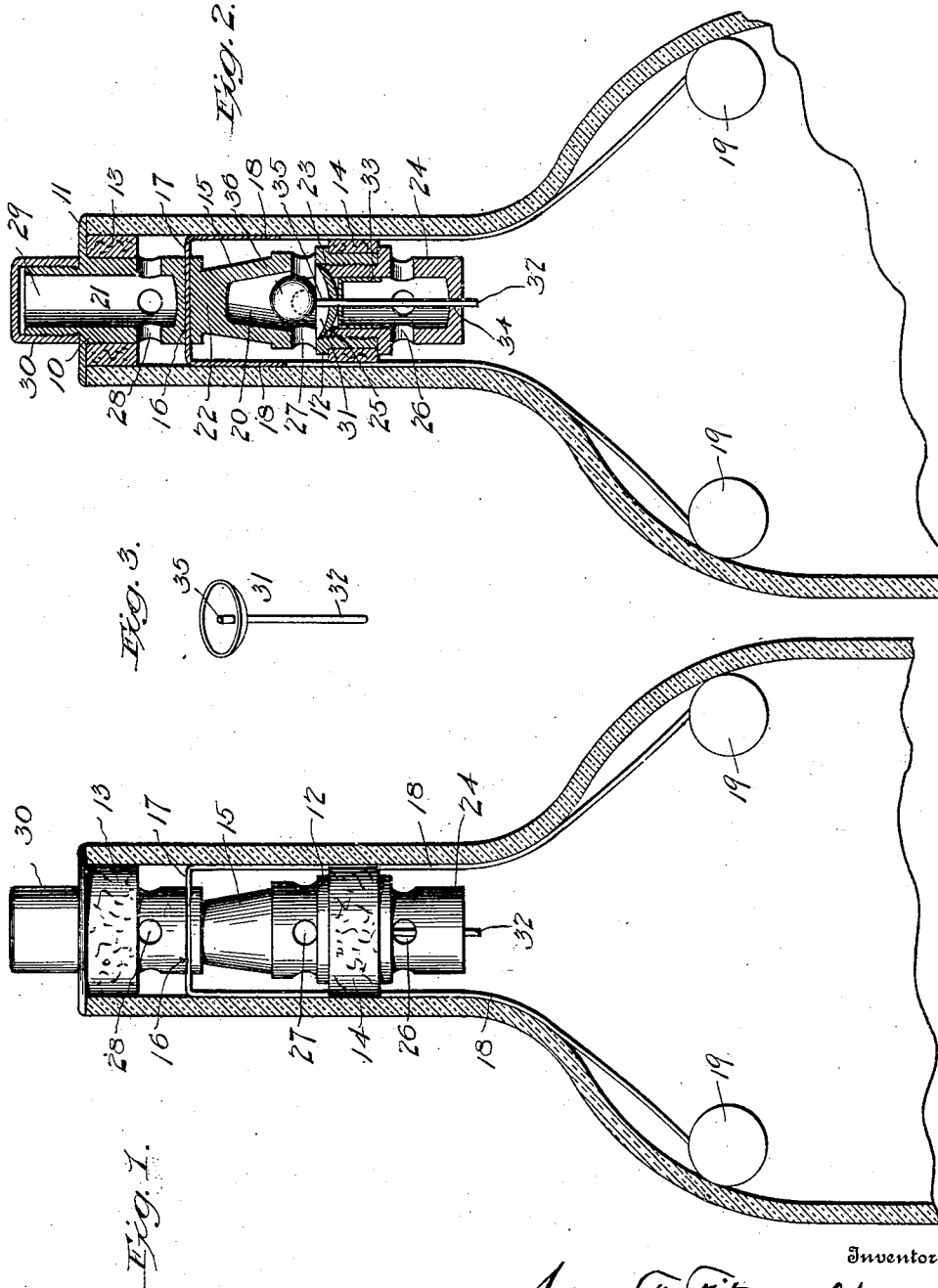


J. F. FITZGERALD.
 NON-REFILLABLE BOTTLE STOPPER.
 APPLICATION FILED MAY 20, 1908.

903,693.

Patented Nov. 10, 1908.



Witnesses
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UNITED STATES PATENT OFFICE.

JOHN F. FITZGERALD, OF ALBANY, NEW YORK.

NON-REFILLABLE-BOTTLE STOPPER.

No. 903,693.

Specification of Letters Patent.

Patented Nov. 10, 1908.

Application filed May 20, 1908. Serial No. 433,892.

To all whom it may concern:

Be it known that I, JOHN F. FITZGERALD, a citizen of the United States, residing at Albany, in the county of Albany and State of New York, have invented certain new and useful Improvements in Non-Refillable-Bottle Stoppers, of which the following is a full, clear, and exact specification.

This invention relates to certain new and useful improvements in non-refillable bottles and is particularly designed as an improvement upon the structure illustrated and described in Letters Patent No. 859,055, granted July 2, 1907, to Thomas J. Fitzgerald.

The invention has for its object the production of a simple and inexpensive device adapted to serve as a bottle closure and so constructed as to be readily applied to a bottle by unskilled labor without special apparatus or tools.

A further object is to provide an improved valve so constructed as to be automatically seated just as soon as the bottle neck is moved slightly above a horizontal position.

The invention will be hereinafter fully set forth and particularly pointed out in the claims.

In the accompanying drawing:—Figure 1 is a vertical sectional view of a portion of a bottle disclosing my improved closure in side elevation. Fig. 2 is a similar view, the stopper being also shown in vertical section. Fig. 3 is a detail view of the valve.

Referring to the drawing, 10 designates a casing provided with a flange 11 adapted to rest upon the top or mouth of a bottle neck, and an annular collar 12. Cork sleeves 13, 14, embrace said casing adjacent the flange 11 and collar 12 respectively, and serve to support said casing in position in said bottle neck. The exterior wall of said casing 10 is reduced in diameter as indicated at 15, forming a shoulder, and above the latter is formed a slot 16 adapted to receive the connecting portion 17 of spring locking arms 18 formed integral therewith and provided with locking enlargements 19, adapted to engage the breast of the bottle.

The casing 10 is provided with two chambers 20, 21, separated by a solid wall 22. The interior walls of said chamber 20 are substantially parallel with the walls 15, thereby forming an incline 20^a, whereby the ball weight 36 is caused to more readily op-

erate the valve when the bottle is lying on its side, for example, or held in such position. The lower end of the valve chamber 20 is provided with an internally-threaded portion 23 adapted to receive a plug 24 provided with a valve seat 25. The plug 24 is provided with inlet openings 26 for chamber 20 and outlet openings 27 are formed in casing 10 above the valve seat 25. The discharge chamber 21 is provided with inlet openings 28 and a central discharge orifice 29 normally closed by a screw cap 30. The valve 31 is of cup shape and secured to a stem 32 adjacent one end thereof, which latter is engaged by a guide 33 and a guide opening 34, the latter being formed in the bottom of plug 24. Said valve is also provided with a central pin or projection 35 and a weight 36, preferably spherical in form, is located in valve chamber 20 and arranged to effect the seating of said valve.

In practice, when it is desired to insert my improved closure into the neck of a bottle, the arms 18 are pressed together and the entire device forced into position, whereupon the cork rings or sleeves 13, 14, will support the casing 10 and the enlargements 19 will separate to engage the breast of the bottle and thereby prevent removal of said casing. To empty the bottle the same is tipped so that the ball 36 rolls out of engagement with the valve 31, whereupon liquid entering openings 26 will unseat valve 31 and flow out through openings 27 into the space between said casing 10 and the neck of the bottle. From thence, it enters chamber 21 through openings 28 and finally passes out through the nipple 29. Just as soon as the bottle is moved so that the neck reaches a horizontal position, the weight 36 will engage pin 35 and force valve 31 to its seat long before the bottle reaches a vertical position. In this manner any attempt to refill the bottle is defeated for the reason that the valve is firmly seated before the bottle assumes such a position as would permit liquid to enter the same.

Having thus described my invention what I claim and desire to secure by Letters Patent of the United States is:

1. A bottle closure of the character described, comprising a casing provided with an outlet chamber and a valve chamber separated by a solid wall, a cup-shaped valve disk located in said valve chamber, a rod to which said disk is secured and projecting

slightly above the plane of the disk, means for guiding said rod, a weight arranged to engage said disk and the projecting portion of said pin, and means for supporting said casing in the neck of a bottle.

2. A bottle closure of the character described, comprising a casing provided with an outlet chamber and a valve chamber separated by a solid wall, a cup-shaped valve disk located in said valve chamber, a pin or projection located centrally of the concave portion of said disk, means for guiding said valve, a weight arranged to engage said disk and pin and means for supporting said casing in the neck of a bottle.

3. A closure of the character described, comprising a casing having a valve chamber and an outlet chamber separated by a solid wall, an exterior slot being formed in said wall, and locking arms provided with an integral connecting portion secured in said slot.

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

JOHN F. FITZGERALD.

Witnesses:

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