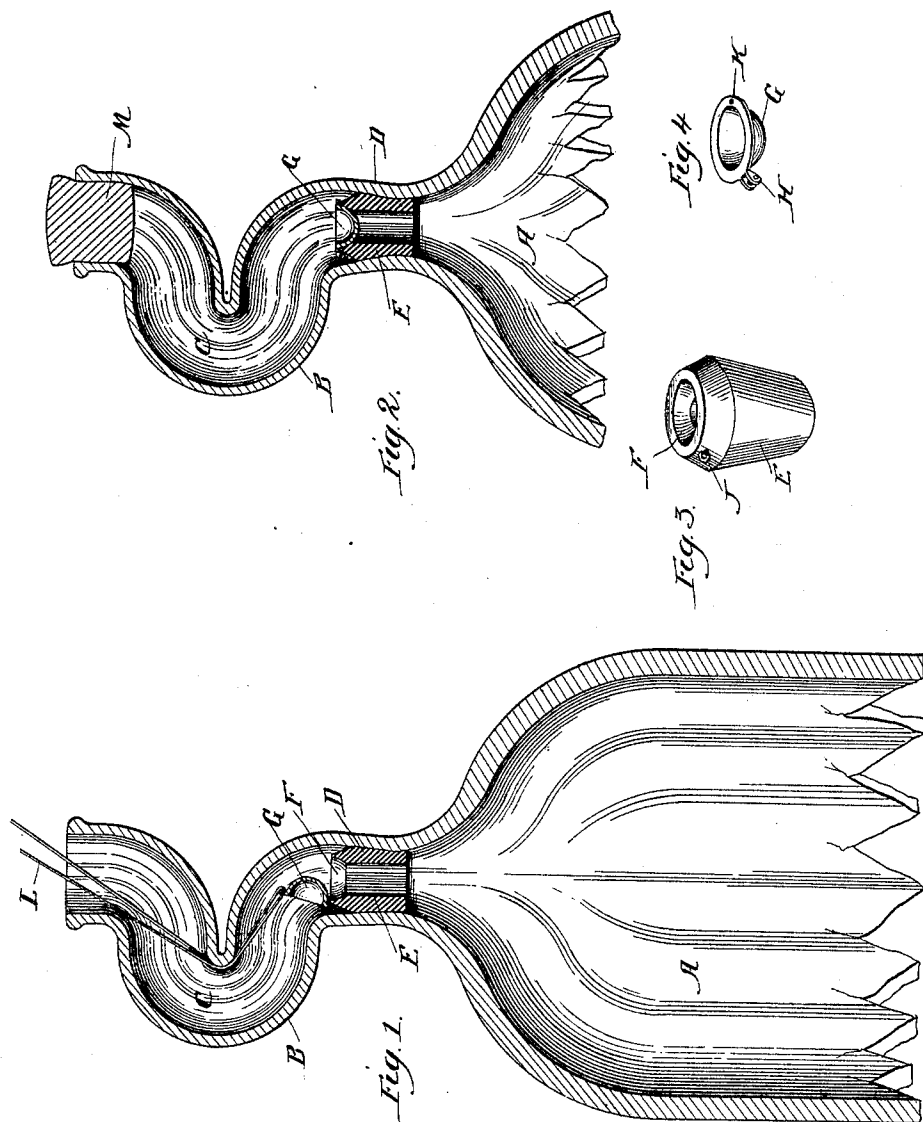


(No Model.)

E. SMYTH.
NON-REFILLABLE BOTTLE.

No. 581,627.

Patented Apr. 27, 1897.



Witnesses

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EDWARD SMYTH, OF ALBANY, NEW YORK.

NON-REFILLABLE BOTTLE.

SPECIFICATION forming part of Letters Patent No. 581,627, dated April 27, 1897.

Application filed April 20, 1896. Serial No. 588,328. (No model.)

To all whom it may concern:

Be it known that I, EDWARD SMYTH, a citizen of the United States, residing at Albany, in the county of Albany and State of New York, have invented certain new and useful Improvements in Non-Refillable Bottles, of which the following is a specification.

My invention relates to certain new and useful improvements in non-refillable bottles, and has for its object to provide a device of this description which while it may be once filled and its contents poured therefrom as desired cannot again be filled without destroying the bottle itself or some portion thereof, so as to render it useless.

It is a well-known fact that the goods of certain manufacturers are imitated by the refilling of bottles in which such goods originally came, and the public is thus deceived in the purchase of an inferior article, as well as the manufacturer defrauded of his just returns; but by the use of my improvement this will be impossible, since when the bottle is once filled it cannot again be filled after its contents have been withdrawn without destroying the bottle.

Referring to the drawings forming a part of this specification, Figure 1 is a central vertical section of the upper portion of the bottle made in accordance with my improvement, illustrating the method of primarily filling the bottle; Fig. 2, a similar view showing the valve closed against the ingress of liquid; Fig. 3, a detail perspective of the plug in which the valve-seat is formed and which is adapted to be secured within the neck of the bottle, and Fig. 4 a similar view of the valve.

In carrying out my invention I form a bottle A, of any size or shape, having a neck B, the outlet of which is composed of compound curves or angles, so that the passage C, formed therein, will be sinuous, and the lower portion of this passage is contracted, as at D, for the purpose next explained.

E is a plug having a central opening there-through of sufficient size to permit the free passage of liquid to and from the bottle, and also provided with a valve-seat F at its upper end, adapted to receive the valve G, which latter is composed of vulcanized rubber or other suitable material, having ears H pro-

jecting therefrom in order that it may be hinged by these ears to the eye J, as clearly shown in Figs. 1 and 2.

In practice I prefer to concave the upper side of the valve, whereby it will be lightened, and also for the purpose of forming a cup therein which will receive a certain amount of liquid should an attempt be made to fill the bottle, thus adding weight to the valve, which will facilitate its closing. I prefer to make a plug of soft rubber or other similar material in order that it may adapt itself to the wall of the sinuous passage C, so that it may be forced through said passage to the lower reduced end thereof. This is accomplished by placing the plug in the mouth of the bottle and applying sufficient pneumatic or hydraulic pressure to drive the plug with its valve to the beveled portion D of the passage, when the plug will be firmly secured by being jammed within its tapering space, as shown in Figs. 1 and 2.

The bottle may be filled with the desired liquor prior to forcing the plug and valve in place, as just described, in which case all the liquid or any part thereof may be drawn therefrom, as the valve will swing open when the bottle is tipped for the purpose of pouring out its contents, as will be readily understood; but should an attempt be made to refill the bottle the valve will be tightly held upon its seat by its weight and pressure exerted thereon by the liquid poured in the sinuous passage, and this seating of the valve will be facilitated by the concave shape of its upper surface, as already described.

It will be seen that access cannot be had to the valve on account of the peculiar shape of the neck of the bottle, and therefore said valve cannot be tampered with for the purpose of refilling the bottle, as a wire or other implement passed within the neck for this purpose would be arrested by the walls of the sinuous passage C.

Under some circumstances it is desirable that the bottle be primarily filled after the plug and valve have been forced into place, and this may be accomplished by placing a small wire or cord through the hole K in the upper edge of the valve before it is placed within the neck of the bottle and permitting this wire or cord L to project beyond the

mouth of the bottle, as shown in Fig. 1, so that when the filling operation is to take place the valve is held open by drawing upon the cord, and thereafter withdrawing said cord from the valve by pulling upon one end thereof, as will be readily understood. The upper end of the neck is adapted to receive an ordinary cork, so that the bottle may be sealed in the usual manner.

10 I am aware that slight modifications might be made in the design here shown and described without departing from the spirit of my invention, and I therefore do not wish to be limited to this exact construction or the material from which the several parts are made.

What I claim as new and useful is—

1. In combination a bottle and its neck, a valve-seat composed of a body tapering toward its lower end and having a central passage, the top of said seat being cut away to form an annular shoulder, a concavo-convex valve resting on the shoulder of the valve-seat, said valve having a flange lying normally on the upper wall of the valve-seat, lugs formed with the valve, apertured to receive a pivotal pin and an eye formed on the valve-seat to engage said pin as and for the purpose described.

2. A bottle having a neck formed therewith,

said neck having a sinuous passage, the lower portion of said passage being contracted, a plug composed of compressible material having a central opening and a valve-seat therein, a valve having ears thereon adapted to be hinged to the plugs and fit in said valve-seat, said valve having its upper side concaved to form a cup, a flange surrounding said concavity having a hole therein as and for the purpose described.

3. A bottle having a neck formed therewith, said neck having a sinuous passage, the lower part of said passage being contracted, a plug composed of compressible material having a central opening, a valve-seat therein, said plug being beveled around its upper edge, a valve having ears thereon adapted to be hinged to the plug and adapted to fit in said valve-seat, said valve having its upper side concaved to form a cup, a flange surrounding said cavity having a hole therein as and for the purpose described.

In testimony whereof I have hereunto affixed my signature in the presence of two subscribing witnesses.

EDWARD SMYTH.

Witnesses:

S. S. WILLIAMSON,
MARK BUFORD.