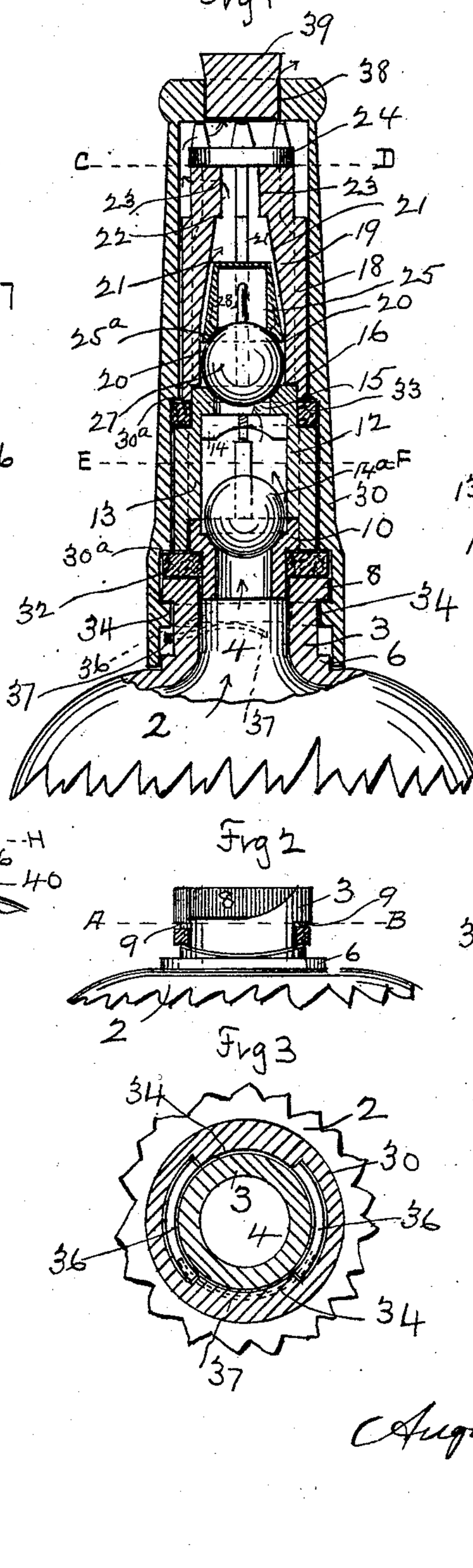
A. V. WESTERLUND.

NON-REFILLABLE BOTTLE.

APPLICATION FILED JULY 28, 1908.

929,356. Patented July 27, 1909.

Frg 1



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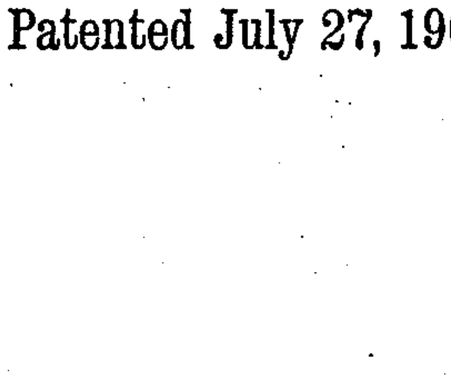

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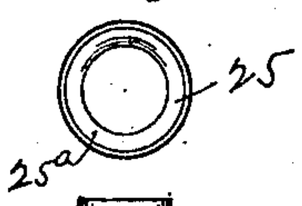

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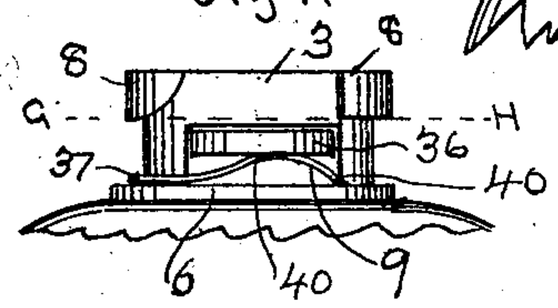

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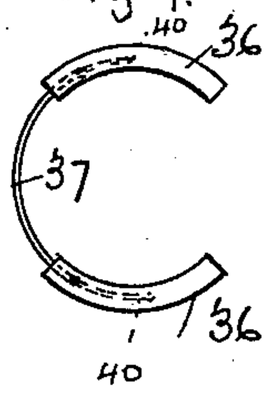

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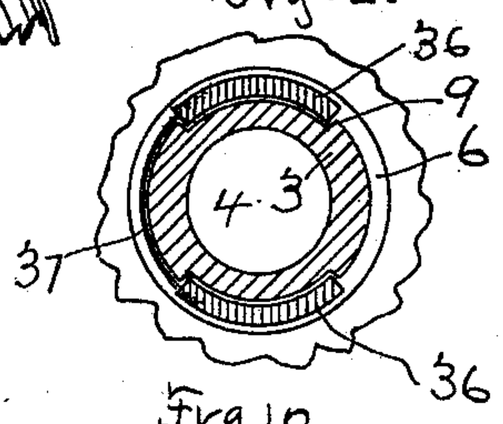

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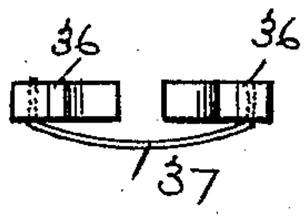

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UNITED STATES PATENT OFFICE.

AUGUST V. WESTERLUND, OF NEW YORK, N. Y., ASSIGNOR TO WESTERLUND-LUDERER BOTTLE COMPANY, A CORPORATION OF NEW YORK.

NON-REFILLABLE BOTTLE.

No. 929,356. Specification of Letters Patent. Patented July 27, 1909.

Application filed July 28, 1908. Serial No. 445,696.

To all whom it may concern:

Be it known that I, AUGUST V. WESTERLUND, a citizen of the United States, and resident of New York, 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.

My invention relates to non refillable bottles, and the object is to provide this class of inventions with new and novel constructions and arrangements of parts whereby the device is made effective in preventing the refilling of bottles.

Referring to the drawings:—Figure 1 is a vertical sectional view of the neck of a bottle embodying my invention. Fig. 2 is a detached side elevation of the short neck showing wedge-lug. Fig. 3 is a plan section of Fig. 2, on line A—B. Fig. 4 is a plan section of the detachable neck of the bottle, on line C—D. Fig. 5 is a plan section of the detachable neck, on line E, F, looking upward. Fig. 6 is a detached side view of the upper ball valve. Fig. 7 is a detached side view of the conical-hood or cap. Fig. 8 is a bottom view of the hood. Fig. 9 is a detached plan view of the segmental locking pieces. Fig. 10 is a side view of the locking pieces. Fig. 11 is another detached side elevation of the short neck showing the recesses for the locking pieces. Fig. 12 is a plan section on line G—H, Fig. 11 showing the recesses for locking pieces.

The bottle 2 is of any size and shape, and is made of glass.

3 is the short neck of the bottle which is cast integrally therewith, having a central orifice 4. At the base of the neck is cast on the bottle the ledge 6. The outer surface of the neck 3 is provided with two wedge shaped projections or lugs 8, one opposite the other. The neck surface is also provided with two recesses 9, also placed opposite each other and between and below the lugs 8. The object of these lugs and recesses will be explained hereafter.

The short neck 3, supports the lower ball valve holder 10, see Fig. 1, and this valve holder 10, in turn supports the upper ball valve holder 12, which is circular in shape with a central orifice, which is provided with lugs 13, (see Fig. 5) extending upward to the valve seat 16, where they are united by the cross-bars 14, shaped to the curve of the lower ball 14ª. The object of the lugs 13, and cross bars is to steady the movement of the ball in holder, and also to allow the fluid to freely pass out around the ball. The upper ball valve holder supports the casing or upper tubular part 18, which is provided in the interior with lugs 19, constructed with straight portions 20, incline portions 21, each having a shoulder 22. From the shoulders the lugs extend straight beyond and above the casings 18, where they are joined to the disk 24, having on the outside short projections. Within the casing 18, is placed the upper ball-valve 27, which is made of glass hollow and with a stem 28. Above the ball 27 and resting partly thereon is placed the glass cone or conical cap 25, with a valve seat 25ª against which the ball valve 27 rests, see Fig. 1. The object of the cone or conical cap 25 is to overcome the action of the air in the upper part of the neck, upon the hollow and light ball 27, when the bottle is turned over or tipped, to pour out the liquor. For as the fluid flows down toward the upper valve 27, it will act upon the hood, and move that down, the suction created by the valve seat of the hood will be sufficient to lift the ball 27 off its seat and allow the fluid to freely flow out. Stem 28 of ball 27 makes the same take one position on the valve seat. But when the fluid passes in through the mouth of the neck, by force or otherwise the hood will act quickly as a weight and move the ball 27 instantly upon its seat and effectually seal that orifice against the admission of spurious liquors.

The object of the lugs 19 being constructed inclined and with stops as above described, is to guide the hood and stop its movement upward too far. The stem 28 on ball 27 acts as a guide to the ball, by compelling it to seat itself on valve seat in one position, and not turn over.

The above described parts are all made of glass, and over them is placed the detachable neck 30, also made of glass. The interior of this neck 30 is provided with shoulders 30ª against which the washers 32—33 rest—washer 32 placed between holder 12 and short neck 3, and washer 33 is placed between holder 12, and casing 18—see Fig. 1. The lower portion of the neck 30 rests upon the bottle, the inner bore or hole encircling the ledge 6, which prevents any tampering with the locking mechanism of

the neck 30. This locking mechanism is made effective by the lugs or projections 34 cast in the inside of the neck 30 one opposite the other. When the neck 30 is passed over the short neck 3 these projections 30 will pass between the wedge projections 8 of the short neck see Fig. 11. Now by turning the detachable neck the projections will ride under wedges 8 and pass the neck down upon the bottle. But to prevent the neck 30 being removed, I employ the locking means 36, consisting of two arch-shaped pieces united by a flat spring. Before the neck 30 is put over the bottle neck 3, the arch shaped pieces 36 are first placed in the recesses 9—one-half in one recess the other half in the other recess. The arch shaped pieces are thus held in position and cannot turn with the detachable neck 30. When the neck 30, is turned on neck 3, the projections 34 will not only travel under neck projections but also press down the arch shaped pieces until the neck lugs 34 have come directly under the lugs 8 when the said arch shaped pieces will spring up or back in place against the edges of the lugs 34 (see Fig. 3) thereby locking the neck 30 which now cannot be removed without the bottle being broken. The arrow shows the movement of the fluid.

38 is the opening or orifice in top of the detachable neck; and 39 the stopper. The spring 37 of the arch shaped pieces 36 is so bent (see Fig. 11) that its outer end 40 also rests on the bottle to hold the arch shaped pieces in position when the neck 30 is being adjusted and locked.

What I claim is:

1. In a non-refillable bottle, a short neck integral therewith having wedge-shaped lugs and recesses, arch-shaped locking pieces placed in said recesses, and means for connecting said pieces consisting of a flat spring constructed so as to act as a positioner for the said pieces.

2. In a non-refillable bottle, and in combination with a detachable neck having internal projections, a short neck having wedge-lugs against which the projections of the detachable neck act, arch-shaped locking pieces placed on the short neck and acting against the projections of the detachable neck and means for uniting the arch-shaped pieces consisting of a spring arranged as described and shown.

3. In a non-refillable bottle, a lower ball valve holder, a short neck upon the bottle over which the holder is placed, an upper ball valve holder placed upon the lower ball holder, said upper holder provided with interior lugs and cross-bars for the purpose set forth, and valves upon the valve holders.

4. In a non-refillable bottle, an upper valve holder, a valve thereon, an upper casing placed over the valve holder and having interior lugs with straight and bevel surfaces and a disk placed on top of said lugs.

5. In a non-refillable bottle, an upper valve holder having a valve seat, an upper casing above the holder and having bevel lugs and stops, a hollow ball valve upon the seat, and a conical hood or cap within the casing and seated upon the valve.

6. In a non-refillable bottle, and in combination, a bottle having a short neck, a lower ball valve holder placed over the short neck of the bottle, an upper ball valve holder having lugs united by cross bars, a casing or upper tubular part placed over the upper ball valve holder, said casing provided with interior lugs having straight and bevel surfaces, a stem-ball 27 placed within said casing and seating upon the upper valve holder, a conical hood placed within said casing and over the stem ball 27, a detachable neck 30, placed over the above named parts and the short neck of the bottle, means for holding the upper holder and lower holder to said detachable neck consisting of washers, and means for locking the detachable neck to the short neck of the bottle.

7. In a non-refillable bottle, a conical hood or cap provided with a valve seat, an upper casing having lugs and stops within which the conical hood freely moves, an upper valve holder with valve seat, a hollow ball valve with stem resting in the valve seat of the upper valve holder, and acting against valve seat of the conical hood, said hood inclosing the stem whereby the stem acts as a stop against the inside of the hood to limit turning movement of the ball in a vertical plane.

8. In a non-refillable bottle, a hollow ball valve provided with a stem, an upper holder having valve seat for the ball valve and a freely movable hood resting upon the ball and having its lower portion cut away to accurately fit the ball, said hood inclosing the stem whereby the stem acts as a stop against the inside of the hood to limit turning movement of the ball in a vertical plane.

Signed at New York, in the county of New York and State of New York this 27th day of July A. D. 1908.

AUGUST V. WESTERLUND.

Witnesses:

F. J. Block,

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