

F. P. MITCHELL.
NON-REFILLABLE BOTTLE.
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1,034,484.

Patented Aug. 6, 1912.

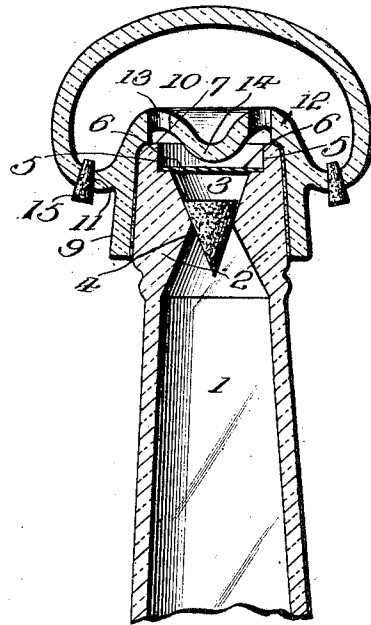


Fig. 1.

Fig. 2.

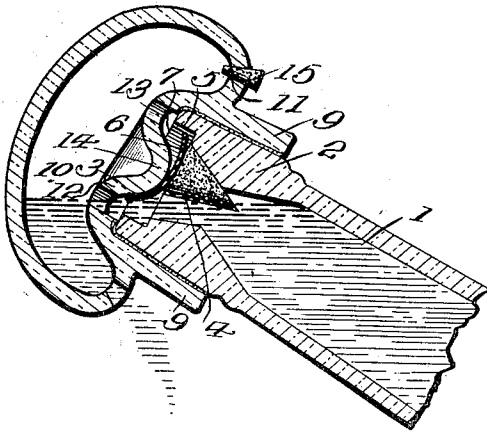
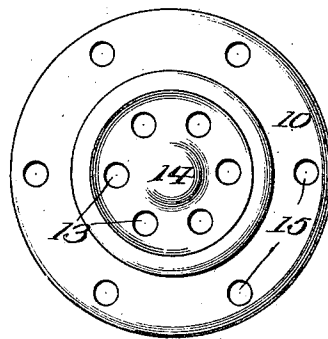


Fig. 3.



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NON-REFILLABLE BOTTLE

1,034,484.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, FREDERIC P. MITCHELL, a citizen of the United States, residing at New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Non-Refillable Bottles, of which the following is a specification, reference being had therein to the accompanying drawing.

10 My invention relates to improvements in non-refillable bottles.

The object of my invention is to provide a bottle of this character in which the ordinary bottle can be used with slight changes, in combination with a valve and a specifically constructed cap, which when in place on the bottle forms an improved non-refillable bottle which cannot be filled from the outside without removing the cap and destroying the bottle.

Another object of my invention is to provide a more simple, cheap and effective bottle of this character having certain details of structure, hereinafter more fully described.

In the accompanying drawings: Figure 1 is a vertical sectional view of the upper end of the bottle showing my invention. Fig. 2 is a vertical sectional view similar to Fig. 1, showing the bottle tilted and the valves unseated to allow the liquid to readily flow therefrom, and Fig. 3 is a bottom plan view of the improved cap removed from the bottle.

35 Referring now to the drawings, 1 represents a bottle which may be of any desired form having at its upper end an inwardly enlarged portion 2, forming a cone-shaped valve-seat 3. Within said cone-shaped valve-seat is a cone-shaped valve 4, which is normally held in a downward position shown in Fig. 1, by gravity and preventing any liquid from passing into the bottle. This valve can be made of any desired material, but it must be of such a material that is heavier than water, so that it will normally be seated. The upper end of the enlarged portion 2 of the neck of the bottle is cut away, as indicated at 5, forming an annular valve-seat upon which the valve 6 snugly fits. The valve 6, as shown in Fig. 2 of the drawings, is made of a disk-shape and of a flexible material, preferably rubber. The valve-seat 5, as shown, is a considerable distance below the upper end 7, of the mouth of the bottle, so that the valve

may not have a limited movement without passing from the mouth of the bottle.

Fitting over the upper end of the neck of the bottle is a cap 8, having a downwardly extending flange 9, adapted to surround the neck of the bottle and be rigidly cemented thereto. This cap is preferably of an oval form having the chamber 10 in its upper end and having a series of openings 11 in its lower face communicating with said chamber. Said receptacle above the flange 9 is provided with an annular raised portion 12, having the opening 13 therein, which communicates with the mouth of the bottle, as is clearly shown in Fig. 1 of the drawings. This annular raised portion is provided with the downwardly extending cone-shaped portion 14, which extends within the mouth of the bottle close to the flexible rubber disk or valve 6; and whereby the upward movement of the valve is limited, but owing to the flexibility of the valve, the edges thereof are allowed to be forced from the valve-seat 5 to allow the liquid to pass from the bottle.

As shown in Fig. 2 of the drawing, when the bottle is inverted or tilted, the liquid unseats the valve 4 and engages also the valve 6, forcing the edges thereof outwardly and passing through the openings 13, into the chamber 10, and from said chamber 10 the liquid passes downwardly through the openings 11. By the zigzag passage of the liquid it will be seen that after the cap has been sealed on the bottle, it will be impossible to insert an instrument into the mouth of the bottle to unseat the valves 6 and 4. The openings 11 communicating with the receptacle 10, are corked or sealed in any desired manner for shipment, and when it is desired to use the bottle, these seals or corks have to be removed. The cement used in securing the cap upon the bottle is preferably that not affected by heat or water, so that it will not be practical for anybody to remove the cap to refill the bottle.

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

1. A non-refillable bottle, the combination with a bottle having a gravity seated valve arranged in the neck thereof, a hollow cap having a tubular portion extending around the neck of the bottle and one wall of said cap depressed downwardly within the neck

of the bottle, said cap having openings above the mouth of the bottle communicating with the hollow cap and also openings in the lower face to allow the liquid to pass from
5 the cap:

2. A non-refillable bottle comprising a bottle having a valve seat formed within the neck of the bottle, a gravity seated valve on said seat, the neck of the bottle above
10 the gravity seated valve having an annular valve seat, a disk-shaped valve formed of thin elastic material resting upon said valve, a hollow glass cap having a cylindrical-shaped portion surrounding the neck of
15 the bottle, the lower wall of said cap having a cone-shaped projection extending in-

wardly within the neck of the bottle and adapted to limit the outward movement of the disk-shaped valve, the lower wall of the cap surrounding the cone-shaped projec- 20
tion having a series of openings communicating with the neck of the bottle and the lower wall of the cap having a series of openings on the outside of the neck to allow the liquid to pass from the cap. 25

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

FREDERIC PECK MITCHELL.

Witnesses:

SAMUEL J. WEIL,
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