E. C. FUCHS.

NON-REFILLABLE BOTTLE.

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1,089,205.

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Fig. 1.

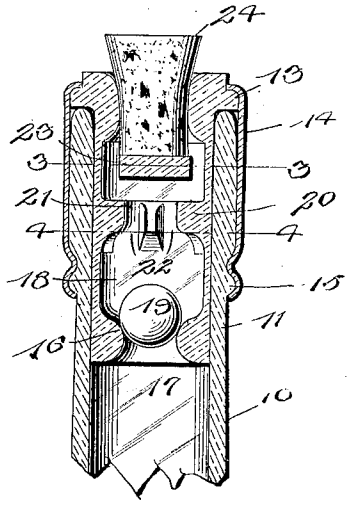


Fig. 2.

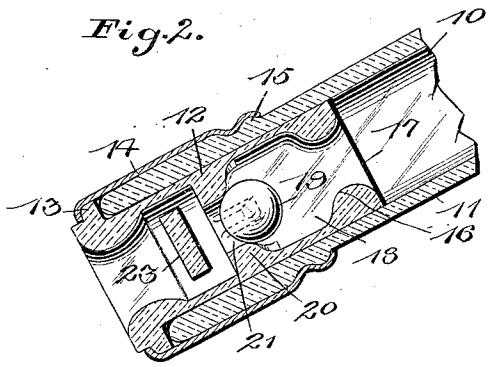


Fig. 5.

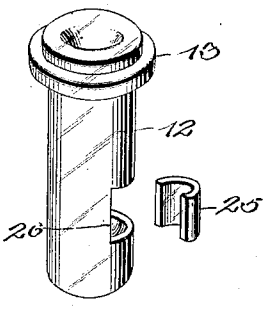


Fig. 3.

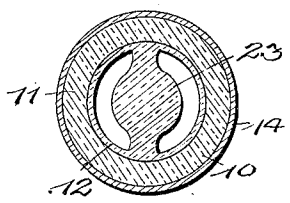
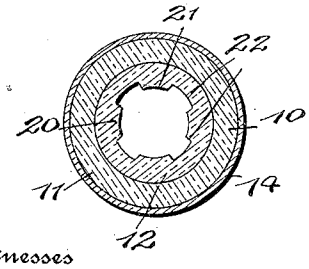


Fig. 4.



Witnesses

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NON-REFILLABLE BOTTLE.

1,089,205. Specification of Letters Patent. **Patented Mar. 3, 1914.**

Application filed April 8, 1913. Serial No. 759,722.

To all whom it may concern:

Be it known that I, ERNEST C. FUCHS, a subject of the Emperor of Germany, residing at Rochelle Park, in the county of Bergen and State of New Jersey, have invented new and useful Improvements in Non-Refillable Bottles, of which the following is a specification.

The invention relates to bottles, and more particularly to bottles of the non-refillable type, and has for an object to provide a bottle which cannot be conveniently refilled after the original contents have been withdrawn therefrom.

The invention embodies, among other features, the use of a tubular member inserted within the neck of a bottle and secured therein with the head of the tubular member projecting upwardly beyond the neck and reposing on the upper edge thereof, a suitable valve chamber being formed within the tubular member and containing a ball valve loosely mounted therein and which normally closes a passage from the bottle to the valve chamber when the bottle is in an upright position, the said ball valve being movable forwardly in the tubular member to uncover the mentioned passage when the bottle is tilted so that the contents of the bottle can flow outwardly through the tubular member and the neck of the bottle, means being provided for limiting the forward movement of the ball valve and the said tubular member having a baffle arranged above and in spaced relation to the ball valve to prevent anyone from tampering with the ball valve in an endeavor to refill the bottle with a spurious fluid.

In the further disclosure of the invention reference is to be had to the accompanying drawings, constituting a part of this specification, in which similar characters of reference denote corresponding parts in all the views, and in which:

Figure 1 is a vertical sectional view of my device, showing the valve in closed position; Fig. 2 is a similar view showing the valve in open position; Fig. 3 is a horizontal sectional view taken on the line 3—3 in Fig. 1; Fig. 4 is a horizontal sectional view taken on the line 4—4 in Fig. 1; and Fig. 5 is a perspective view of the tubular member, showing a portion thereof removed therefrom for the purpose of inserting the ball valve in the valve chamber.

Referring more particularly to the views, I provide a bottle 10 including an integral neck 11 and in which is arranged a tubular member 12 provided with an integral flanged head 13, with the flange of the head reposing on the upper edge of the neck 11 as shown, the body of the tubular member being inserted within the neck. The tubular member is secured in rigid position by a suitable hood 14 engaging the flange of the head 13 and encircling the neck of the bottle, with the lower end of the hood preferably crimped or otherwise pressed against an annular rib 15 formed on the exterior of the neck of the bottle. The lower end of the tubular member is provided with an interior circular seat 16 forming a passage 17 from the bottle to a valve chamber 18 provided in the tubular member, and a ball valve 19 is loosely mounted in the valve chamber and adapted to normally repose on the seat 16 to close the passage 17.

A frusto-conical member 20 is formed within the tubular member 12 and arranged to provide a passage 21, smaller than the ball valve 19, a series of auxiliary passages 22 being formed in the walls of the member 20, as shown, for the passage of the fluid when the bottle body is tilted. Now it will be readily apparent that when the bottle is in an upright position the ball valve 19 will repose on the seat 16 and close the passage 17. When the bottle is tilted, however, the ball valve is moved forwardly in the valve chamber and engages the member 20 which limits the forward movement of the valve, it being now apparent that the passage 17 is open so that the fluid can flow from the bottle into the valve chamber. Now by providing the auxiliary passages 20 the fluid can pass from the valve chamber into the upper portion of the tubular member and in this portion of the tubular member there is provided a baffle 23 having portions thereof spaced from the inner wall of the tubular member, with the said baffle lying above and in spaced relation to the member 20. The fluid passes around the baffle 23 and then passes outwardly through the upper end of the tubular member, as will be readily understood.

An ordinary stopper 24 can be inserted in the upper end of the tubular member 12, with the downward movement of the stopper limited by the baffle 23 which it will engage, it being understood that this stopper is only initially used when it is desired to send the bottle, previously filled, to the retailer, although the stopper can be used at any time thereafter if desired.

The tubular member 12 is preferably cast or molded from porcelain or glass and in order to permit of placing the ball valve 19 in the valve chamber 18 after the tubular member is formed, a portion 25 of the tubular member, constituting a wall of the valve chamber 18, is made separate from the tubular member, with an opening 26 equivalent to the dimensions of the portion 25 being formed in the tubular member so that when the tubular member has been formed, the ball valve 19 is passed through the opening 26 to lie in the valve chamber 18, after which the portion 25 is placed in position to close the opening 26, the said portion being preferably sealed or otherwise rigidly secured on the tubular member to form a part thereof and constitute a portion of the wall of the valve chamber. The tubular member can now be inserted in the neck of the bottle which has been previously filled with the desired fluid and is sealed or otherwise secured therein in the manner mentioned heretofore.

Having thus described my invention, I claim:

In a non-refillable bottle, the combination with a bottle body including a neck, of a tubular member carried within the neck and having an enlarged portion projecting exteriorly thereof, the said tubular member having a side opening and a valve chamber including an inlet and an outlet, a ball valve normally closing the inlet to the valve chamber and freely movable therein to be advanced to the said outlet when the bottle body is tilted, the said ball valve being placed in the tubular member by passing the same through the side opening therein, a closure for normally closing the same opening and adapted to constitute a wall of the tubular member, a stopper normally closing the entrance to the tubular member, and means carried on the exterior of the neck and engaging the exteriorly projecting portion of the said tubular member to secure the same rigidly within the neck of the bottle body.

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

ERNEST C. FUCHS.

Witnesses:
JOSEPH BOTT, Jr.,
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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents. Washington, D. C."