R. A. BLACK.

NON-REFILLABLE BOTTLE.

APPLICATION FILED JULY 6, 1910.

1,025,855. **Patented May 7, 1912.**

Fig. 1

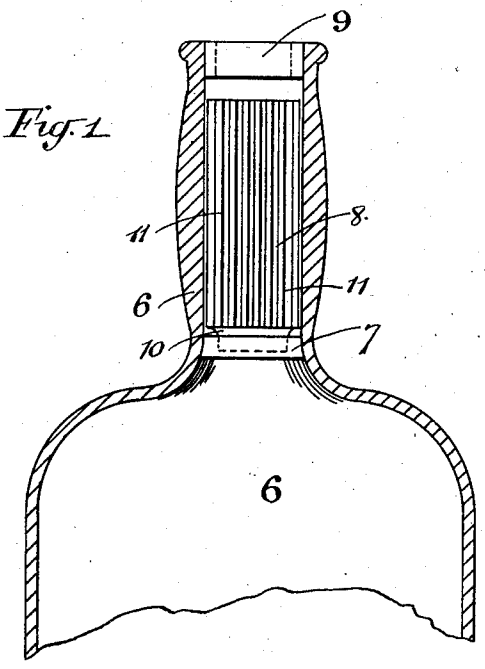

Fig. 2

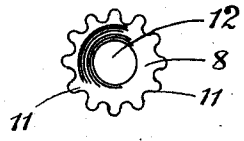

Fig. 3

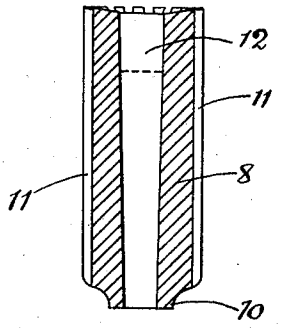

Fig. 4

Fig. 5

WITNESSES:

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NON-REFILLABLE BOTTLE.

1,025,855. Specification of Letters Patent. Patented May 7, 1912.

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To all whom it may concern:

Be it known that I, RALEIGH ADELBERT BLACK, a subject of the King of Great Britain, residing at 107 Collins street, Hobart, Tasmania, Commonwealth of Australia, have invented new and useful Improvements in Non-Refillable Bottles; and I do hereby declare the following to be a full, clear, and exact description of the same.

This invention relates to the construction of bottles used to hold spirituous liquors, medicines and other like valuable commodities in liquid form, and has for its object to prevent the bottle being refilled.

In carrying the invention into effect I provide a simple and inexpensive device, which is placed inside the neck of the bottle and which will constitute a valve of a peculiar and ingenious kind, as will be hereinafter described with reference to the accompanying drawing, in which,

Figure 1 is a sectional elevation of a bottle with the hollow plunger in its neck. Fig. 2 is a plan of the top of the plunger, and Fig. 3 a sectional elevation of same. Fig. 4 is a section of the ring forming the seat for the plunger, and Fig. 5 shows the plug for insertion therein.

The neck of the bottle 6 may be formed with its inside surface parallel, and in its base is an annular support 7 upon which the end of the fluted plunger 8 will rest. Member 8 is adapted to an easy fit in the neck and has a number of more or less deep grooves around its periphery the apices of the projections or ribs along the cylinder coming in brushing contact with the glass surface of the neck. The fluted plunger is inserted in the neck of the bottle after member 7 is placed in position or is otherwise constituted and is confined therein by the ring 9 or other convenient means, which is placed in position near the mouth of the neck. The grooves in the plunger may be parallel or they may be spirally formed longitudinally. The lower end of the plunger is contracted at 10 and should sit evenly upon the seat provided for it in the support 7

Instead of using member 7 the base of the neck may be formed with a seat, and the lower end of the plunger ground or otherwise shaped into a convexity adapted to rest upon the seating in the neck. If necessary, a rubber ring or such like device may be placed upon the convexity of the plunger for the purpose of improving the seat of the valve.

The parallel ribs 11 run longitudinally with the neck and the center of the plunger is hollow throughout its entire length to receive the plug 12 which may exactly fill the hollow space or be only of sufficient length to fill the space up to the dotted line in Fig. 3. The bore of the plunger and the plug are tapered to insure the latter being dropped therein and secured. The plug may consist of glass, wood or any other suitable material.

Any suitable means may be employed to retain the plunger in the neck. Thus, instead of the ring 9, the neck near the mouth may be slightly contracted above the plunger in any known manner and after the latter has been placed in position.

The depth of the channels between the ribs 11 should be such that free egress for the liquid contents of the bottle will be possible when the upper end of the plunger is against the ring 9 or other confining means, as will be hereafter explained.

The plunger is inserted without the plug 12 and immediately before the confining means is placed in position in the neck near the mouth of the bottle. The liquid is then filled through the bore 12 and when the bottle is full the plug is placed in the bore and secured therein in any suitable manner so as to exactly fill it but preferably only up to the dotted line (Fig. 3). After inserting the plug no more liquid can be filled into the bottle as the plunger is seating upon the ring 7, but if the bottle is decanted, the plunger, which fits easily in the neck, will leave its seat and move forward till brought up by the ring 9 or other confining means. The liquid will thus be free to flow from the bottle along the grooves between the ribs 11 and out of the mouth past the ring 9. A cork may then be inserted in the mouth and the bottle capsuled in the ordinary way.

It will be apparent that the bore of the neck need not be parallel if it and the plunger are long enough, after allowing for any outward bulging of the neck, to contact near the top and bottom of the plunger. There should be enough contact between the neck and the plunger near the ends of the latter to keep it upright and to allow for contact as it slides to and fro.

I claim:—

The combination of a bottle having a neck

integral with the bottle, a plunger having longitudinal peripheral ribs thereon slidable in said neck directly against the face thereof, said plunger having a tapering axial bore passing entirely therethrough, said ribs having curved and tapered lower ends, a correspondingly shaped seat secured in said neck at the lower end of said plunger and adapted to closely contact a large portion of the curved surface of said lower end of the ribs and to close the grooves between said ribs when the plunger is seated, a ring secured in the upper end of the bottle neck for limiting the upward movement of the plunger, a tapered plug much shorter than said bore inserted in said bore, the upper end of the plug terminating remote from the upper end of the bore, and a cement filling in said bore above said plug.

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

RALEIGH ADELBERT BLACK.

Witnesses:

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HAROLD ROY NORMAN LEWIS.