

E. J. BLACKBURNE.
NON-REFILLABLE BOTTLE.
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1,050,515.

Patented Jan. 14, 1913.

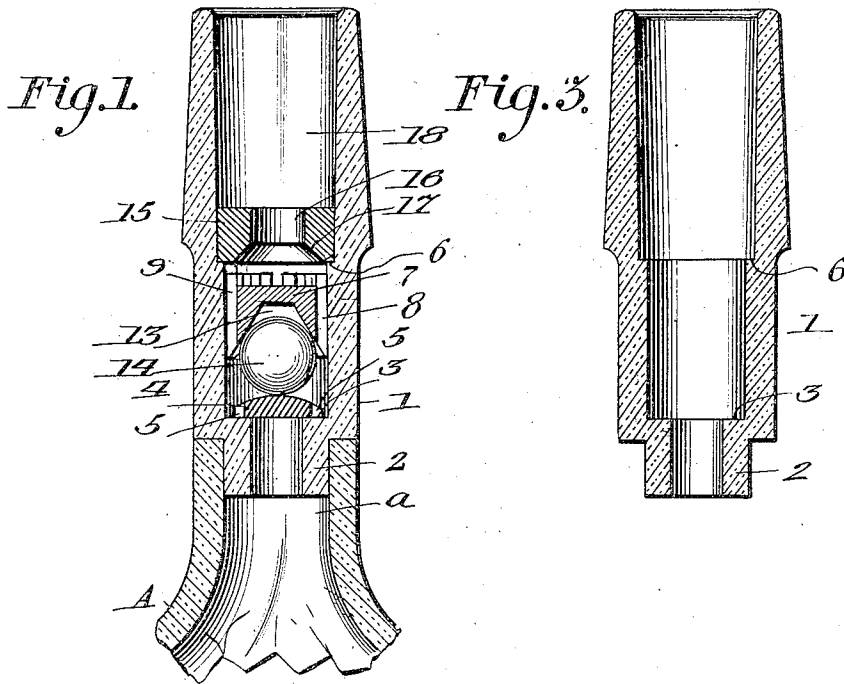
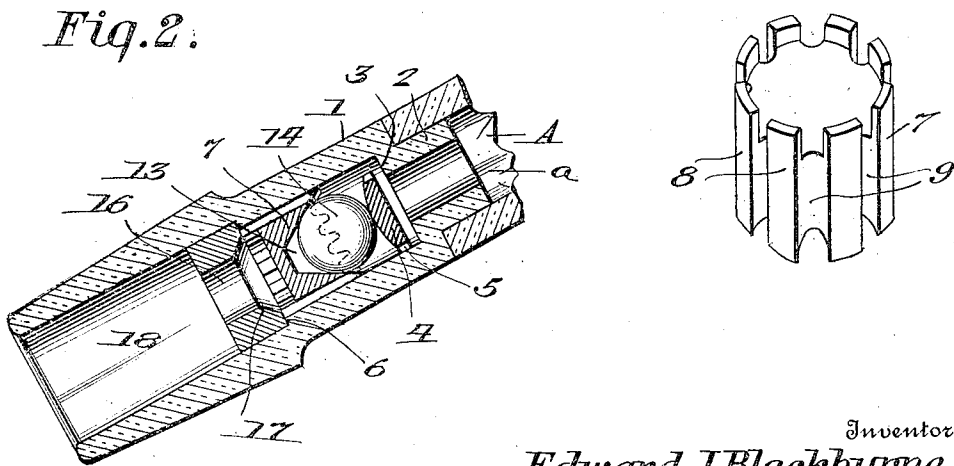


Fig. 4.



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EDWARD J. BLACKBURNE, OF TRENTON, NEW JERSEY.

NON-REFILLABLE BOTTLE.

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Specification of Letters Patent.

Patented Jan. 14, 1913.

Application filed January 26, 1912. Serial No. 673,612.

To all whom it may concern:

Be it known that I, EDWARD J. BLACKBURNE, a citizen of the United States of America, residing at Trenton, in the county of Mercer and State of New Jersey, have invented new and useful Improvements in Non-Refillable Bottles, of which the following is a specification.

This invention relates to improvements in bottles and has particular application to that class of bottles known as non-refillable.

In carrying out the present invention, it is my purpose to provide a bottle of the above-stated character which shall include means arranged within the neck of the bottle and designed to permit the discharge of the contents from the bottle and at the same time act to prevent refilling of the bottle.

With the above and other objects in view which shall appear as the description progresses, the invention consists in the construction, combination and arrangement of parts hereinafter set forth in and falling within the scope of the appended claim.

In the accompanying drawings forming a part of this specification; Figure 1 is a vertical central sectional view of a portion of a bottle constructed in accordance with the present invention. Fig. 2 is a view similar to Fig. 1, the bottle being in pouring position. Fig. 3 is a detail sectional view of the bottle neck. Fig. 4 is a detail perspective view of the guard.

Similar reference characters designate like parts throughout the several views.

Referring to the accompanying drawings in detail, A designates a portion of a bottle preferably constructed of glass or any other suitable or preferred material and which may be of any desired shape. Fused or otherwise secured to the outlet *a* of the bottle is a neck 1 which may be constructed of any suitable or preferred material although I have found it desirable to utilize porcelain. The neck 1 is reduced at its lower extremity to provide a nipple 2 designed to enter the outlet *a* of the bottle, the neck 1 above the nipple being flush with the exterior of the wall of the bottle outlet, so as to present, in effect, an integral structure. At the juncture of the nipple 2 with the neck 1 and interiorly of the latter, a shoulder 3 is formed and is designed to act as a seat for a valve 4 preferably of disk form and having its peripheral edge ribbed to provide grooves 5 in order to facilitate the

discharge of the contents from the bottle in the unseating of the valve. At a suitable distance above the shoulder 3, the neck 1 is provided with an interior shoulder 6, and between this shoulder 6 and the valve 4 is mounted a guard 7 adapted for sliding movement within the bottle neck.

The guard 7, as illustrated, comprises a body of circular contour formed on its upper surface to provide longitudinally extending circumferentially disposed ribs 8 designed to slidably engage the interior of the bottle neck intermediate the shoulder 6 and the valve 4 so as to permit movement of the guard in discharging the contents of the bottle. These ribs 8 are spaced from one another to provide grooves 9 extending longitudinally of the body of the guard 7 and adapted to permit the free flowing of the liquid from the bottle in the pouring operation. The body of the guard 7 is formed on its under surface to provide an inverted frusto-conical shaped seat 13, and interposed between the seat 13 of the valve 7 and the guard 4 is a weighted element 14 designed to engage the seat 13 of the body of the guard when the bottle is inverted for pouring purposes, the element 14 in the normal position of the bottle resting upon the valve 4 and forcing the same into engagement with the shoulder 3. In this position of the element 14 and the valve 4, the weighted element 14 is disposed within the seat 13 of the guard 7, owing to the sliding movement of the latter within the bottle neck, and is held upon the valve 4 centrally of the latter whereby refilling of the bottle is prevented.

In order to securely hold the guard within the bottle and to facilitate the discharge of the contents of the bottle, I make use of a retainer 15 designed to engage the inner surface of the neck 1 of the bottle at an appropriate distance above the guard 7. This retainer 15 is seated directly upon the shoulder 6 and held thereon in any suitable manner and is formed with a centrally arranged outlet opening 16 merging into a deflector 17 formed in the under surface of the retainer and beveled outwardly of the opening 16 therein, the walls of the deflector terminating in proximity to the shoulder 6. Thus, it will be seen that, when the bottle is inverted to discharge its contents, the guard 7 will be slid longitudinally of the bottle neck and abut against the retainer 15,

the liquid flowing from the bottle by way of the grooves 5 in the valve 4 and the grooves 9 formed in the guard 7 between the ribs 8 thereof, the deflector 17 acting to bring about an even and uniform flow of the fluid and direct the same through the opening 18 of the retainer, thence through the mouth 19 of the bottle neck. If desired a cork or other suitable closure may be inserted in the mouth of the neck for the usual purpose. The retainer 15, may be cemented to the inner wall of the bottle neck or secured thereto in any desired or well known manner.

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

20 A non-refillable bottle comprising a body having an outlet, a neck provided at its lower extremity with a nipple adapted to

be inserted in the outlet of the bottle and secured to the walls thereof, a shoulder formed in the neck, a disk valve upon said shoulder, a guard within the neck above said valve and slidable therein, ribs integral with the guard and spaced apart and slidably engaging the bottle neck, said guard being provided with a frusto-conical shaped seat, a ball interposed between said valve and seat and adapted to actuate the valve to closed position, said guard being provided with outlet grooves, and a retainer within the bottle neck above the guard.

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

EDWARD J. BLACKBURN.

Witnesses:

A. P. JARVIS,
NICHOLAS SNYDER.

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