

No. 816,789.

PATENTED APR. 3, 1906.

W. S. FREEL.  
NON-REFILLABLE BOTTLE.  
APPLICATION FILED MAY 15, 1905.

FIG. 1.

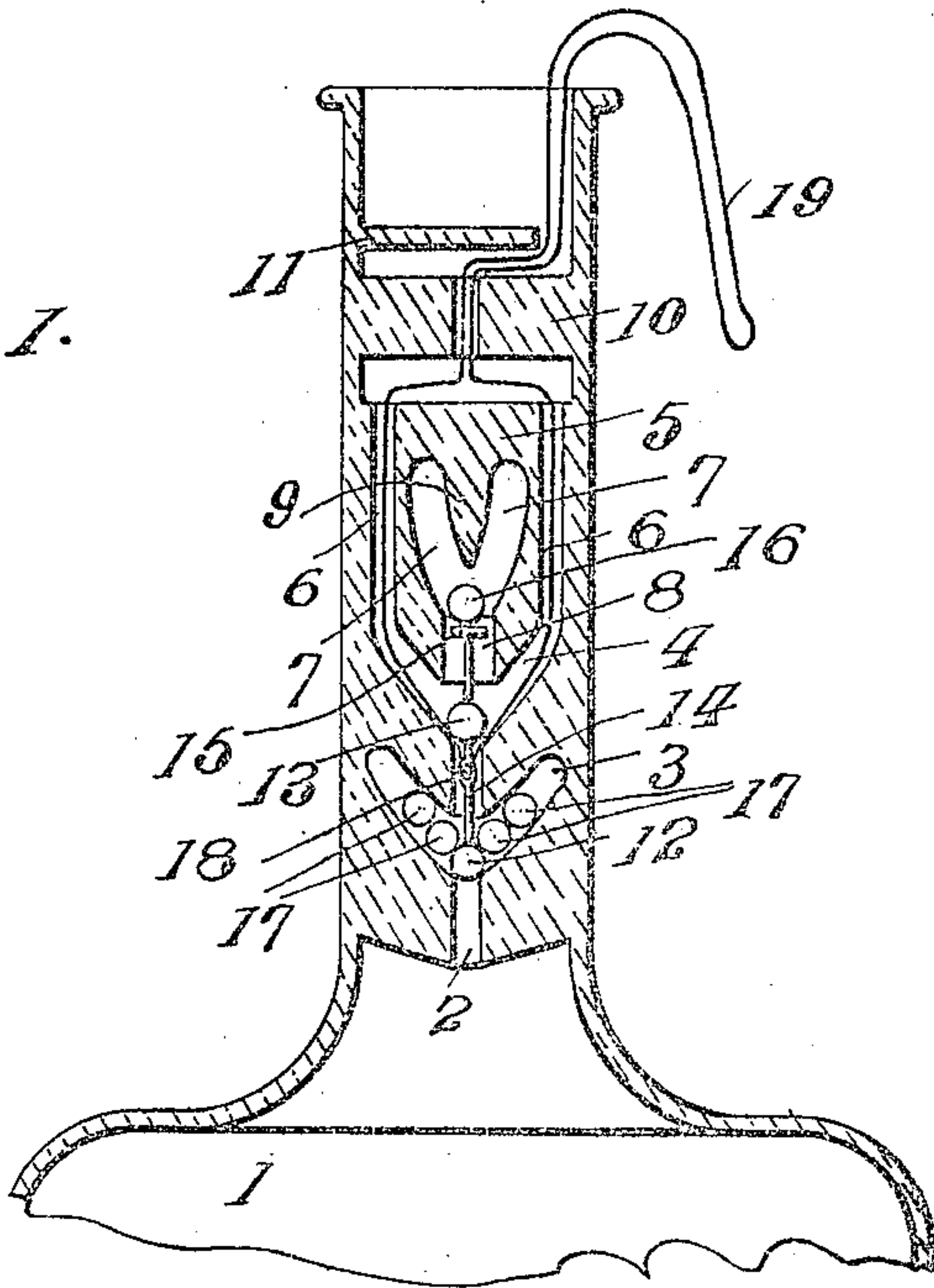
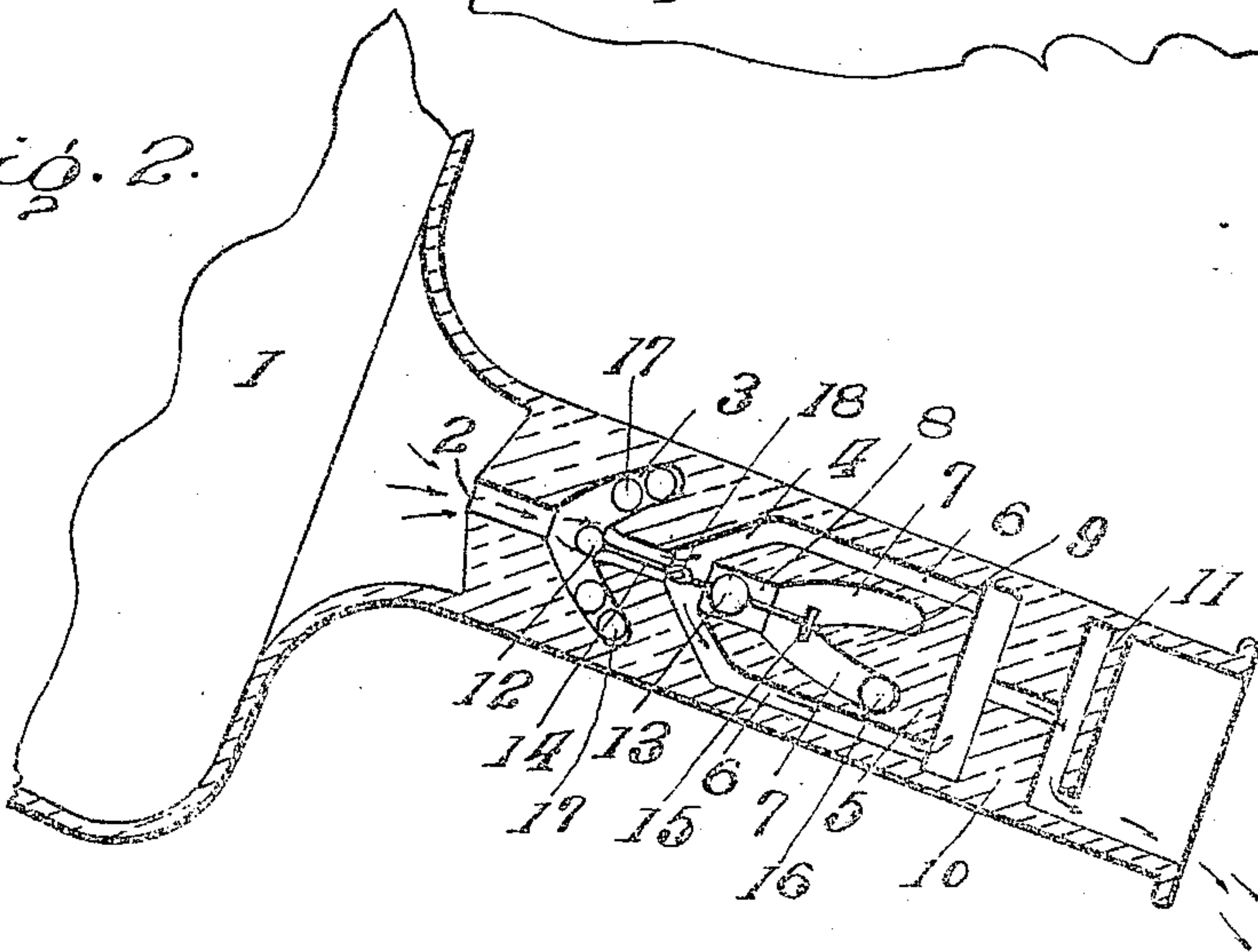


FIG. 2.



Inventor

Witnesses

*W. S. Freel*  
W. S. Freel

W. S. Freel.

By,

*W. S. Freel*  
W. S. Freel, Attorneys



# UNITED STATES PATENT OFFICE.

WILLIAM S. FREEL, OF BAY CITY, MICHIGAN.

## NON-REFILLABLE BOTTLE.

No. 816,789.

Specification of Letters Patent.

Patented April 3, 1906.

Application filed May 15, 1905. Serial No. 260,454.

*To all whom it may concern:*

Be it known that I, WILLIAM S. FREEL, a citizen of the United States, residing at Bay City, in the county of Bay and State of Michigan, have invented certain new and useful Improvements in Non-Refillable Bottles, of which the following is a specification.

This invention relates to improvements in non-refillable bottles; and it consists, essentially, of a valve mechanism located in the neck thereof and protected against tampering by means of baffle-plates.

It has for its object to produce a device of this character which will effectively prevent a bottle from being filled after the contents thereof have been once poured out and which will at the same time be simple and durable in construction.

Reference is to be had to the accompanying drawings, in which—

Figure 1 is a longitudinal vertical sectional view through a bottle embodying my invention. Fig. 2 is a similar view showing the bottle in an inverted position.

Corresponding and like parts are referred to in the following description and indicated in both views of the drawings by the same reference characters.

The numeral 1 designates the bottle, the lower portion of the neck of which is contracted to form a passage 2, leading to the inside thereof. A plurality of radial passages 3 extend outward and upward from an intermediate point in the passage 2. The upper part of the contracted portion is inclined downward toward the passage 2, as seen at 4, and a guard member 5, having a conical-shaped base corresponding to the inclined portion 4, is fitted into the neck of the bottle just above the contracted part thereof. Passages 6, having communication with the passage 2, lead upward around the sides of the guard member 5. The guard member 5 is formed with a recess 7 therein, having external communication through the vertex of the conical base at 8 and having its crown 9 in the shape of an inverted cone, the vertex of which is situated directly over the passage 8.

Baffle-plates 10 and 11 are located over the guard member 5, the openings therein being so placed as to form a tortuous path, and thus tend to make tampering with the mechanism impossible. Ball-valves 12 and 13 are used in connection with the above-described construction and are connected by a stem 14, so that the ball 12 is normally seated at the

junction of the passage 2 and the radial passages 3 and the ball 13 normally seated on the top of the passage 2. The stem 14 extends upward above the ball 13 into the passage 8 and terminates in a small platform 15, immediately below the vertex of the inverted conical crown 9 of the recess 7, so that a ball 16 placed therein normally rests upon said platform 15 and prevents any sudden upward movement of the valve by reason of its contact with the vertex of the conical crown 9. However, when the bottle is inverted or a continuous pressure brought to bear upon the valve mechanism the ball 16 is deflected and falls back into the recess 7, thereby permitting the valve to be unseated and the contents of the bottle to be poured out. A plurality of balls 17 are placed in each of the radial passages 3 and owing to the incline of said passages normally rest upon the ball 12 to hold it firmly seated, but when the bottle is inverted roll back into the passages and allow the valve to operate with perfect freedom. An eye 18 is formed in the stem 14 between the balls 12 and 13, and when the bottle is manufactured a flexible member 19 is passed through said eye and the ends thereof passed up through the neck of the bottle, so that by pulling the flexible member upward the valves will be unseated and allow the bottle to be filled. The flexible member is then slipped out and further tampering with the valve mechanism rendered impossible.

In operation it will be seen that when the bottle is inverted the balls 16 and 17 will readily roll out of the way and allow the valve to be unseated, but that any attempt to fill the bottle by sudden up-and-down shakes will be thwarted by the peculiar positioning of the ball 16, as has heretofore been described.

Having thus described the invention, what is claimed as new is—

1. In a non-refillable bottle, the combination of a neck having a portion thereof contracted to form a passage, said passage having an upwardly-inclined recess in communication therewith, a valve adapted to be seated in the passage at its junction with the upwardly-inclined recess, and having a stem attached thereto, a guard member over the before-mentioned passage against which the valve-stem impinges to limit the movement of the valve, and a movable weight in said recess adapted to rest normally against the valve to hold it closed.



2. In a non-refillable bottle, the combination of a neck having a portion thereof contracted to form a passage, said passage having an upwardly-inclined recess in communication therewith, two valves connected by a stem and adapted to be seated, respectively, at the top of the passage and at its junction with the upwardly-inclined recess, a movable weight operating in said recess and adapted to rest normally against the valve to hold it tightly seated, and means for limiting the movement of the valve.

3. In a non-refillable bottle, the combination of a neck having a portion thereof contracted to form a passage leading into the interior of the bottle, a guard member over said passage and having a recess therein which has external communication through an outlet opposite the passage, a valve adapted to be seated in the passage and having a stem attached thereto extending into the outlet leading from the recess in the guard member, and a movable weight in said recess adapted to rest normally on the top of the stem to hold the valve tightly seated, the walls of the recess converging toward the outlet to guide the movable weight against the valve-stem.

4. In a non-refillable bottle, the combination of a neck having a portion thereof contracted to form a passage leading into the interior of the bottle, a guard member over said passage having a recess therein which has external communication through an outlet opposite the passage, a valve adapted to be seated in the passage and having a stem attached thereto extending into the outlet leading from the recess in the guard member, and having a platform on the end thereof, and a movable weight in said recess adapted to rest normally on the platform to hold the valve tightly seated, the walls of the recess

converging toward the outlet to guide the weight upon the before-mentioned platform.

5. In a non-refillable bottle, the combination of a neck having a portion thereof contracted to form a passage leading into the interior of the bottle, a guard member over said passage having a recess therein which has external communication through an opening opposite the passage, and which has a member pendent from the crown thereof and terminating over the opening, a valve adapted to be seated in the passage and having a stem attached thereto extending into the opening leading into the recess in the guard member, and a movable weight in said recess adapted to rest normally on the stem and be prevented from sudden upward movement by the before-mentioned pendent member.

6. In a non-refillable bottle, the combination of a neck having a portion thereof contracted to form a passage, said passage having an upwardly-inclined recess in communication therewith, a guard member over said passage having a recess therein which has external communication through an opening in the bottom thereof, a valve adapted to be seated in the passage at its junction with the upwardly-inclined recess, and having a stem attached thereto extending into the opening leading into the recess in the guard member, a movable weight in said recess adapted to rest normally on the top of the stem, and a movable weight in the before-mentioned upwardly-inclined recess adapted to rest normally against the valve.

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

WILLIAM S. FREEL. [L. s.]

Witnesses:

MARY BEDARD,  
WM. J. DUFORD.