

No. 639,662.

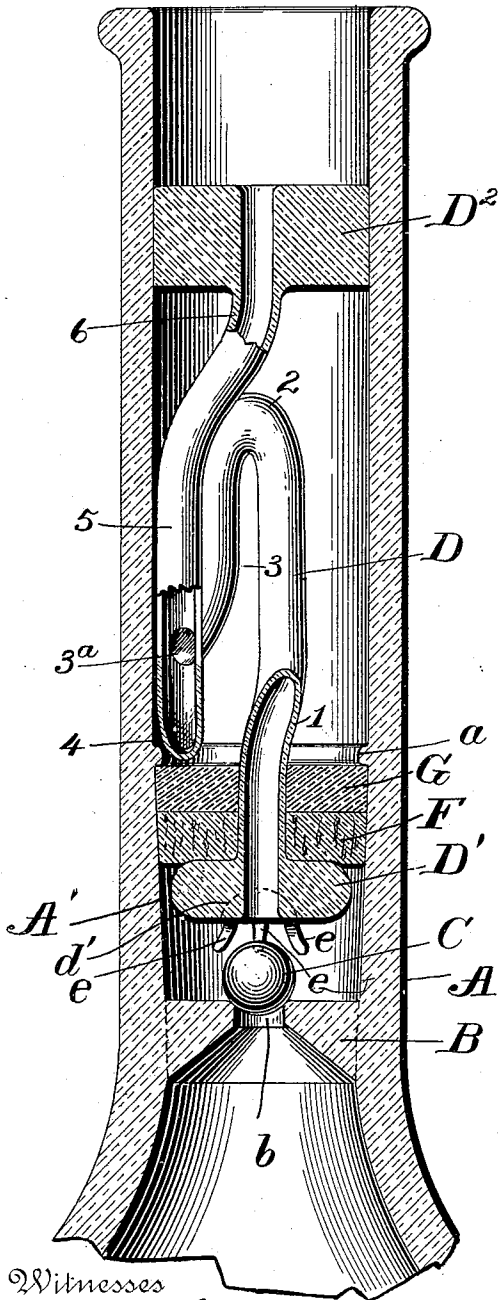
Patented Dec. 19, 1899.

L. T. M. CANADA.
NON-REFILLABLE BOTTLE.

(Application filed Apr. 28, 1899.)

(No Model.)

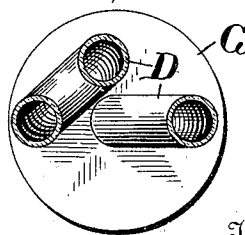
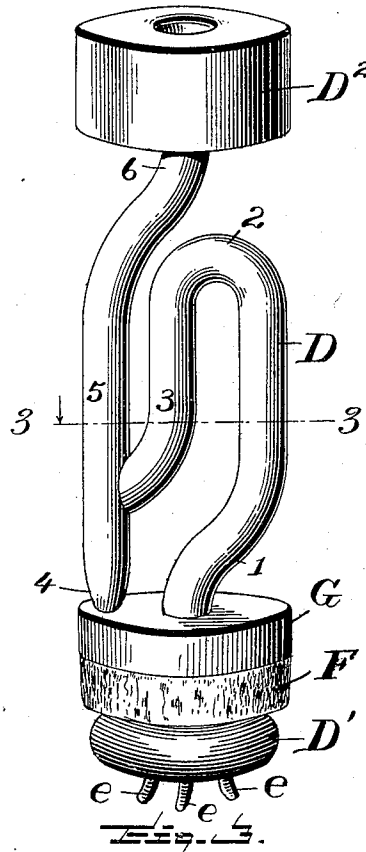
Fig. 1.



Witnesses

L. C. Mills.
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Fig. 2.



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UNITED STATES PATENT OFFICE.

LUCIUS T. M. CANADA, OF MEMPHIS, TENNESSEE.

NON-REFILLABLE BOTTLE.

SPECIFICATION forming part of Letters Patent No. 639,662, dated December 19, 1899.

Application filed April 28, 1899. Serial No. 714,894. (No model.)

To all whom it may concern:

Be it known that I, LUCIUS T. M. CANADA, a citizen of the United States, residing at Memphis, in the county of Shelby and State of Tennessee, have invented certain new and useful Improvements in Non-Refillable 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.

My invention relates to improvements in non-refillable bottles in which it is intended to provide against refilling the bottle with spurious goods after the same has once been emptied.

My invention will be understood by reference to the accompanying drawings, in which the same parts are indicated by the same letters and figures throughout the several views.

Figure 1 represents a central vertical section through the neck of the bottle, parts being shown in elevation. Fig. 2 represents a perspective view of the device for preventing the refilling of the bottle, which is inserted before the bottle is corked or sealed; and Fig. 3 represents a section along the line 3 3 of Fig. 2 and looking down.

A represents the neck of the bottle, which is provided near its base with a rib *a* above the conical seat *A'*. At the base of this conical seat is a valve-seat B, with opening *b*, which may be either made integral with the bottle or be made of cork or other suitable material and inserted from the mouth of the bottle before the other parts of the non-refillable attachment are put in.

C represents a ball which serves as a valve to close the passage *b* through the valve-seat B. This valve may be held against dislodgment from its proper position by means of prongs *e*, which may be either integral with the head *D'* or may be attached to said head, or, if desired, this head *D'* may project down through and be rounded out, as shown in dotted lines at *d'*, so as to allow the ball C a limited travel longitudinally of the neck of the bottle, but yet will prevent the ball from rolling to one side of the passage *b*. The non-refillable attachment is put in after the ball is inserted, and consists of the device shown in Fig. 2, in which D represents a stout tube of glass or other material terminating at its

lower end in the bulb or head *D'* and at the upper end in the cap *D*², which slips in the neck of the bottle. This tube is bent downward, as at 1, then extends upward and is bent through, as at 2, then leads downward, as at 3, and connects at 3^a with a vertical portion 5, provided with a downward extension or trap 4, the vertical portion 5 being bent inward toward the center of the bottle-neck, at its upper end, as at 6, the course of the tube thus forming a crooked passage for the fluid in the bottle and at the same time being stiff enough to enable this device to be inserted into the neck of the bottle, as will be hereinafter described.

Above the bulb or flange *D'*, I provide one or more washers G and F, preferably two, the upper one, G, being made of rubber and the lower one, F, being made of cork, or two cork washers may be adopted, if desired, or a single one, either of rubber or of cork, may be used, if required. These washers may be split and put in place on the tube D, or the bulb or flange *D'* may be secured on the end of the tube after the washers are in place, as by fusing a glass bulb on the end of a glass tube, or the bulb or flange may be screwed on, if desired.

The non-refillable attachment shown in Fig. 2 is shoved down the neck of the bottle until the washers F and G pass over and spring up under the rib *a*, which is shown somewhat exaggerated to better illustrate the invention, and then the ordinary cork or other seal (not shown) is put in place. Before putting in the ball the bottle, of course, should be filled with the fluid intended to be contained therein.

It will be obvious that when liquid is poured out of the bottle air will enter by the same tube; but that if any attempt be made to refill the bottle when it is in a vertical position the ball C will remain on its seat and will prevent the passage thereby of any liquid.

Should a wire or other instrument be inserted into the upper end of the tube D in an attempt to dislodge the valve C for the purpose of refilling the bottle, it will be obvious that the end of such instrument will pass down into the extension or trap 4 in the tube and that it will be impossible to force such instrument past the elbow 3^a.

It will be obvious that the general direc-

tion of the bends in the tube D may be varied and that other changes might be made in the herein-described apparatus which could be used without departing from the spirit of my invention. Thus the bulb or flange D' and the cap D² may be made separate from the tube D and secured thereto in any convenient way, or they may be made integral with the tube, as shown in Fig. 1. Furthermore, the general arrangement of the valve-seat and means for holding the valve in a proper position may be varied, as also may be the shape of the valve.

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

1. A non-refillable bottle provided with a valve-seat in its neck, a valve mounted on said seat, and a rib in the neck of the bottle above said valve, a non-refillable device comprising one or more yielding washers adapted to pass below and engage said rib, and a bent tube passing through said washers and terminating in a cap fitting in the neck of the bottle, substantially as described.

2. In a non-refillable bottle the combination with the neck A provided with the rib *a*, of a valve-seat, and valve near the base of said neck, the bent tube D, provided with a flange at one end and a cap at the other, and one or more yielding washers held between said flange and the rib in the neck of the bottle, substantially as described.

3. In a non-refillable bottle, the combination with the neck A provided with the rib *a*, of a valve-seat and valve near the base of said neck, the bent tube D, provided with a flange at one end and a cap at the other, and one or more yielding washers held be-

tween said flange and the rib in the neck of the bottle, with prongs projecting downward from said flange and guiding said valve, substantially as described.

4. In a non-refillable bottle the combination with the neck A provided with the rib *a*, of a valve-seat, and ball-valve near the base of said neck, the bent tube D, provided with a flange at one end and a cap at the other, and washers of cork and rubber, respectively, held between said flange and the rib in the neck of the bottle, substantially as described.

5. In a non-refillable bottle, the combination with the neck A provided with the rib *a*, of a valve-seat and a ball-valve near the base of said neck, the bent tube D, provided with a flange at one end and a cap at the other, and the cork washer F and the rubber washer G held between said flange and the rib in the neck of the bottle, with prongs projecting downward from said flange and guiding said valve, substantially as described.

6. In a non-refillable bottle the combination with the neck A provided with the rib *a*, of a valve-seat, and valve near the base of said neck, the bent tube D, provided with a flange at one end and a cap at the other, and the cork washer F and the rubber washer G held between said flange and the rib in the neck of the bottle, substantially as described.

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

LUCIUS T. M. CANADA.

Witnesses:

GEO. HARSH,

P. H. PHELAN, Jr.