E. A. LAMBERT.

ANTIREFILLABLE BOTTLE.

APPLICATION FILED MAY 6, 1908.

926,009. Patented June 22, 1909.

FIG. I.

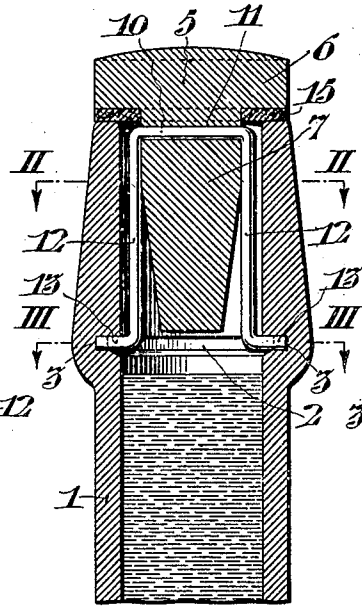


FIG. II.

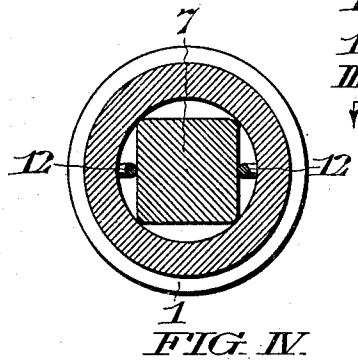


FIG. III.

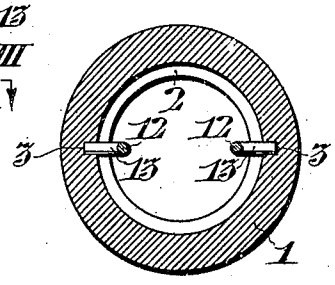


FIG. IV.

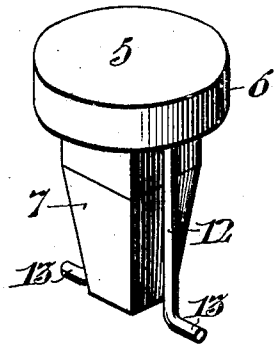


FIG. VI.

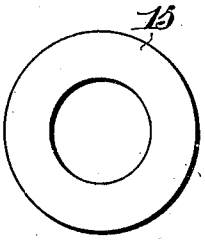


FIG. V.

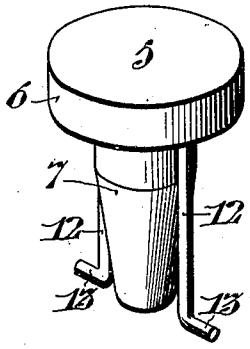
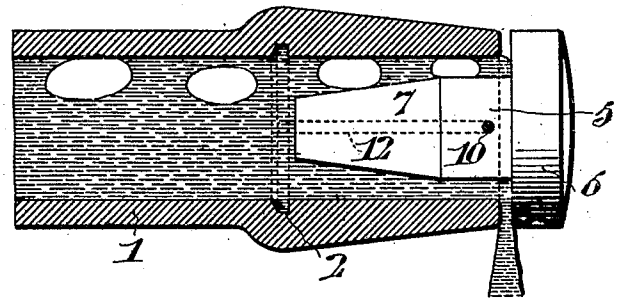


FIG. VII.



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UNITED STATES PATENT OFFICE.

ERWIN A. LAMBERT, OF ALLENTOWN, PENNSYLVANIA, ASSIGNOR OF FORTY-NINE ONE-HUNDREDTHS TO JOHN C. SCHWARTZ, OF ALLENTOWN, PENNSYLVANIA.

ANTIREFILLABLE BOTTLE.

No. 926,009. Specification of Letters Patent. Patented June 22, 1909.

Application filed May 6, 1908. Serial No. 431,111.

To all whom it may concern:

Be it known that I, ERWIN A. LAMBERT, of Allentown, in the county of Lehigh and State of Pennsylvania, have invented certain new and useful Improvements in Antirefillable Bottles, whereof the following is a specification, reference being had to the accompanying drawings.

My invention relates to an anti-refillable bottle, and in principle consists of a stopper permanently attached within the neck of the bottle in such relation thereto as to allow a sufficient outflow of liquid therefrom while yet rendering the bottle very difficult to be refilled, in combination with a suitable removable packing ring, interposed between the stopper and the lip of the bottle, which, prior to its removal, effectually seals the bottle.

I have illustrated an embodiment of my invention in the accompanying drawings, in which—

Figure I, represents in central section the neck of a bottle sealed according to my invention. Fig. II, is a horizontal section of the same along the line II, II, of Fig. I. Fig. III, is a horizontal section of the same along the line III, III, of Fig. I. Figs. IV, and V, represent alternative shapes of stoppers which may be employed. Fig. VI, is a view of the packing ring. Fig. VII, is a horizontal view partly in section of the neck of a bottle stopped according to my invention, and having the sealing or packing ring removed, illustrating the flow of liquid therefrom.

Referring to Fig. I, the neck of the bottle 1, has an internal groove 2, formed therein, at a suitable distance from the lip, preferably about an inch from the lip and within an enlarged part of the neck so as not to substantially weaken it. Within the groove two socket holes 3, 3, are formed opposite to each other, these also not extending sufficiently near the outside of the bottle to weaken it.

The groove and sockets are preferably formed by molding during the manufacture of the bottle. A suitable stopper 5, of glass or other suitable material, comprises a cap 6, and a stem 7. The diameter of the cap is substantially that of the outer diameter of the lip of the bottle. The diameter of the stem is less than the interior diameter of the neck of the bottle, so as to leave between the two a sufficient space to permit the outflow of water and the ingress of air, but not sufficient to permit the refilling of the bottle. The stem of the stopper may be round as shown in Fig. V, or square, as shown in Fig. IV, the latter being in some cases preferable, because of its steadying effect upon the position of the stopper when the packing ring is removed as hereinafter explained.

The stopper is permanently attached in place within the neck of the bottle by a wiring device, which, as shown, consists of a bent wire 10, which passes centrally through a perforation 11, in the stem of the stopper, shortly below the cap. The sides of the wire are then bent downwardly as in a staple forming the arms 12, 12, and the extremities are again bent outwardly to form the catches or trunnions 13, which are received within the sockets 3.

A packing ring 15, which may be in the form of a cork washer, is interposed between the cap of the stopper and the lip of the bottle, and by the pressure of closing the bottle is sufficiently compressed therebetween to seal the bottle. The packing ring may be made of rubber or other suitable material. If the stem of the stopper is square the internal opening of the ring is made to correspond to its shape.

In operation after the bottle is originally filled, the stopper is inserted with the packing ring in place and by sufficient pressure is driven down until the extremities of the wire enter the groove 2, thus compressing the packing ring to the required degree. Rotation of the stopper now permits the extremities of the wire to enter their sockets permanently closing the bottle in such a way that only the breakage of some part can permit the removal of the stopper.

The packing ring 15, is of cork, or rubber, or some other suitable material which may be readily picked out with a small sharpened tool or pen-knife. When it is desired to use the contents of the bottle the packing ring is thus removed, the stopper of course remaining in its place. Under these conditions, as shown in Fig. VII, the liquid contents of the bottle may be readily outpoured. At the same time the bottle is very difficult to be refilled.

Having thus described my invention, I claim:—

1. In an anti-refillable bottle, a stopper comprising a cap and a solid stem smaller than the interior of the neck of the bottle and

means for permanently attaching said stopper in the neck in a position which leaves a space between the cap and the lip of the bottle; and a removable packing ring interposed between the cap and the lip of the bottle and occupying said space.

2. In an anti-refillable bottle, a neck provided with opposing socket holes; a stopper comprising a cap and a stem, the lower portion of which is tapered, all of said stem being smaller than the interior of the neck of the bottle; and means for permanently attaching the stopper within the neck with a space between the cap and the lip of the bottle, comprising a wire engaging centrally with the stem, and having its sides bent down alongside of the tapered portion of the stem, and its extremities bent outwardly, whereby the spring action of said sides when inserted in the bottle causes the extremities to engage the socket holes; and a removable packing ring interposed between the cap and the lip of the bottle, occupying the space therebetween.

3. In an anti-refillable bottle, a neck provided with opposing socket holes; a stopper comprising a cap and a squared stem the lower portion of which is tapered, all of said stem being smaller than the interior of the neck of the bottle; and means for permanently attaching the stopper within the neck with a space between the cap and the lip of the bottle, comprising a wire engaging centrally with the stem, and having its sides bent down alongside of the tapered portion of the stem, and its extremities bent outwardly, whereby the spring action of said sides when inserted in the bottle causes the extremities to engage the socket holes; and a removable packing ring interposed between the cap and the lip of the bottle, occupying the space therebetween.

In testimony whereof, I have hereunto signed my name, at Allentown, Pa.

ERWIN A. LAMBERT.

Witnesses:
J. C. SCHWARTZ,
C. W. MASTERS.