

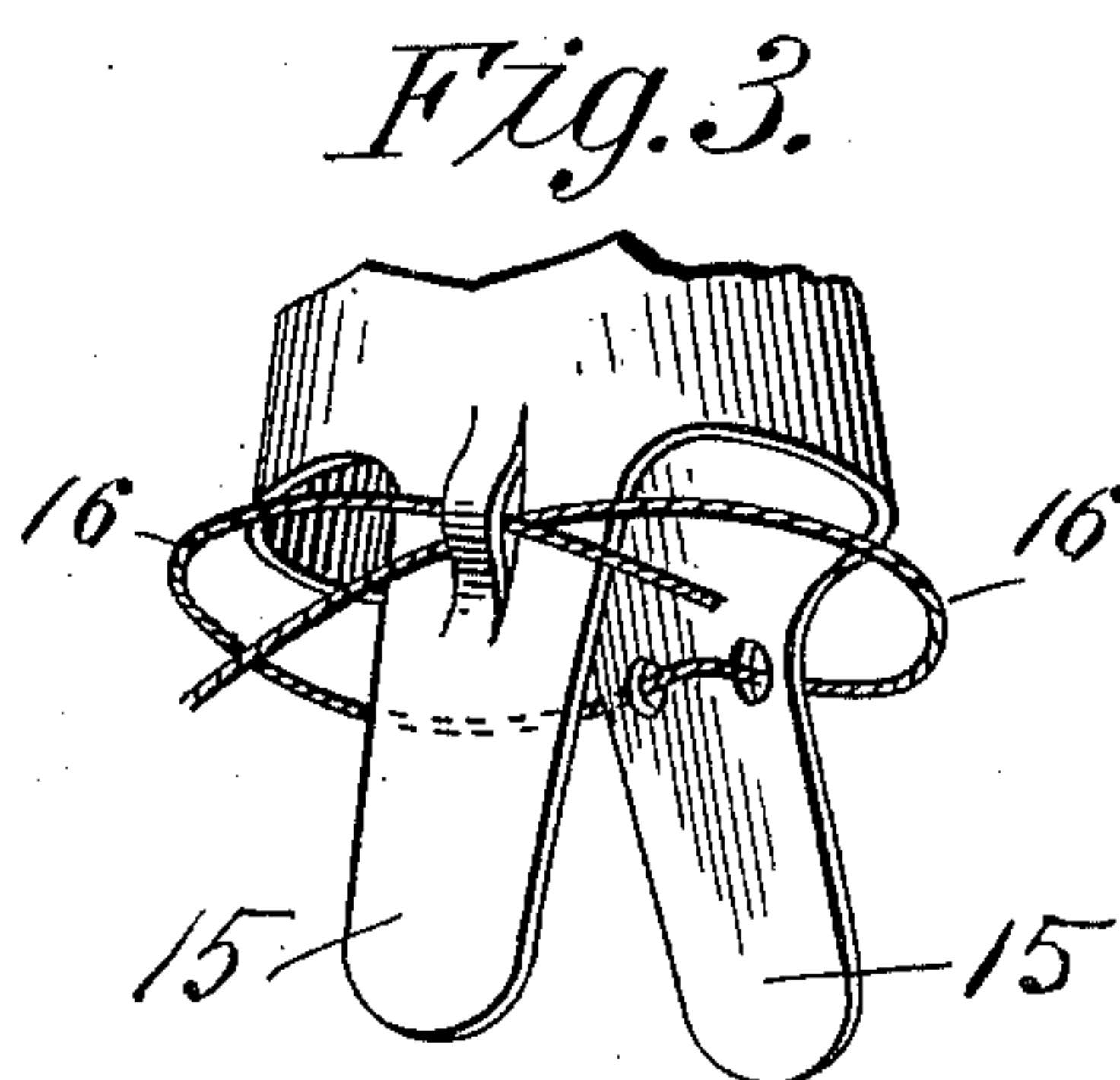
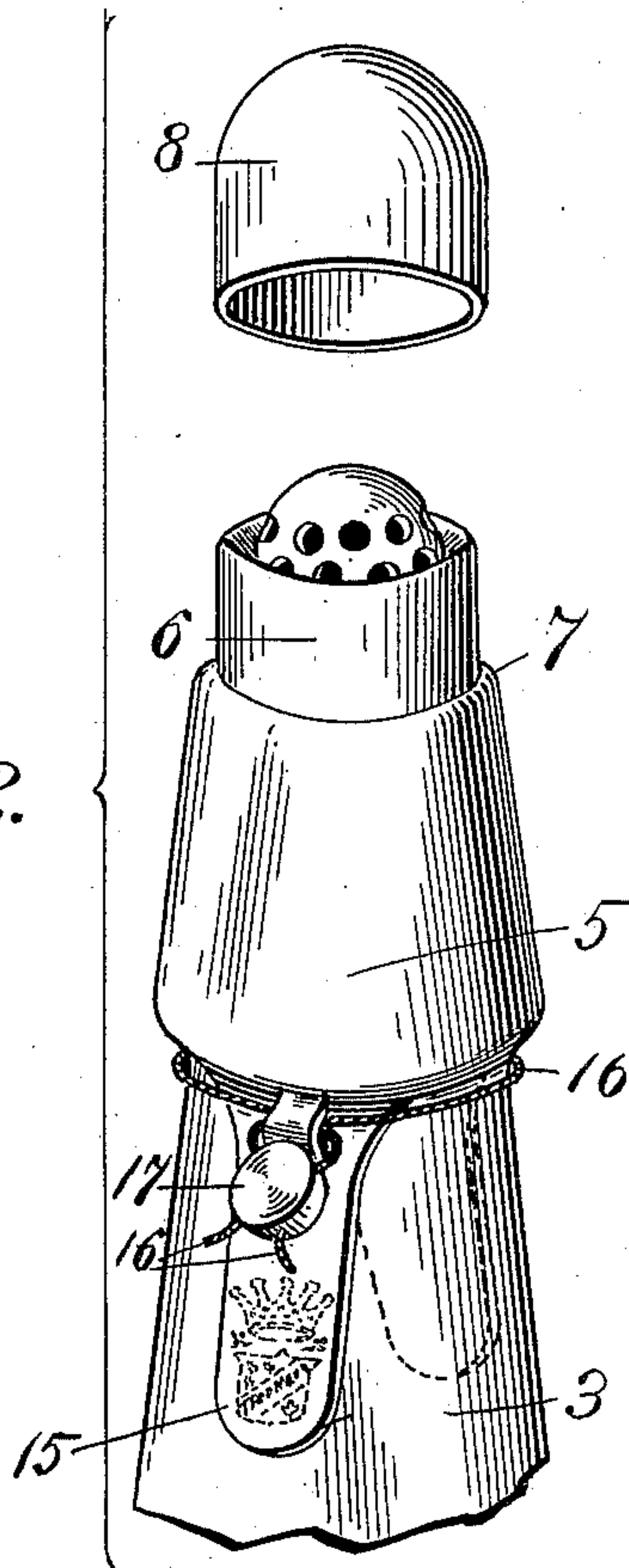
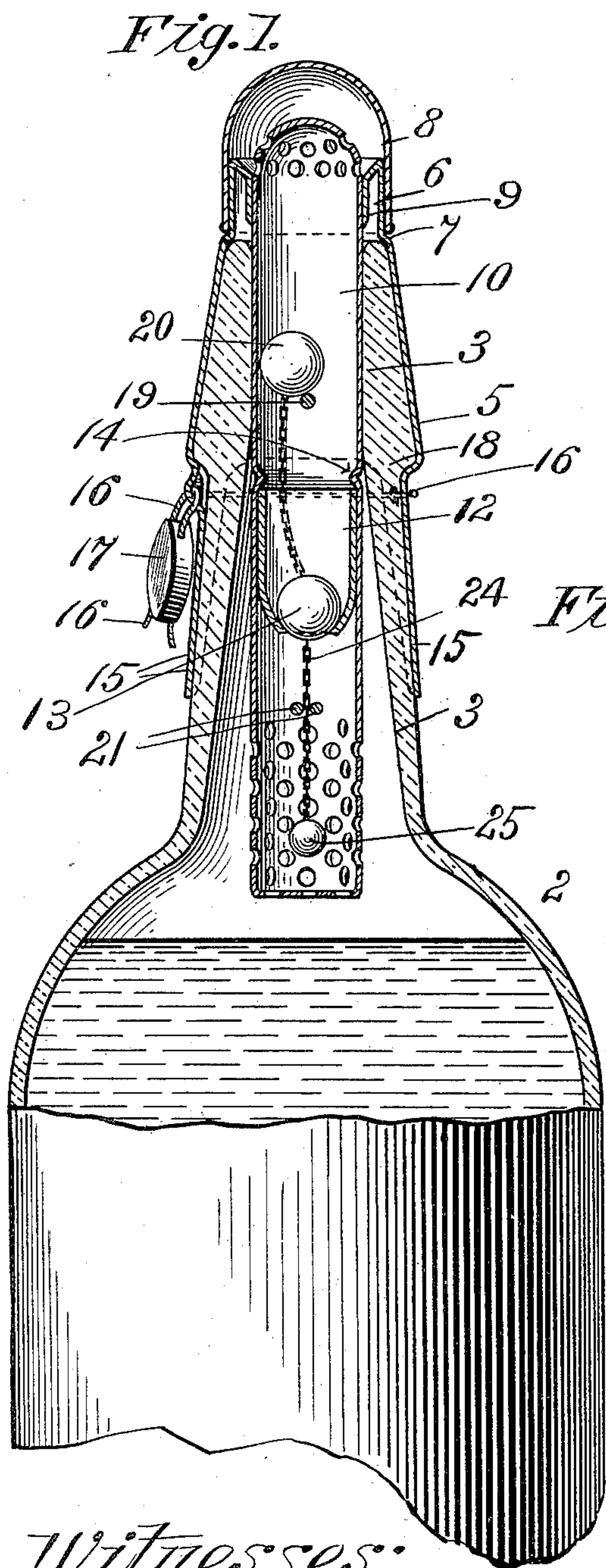
No. 610,874.

Patented Sept. 13, 1898.

L. DE NUCCI.
NON-REFILLABLE BOTTLE.

(Application filed Mar. 7, 1898.)

(No Model.)



Witnesses:
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UNITED STATES PATENT OFFICE.

LUIGI DE NUCCI, OF SPRINGFIELD, MASSACHUSETTS, ASSIGNOR OF ONE-TENTH TO GIUSEPPE SANTARISERO, OF SAME PLACE.

NON-REFILLABLE BOTTLE.

SPECIFICATION forming part of Letters Patent No. 610,874, dated September 13, 1898.

Application filed March 7, 1898. Serial No. 672,812. (No model.)

To all whom it may concern:

Be it known that I, LUIGI DE NUCCI, a citizen of the United States of America, residing at Springfield, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Non-Refillable Bottles, of which the following is a specification.

This invention relates to non-refillable bottles, the object being to provide an improved construction of this class of bottle devices containing novel devices which may be attached to an ordinary bottle for preventing the unauthorized or fraudulent use by others of a bottle and safety devices which are known to the public as originally used and which once contained the product of a certain person or company; and the invention consists in the peculiar construction and arrangement of the devices in and attached to the neck of the bottle, whereby said object is attained, all as hereinafter fully described, and more particularly pointed out in the claims.

In the drawings forming part of this specification, Figure 1 is a vertical sectional view of the upper portion of a bottle having my improvements applied thereto. Fig. 2 illustrates in side elevation a part of the bottle-neck and the portions of my improvements which appear on said neck when secured thereto and of a cap temporarily covering the nozzle of the bottle-neck. Fig. 3 illustrates in perspective view a detail part or parts of the devices shown in the preceding figures.

In the drawings, 2 indicates a part of the body, and 3 the neck, of a bottle, and 4 the contents of the same. To said bottle-neck 3 is applied the metallic jacket 5, whose upper portion is of tubular or other suitable form, whereby it is adapted to be placed closely upon the said neck and to be there sustained in position on the latter, as shown. The upper extremity of said neck in this case being conical, said jacket 5 is of like form or such as will fit closely thereupon. Above the said conical portion of said metallic jacket is a tubular extremity 6 of such diameter as provides a shoulder 7, which forms a rest or stop for a removable cap 8. To the lower border of said metallic jacket 5 are two down-hanging arms or extensions 15 15, each hav-

ing one or more openings therethrough, whereby a seal-holding wire cord 16 may be inter-laced therethrough, as shown, and to the two extremities of said cord a lead or other suitable seal 17 is so attached as to prevent the removal thereof without detection. The engagement of said cord 16 with said down-hanging arms 15 below the larger part or shoulder 7 on the bottle-neck 3 and the sealed union of the ends of said cord, as shown, by the seal 17 effects an attachment or union of said neck and the described parts connected thereto which cannot be unauthorizedly broken without the same becoming apparent. To the internal border of said tubular extremity 6 is secured the upper flaring border of a depending tube 9. A tube 10, of metal or other suitable material, of a diameter to fit the interior of the bottle-neck 3 sufficiently close to be there retained by frictional adhesion is there placed, as shown in Fig. 1. Said tube 10 has partially-closed upper and lower extremities, as shown, the latter being perforated to permit the flow of liquid through the tube and at the same time to guard against the convenient insertion of an instrument into said tube for the purpose of deranging the operative devices therein contained, which are below described. The lower ones of said perforations in the upper end of said tube 10 are so arranged above and relative to said flaring border of the depending tube 9 in order that liquid will drain from the outer side of the upper extremity of said metal tube 10 back into the same after liquid shall have been poured therethrough. A short ball-holding tube 12 is secured within said tube 10 about midway between the extremities of the latter, the lower end of which is contracted, so as to limit the downward movement of a ball or sphere 13 of suitable material, whose function is below described. Said tube 12 has one end abutting against an inwardly-extended concentric rib 14, whereby any inadvertent upward movement of said tube 12 is prevented. A stop-pin 19 is fixed across said tube 10, which limits the movement of a sphere or ball 20 in a downward direction in said last-named tube; also, two other pins 21 21 are fixed across said tube 10 below the end of said ball-holding tube 12, separated from each other suffi-

ciently to permit a chain 22 to be drawn freely therebetween. Said balls or spheres 13 and 20 are united by a chain 23, sufficiently long to permit said sphere 13 to freely seat itself in the contracted lower end of said ball-holding tube 12, while the sphere 20 is held from further downward movement by said stop-pin 19. A chain 24, connected to said sphere 13 by one end, passes downwardly between said pins 21 and has the stop-ball 25 secured on its lower end, as shown. The said spheres 13, 20, and 25 are shown in Fig. 1 in the positions which they respectively are found in while the bottle stands upright, as in said last-named figure, and whereby by the closing of the opening at the lower end of said ball-holding tube 12 any evaporation of the contents of the bottle is prevented. When the bottle is inverted for pouring liquid therefrom, the positive removal of the bottle-closing sphere 13 from the end of said ball-holding tube 12 is effected by the aid of the said sphere 20, which drops toward the outer extremity of said tube 10, and any undue movement of said spheres toward said outer extremity is arrested by the engagement of said stop-ball 25 under said pins 21. Said removable cap 8 is shown in place on the metallic jacket 5 while the bottle is not being used, and Fig. 3 shows the cap removed.

It will be noted that the devices comprising the protecting apparatus above described—viz., the metallic jacket 5, the two tubes 10 and 12, and their contained chain-united several spheres—are all as assembled applicable to ordinary forms of bottle-necks and adapted to be seal-fastened thereto, as described, and that while the said parts are sealed to the

bottle, as aforesaid, and the bottle is empty it cannot be refilled by pouring liquid into and through the nozzle, for the sphere 13 would stop the further flow, and if the bottle be somewhat inclined from a perpendicular in the effort to refill it the sphere 25 would prevent said sphere 13 from leaving its seat to permit any flow of liquid into the bottle.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The within-described non-refillable-bottle attachments comprising the jacket 5, having downhanging arms thereon, a fastening-wire surrounding and interlocking with said arms, a seal uniting the extremities of said wire, combined with the central tube 10, having perforated ends, the contracted inner tube 12, and the chain-connected spheres 20, 13, and 25, having limited movements within said tubes 10 and 12, and one thereof closing and opening a passage through said tube 12, substantially as described.

2. Safety devices for non-refillable bottles comprising the outer jacket 5, and means for locking said jacket to the bottle-neck combined with the tube 10, extending from within the bottle to the upper extremity of said jacket, the contracted inner tube 12, and the connected spheres 20, 13, and 25, having limited movements within the tube 10, whereby the passage through said tube 12, is opened and closed, substantially as described.

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