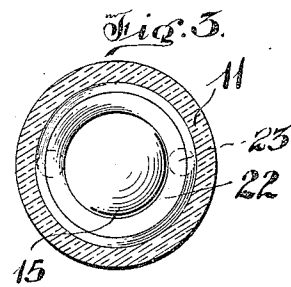
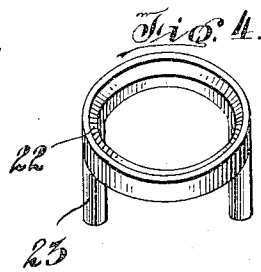
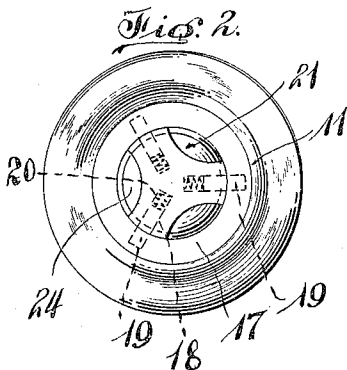
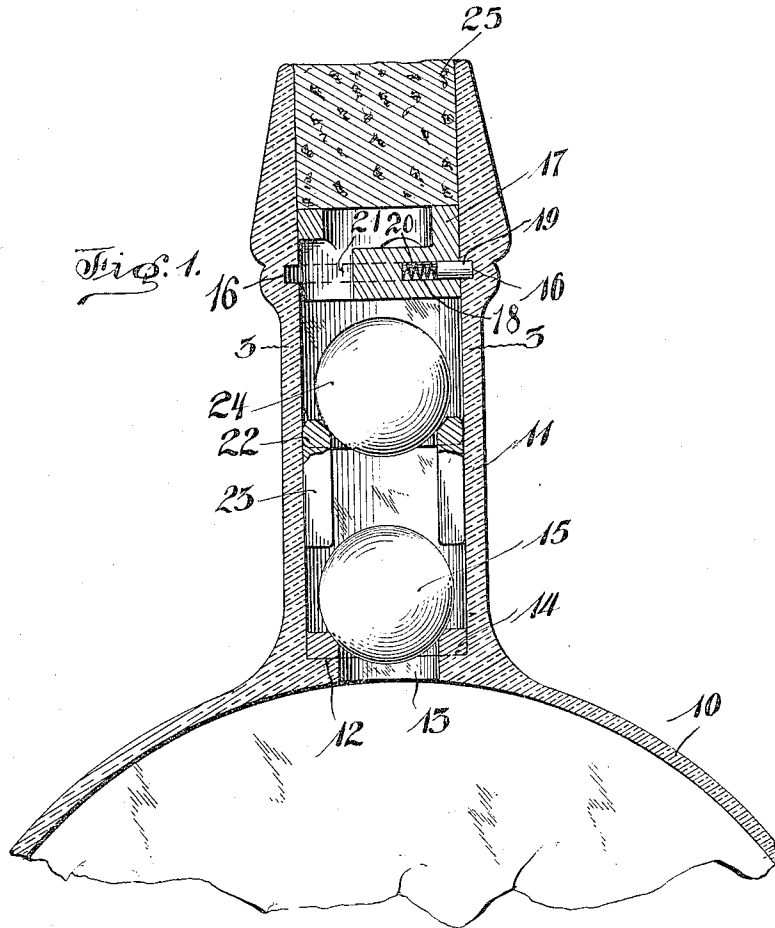


B. SARRO, W. W. LIVERMAN & G. PETRELLA.
 NON-REFILLABLE BOTTLE.
 APPLICATION FILED JULY 23, 1910.

1,069,478.

Patented Aug. 5, 1913.



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UNITED STATES PATENT OFFICE.

BENIAMINO SARRO, WILLIAM W. LIVERMAN, AND GIUSEPPINO PETRELLA, OF
BROOKLYN, NEW YORK.

NON-REFILLABLE BOTTLE.

1,069,478.

Specification of Letters Patent.

Patented Aug. 5, 1913.

Application filed July 23, 1910. Serial No. 573,467.

To all whom it may concern:

Be it known that we, BENIAMINO SARRO, WILLIAM W. LIVERMAN, and GIUSEPPINO PETRELLA, citizens of the United States, residing at Brooklyn, in the county of Kings, State of New York, have invented certain new and useful Improvements in Non-Refillable Bottles; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in non-refillable bottles, and has for one of its objects to improve the construction and increase the efficiency and utility of devices of this character.

Another object of the invention is to provide a device of this character which may be applied to bottles employed for various purposes, and to bottles of various sizes or capacity.

With these and other objects in view, the invention consists in certain novel features of construction as hereinafter shown and described and then specifically pointed out in the claim; and, in the drawings illustrative of the preferred embodiment of the invention, Figure 1 is a sectional view of a portion of a bottle including the neck with the improvement applied, Fig. 2 is a plan view of the bottle neck portion of the improved device, Fig. 3 is a transverse section on the line 3—3 of Fig. 1, with the valve detached, Fig. 4 is a perspective view of the spacer member employed between the two ball valves.

In the drawings a portion of the body of the bottle is represented at 10 with the neck portion at 11. Formed in the neck 11 at its juncture with the body 10 is an inwardly directed annular rib 12 forming a contracted discharge 13 to the bottle. Bearing upon the rib 12 is a bearing ring 14 having a seat in its upper inner face to receive a valve 15, the latter preferably being of globular form, as shown. Formed in the neck portion 11 of the bottle and spaced from its outer end is an annular channel 16. Located within the neck portion 11 of the bottle opposite the channel 16 is a cylindrical member 17 having a plurality of radial cavities 18 in each of which a pin 19 is yieldably supported by a spring 20, the outer ends of the pins fitting within the annular channel 16,

and thus locking the cylindrical member within the bottle neck. By this arrangement after the cylindrical member is once inserted it cannot be removed without destroying it, as the pins 19 cannot be reached without breaking the neck of the bottle.

The cylindrical member 17 is formed with a plurality of openings 21, preferably corresponding in number with the cavities 18, the openings providing communication through the cylindrical member. Any required number of the cavities 18 and pins 19 may be employed, but preferably three will be used, as shown, but a greater or lesser number may be employed as required. Located within the neck 11 between the ball valve 15 and the cylindrical member 17 is a stop ring 22 having two or more projections or feet 23 operating to maintain the ring 22 constantly spaced from the ball valve 15. The ring 22 is formed with a valve seat upon its upper face to receive a second ball valve 24, which is located between the ring 22 and the cylindrical member 17. The space between the inwardly directed portion 12 of the neck and the cylindrical member 17 will be sufficient to permit a certain degree of play to the valves so that the liquid will freely flow when the bottle is inverted, but which will effectually cut-off any attempts to refill the bottle.

The members 14—17—22 will preferably be of metal, while the valves 15—24 will preferably be of glass or like material.

The outer portion of the neck 11 is preferably formed to receive an ordinary detachable filling cork 25 but operates to protect the liquid in the bottle from the air, and may also be used as a means for sealing the bottle as required.

It will be noted that the legs 23 not only serve to prevent engagement of the valves 15 with the valve 24 to knock the latter from its seat, but they prevent also the valve 15 from lodging in the valve seat ring 22. Furthermore, they prevent tilting of the valve seat ring as well as rotation of it by affording additional friction, while permitting ready flow of the liquid through the bottle neck.

What is claimed is:—

In combination with a bottle having an inwardly extending circular shoulder at the base of the neck thereof and an interior circumferential channel adjacent the top of

the neck, of a valve seat-ring resting upon the shoulder, a guard member located within the upper portion of the neck and provided with a central fluid passage in the upper portion thereof and a series of fluid passages in the lower portion communicating with the central fluid passage, means carried by the guard member and projecting laterally into the channel in the neck for holding said guard member in position, a valve seat-ring located within the neck intermediate the guard member and the seat-ring on the shoulder of the neck, said intermediate seat-ring having a plurality of de-

pending legs, a ball valve designed to seat on the first mentioned seat-ring and limited in its upward movement by the legs, and a second ball valve adapted to seat on the intermediate seat-ring and limited in its upward movement by the guard member. 15

In testimony whereof, we affix our signatures, in presence of two witnesses. 20

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ELIA NUCCI.

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