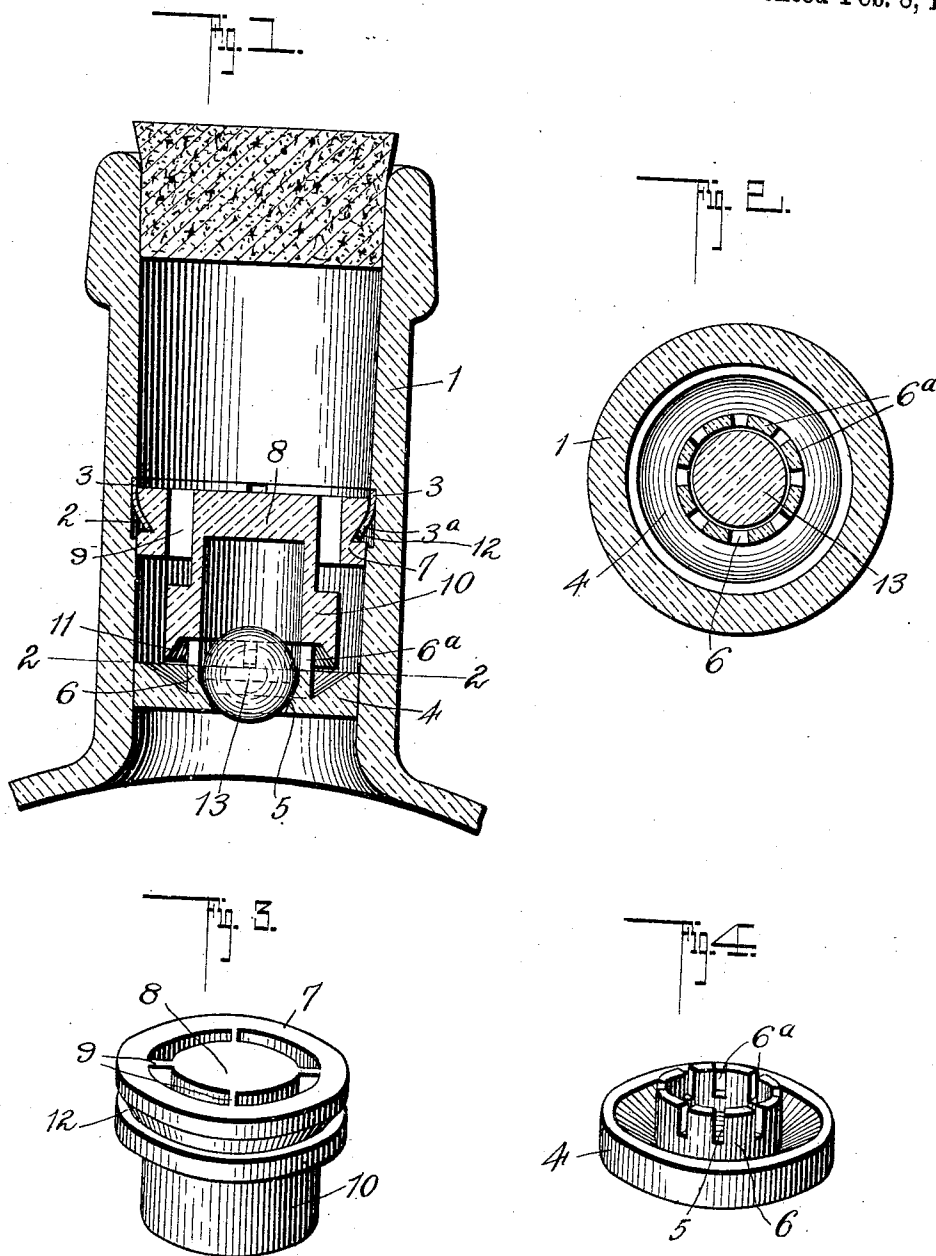


G. H. GUMBEL.
NON-REFILLABLE BOTTLE.
APPLICATION FILED JAN. 14, 1909.

948,420.

Patented Feb. 8, 1910.



Witnesses

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UNITED STATES PATENT OFFICE.

GEORGE H. GUMBEL, OF BROOKLYN, NEW YORK.

NON-REFILLABLE BOTTLE.

948,420.

Specification of Letters Patent.

Patented Feb. 8, 1910.

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To all whom it may concern:

Be it known that I, GEORGE H. GUMBEL, a citizen of the United States, residing at Brooklyn, in the county of Queens and State of New York, have invented a new and useful Improvement in Non-Refillable Bottles, of which the following is a specification.

This invention relates to a non-refillable bottle, and the object of the invention is a bottle of this type which is easy of construction, and which can be manufactured by the ordinary processes of manufacturing bottles, and also by the average glass bottle manufacturer.

The invention consists in a bottle having a downwardly tapering neck within which is seated two separate ball retaining devices coöperating together to permit outflow of the contents of the bottle and to prevent tampering with the ball valve which prevents refilling.

The invention also consists in the novel features of construction hereinafter fully described, pointed out in the claim and shown in the accompanying drawings, in which:

Figure 1 is a vertical section through the neck of the bottle, and the ball retaining devices. Fig. 2 is a section on the line 2—2 of Fig. 1. Fig. 3 is a perspective view of the upper portion of the retaining device. Fig. 4 is a perspective view of the lower member of the ball holding device.

In these drawings 1 represents the bottle neck which tapers slightly toward the bottle and which is provided with an annular recess 2 midway its ends. A split spring ring 3 is fitted in the recess 2, the lower marginal portion of said ring being bent inwardly as shown at 3^a. A lower retaining member 4 is of glass and fits snugly in the lower portion of the neck. This member is provided with a beveled valve seat 5 surrounded by a vertical flange 6 which is cut out at intervals as shown at 6^a to permit passage of the liquid through it. The upper member of the retaining device is also of glass and consists of a ring 7 within which is arranged a glass sleeve 8 secured to the ring by arms 9, the sleeve being spaced from the ring, and this

sleeve has a solid top and opens downwardly. The sleeve is of much greater length than the width of the ring and below and spaced from the ring the sleeve is surrounded by a comparatively thick flange 10, the lower edge of which is undercut as shown at 11. The ring 7 is provided with a beveled circumferential groove 12. A ball valve 13 fits in the seat 5 and works in the cage formed by the flange 6 and the sleeve 8.

When the parts are assembled in position, the bottle being first filled, the lower member 4 is passed through the spring ring 3 and into the lower contracted portion of the neck where it becomes wedged, and the upper retaining member is then put into position covering the lower member 4 and the ball 13. When in position, the inwardly bent portion 3^a of the spring 3 extends into the groove 12 of the ring 7 and locks it against withdrawal. The sleeve 8 rests upon the flange 6, and the undercut flange 10 overhangs and guards the openings 6^a cut in the flange 6 and through which the liquid escapes. The upper member not only locks the lower member in position but also prevents the insertion of a wire or other instrument for the purpose of tampering with the ball valve 13.

What I claim is:

The combination with a tapering bottle neck, of a ball retaining device fitted in said neck, said device having a valve seat formed therein, a cut flange inclosing said seat, a downwardly open sleeve resting on said flange, an overhanging flange carried by the sleeve, said overhanging flange overlapping, but being spaced from the flange first mentioned, arms carried by the sleeve, a ring supported by said arms, the ring being grooved, and a split spring ring carried by the bottle neck, the said ring being bent longitudinally and its lower portion extending inwardly into the groove of the first mentioned ring.

GEORGE H. GUMBEL.

Witnesses:

BENJAMIN L. AVERY,
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