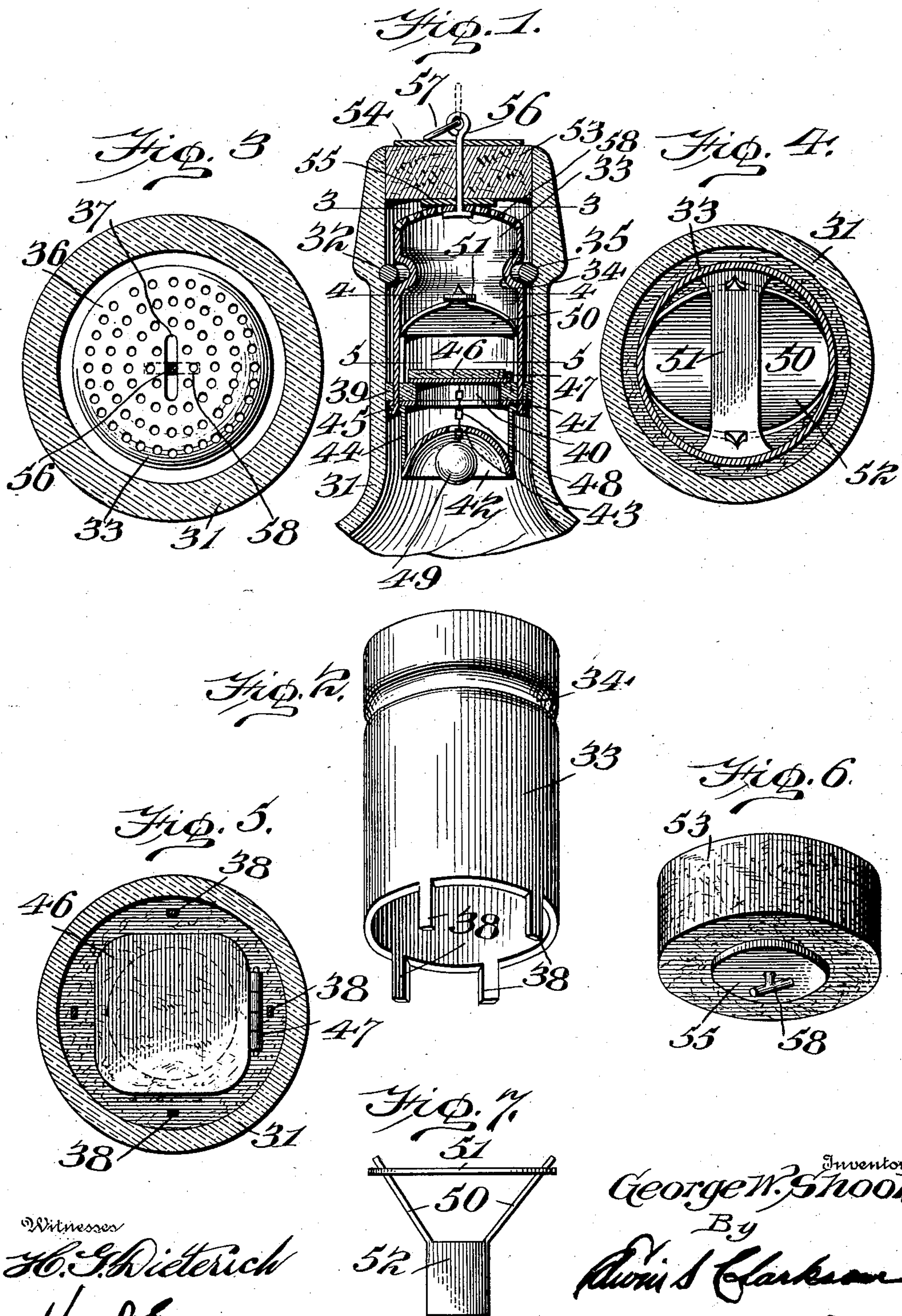


No. 744,695.

PATENTED NOV. 17, 1903.

G. W. SHOOK.
NON-REFILLABLE BOTTLE.
APPLICATION FILED JAN. 26, 1903.

NO MODEL.



Witnesses
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UNITED STATES PATENT OFFICE.

GEORGE W. SHOOK, OF JACKSONVILLE, FLORIDA, ASSIGNOR, BY MESNE ASSIGNMENTS, TO NON-REFILLABLE BOTTLE AND CORK COMPANY, OF JACKSONVILLE, FLORIDA, A CORPORATION OF FLORIDA.

NON-REFILLABLE BOTTLE.

SPECIFICATION forming part of Letters Patent No. 744,695, dated November 17, 1903.

Application filed January 26, 1903. Serial No. 140,657. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. SHOOK, a citizen of the United States, residing at Jacksonville, in the county of Duval, State of Florida, have invented certain new and useful Improvements in Non-Refillable Bottles, of which the following is a specification.

My invention relates to improvements in valves for non-refillable bottles; and it consists of the parts and combination of parts, as will be hereinafter more fully set out.

The object of my invention is to produce a valve of this character that will perform the function intended, and a further object is to simplify the construction of the valve described in my application, Serial No. 135,168, filed December 13, 1902, now pending in the Patent Office.

In the drawings, Figure 1 is a vertical central section of the neck of a bottle with my invention shown in position. Fig. 2 is a perspective view of the tube employed in my valve detached. Fig. 3 is a transverse section on the line 3 3, Fig. 1. Fig. 4 is a similar view on the line 4 4, Fig. 1. Fig. 5 is a transverse section on the line 5 5, Fig. 1. Fig. 6 is a perspective view of the cork detached, and Fig. 7 is a side elevation of a guard.

33 is a tube provided in its periphery with a groove 34 near its upper end, said groove registering with the groove 32 in the neck of the bottle when said tube is in its proper position.

35 represents a split locking-ring adapted to be sprung so as to fit in the groove 32 in the neck of the bottle and the groove 34 in the tube, whereby said tube is locked in its position. This tube is provided with a perforated top 36, in which is formed an elongated slot 37.

38 represents legs (four in number) depending from the bottom edge of the tube.

39 is a cork or other resilient disk having an opening 40, forming a passage-way for fluid. This disk is secured to the tube 33 by passing the legs of said tube through said disk, the upper portion of the disk fitting closely and forming an air and liquid tight joint with the lower edge of said tube 33.

41 is a metallic washer of less diameter than the disk 39 and secured to the under face thereof.

42 is a cone-shaped body having an aperture 43 in the top thereof, said body being provided with upwardly-extending legs 44, the upper ends of said legs being bent at right angles, as at 45, the right-angled portion being provided with openings. The depending legs 38 of the tube 33 project through the washer 39, the metallic washer 41, and the eyes in the legs 44, whereby all of these parts are firmly secured together by bending the lower ends of the legs 38 at right angles under the right-angled portion of the legs 44. The bending of the legs 38 at right angles serves to draw the tube closely in contact with the cork disk 39, so that the lower edge of the tube 33 is tightly embedded in the cork to form an air and liquid tight joint between the said disk and the lower edge of said tube. The diameter of the disk 39 is so gaged with reference to the diameter of the neck of the bottle in which it is placed that the periphery of the disk must be compressed so as to snugly fit within the neck of said bottle, thereby forming an air and liquid tight joint between it and the neck of the bottle.

46 is a float-valve hinged at 47 to the disk 39.

48 is a chain or other flexible medium secured to the lower side of and depending from the float or main valve 46, and 49 is a ball-weight secured to the lower end of the chain 48.

50 is a guard bent in substantially V shape, the upper ends of which are braced against spreading from each other by means of a brace 51.

52 represents legs depending from said guard and positioned upon the top of the cork disk 39, said legs having a close fit within the tube 33.

53 is a cork provided with a metal disk 54 upon its upper face of less diameter than the cork and on its lower face with a metal disk 55 of less diameter.

56 is a stem passing through said cork, the upper end of which is provided with an extracting-ring 57, while its lower end is provided with a T-head 58, said T-head being adapted to pass through the slot 37 in the cap

36 of the tube 33 and be turned transversely of said slot by means of the ring 57, whereby said cork is secured to the cap 37 against extraction.

5 The guard 50 being disposed across the tube 33 prevents the insertion of a wire or other device to hold the float-valve in an open position for the purpose of illegally refilling the bottle to which my device may be at-
10 tached.

When it is desired to empty the bottle of its contents, the stem 56 is given a quarter-revolution, whereby its T-head is brought into alinement with the slot 37, whereupon
15 the cork may be extracted from the neck of the bottle by means of the ring 57.

By means of the construction which I have just described I am enabled to produce a very simple device that is cheap of manufacture,
20 easy to assemble, and at the same time afford an air and liquid tight connection with the bottle.

It will be noticed that the metallic washer 41 is of less diameter than the cork disk 39.
25 The object of this construction is to permit of the cork being compressed so as to make a very tight joint between it and the neck of the bottle when said disk is forced into said neck, while at the same time the metallic
30 washer gives the cork greater stability than it would otherwise have.

The metal disks secured on the upper and lower faces of the cork 53 are of less diameter than the central portion of the cork,
35 whereby the central portion may be compressed so as to make a tight fit within the neck of the bottle, said metallic disks giving a greater stability to the cork.

It will be noticed that by reason of the impingement of the upper face of the cork disk 39 against the lower edge of the tube 33 said
40 cork disk can be compressed vertically by bending the lower ends of the legs 38 under the right-angled portion of the legs 44, where-
45 by the lower edge of the tube is more or less embedded in the upper face of the disk 39, thus forming an air and liquid tight joint between the lower edge of the tube and said disk.

50 When the bottle is inverted for the purpose of pouring, the ball-weight falls to a point of rest in the lowermost portion of the cone body 42, whereupon the float-valve 46 is free to open downward. Should an attempt be made
55 to refill the bottle, the inflowing liquid would float the valve 46 irrespective of the position in which the bottle is held, whereupon said valve would seat itself upon the cork disk 39, and thus prevent all ingress of the liquid into
60 the bottle, which has been fully described in my copending application. It might be well in this connection to state that the valve is free to float into closed position irrespective of the movement of the ball-weight by reason of the flexible connection between said
65 weight and it, said connection being represented in this case as consisting of a chain.

Having thus described my invention, the following is what I claim as new therein:

1. In a non-refillable bottle, the combination with a tube, secured in the neck of the
70 bottle, of a cork disk of greater diameter than and secured to the bottom of said tube, to form a liquid and air tight joint, with the neck of the bottle, a port in said disk, and a float-
75 valve secured to the disk over said port, a chain depending from the valve and a weight suspended by said chain.

2. In a non-refillable bottle, the combination with a tube adapted to be locked in the
80 neck of the bottle, of a resilient disk, secured to the bottom of said tube, and provided with a passage, a float-valve secured to said disk to close said passage, a weight and a flexible
85 connection between the weight and valve.

3. In a non-refillable bottle, the combination with a tube adapted to be locked in the
neck of the bottle, of a resilient disk of greater diameter than and secured to the bottom of
90 said tube, and provided with a passage, a float-valve secured to said disk to close said passage, a weight and a flexible connection between the weight and valve.

4. In a non-refillable bottle, the combination with a tube adapted to be locked in the
95 neck of the bottle, legs depending from the tube, of a resilient disk of greater diameter than the tube and secured thereto by means of said legs, said disk having a liquid-passage, a float-valve secured to said disk to close said
100 passage, a weight and a flexible connection between the weight and said valve.

5. In a non-refillable bottle, the combination with a tube to be secured in the neck of
105 the bottle, legs depending from said tube, of a disk of resilient material having a central opening and of a diameter greater than the tube, secured to the bottom of said tube on said legs, a float-valve secured to said disk over its opening, a chain depending from the
110 valve, a weight secured to said chain, a cone-shaped body in which the weight is adapted to operate, and standards supporting said body, and secured to said legs of the tube, said legs being bent to clamp all the parts to-
115 gether.

6. In a device of the character described, the combination with the tube, legs depending therefrom, of a cork disk secured on said
120 legs and of greater diameter than the tube, a port through said disk and a float-valve secured to the disk to close said port, a chain depending from the valve, a weight secured to said chain, a cone-shaped body in which the weight is adapted to operate, and stand-
125 ards extending from the cone-shaped body, the upper ends of which are provided with openings through which the legs of the tube pass, said legs being bent to one side, whereby all parts are firmly secured together and
130 form an air and liquid tight joint between the bottom of the tube and the disk.

7. In a device of the character described, the combination with a tube secured in a bot-

5 tle and provided with a perforated cap, of a cork comprising a central body of resilient material, and metal facings secured to said central body and a locking and extracting stem passing through the cork and having a locking engagement with the said cap.

10 8. In a device of the character described, the combination with a tube secured in a bottle, and provided with a perforated cap, said cap having a slot in its upper face, of a cork comprising a central body of resilient material and metal upper and lower facings secured to the central body of a stem passing through said cork, an inverted-T head secured to the lower end of the stem to be inserted in the slot in said cap and turned under the walls of the slot to lock the cork to said cap.

15 9. In a device of the character described,

the combination with a tube secured in a bottle and provided with a perforated cap, said cap having a slot in its upper face, of a cork comprising a central body of resilient material, and metal upper and lower facings secured to the central body, a stem passing through said cork, an extracting-ring secured to the upper end of the stem, and an inverted-T head secured to the lower end of the stem to be inserted in the slot in said cap and turned by means of said ring under the walls of the slot to lock the cork to said cap. 20 25 30

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

GEORGE W. SHOOK.

Witnesses:

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HAROLD LEWIS.