(No Model.)

J. FULTZ.

NON-REFILLABLE BOTTLE.

No. 589,207. Patented Aug. 31, 1897.

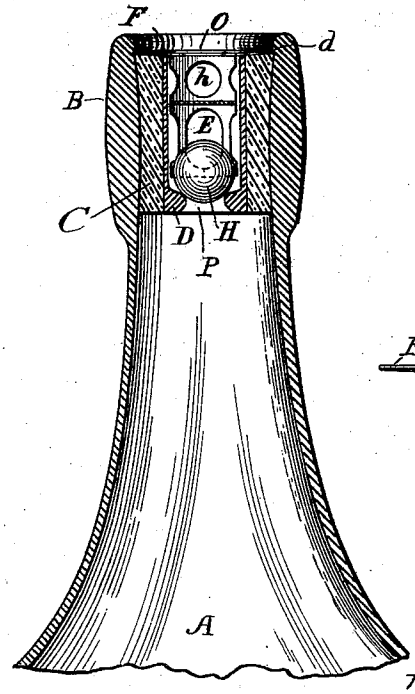


Fig. 1.



Fig. 2.

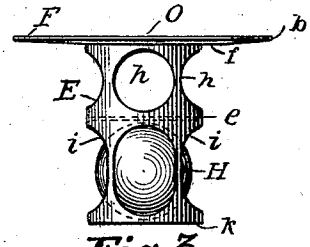


Fig. 3.

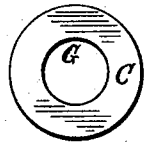


Fig. 4.

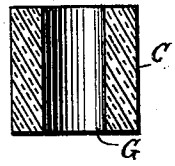


Fig. 5.

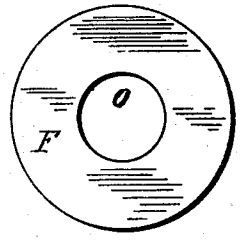


Fig. 8.

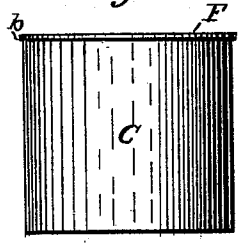


Fig. 9.

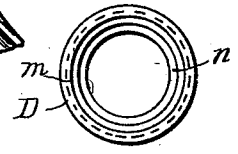


Fig. 6.

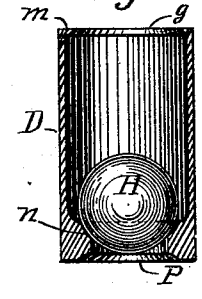


Fig. 7.

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UNITED STATES PATENT OFFICE.

JACOB FULTZ, OF INDIANAPOLIS, INDIANA.

NON-REFILLABLE BOTTLE.

SPECIFICATION forming part of Letters Patent No. 589,207, dated August 31, 1897.

Application filed March 24, 1897. Serial No. 629,008. (No model.)

To all whom it may concern:

Be it known that I, JACOB FULTZ, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Non-Refillable Bottles; and I do 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to the class of bottles that are designed to prevent their use by imitators after the original contents have been used; and it consists in the several parts and combination of parts embodied in the details of construction whereby a bottle cannot be refilled when my devices are applied thereto, as will be more fully described hereinafter and claimed.

My object is to provide means whereby a bottle shall be cheaply and effectively sealed against refilling and which shall be adapted to all classes and sizes of bottles and yet permit of being readily unsealed by ordinary means for drawing off the contents. These objects are attained in my invention, which is furthermore economical and durable in use.

Referring to the drawings, Figure 1 represents a vertical central sectional view of the upper portion of a bottle in the mouth of which my devices are applied; Fig. 2, a cork stopper; Fig. 3, a view in elevation of the cage and valve; Fig. 4, an end view, and Fig. 5 a central vertical sectional view, of the packing; Fig. 6, a top end and Fig. 7 a vertical central sectional view of the case, showing valve seated therein; Fig. 8, a top view, and Fig. 9 a side view, of complete sealing device detached from bottle.

In the drawings, A designates a bottle; B, the neck thereof; C, the packing for valve-case; D, the valve-case; E, the valve-cage; F, the locking-plate, and H the valve.

In constructing my invention I make the bottle A and neck B in the usual manner of any desired shape and size, and in the interior wall of the mouth I form a shallow annular groove *d*, designed to receive the edges of the locking-plate.

A cylindrical case D is made of any suitable material, at the bottom of which is a valve-seat *n*, encircling the open end P, the seat being adapted to the spherical valve H, which is inserted through the open end *g*, and is normally in contact with the seat. The upper end of the case has a small internal flange *m*, by which the cage E is guided centrally in the case and insuring a passage-way between the cage and case. The valve is a true sphere having a smooth surface and may be made of any suitable material, as of rubber or glass, and its seat is adapted to conform to the valve.

The cage E is made, preferably, of suitable metal, cylindrical in form, of such diameter as to receive freely at *k* the valve H and also pass into the opening *g*. Its sides have any suitable number of perforations *h* and *i*, made in any shape desired.

The locking-plate is preferably made of spring metal and is secured to the top of the cage, both having a central opening O, coinciding in size to the inside diameter of the cage. The plate is slightly dished, the central part *f* being somewhat lower than the edges *b*. The plate may be suitably made integrally with the cage, if desired.

A disk partition *e* is inserted into the cage, dividing the same into two chambers, the partition being a stop for the valve when unseated. The disk may be secured in any suitable manner, as by soldering or by crimping the metal of the cage against the edges of the disk.

The packing C is preferably composed of cork or its imitations and is made in the usual cylindrical form, but having a cylindrical hole G through the center adapted to receive the case D. The outside diameter of the packing is of suitable size to be pressed into the neck of the bottle to prevent leakage both between the packing and neck and between the packing and case.

In assembling the various parts of my device the valve H is placed upon its seat in the case D, the cage is inserted into the case, and the case is then inserted into the packing, the whole then being forced, after filling the bottle, into the neck and the stopper *a*

forced into the opening or mouth O. In forcing the whole into place the locking-plate is sprung down centrally, which forces its edges upward relatively, thus contracting the extreme diameter until the edges *b* drop into the groove *d*, into which they expand and become locked therein by reason of the rebound of the packing when the pressure thereon is withdrawn.

It is obvious that should the pressure increase within the bottle the locking-plate is forced more tightly into the groove, and the same effect is produced should an attempt be made to withdraw the devices by means of a hook or other instrument inserted into the mouth O.

Any attempt to forcibly remove the obstruction to refilling will destroy the device or neck of the bottle and render the effort futile. The partition *e* will prevent the insertion of any instrument to dislodge the valve.

It will be understood that when emptying the bottle it is tilted over in the usual manner after removing the stopper *a*, and the valve will leave its seat when the bottle is in a horizontal position, allowing the contents (liquid) to flow around it through the perforations *i*, around the cage at the partition *e*, into the perforations *h*, and out of the opening or mouth O. In an attempt to refill the bottle the valve will fall by gravity to its seat before the neck of the bottle can be elevated sufficiently to fill it, and the valve will therefore prevent liquid from passing into the bottle.

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

1. The combination, in a bottle, with a neck open at its top and provided near the open end thereof with an internal annular groove and a packing in said neck having a central circular opening therethrough, of the cylindrical case in said circular opening and having the valve seated near the bottom thereof, the valve-cage in said case providing a passage-way between said cage and said case and having the stop-plate above said valve, the centrally-perforated locking-plate attached to the end of said cage and covering said case and said packing at their upper ends, said locking-plate being dished downward and the edge thereof engaging said groove, and a stopper in the perforation of said locking-plate, substantially as shown and described.

2. In a bottle, the combination with the neck, of the annular groove *d* in the interior walls thereof near its upper end, the hollow packing C in said neck, the case D having the valve-seat *n* near its lower end and inserted in said packing, the cage E having perforated sides and provided with the transverse partition *e* and inserted in said case, the spherical valve H in said cage below said partition and seated in said case, the dished locking-plate F having the central opening O corresponding to the mouth of said cage and secured thereto, said locking-plate being adapted to spring at its edge *b* into said groove and to cover said case and said packing at the upper end, and the stopper in the mouth of said cage, substantially as shown and described.

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

JACOB FULTZ.

Witnesses:
WM. H. PAYNE,
E. T. SILVIUS.