H. J. ROSENBERG.

NON-REFILLABLE BOTTLE.

APPLICATION FILED MAR. 25, 1910.

985,940. Patented Mar. 7, 1911.

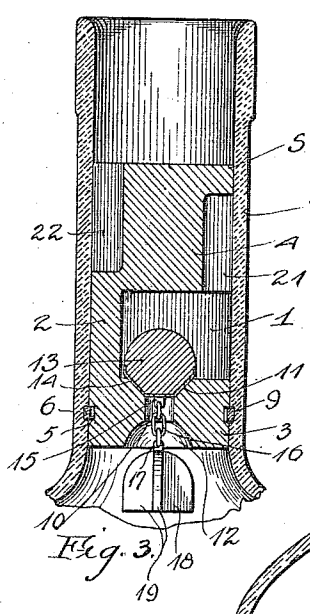

Fig. 3.

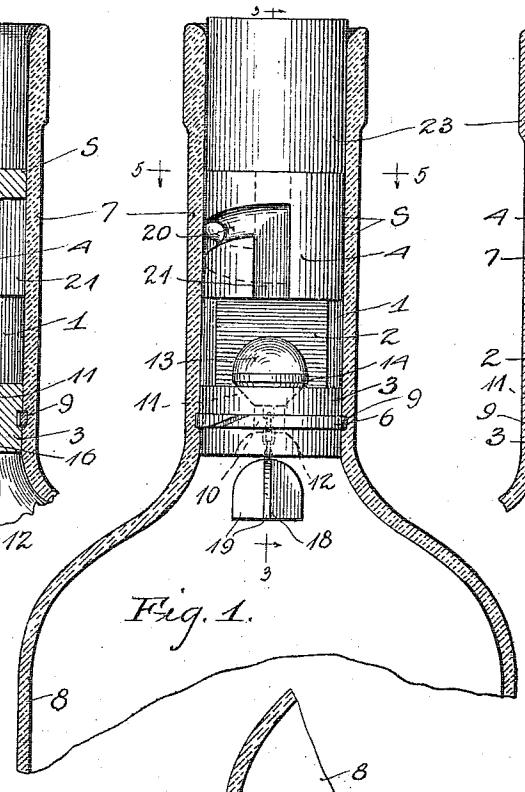

Fig. 1.

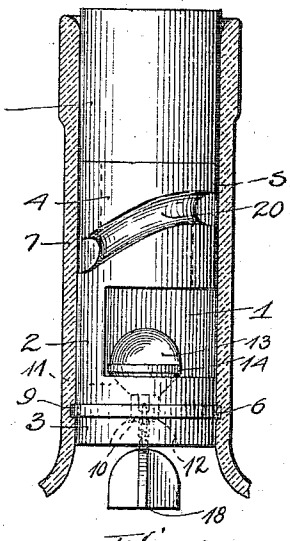

Fig. 2.

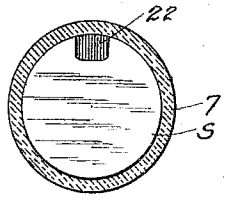

Fig. 5.

Fig. 4.

Fig. 6.

Witnesses:
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UNITED STATES PATENT OFFICE.

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NON-REFILLABLE BOTTLE.

985,940. Specification of Letters Patent. Patented Mar. 7, 1911.

Application filed March 25, 1910. Serial No. 551,575.

To all whom it may concern:

Be it known that I, HERMAN J. ROSENBERG, a citizen of the United States, and residing at Evanston, county of Cook, and State of Illinois, have invented new and useful Improvements in Non-Refillable Bottles, of which the following is a specification.

My invention relates to non-refillable bottles, and contemplates more simple and more efficient construction and arrangement.

The nature of my invention will be plainly understood from the following specification and accompanying drawings, in which drawings,

Figure 1, is an elevation view, the upper part of the bottle being in section; Fig. 2, is an elevation view, looking from the left of Fig. 1, the bottle being in section; Fig. 3, is a sectional view taken on plane 3—3 Fig. 1, Fig. 4, is a view like Fig. 1, showing the bottle inverted, Fig. 5, is a sectional view taken on plane 5—5 of Fig. 1, and Fig. 6, is a top view of the valve weight.

The refilling preventing stoppers may be of any suitable material, preferably of glass, and is generally cylindrical with a diametral zone section cut therefrom to leave a valve compartment 1 and the segmental part 2 between the head and base 3 and four (4) respectively. Encircling the base 3 is a groove 5 accommodating the expansion ring 6. The stopper is slid into the neck 7 of the bottle 8 until the ring 6 can expand into the groove 9 formed in the neck, the ring then engaging both grooves to lock the stopper to the bottle. Through the base 3 extends a passage way 10 which flares outwardly at its upper end to form the tapered valve seat or pocket 11, and which flares outwardly at its lower end to form the semi-spherical seat or pocket 12. In the valve compartment is a valve 13 having a truncated conical base 14 which fits the valve seat or pocket 11. An eyelet 15 extends from the base and receives one end of a chain 16 whose other end engages the eyelet 17 on the counterweight 18 whose shape is such that it will snugly fit the pocket 12 when the bottle is inverted. As shown in Fig. 6 the counterweight is formed of a number of radiating wings 19 whose upper ends are rounded to fit the semispherical pocket 12. The valve is preferably constructed to have a specific gravity less than that of the liquid contained in the bottle. It may be entirely of some light material such as cork, or, as shown, the base 14 may be in the form of a metal shell and the remainder of light material. The valve compartment connects with the exterior through a roundabout passage way comprising the middle downwardly deflecting spiral peripheral groove 20, the longitudinal groove 21 extending from one end of the spiral groove to the valve compartment, and the longitudinal groove 22 extending from the other end of the spiral groove to the exterior. Sealing the mouth of the bottle is an ordinary cork 23.

After a bottle is filled, the re-fill preventing stopper is slid into the neck until locked in place by the expansion ring, and the sealing cork applied. When the contents are to be used, the cork is withdrawn, and upon inversion of the bottle the valve falls from its seat but only far enough to open the passage way 10, being anchored against further movement by the counterweight which enters the pocket 12. The liquid now flows between the wings of the counterweight and through the passageway 10 into the valve compartment from whence it flows through the roundabout passage way and out of the bottle. When the bottle resumes upright position the counterweight falls and reseats the valve, and the contents are protected. The valve also prevents refilling of the bottle for, when the bottle is in an upright position, the valve is seated and prevents liquid from passing through the passageway 10. If attempt is made to force liquid into the bottle when in inclined or inverted position, the inflowing liquid immediately floats the light valve into seating position to close the passageway 10 against the liquid. Thus, no matter what is the position of the bottle the valve will close tightly upon attempt to refill. The roundabout passageway through the head 3 prevents tampering with the valve by means of wire or other implements.

Having thus described my invention I desire to secure the following claim by Letters Patent:

In combination, a bottle having an annular groove in its neck, a cylindrical stopper having the greater part of an intermediate zone cut away to leave a valve chamber 1 and the base and head parts 3 and 4 respectively, said base part having a central vertical passageway flared at its upper end to form a valve seat and flared at its lower end to form a pocket, a chain passing

through said passageway, a counterweight at the lower end of said chain for engaging in said pocket when the bottle is inverted, said counterweight having passageways for liquid, a conical shell 14 at the other end of said chain for seating in said seat, a semi-spherical cork float 13 secured to said shell, the head part having the vertical peripheral grooves 21 and 22 at opposite sides and the downwardly deflecting groove 20 connecting the grooves 21 and 22, the base part having a peripheral groove, and a spring ring engaging in said peripheral groove and in said annular groove in the neck of the bottle to lock the stopper in place.

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

HERMAN J. ROSENBERG.

Witnesses:
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