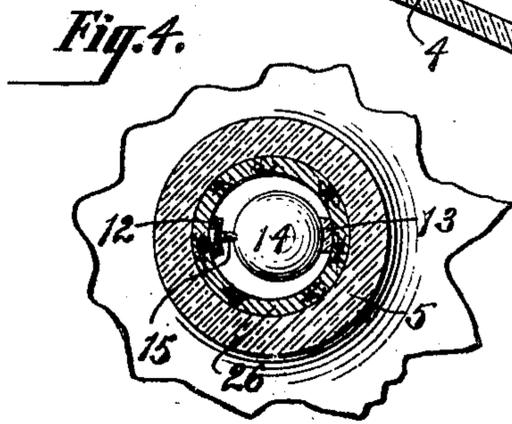
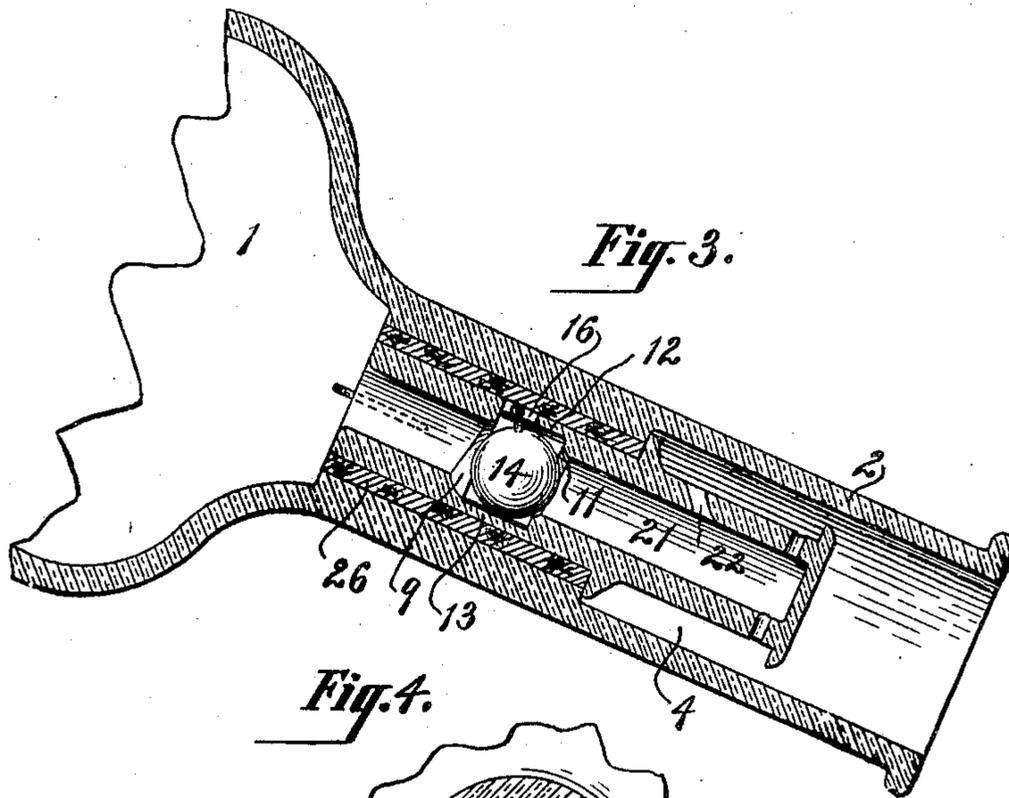
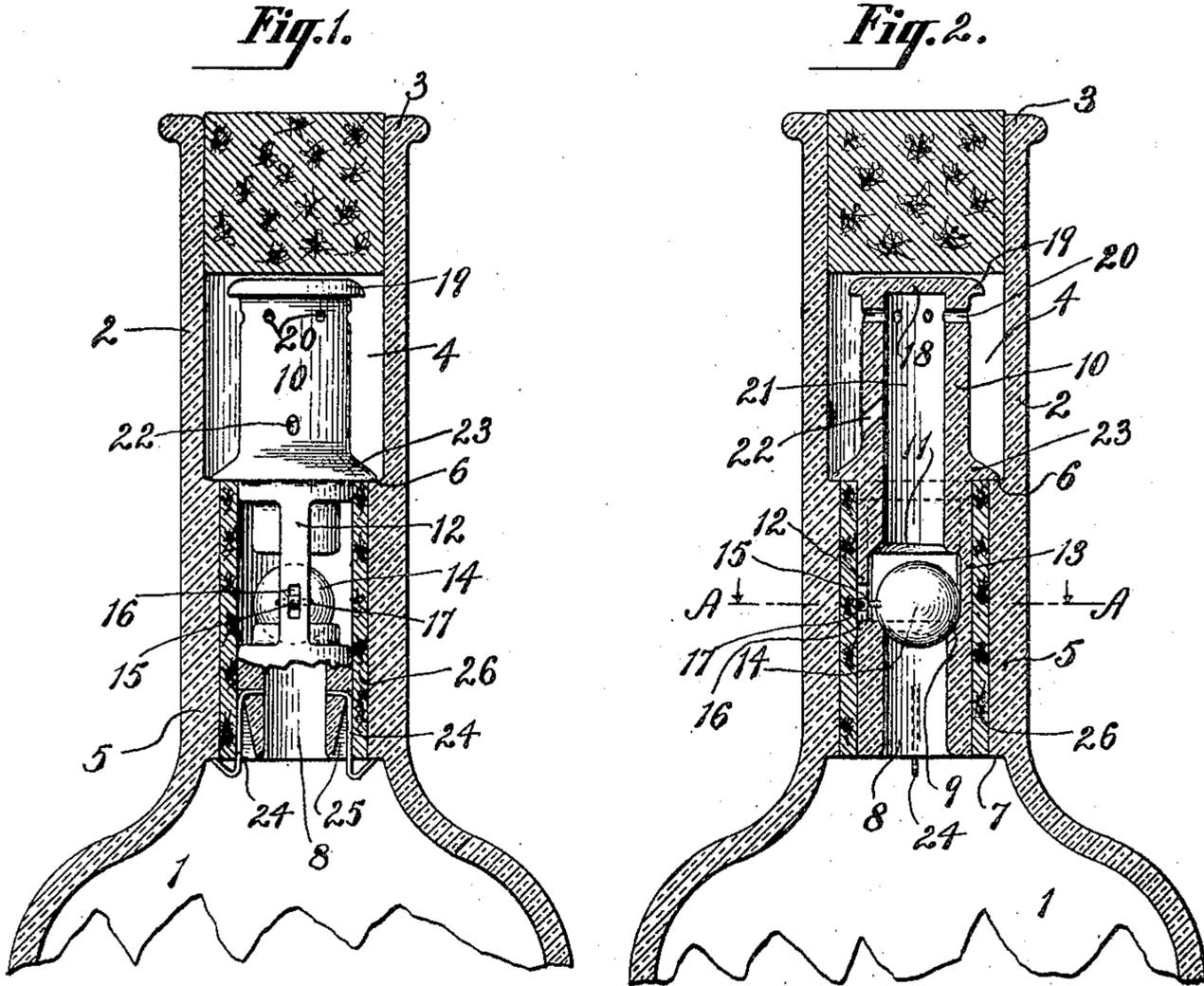


No. 798,503.

PATENTED AUG. 29, 1905.

O. H. FISHBURNE.
NON-REFILLABLE BOTTLE.
APPLICATION FILED APR. 19, 1905.



Witnesses:
F. G. Wachenburg.
Henry Thieme.

Inventor:
Orie A. Fishburne
by attorney
Merrill Seward

UNITED STATES PATENT OFFICE.

ORRIE H. FISHBURNE, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF TO
VALLEY V. DAVIDS, OF NEW YORK, N. Y.

NON-REFILLABLE BOTTLE.

No. 798,503.

Specification of Letters Patent.

Patented Aug. 29, 1905.

Application filed April 19, 1905. Serial No. 256,381.

To all whom it may concern:

Be it known that I, ORRIE H. FISHBURNE, a citizen of the United States, and a resident of the borough of Manhattan, in the city and State of New York, have invented new and useful Improvements in Non-Refillable Bottles, of which the following is a specification.

The object of my present invention is to provide certain improvements in the construction, form, and arrangement of the several parts of the protective device of a non-refillable bottle whereby the number of parts will be reduced to a minimum without affecting the efficiency of the device.

A practical embodiment of my invention is represented in the accompanying drawings, in which—

Figure 1 represents a portion of a bottle in vertical central section with my improved protective device located in position therein, parts of the same being shown in section. Fig 2 is a vertical central section through the bottle and device, taken at right angles to the view shown in Fig. 1. Fig. 3 is a view similar to Fig. 2, with the parts inverted as in pouring liquid from the bottle; and Fig. 4 is a transverse section taken in the plane of the line A A of Fig. 2 looking in the direction of the arrows,

The body of the bottle is denoted by 1, its neck by 2, and its mouth by 3.

The neck of the bottle is provided with an enlarged bore 4 and a reduced bore 5, forming an upper annular shoulder 6 and a lower annular shoulder 7. A cage is locked in the interior of the neck of the bottle as follows: The cage is provided with an inner tubular portion 8, having a valve-seat 9 at its outer end and an outer tubular portion 10, provided with a valve-seat 11, at its inner end, the adjacent ends of which inner and outer portions are connected by side bars 12 and 13. A spherical valve 14 is hinged in the space between the inner and outer members 8 and 10 by providing the ball with a lug 15, which projects into a slot 16 in the connecting side bar 12, and through this lug 15 I pass a pintle 17. The spherical valve is thus suspended so that it will rest on the valve-seat 9 of the inner member when the bottle is in any position above a horizontal one and will rest on the valve-seat 11 of the outer member whenever the bottle is in any position below a horizontal one unless liquid is being poured from the bottle. In that event the valve will be held

in a position between the two valve-seats, as will hereinafter appear.

The outer member 10 of the cage has its outer end closed by a cap 18, which cap has a circumferential flange 19, which projects beyond the periphery of the said outer member 10. Just inside of the cap 18 I provide a plurality of transverse openings 20 through the walls of the outer member, thus connecting its bore 21 with the enlarged bore 4 of the neck of the bottle. A hole 22 is formed through the wall of the upper member 10 in substantially the same longitudinal plane as the hinge for the spherical valve 14, which hole connects the inner end of the large bore 4 of the neck with the bore 21 of the outer member of the cage. This hole 22 preferably leads diagonally outward from the exterior to the interior of the outer member, so as to prevent the insertion of wires there-through from the exterior of the bottle. The outer member of the cage is provided with a circumferential flange 23, which rests upon the shoulder 6, formed at the outer end of the reduced bore 5 of the neck.

The cage is permitted to be inserted into the neck of the bottle and held against removal by providing the inner member 8 of the cage with a plurality of spring-catches 24. In the present instance two of these catches are shown. They are located in longitudinal grooves 25 in the walls of the inner member 8 and are so arranged that after the cage has been inserted into position the free ends of the catches will spring outwardly into engagement with the shoulder 7 at the inner end of the reduced bore 5.

The space between the reduced bore 5 and the periphery of the cage from its inner end to the flange 23 is filled by a cylindrical cork 26, which cork serves as a packing and also serves to inclose the open portion of the cage between the inner and outer members.

It is to be understood that the cage and valve may both be made of glass, the only metal parts in the entire device being the hinge-pintle for the valve and the spring-catches for holding the cage within the neck of the bottle. It will also be seen that the device practically comprises only three parts—viz., the cage, the valve, and the cork.

In operation, after the bottle has been filled, the cage with its cylindrical cork is inserted into the neck of the bottle and forced

inwardly until its circumferential flange 23 engages the shoulder 6 and the spring-catches 24 engage their shoulder 7. The cage is then locked in position. When it is desired to 5 pour the liquid from the bottle, the bottle is inverted with the hinge of the valve uppermost. The resultant effect on the valve from the tendency of the liquid to swing it away from the seat 9 of the inner member and the 10 tendency of the inflowing air to swing it away from the inner seat of the outer member will cause the valve to vibrate between the two, thus permitting the liquid to escape into the 15 bore 21 of the outer member and from thence through the lowermost of the holes 20 into the neck of the bottle and from thence out through the mouth of the same. Should any one attempt to refill the bottle, it will be found practically impossible, for the reason that if 20 the bottle is held in a vertical position the spherical valve will close the inner member of the cage, and should the bottle be inverted the valve will close the outer member of the cage. The weight of the valve is sufficient 25 to withstand any attempt to force the liquid into the bottle.

What I claim is—

1. The combination with a bottle-neck, of a non-refillable device inserted therein consist- 30 ing of a cage comprising inner and outer members spaced apart, valve-seats in the adjacent ends of the two members and a valve hinged between the two members in position to engage the one or the other of the valve-seats.
2. The combination with a bottle-neck, of 35 a non-refillable device consisting of a cage comprising an inner member open at both ends, an outer member spaced from the inner member open at its inner end and closed at its 40 outer end, the outer member having holes at different distances from its outer end and a valve hinged between the two members in position to close the one or the other of the members.
3. The combination with a bottle-neck, of 45 a non-refillable device inserted therein consist-

ing of a cage comprising outer and inner members spaced apart having valve-seats at their adjacent ends and a spherical valve hinged between the two members in position to engage 50 the one or the other of the valve-seats.

4. The combination with a bottle-neck having a reduced bore forming inner and outer shoulders, of a non-refillable device inserted in the bottle-neck composed of a cage comprising 55 inner and outer members spaced apart, a valve hinged between the two members arranged to close the one or the other of the members and means carried by the cage engaging the said inner and outer shoulders for locking the cage 60 in the bottle-neck.

5. The combination with the neck of a bottle having a reduced bore forming inner and outer shoulders, of a non-refillable device inserted in the bottle-neck composed of a cage 65 comprising inner and outer members spaced apart, a valve hinged between the two members in position to alternately close the one or the other, a flange carried by the outer member engaging the outer shoulder and 70 spring-catches carried by the inner members engaging the said inner shoulder.

6. The combination with the neck of a bottle having a reduced bore forming inner and outer shoulders, of a non-refillable device consist- 75 ing of a cage comprising inner and outer members spaced apart, a spherical valve hinged between the two members in position to open and close the one or the other, a tubular cork inclosing the cage within the re- 80 duced bore of the bottle-neck and means engaging the inner and outer shoulders for locking the cage within the bottle-neck.

In testimony that I claim the foregoing as my invention I have signed my name, in 85 presence of two witnesses, this 29th day of March, 1905.

ORRIE H. FISHBURNE.

Witnesses:

FREDK. HAYNES,
F. GEORGE BARRY.