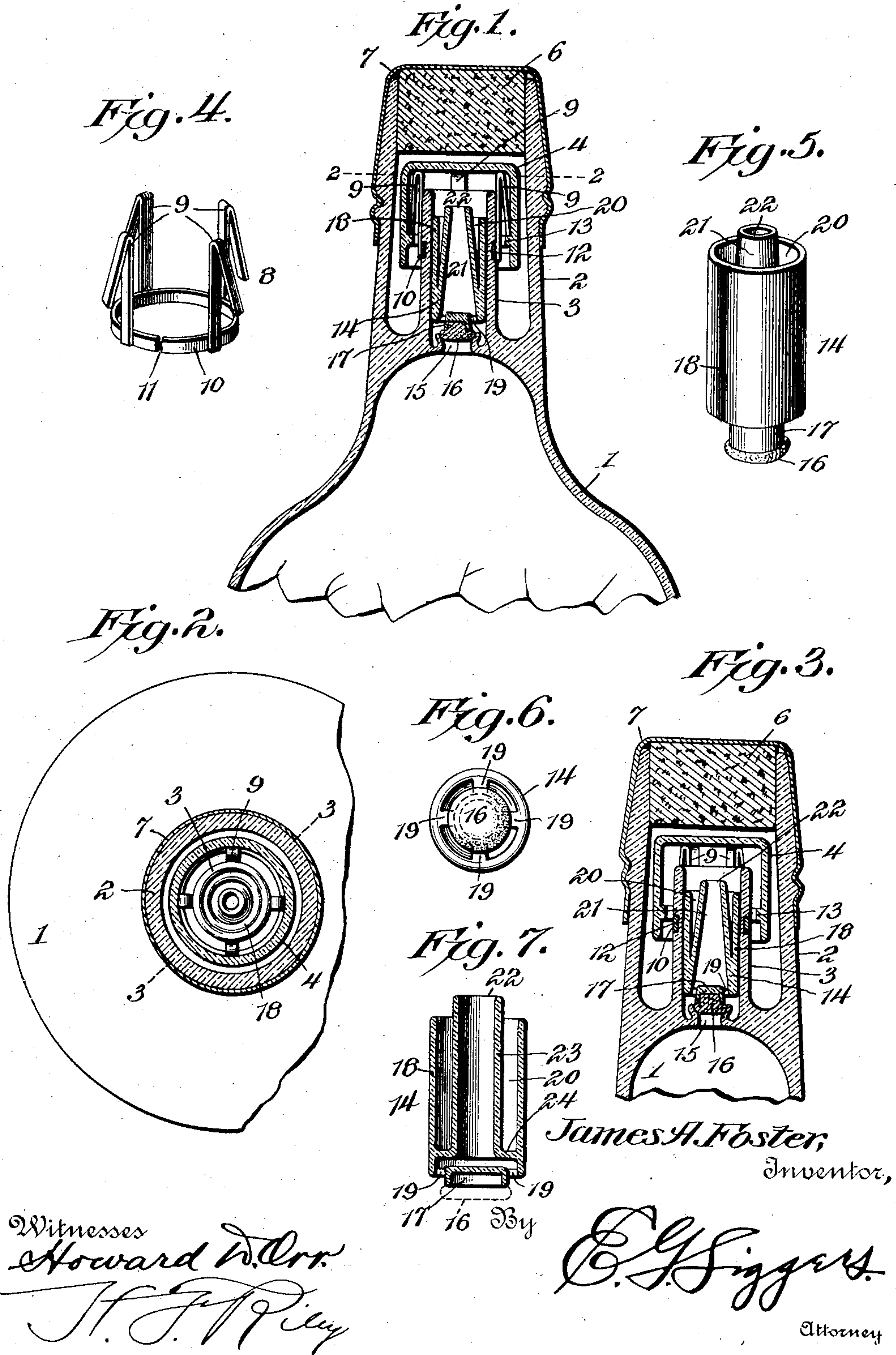


No. 762,475.

PATENTED JUNE 14, 1904.

J. A. FOSTER:  
NON-REFILLABLE BOTTLE.  
APPLICATION FILED SEPT. 17, 1903.

NO MODEL.





# UNITED STATES PATENT OFFICE.

JAMES A. FOSTER, OF BINGHAMTON, NEW YORK.

## NON-REFILLABLE BOTTLE.

SPECIFICATION forming part of Letters Patent No. 762,475, dated June 14, 1904.

Application filed September 17, 1903. Serial No. 173,605. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES A. FOSTER, a citizen of the United States, residing at Binghamton, in the county of Broome and State of New York, have invented a new and useful Non-Refillable Bottle, of which the following is a specification.

The invention relates to improvements in non-refillable bottles.

10 The object of the present invention is to improve the construction of non-refillable bottles and to provide a simple, inexpensive, and efficient construction designed to be applied to bottles and analogous receptacles and capable of effectually preventing the same from  
15 being refilled either for sale as an original package or for selling the contents in small quantities.

Another object of the invention is to provide a non-refillable bottle or receptacle of this character in which the means for preventing a liquid from being introduced into the bottle or other receptacle will not interfere with the corking and sealing of the same.

25 Furthermore, the invention has for its object to provide a non-refillable receptacle having a cap adapted to be placed in position after the receptacle has received its original contents and to enable the locking means for  
30 securing the cap in place to be housed entirely within the same to prevent the cap from being unlocked by an instrument inserted in the neck of the receptacle.

A further object of the invention is to provide a non-refillable bottle having a valve adapted when the bottle or other receptacle is in any position to be closed by exterior pressure incident to an attempt to introduce liquid into such bottle or receptacle, whereby  
40 the same is effectually prevented from being refilled after it has received its original contents.

With these and other objects in view the invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended, it being understood that various changes in the form, proportion,  
50 size, and minor details of construction within

the scope of the claims may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings, Figure 1 is a vertical sectional view of a portion of a non-refillable bottle constructed in accordance with this invention. 55  
Fig. 2 is a horizontal sectional view on the line 22 of Fig. 1. Fig. 3 is a vertical sectional view on the line 33 of Fig. 2. Fig. 4 is a detail perspective view of the locking device. Fig. 5 60  
is a detail perspective view of the valve. Fig. 6 is a reverse plan view of the same. Fig. 7 is a detail view illustrating a slight modification of the valve.

Like numerals of reference designate corresponding parts in all the figures of the drawings. 65

1 designates a bottle provided with an outer neck 2 and having an inner neck 3 connected at its lower edges with the bottle and spaced from the outer neck to provide an intervening annular space for the reception of the sides of a cap 4, which is fitted over the inner neck to form a tortuous passage. The bottle may be of any desired shape and may be constructed of any material, and the improvements herein shown and described are applicable to jugs and all analogous receptacles having a neck. The inner neck terminates short of the upper edges of the outer neck, and it may be joined to the bottle at the lower end of the said outer neck or at any other desired point to adapt it to the character of the receptacle to which the improvements are to be applied. The upper extended portion of the outer neck receives a cork or stopper 6 and may be provided with a cap or cover 7, of tin-foil, or may be sealed and wired in the ordinary manner. 75  
80

The cap 4, which is constructed of glass, porcelain, or any other suitable material, may be provided with the stamp or trade-mark of the person using the bottles or other receptacles or be otherwise marked, and it extends a short distance above the inner neck, and it terminates a short distance from the bottom of the intervening space between the necks 2 and 3 of the bottle. This provides a tortuous or circuitous passage for the contents of the bottle, and when the latter is inverted the liquid will flow outward over the outer or up- 90  
95  
100



per edges of the inner neck and through the intervening space between the inner neck and the cap and then outward through the space between the cap and the outer neck. By holding the bottle in an approximately horizontal position its entire contents may be readily decanted. The cap is spaced from the inner neck and is supported in such position by a locking device 8, consisting of a series of inverted approximately V-shaped springs 9 and a connecting-band 10, which is preferably split, as shown at 11, to enable it to be readily applied to the inner neck. The inner neck is provided on its exterior with an annular groove 12 to receive the band or collar 10, which has its outer face flush with the adjacent faces of the inner neck when applied to the same, as shown in Fig. 1; but the springs may be applied to the inner neck in any other desired manner, and any other suitable locking means may be employed, if desired, and the same may be applied to the cap instead of to the neck. The inner sides of the inverted-V-shaped springs are extended beyond the outer sides to form shanks or attaching portions, which are secured to the outer face of the collar or band, and the outer sides of the springs are arranged to engage an annular shoulder 13 of the inner face of the cap. The shoulder 13, which is located between the ends of the walls or body portion of the cap, preferably consists of a projecting rib, as shown, but may be formed in any other desired manner, as will be readily understood. The springs, which extend above the upper edges of the inner neck, support the cap in its superimposed position with relation to the inner neck, and the outer resilient sides of the V-shaped springs by engaging the shoulder 13 effectually prevent the cap from being removed in an unbroken position. The intervening space between the cap and the necks may be of any desired size to permit the necessary flow of the contents of the receptacle and to prevent the introduction of a liquid into the same. While it is possible to introduce a small amount of liquid into the bottle by partially immersing the same in a vessel, yet it is impossible to refill it by such means. Also any attempt to introduce a liquid into the bottle by such means would soil or injure the label to an extent that would enable the fraud to be readily detected. In order, however, to effectually prevent the introduction of any liquid into the bottle, a valve 14 is employed, and the inner neck is provided with a valve-seat 15. The valve-seat, which may be of any desired construction, preferably consists of an annular flange having a circular aperture and extending horizontally from the neck of the receptacle and provided at the said aperture with an upwardly-extending flaring or outwardly-inclined flange forming a downwardly-tapered seat to receive the plug or engaging portion

16 of the valve. The plug or engaging portion, which may be made of any suitable material, is preferably constructed of cork and is adapted to fit tightly against the valve-seat, whereby leakage of a liquid into the receptacle will be effectually prevented. The valve-plug 16 is fitted within an inverted socket, preferably consisting of a cap and connected with the body portion or outer shell 18 of the valve by a short integral portion 19 and spaced from the bottom of the body portion of the valve to form a passage for the contents of the receptacle to permit such contents to be decanted. The body of the valve is provided with a liquid-receiving chamber 20, adapted when attempt is made to introduce a liquid surreptitiously into the bottle to receive a portion of such liquid and cause an exterior pressure to be created for closing the valve. The exterior pressure, whether caused by a liquid or other means, will operate to close the valve, and the said liquid-receiving chamber, which may be constructed in various ways, is preferably formed by an inner shell 21, united at its base to the outer shell, near the lower end thereof, and extended above the outer shell. The extended portion of the inner conical shell is truncated to provide an aperture 22, through which the contents of the receptacle passes, and the extended portion of the inner shell is designed to cause the liquid when an attempt is made to refill the bottle to flow into the liquid-receiving chamber, and thereby effect a closing of the valve before any of such liquid enters the receptacle. The impinging of the liquid against the inner conical shell will operate to close the valve, and the pressure on the valve will hold the same firmly on its seat and will be in excess of any tendency of the valve to open even when the receptacle is inverted. The valve moves freely within the inner neck and is adapted to open readily to permit a discharge of the contents of the receptacle.

In Fig. 7 of the drawings is illustrated a modification of the invention, showing a slightly-different form of inner shell 23, which is provided at its lower portion with a horizontal flange 24. The flange 24 is connected with the outer shell, and the inner shell, which is approximately cylindrical, is extended above the outer shell for the purpose explained in connection with the form of valve shown in Figs. 1 to 6, inclusive.

After the bottle or other receptacle has received its original contents the valve is placed in position and the cap is pressed down over the inner neck to the position illustrated in Fig. 1 of the drawings. This will cause the locking device to engage the shoulder on the interior of the cap, whereby the latter will be firmly held in position and will be effectually prevented from being removed in an unbroken condition.



The valve mechanism is of course applicable to single-necked bottles, and various forms of guards or shields may be employed for preventing access to the valve. Also lugs or other forms of stops may be provided, if desired, to limit the outward movement of the valve for preventing the outer end of the central bore from being closed by the cap or cover.

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

1. A device of the class described, comprising a receptacle provided with a valve-seat, a valve coöperating with the seat and having a passage extending through it, said valve being also provided with a liquid-receiving chamber surrounding the passage, substantially as described.

2. A device of the class described comprising a receptacle having a valve-seat, and a valve having a liquid-receiving chamber adapted, when an attempt is made to refill the receptacle, to create an exterior pressure for closing the valve, and a projecting valve-plug arranged to engage the seat and spaced from the body of the valve to provide a passage around it, substantially as described.

3. A device of the class described comprising a receptacle having a valve-seat, and a valve comprising a body portion having a passage extending through it, said body portion being also provided with a liquid-receiving chamber for effecting the closing of the valve, and a projecting valve-plug arranged to engage the seat of the receptacle, substantially as described.

4. A device of the class described comprising a receptacle having a valve-seat, and a valve comprising a body portion having a passage through it and provided with a liquid-receiving chamber, and a projecting valve-plug arranged to engage the seat and spaced from the body portion of the valve to provide a passage around it to permit the contents of the body to flow into the said passage of the body portion of the valve, substantially as described.

5. A device of the class described comprising a receptacle having a valve-seat, and a valve comprising a body portion having a liquid-receiving chamber and provided with an inverted socket, and a valve-plug fitted in the socket and arranged to engage the said seat, substantially as described.

6. A device of the class described comprising a receptacle having a valve-seat, a valve-body comprising inner and outer shells forming an interior passage and providing a liquid-re-

ceiving chamber, and an inverted cup connected with the body of the valve and spaced from the said shells, to provide a passage, and a plug fitted within the inverted cup and arranged to engage the valve-seat, substantially as described.

7. A device of the class described comprising a receptacle having a valve-seat, and a valve comprising a body having an interior passage and provided with a liquid-receiving chamber having inner and outer walls, the inner wall being extended above the outer wall, substantially as described.

8. A device of the class described comprising a receptacle having a valve-seat, and a valve comprising inner and outer shells forming a liquid-receiving chamber, the inner shell being conical and extended above the outer shell, an inverted cup connected with the outer shell and spaced from the same to provide a passage, and a valve-plug fitted in the cup for engaging the valve-seat, substantially as described.

9. A device of the class described comprising a receptacle having a seat, and a valve comprising inner and outer shells, the inner shell being conical and extended above the outer shell, and a valve-plug for engaging the seat substantially as described.

10. A device of the class described comprising a receptacle having inner and outer necks of unequal lengths, the inner neck being provided with a valve-seat, and the outer neck being extended beyond the inner neck to receive a stopper, a cap fitted over the inner neck and spaced from the same and from the outer neck to provide a tortuous passage, means for automatically locking the cap when the same is placed in position, and a valve operating in the inner neck and arranged on the seat thereof, substantially as described.

11. A device of the class described comprising a receptacle provided with a neck having a valve-seat, a cap fitted over the neck and forming a tortuous passage, and a valve provided with a liquid-receiving chamber adapted, when an attempt is made to receive the receptacle, to create an exterior pressure for closing the valve, said valve being provided with a projecting plug-section for engaging the valve-seat, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JAMES A. FOSTER.

Witnesses:

JOHN H. SIGGERS,  
ERNEST L. HARKNESS.