

No. 745,566.

PATENTED DEC. 1, 1903.

I. N. BURKE.
NON-REFILLABLE BOTTLE.
APPLICATION FILED JUNE 11, 1903.

NO MODEL.

Fig. 1.

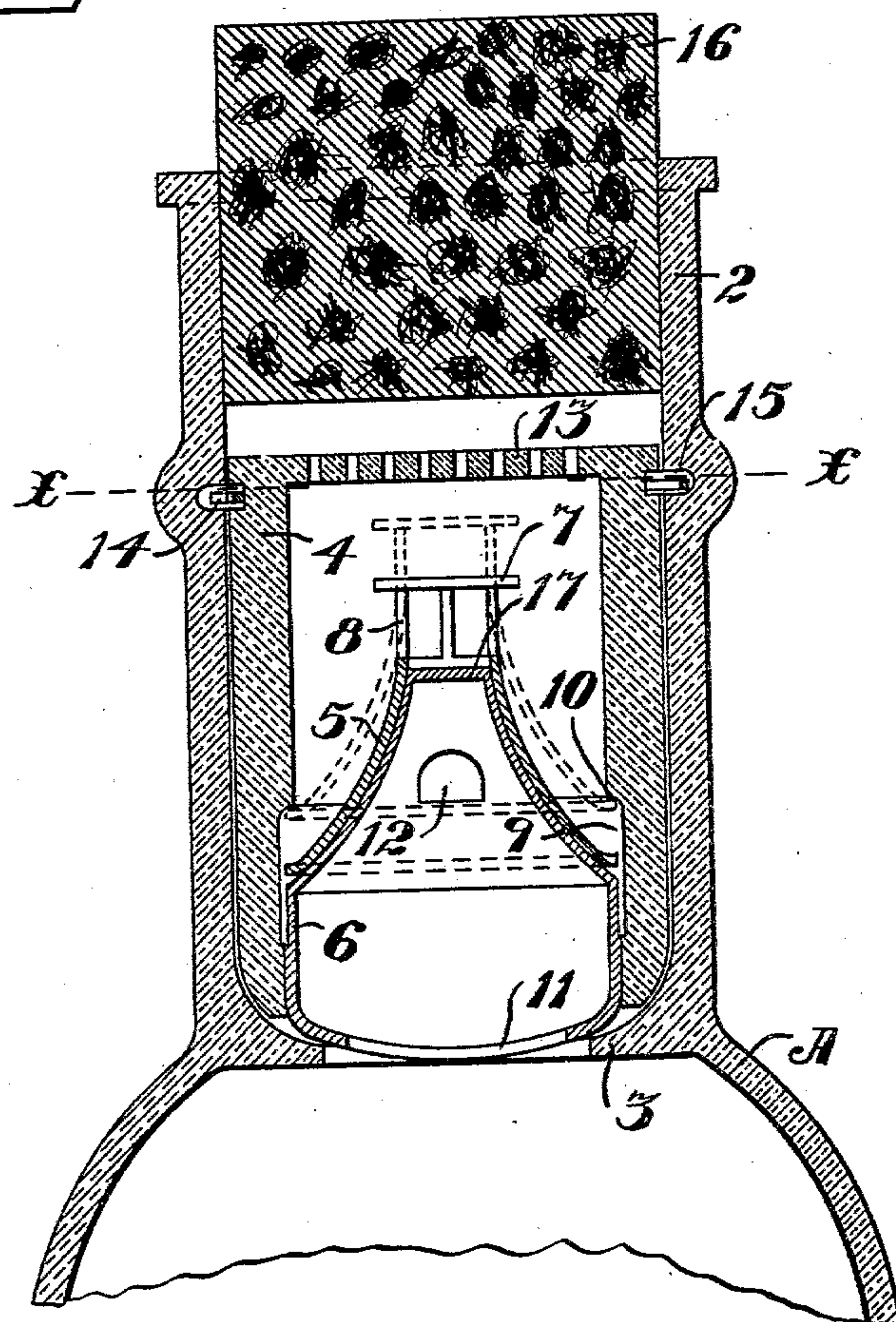
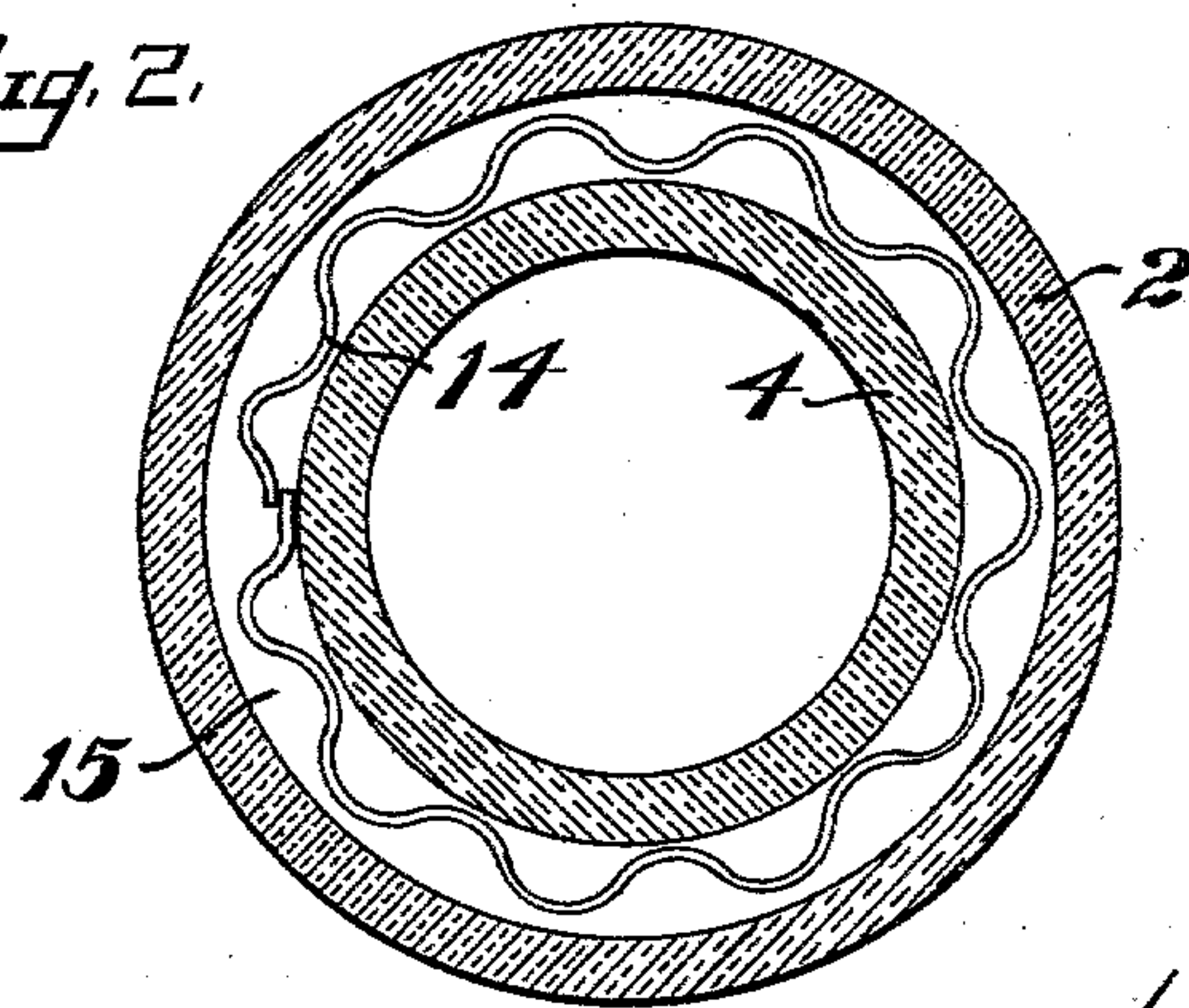


Fig. 2.



Witnesses,

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UNITED STATES PATENT OFFICE.

IRA NEWTON BURKE, OF BUTCHER RANCH, CALIFORNIA, ASSIGNOR OF
ONE-HALF TO E. C. KAVANAUGH, OF FORESTHILL, CALIFORNIA.

NON-REFILLABLE BOTTLE.

SPECIFICATION forming part of Letters Patent No. 745,566, dated December 1, 1903.

Application filed June 11, 1903. Serial No. 161,037. (No model.)

To all whom it may concern:

Be it known that I, IRA NEWTON BURKE, a citizen of the United States, residing at Butcher Ranch, county of Placer, State of California, have invented an Improvement in Non-Refillable Bottles; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to improvements in bottles and bottle-closures; and its object is to provide against the surreptitious refilling of a bottle once emptied of its original contents.

It consists of the parts and the construction and combination of parts hereinafter more fully described, having reference to the accompanying drawings, in which—

Figure 1 is a vertical central section of my invention. Fig. 2 is a section on line *xx* of Fig. 1.

A represents a bottle having a neck 2, provided with a cylindrical opening, and an interior annular abutment or ledge 3, upon which the valve mechanism is supported. This valve mechanism comprises a cylindrical casing, 4 of glass, porcelain, or other suitable material, adapted to fit snug in the neck of the bottle. The lower end of casing 4 is open to receive the valve 5 and the valve-seat 6. The valve is in the form of a hollow truncated cone, preferably with concaved sides and having a hood 7 disposed over its upper open and contracted end and supported on studs 8. The interior of casing 4 is somewhat contracted in its upper portion, and an annular groove 9 below the contracted portion affords space for a limited reciprocation of the valve between its seat and the shoulders 10, formed by the end wall of said groove.

The valve-seat 6 consists of a shell open at the lower end, as at 11, with straight cylindrical sides fitting snug the opening in the lower end of casing 4 and having a conical top extending up into the valve and corresponding in contour to that of the valve. The top is closed at the apex, but is provided with suitable openings 12 in the sides, over which the valve normally seats and prevents ingress of liquid.

The upper end of casing 4 is provided with

a perforated top 13. The casing is permanently locked in the neck of the bottle by means of a corrugated band-spring 14, located in an annular groove on the exterior periphery of the casing and adapted when the casing is inserted into the neck to interlock in a groove 15 in the neck.

In operation the valve mechanism is first assembled, the valve being slipped into the open end of the casing and the valve-seat subsequently screwed into or otherwise permanently secured, as by cement, in the casing, sufficient room being left to permit of a limited reciprocation of the valve 6 to uncover ports 12 when the casing is inverted. After the bottle has been filled the valve mechanism, with spring 14 in position, is inserted into the neck and pressed down on ledge 3. Simultaneously the spring expands to engage in groove 15 and lock the casing permanently in the bottle. The open end of the neck may be closed by a cork, as 16. To empty the bottle of its contents, the cork 16 is removed and the bottle inverted, whereupon valve 5 falls away from its seat and is supported at its outer edge on ledge 10, as indicated in dotted lines, Fig. 1. The liquid escapes in circuitous passage through opening 11, ports 12, opening 17 in the end of the valve, around hood 7, and out through the openings in top 13 of the casing. The moment the bottle is righted the valve falls back over its conical seat and closed ports 12.

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

1. In a non-refillable bottle, the combination of a cylindrical valve-casing, a hollow, conical valve-seat located therein, a hollow conical valve inclosed in said casing and having a limited reciprocating movement, said valve substantially coaxial with said seat, said seat and valve having non-registering ports, and means for locking said casing in the neck of the bottle.

2. In a non-refillable bottle, the combination with a neck having a substantially cylindrical opening, of a valve-casing seated in said opening, said casing inclosing a valve-chamber, a valve in said chamber in the form substantially of a hollow truncated cone, and

a hollow valve-seat conformable with said valve and with which seat the valve has a limited telescoping movement, said valve and seat provided with suitable ports.

5 3. In a non-refillable bottle, the combination of a valve-casing open at one end and having a perforated top portion partly closing the other end, said casing having a slightly-enlarged interior diameter at its lower end,
10 a hollow conical valve-seat provided with ports located in said enlarged portion, a cap or valve normally resting on said seat and closing said ports and means for locking the casing in the neck of the bottle.

15 4. In a non-refillable bottle the combination of a casing seated in the neck thereof, said casing inclosing a valve-chamber, a valve in the form substantially of a hollow truncated cone having an opening in its reduced end, a
20 hood rigid with said valve and extending over

said opening, and a valve-seat having inclined perforated sides conformable with said valve and on which the latter normally rests.

5. In a non-refillable bottle having a substantially cylindrical neck-opening, of a 25 valve-casing seated in said opening, the external periphery of said casing and the internal periphery of said neck correspondingly grooved, and a transversely-corrugated band-spring engaging in said grooves to lock the 30 casing permanently in the bottle, said casing inclosing a valve-chamber, and a valve and valve-seat having non-registering ports.

In witness whereof I have hereunto set my hand.

IRA NEWTON BURKE.

Witnesses:

R. WAUGH,

A. W. MAITHER.