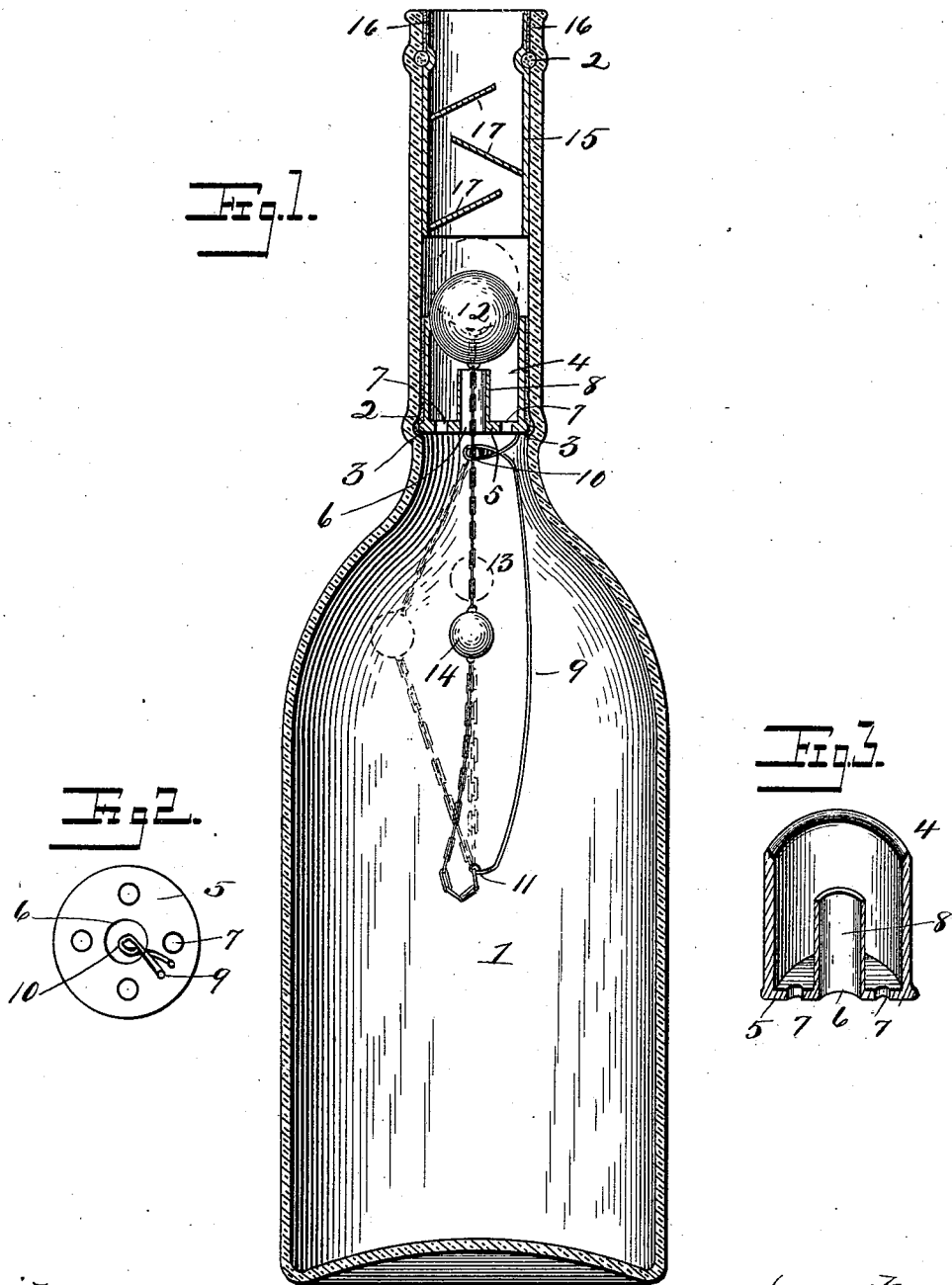


(No Model.)

G. P. CLARK.
NON-FILLABLE BOTTLE.

No. 560,571.

Patented May 19, 1896.



Witnesses:
J. M. Fowler Jr.
Morris Price.

Inventor
George P. Clark
By *J. H. Nottingham*
Attorney

UNITED STATES PATENT OFFICE.

GEORGE P. CLARK, OF ALEXANDRIA, VIRGINIA.

NON-FILLABLE BOTTLE.

SPECIFICATION forming part of Letters Patent No. 560,571, dated May 19, 1896.

Application filed September 4, 1895. Serial No. 561,423. (No model.)

To all whom it may concern:

Be it known that I, GEORGE P. CLARK, a citizen of the United States, residing at Alexandria, in the county of Alexandria and State of Virginia, have invented certain new and useful Improvements in Non-Fillable Bottles; and I 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.

The invention relates to bottles, more particularly to that class commonly designated as "non-fillable;" and the principal object is to produce a bottle having a non-removable stopper so constructed as to prevent fraudulent refilling of the bottle after the same has been once filled and emptied of its contents; and another object of the invention is to provide means whereby undue tampering with the stopper is prevented.

With these objects in view my invention consists, essentially, in providing a peculiarly-constructed sleeve or bushing which is adapted to be securely seated in the neck of the bottle after the same has been filled and a floatable valve provided with certain novel attachments, whereby the valve is caused to be firmly held to its seat in the upper end of the sleeve or bushing should an attempt be made to refill the bottle, whether in an upright, inverted, or an inclined position.

The invention further consists in providing a shell with a tortuous passage and securely seating said shell immediately above or in front of the valved stopper, whereby the valve is protected from being unduly tampered with.

The invention still further consists in the combination and general arrangement of the various parts, as will be hereinafter more fully explained, and specifically set forth in the claims.

In the accompanying drawings, Figure 1 is a central longitudinal sectional view of a bottle, showing my improved stopper applied thereto; Fig. 2, a bottom view of the sleeve or bushing; and Fig. 3 a perspective sectional view of the same with the valve removed.

Referring particularly to the several views, the numeral 1 indicates a bottle provided, preferably, with a straight neck having two

annular interior grooves 2, the bottom one of which is formed with an offset 3 for the purpose to be hereinafter explained.

The numeral 4 indicates a sleeve or bushing provided with a flanged bottom 5, having a central aperture 6 and four air-vents 7, arranged at equidistant intervals around the central aperture. Rising from the central aperture is a short tube 8, which forms an exit-passage for the contents of the bottle. Secured to the outer face of the flanged bottom is one end of a wire 9, which is bent to form an eye 10 directly below the central aperture 6, and extending downward said wire terminates in an eye 11 for the purpose to be hereinafter explained.

The numeral 12 indicates a hollow ball-valve which is adapted to be seated in the upper end of the sleeve or bushing 4, the inner side edge of which is slightly beveled to facilitate the seating of the valve. Attached to said valve is one end of a chain or cord 13. The other end of said chain passes through the eye 10 and is secured in the eye 11 of the wire 9. The chain is of sufficient length to permit the valve to recede from its seat a sufficient distance to allow the contents of the bottle to be discharged through the tubular passage or exit. Although a chain is shown to better illustrate the flexible character of the means for limiting the action of the valve, it will be evident that a fine wire may be used with equally as good, if not better, results. Secured to the chain, about midway its length, is a weight 14, which serves to hold the valve firmly onto its seat. The sleeve or bushing, with its valve and attachments, is inserted in the neck of the bottle after filling, with its flanged bottom resting upon the annular shoulder or offset 3, and is therein secured by means of a liquid cement or plaster-of-paris poured into the space formed between the sleeve or bushing and neck of the bottle, and filling the lower annular groove a key is thereby formed which firmly holds said sleeve or bushing against any attempt to remove the same without breaking the bottle.

To guard and protect the valve from being tampered with, I provide a shell 15, which is fitted snugly within the neck of the bottle just above the valved stopper, and is provided with exterior vertical grooves 16, which

extend down to the upper annular groove 2. Said shell is securely held in place by filling said groove with liquid cement or plaster-of-paris, which is poured into the groove through the grooves 16. The interior of the shell is provided with a tortuous passage, which is formed by a series of inclined shelves 17, which project alternately about two-thirds of the diameter of the shell from opposite sides thereof, as shown in Fig. 1. Any attempt to reach the valve with an implement will be frustrated, as it will be impossible to insert such implement around the projecting ends of the alternately-arranged sleeves.

When it is desired to empty the bottle of its contents, the bottle is first inverted and then held in a slightly-tilted position, when the contents will flow out through the short tubular passage, the flow being greatly facilitated by the inrush of air through the air-vents in the bottom of the sleeve or bushing, which, filling the vacuum being created by the liberation of the contents, acts as a pressure upon the outflowing contents.

When the bottle is inverted, the position assumed by the valve is shown in dotted lines, Fig. 1, and when held in tilted position, after the contents have been discharged, the position of the valve will be as indicated in full lines with the weight in position, as shown in dotted lines.

Should an attempt be made to refill the bottle after its contents have been discharged by pouring liquids through the tortuous passage the valve will immediately seat itself whether the bottle is in an upright or inclined position. If the bottle should be inverted and an attempt be made to refill it by pressure, the instant sufficient liquid entered the mouth of the bottle the valve would be floated to its seat, and any further pressure of the fluid would force the valve into the sleeve or bushing to such an extent that the entrance to the bottle would become permanently closed, thereby rendering useless any further attempt at refilling.

I do not wish to be understood as limiting myself to any particular form of valve or to any particular material as long as it is constructed of floatable material, as it is evident that various changes or modifications may

be made without departing from the spirit of my invention or sacrificing the principle thereof, though I prefer to make the valve of a hollow rubber ball.

The bushing or sleeve and tortuous-passage shell may be constructed of any suitable material, preferably of aluminium, and two or more inclined shelves may be arranged to form the tortuous passage.

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

1. The combination, with the neck of a bottle, of a non-removable stopper comprising a sleeve or bushing having a tubular passage for the discharge of the contents of the bottle, a rod or wire projecting from said sleeve or bushing, and a valve connected to the lower end of said rod or wire by a flexible weighted connection, whereby said valve is caused to open and permit the contents of the bottle to be discharged and to close and prevent the refilling of the same.

2. The combination, with a non-removable bottle-stopper comprising a sleeve having a tubular passage for the discharge of the contents of the bottle, a wire projecting from said sleeve and a valve for said tubular passage connected to the lower end of said wire by a flexible weighted connection, of suitable means arranged above said stopper, whereby tampering with the stopper is prevented.

3. The combination, with the neck of a bottle of a non-removable stopper comprising a sleeve or bushing having a tubular passage, through which the contents of the bottle may be discharged, and a series of air-vents, a rod or wire having one end attached to said sleeve or bushing, and a valve connected to the other end of said rod or wire by a flexible weighted connection, whereby said valve is caused to open and permit the contents of the bottle to be discharged and to close and prevent the refilling of the same.

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

GEORGE P. CLARK.

Witnesses:

J. R. NOTTINGHAM,
CHAS. T. SPARO.