

(No Model.)

C. CLARK.
BOTTLE.

No. 521,636.

Patented June 19, 1894.

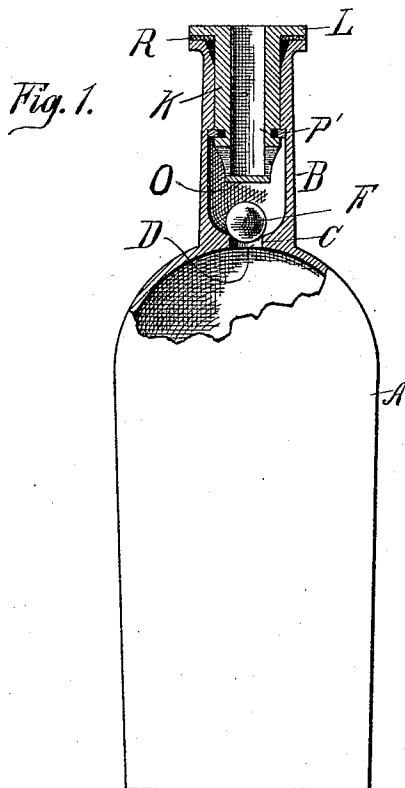


Fig. 2.

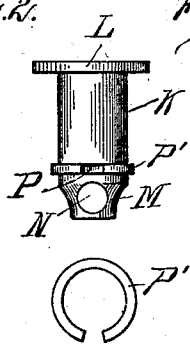


Fig. 3.

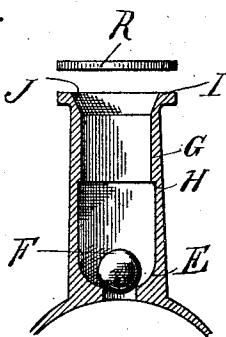


Fig. 4.

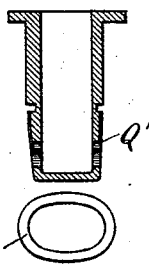


Fig. 5.



Witnesses:

Q. F. Barrett
Wm. H. Murphy

Inventor:

Clement Clark,

By *Thos. S. Sprague & Son*

Attorneys.

UNITED STATES PATENT OFFICE.

CLEMENT CLARK, OF SANDUSKY, OHIO, ASSIGNOR OF ONE-HALF TO JOHN S. CLARK, OF DETROIT, MICHIGAN.

BOTTLE.

SPECIFICATION forming part of Letters Patent No. 521,636, dated June 19, 1894.

Application filed April 17, 1894. Serial No. 507,844. (No model.)

To all whom it may concern:

Be it known that I, CLEMENT CLARK, a citizen of the United States, residing at Sandusky, in the county of Erie and State of Ohio, have
5 invented certain new and useful Improvements in Bottles, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention consists in the construction
10 of a tubular bushing having a tortuous passage therethrough, adapted to be inserted into the neck of a bottle, which is provided with a contracted orifice at the lower end controlled by a ball valve, the whole being
15 designed to prevent the fraudulent re-filling of bottles, all as more fully hereinafter described.

Figure 1 is a vertical section through the neck of a bottle showing my invention as applied in use. Fig. 2 is an elevation of the
20 bushing detached. Fig. 3 is a section through the neck of the bottle with the bushing removed. Fig. 4 is a section through the bushing removed and showing a slightly modified form. Fig. 5 is a plan view of the securing
25 ring of modified form designed to be used with the bushing shown in Fig. 4.

A is a bottle, and B the neck thereof.

C is an interior flange at the lower end of the neck having the restricted aperture D
30 therethrough. The upper face of the flange is provided with an inclined or curved bearing E, so that the ball valve F will be caused to seat itself centrally upon the aperture
35 through the flange and close it in any vertical position of the bottle. About midway the length of the neck is a contracted portion G terminating in a shoulder H, as plainly shown in Fig. 3. At the upper end the
40 top is provided with the usual flange I and on the interior is provided with an inclined entering section J.

The bushing I form, as shown in Fig. 2, consisting of the tubular body portion K,
45 having the lateral flange L at the top and the contracted lower end portion M.

N are apertures leading from the sides of the lower end portion, and O is a diaphragm closing the lower end of the bushing on the
50 body portion K. Near the lower end is an annular groove P in which is adapted to en-

gage a split ring P'. Instead of using the split ring, I may use an elliptical ring Q, and preferably do use this form, as shown in Fig. 5. When I use this construction I make a
55 contracted lower portion tapering from the lower end to the lower edge of the groove P, as shown at Q' in Fig. 4.

R is a packing ring designed to be secured upon the top of the flange I of the bottle. 60

The parts being thus constructed their operation is as follows: The spring ring P' or Q (according to construction used) is secured in the groove P, the packing ring R is laid upon the flange I of the bottle, the ball valve
65 F is inserted into the neck of the bottle, as shown in Fig. 3, and the lower end of the bushing inserted into the upper end of the neck of the bottle, the ring bearing against the inclined portion J will be compressed into
70 the groove, so that it may pass down through the portion G of the neck until it reaches the shoulder H, when it will expand and lock beneath that shoulder, holding the bushing tightly in position.

The parts are so proportioned that it will
75 require the compression of the packing ring R before the spring ring can engage beneath the shoulder H. The parts thus combined will be as shown in Fig. 1, and it will be evident that tampering of the valve will be prevented by the tortuous passage presented
80 through the bushing, while the valve at all times will be seated, permitting the emptying of the bottle and preventing the re-filling thereof.

The valve which I use is preferably of slightly greater specific gravity than the fluid which is used in the bottle, so that it will not float therein. 90

What I claim as my invention is—

1. The combination with the bottle and its neck having the inwardly extending flange C, with the upper inclined bearing E, contracted section G, shoulder H and upper inclined entering section J of the ball valve, closing the aperture through the flange C, a bushing having the lower tapering section apertured on the sides, the central tubular section, the split ring arranged in a groove at the
95 lower end of the body section, a flange L at the top and a packing ring adapted to be

compressed between the flange L and the top of the bottle.

2. In a device of the kind described, the combination with the neck of the bottle and
5 a ball valve therein closing the passage at the lower end of the neck, of the shoulder H formed therein, the flange bushing having the lower tapering section Q', and the elliptical ring adapted to be forced over such outer
10 section and to enter the groove at the lower

end of the body portion, the parts to be arranged and combined, substantially as and for the purpose described.

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

CLEMENT CLARK.

Witnesses:

J. C. WIELAND,
JAMES FLYNN.