SMITH.

NON-REFILLABLE BOTTLE.

APPLICATION FILED SEPT. 6, 1916.

1,226,822. Patented May 22, 1917.

Fig. 1.



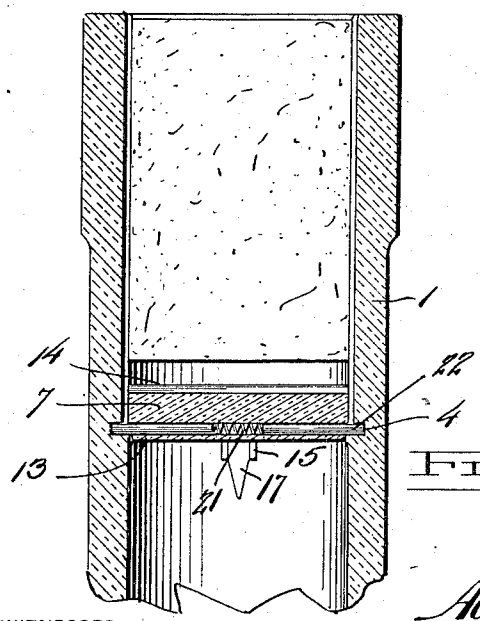
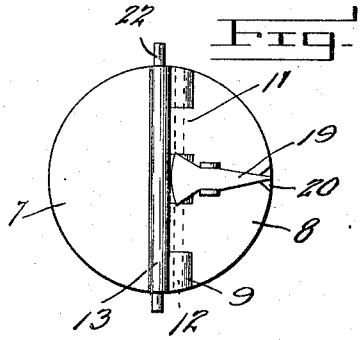


Fig. 2.

Fig. 3.



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NON-REFILLABLE BOTTLE.

1,226,822. Specification of Letters Patent. Patented May 22, 1917.

Application filed September 6, 1916. Serial No. 118,775.

To all whom it may concern:

Be it known that I, ADELAIDE C. SMITH, a subject of the King of Great Britain, residing at St. Mary's, in the Province of Ontario and Dominion of Canada, have invented certain new and useful Improvements in Non-Refillable Bottles, of which the following is a specification.

This invention relates to non-refillable bottles, and has for its primary object the provision of improved valve means mounted within the neck of the bottle to reduce the possibility of refilling of a bottle to a minimum after the original contents of the bottle have been dispensed.

It is an equally important object of this invention to provide a sectional valve one section of which is rigid with respect to the bottle neck while the other section is movable, improved weight means being connected to the movable section for returning it to a closed position when the bottle has been arranged in a vertical position.

It is a more specific object of this invention to provide improved spring pressed means for anchoring the valve in the bottle neck, and to provide means for limiting the outward movement of the movable section.

A still further object of my invention resides in the provision of a device of the character described that is simple in construction, efficient in operation and one that can be manufactured and placed on the market at a minimum cost.

Other objects as well as the nature, characteristic features and scope of my invention will be more readily understood from the following description taken in connection with the accompanying drawings and pointed out in the claims forming a part of this specification.

In the drawings:—

Figure 1 is a vertical section of my invention taken through both sections of the valve the latter being shown in closed position.

Fig. 2 is a vertical section taken through the stationary section of the valve illustrating the means for anchoring the valve into the bottle neck.

Fig. 3 is a bottom plan view.

Referring more particularly to the drawings in which similar reference numerals designate like and corresponding parts throughout the several views, I provide an elongated bottle neck 1 the mouth of which has a lip 2 projecting therethrough for facilitating the dispensing of the contents of the bottle (not shown) from which the neck extends. The neck is provided on its inner periphery from the mouth with longitudinally extending oppositely arranged grooves 3 which terminate at the inner ends in oppositely disposed sockets 4 for a purpose to be hereinafter described. An inwardly extending annular shoulder 5 is integral with the inner periphery of the neck at a point slightly above the sockets 4 for a purpose to be hereinafter described while the neck is also provided at a point beneath the lip 2, with a longitudinally curved bottomed recess 6 said recess extending from a point slightly above the shoulder to a point beneath the shoulder.

In order to reduce the possibility of an unauthorized person refilling the bottle, I have provided my improved valve means which in the present instance is in the form of a disk and comprises sections 7 and 8. The section 7 has an area slightly greater than a semi-circle, the straight edge thereof terminating in a plurality of annular spaced ears 9 which are arranged alternately with similarly constructed ears 11 on the smaller section 8. A pin 12 serves to pivotally connect the two sections. A sleeve 13 is formed integral with the large section adjacent the ears 9 and on the under surface thereof while the upper surface of this section is provided with a transversely extending shoulder 14 adjacent the ears and which serves to limit the outward swinging movement of the movable section in a manner that will hereinafter become apparent. A pair of ears 15 depend in spaced parallel relation with each other from the undersurface of the movable section 8 and have preferably mounted therebetween through the medium of a suitable fastening device 16 a balance pin 17 one end of which is heavier than the opposite pointed end 19, the latter being receivable at times in a notch 20 in the under edge of the movable section 8 so as to permit insertion of the valve to the bottle neck.

Now in order to lock this valve in position I have arranged a helical spring in the sleeve 13 and have slidably arranged anchoring pins 22 in the opposite ends of this sleeve so that the inner ends of the pins will bear against the spring 21 as is apparent upon reference to Fig. 2 of the drawings. In applying the valve the pins

22 are pressed toward each other and arranged within the grooves 3, the valve being pressed downwardly until the valve strikes the shoulder 5 and simultaneously with this the pins will spring apart and become anchored in the sockets 4. During this downward movement the pins 17 will lie within the recess 20 and finally be arranged in alinement with the recess 6.

The operation of my invention is as follows:

Assuming that it is desired to dispense the contents of the bottle (not shown) the neck is grasped and tilted the out flowing liquid passing beneath the movable section. The outward movement of this section is limited by the shoulder 14 which holds it off center so that when a sufficient quantity of liquid has been dispensed and the bottle is again raised in a vertical position the lower end of the pin 18 serving as a weight to return the movable section 8 to a closed position. In some instances when the neck is inverted the weight 18 will strike the undersurface of the section 8 the pointed end of the pin being arranged in the groove 6 serving to prevent any strain being imparted to the pivoted pin 12.

Although I have shown and described the preferred embodiment of my invention I desire it to be understood that I am not to be limited to the exact detail shown, however, I desire that great stress be laid upon the arrangement of the valve composed of two sections one of which is removable with respect to the other as well as the means for anchoring one of the sections in a rigid position with respect to the bottle neck. Attention is also directed to the balance weight for returning the movable section to a closed position.

From the above description taken in connection with the accompanying drawing, it can easily be seen that I have provided a device that is simple in construction, containing but a few simple parts that can be cheaply manufactured and assembled and when assembled can be placed upon the market and sold at a minimum cost.

It will be understood that the above description and accompanying drawings comprehend only the general embodiment of my invention and that various minor changes in detail of construction, proportion and arrangement of the parts may be made within the scope of the appended claims and without sacrificing any of the advantages of my invention.

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

1. A valve to be inserted in the neck of a bottle comprising, a substantially flat disk member consisting of two complemental sections hingedly connected together, means carried by one of the sections to lock the same in the neck of a bottle and to constantly hold it in a substantially transverse position relative to the passage in the bottle neck, the other section being free to move and to open when the bottle is tilted.

2. A device of the character described including in combination with a bottle neck, a sectional disk-valve to close the passage in the neck, means for anchoring one section stationarily in the neck, the other section being movable to permit of liquid passing thereby when the neck is tilted, and a weight pivoted to the movable section for returning the movable section to a closed position when the neck is placed in a normal position.

3. A device of the character described including in combination with a bottle neck having oppositely arranged grooves therein, and further provided with sockets at the terminals of the grooves, an annular shoulder integral with the neck and arranged slightly above the sockets, of a sectional disk valve, means for anchoring one section of the valve in the neck and on the shoulder, a straight shoulder integral with the upper surface of the stationary section of the valve, the other section being pivoted to the stationary section and movable to engage the shoulder when liquid passes through the neck, and a weight pivoted to the undersurface of the movable section and operable in the recess in the neck for returning the movable section to a closed position when the neck is arranged in a normal position.

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

ADELAIDE C. SMITH.

Witnesses:

EUNICE CLENCH,

L. HARSTONE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."