

C. HECKER.
NON-REFILLABLE BOTTLE.
APPLICATION FILED MAY 2, 1910.

987,298.

Patented Mar. 21, 1911.

Fig. 1.

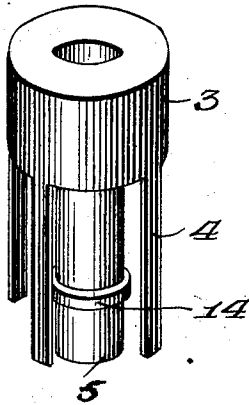


Fig. 2.

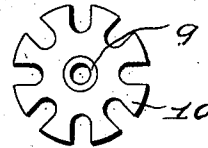


Fig. 3.

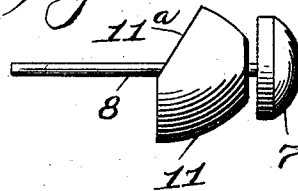
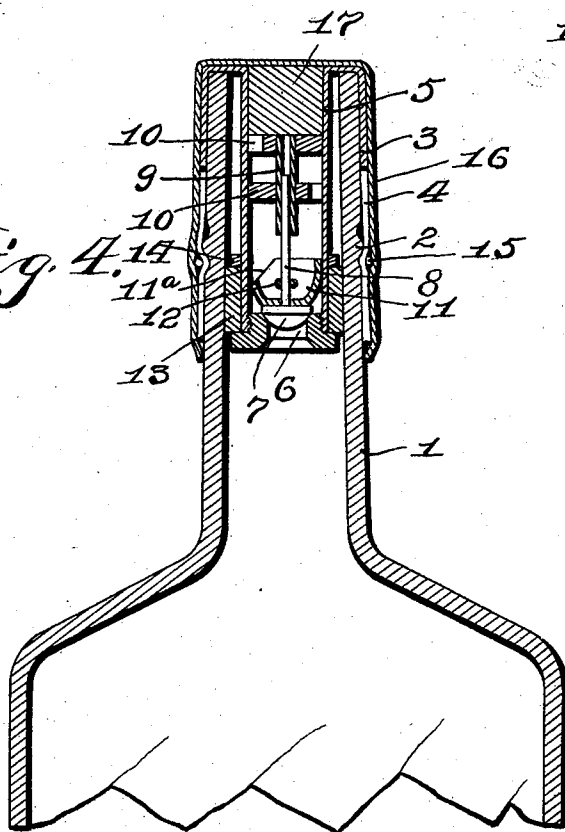


Fig. 4.



Attest:
N. G. Butler
E. L. Wallace

Inventor
Christian Hecker
By Higdon Fungam Attys.

UNITED STATES PATENT OFFICE

CHRISTIAN HECKER, OF ST. LOUIS, MISSOURI.

NON-REFILLABLE BOTTLE.

987,298.

Specification of Letters Patent.

Patented Mar. 21, 1911.

Application filed May 2, 1910. Serial No. 558,859.

To all whom it may concern:

Be it known that I, CHRISTIAN HECKER, a resident of St. Louis, Missouri, have invented certain new and useful Improvements in Non-Refillable Bottles, of which the following is a specification containing a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to improvements in non-refillable bottles, the primary object of my invention being to construct a simple means for prevention of the unlawful refilling of bottles with liquids without detection.

For the above purpose my invention consists in certain novel features of construction and arrangement of parts as will be hereinafter more fully described, pointed out in the claims and illustrated by the accompanying drawing, in which:

Figure 1 is a perspective of the cap proper with its integral straps and the tube carried by the cap; Fig. 2 is an enlarged plan of one of the members for holding the valve stem guide; Fig. 3 is an enlarged elevation of the valve and stem and the cup-shaped member carried by the stem; and Fig. 4 is a vertical, sectional elevation of a portion of a bottle with my invention applied thereto.

Referring by numerals to the accompanying drawing: 1 designates the neck of an ordinary bottle provided with the usual bead 2.

3 designates the cap which fits over the mouth and down the sides a short distance of the bottle neck.

4 designates integral straps extending downwardly over the sides of the neck of the bottle to a point below the bead 2.

5 designates a tube carried by the cap and preferably formed integral therewith, which is inserted in the neck of the bottle. The lower end of the tube 5 is internally threaded to receive and hold the valve seat 6.

7 designates the valve proper and 8 the stem thereof.

9 designates a tubular valve stem guide which is held in place by disks 10, each of which is provided with notches in its periphery. The disks 10 embrace the tubular guide 9 and are spaced some slight distance apart and when fixed in position the notches are arranged so that they will not register or be in vertical alinement relative to each

other, thus serving to prevent the insertion of a probe or the like for purposes of tampering with the valve.

11 designates a cup-shaped member having a cut away portion 11^a, which member embraces the stem 8 and is of less size diametrically than the internal diameter of the tube 5 so that liquids may freely pass through the tube around it.

12 designates a boss arranged on the stem 8 to limit the movement of the cup.

As shown in Fig. 4, the parts when all assembled are placed over and in the neck of the bottle, leakage between the tube and the neck of the bottle being prevented by a gasket 13 which is prevented against movement lengthwise of the tube by the ring 14 and valve seat 6. For securing the cap and tube in place upon the bottle a bond wire 15 is employed, the bond wire being wrapped about each of the straps and drawn up until the straps are crimped to conform with the bead 2, thus it is obvious that the device can not be removed from the bottle without loosening or taking off the bond wire.

All of the parts of the device outside of the neck of the bottle including the bond wire are covered by an ordinary capsule such as 16, which must be broken or deteriorated to expose the bond wire if it be desired to remove the device from the bottle. If the bottle contains a liquid which is "bottled in bond" the bonding stamp (not shown) may also be wrapped about the capsule over the bonding wire or the revenue stamp may be placed about the capsule over the bonding wire, thereby making it necessary to destroy the stamp as well as the whole capsule in order to remove the bonding wire previous to the withdrawal of the device from the bottle.

The disks 10 occupy a position somewhat removed from the mouth of the tube 5 thereby leaving a space for the reception of a cork 17, the cork 17 and gasket 13 completely sealing the contents of the bottle.

By the provision of the weighted valve it is obvious that when the bottle is tilted for pouring the contents of the bottle, the valve falls by gravity away from the seat thereby permitting the contents to flow readily through the bottle. It is further obvious that when the bottle is in a normal or vertical position that the valve will seat itself to close the bottle.

By the provision of the cup-shaped mem-

ber it is obvious that when an attempt is made to force liquids into the bottle the liquids will first come in contact with the cup which will be moved by the action of the liquids to close and hold closed the valve. For the reason that the cup is heavier on one side and is free to move about the stem, it is obvious that the heavier side of the cup will always be at the bottom, hence if an attempt is made to fill the bottle with liquid not under pressure and in a quantity not sufficient to wholly fill the tube the cup will always be in a position to be acted upon by the liquid being introduced to the bottle.

I claim:

1. In combination with a bottle, an open topped tube inserted in the neck of the bottle, means for holding the tube within the neck of the bottle, a valve seat carried by said tube, a valve coacting with said seat, gravity held in a closed position, a stem on said valve, a cup-shaped member embracing the stem and operating within the tube for seating the valve by the action of a liquid

introduced into the tube and means to prevent the insertion of a probe within the tube.

2. In a non-refillable bottle, the combination with a bottle of an open topped tube inserted in the neck of said bottle, means for retaining the tube within the neck, a valve seat carried by the tube, a gravity actuated valve coacting with said valve seat, a stem on said valve, a cup-shaped member embracing said stem, the cup-shaped member being heavier on one side in order to be acted upon by a liquid introduced in the top of the tube in quantities of less size than the tube, a guide for the valve stem, and notched disks for supporting said guide, the notches of which are arranged to permit the flow of a liquid and prevent insertion of a probe.

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

CHRISTIAN HECKER.

Witnesses:

E. L. WALLACE,
N. G. BUTLER.

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