

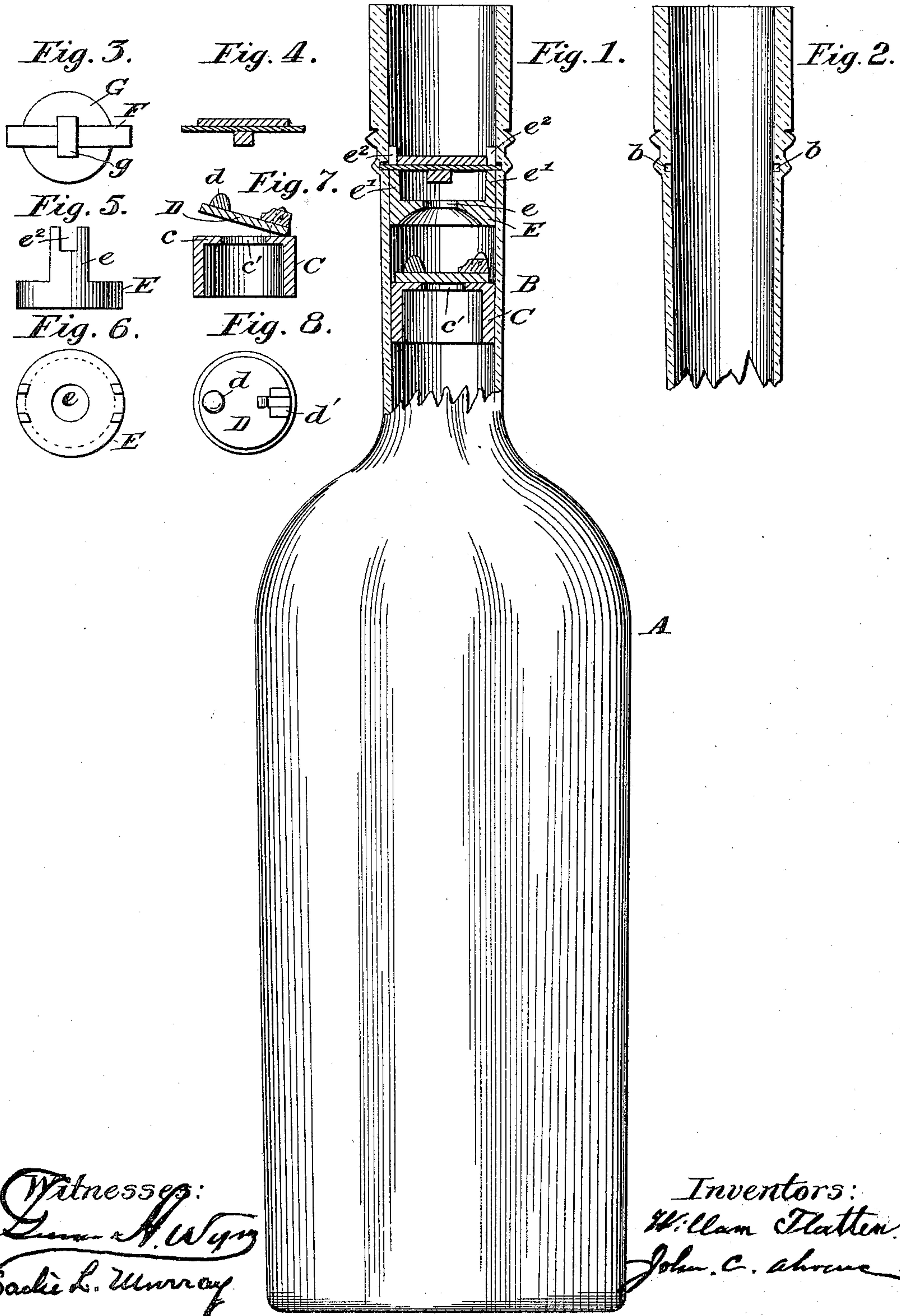
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NON-REFILLABLE BOTTLE.

APPLICATION FILED APR. 16, 1902.

NO MODEL.



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UNITED STATES PATENT OFFICE.

WILLIAM FLATTEN AND JOHN C. AHRENS, OF NYACK, NEW YORK.

NON-REFILLABLE BOTTLE.

SPECIFICATION forming part of Letters Patent No. 719,451, dated February 3, 1903.

Application filed April 16, 1902. Serial No. 103,246. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM FLATTEN and JOHN C. AHRENS, citizens of the United States, residing at Nyack, in the county of Rockland and State of New York, have invented a new and useful Non-Refillable Bottle, of which the following is a specification.

This invention relates to means for preventing the refilling of bottles, and it particularly refers to devices of that character wherein impediments are included within the neck of a bottle, which while permitting the outward flow of liquid from the bottle prevent an influx therein, whereby bottles containing certain brands of liquid after being exhausted of their contents cannot be refilled with a spurious liquid to be sold as a product of the original manufacturer.

In brief, our invention comprises a bottle-neck whose passage tapers downwardly, thereby forming a seat for a hinged valve or trap, which when the bottle is upright is normally seated, but when the bottle is inverted or tilted in the act of outpouring it opens or is capable of being opened by the outward pressure of the contained liquid. Located within the bottle-neck above the aforesaid valve or trap are recessed bearings, into which are sprung the ends of a spring-support which carries a partial closing device, which latter serves to prevent tampering with the valve or trap.

In the drawings accompanying this application, Figure 1 is a side elevation of the bottle, the neck portion thereof with its contained mechanism being in section. Fig. 2 is a detail sectional view of said neck portion without its contained mechanism. Fig. 3 is a detail bottom plan view of the spring-support. Fig. 4 is a cross-sectional view of Fig. 3. Fig. 5 is a side elevation of a portion of the partial closing device. Fig. 6 is a top plan view of Fig. 5. Fig. 7 is a detail sectional elevation of the hinged valve or trap, and Fig. 8 is a top plan view of Fig. 7.

In said figures, A indicates a bottle whose neck portion B tapers from its mouth downwardly toward its shoulder. Said tapering is here indicated as applying to both the exterior and interior of the neck portion; but, as will be quite obvious, for the purpose of our invention the interior tapering is that which

serves a useful function. Recesses $b\ b$ are formed within the neck portion at points opposite each other for a purpose to be described hereinafter. A cylindrical body C, having an annular flange c extending over its upper end, leaving a reduced opening c' within said flange, is provided to fit snugly within the lower tapering portion of neck B. Mounted upon said annular flange c is a pivotal valve or trap D, hinged at d' , the same being provided with a weight, as d , to aid in holding it normally closed. Located within the tapering neck portion B, above the aforesaid valve or trap, is a partial closing device consisting of a circular member E, having a centrally-diminished orifice e and having the oppositely-disposed uprights $e' e'$, which latter are provided with slots $e^2 e^2$. The outside circumference of said member E and likewise the outer contour of its uprights $e' e'$ are such that said device fits snugly within the tapering interior of the neck at such point therein that the slots $e^2 e^2$ are in alinement with the recesses $b\ b$ in said neck.

To prevent the aforesaid member E from being withdrawn from the bottle-neck, we provide a lock member consisting of a flat spring, as F, whose length is slightly in excess of the diameter of the bottle-neck interior at the point where the recesses $e^2 e^2$ are located. The ends of this spring F are then inserted within the recesses $e^2 e^2$ by being sprung therein. Prior to such insertion the said spring is attached to a disk, as G, which is of slightly less diameter than the interior diameter of the bottle-neck at the point where it is to be located. The manner of attachment is not material; but we have shown a bridge or horizontal slotted lug, as g , secured to the under side of disk G, and we pass the spring F through said bridge or slotted lug as a practical means of connection.

In the operation of our said invention it is intended that the bottle should be filled with the desired fluid before the mechanism referred to is introduced in its neck portion. When so filled, the valve member is first introduced, and by reason of the interior taper within the neck, with which taper the conformation of the cylindrical portion C exactly corresponds, the latter can be very securely adjusted and held in its position by being

pressed firmly into its seat. The next step is to introduce within the tapering neck the circular portion E, with its outstanding extensions $e' e'$ arranged so that the slots $e^2 e^2$ are in alinement with the recesses $b b$. The disk G, carried by spring F, is then inserted, the latter being sprung into the recesses $b b$ through the slots $e^2 e^2$. It will readily be seen that with the use of these appliances, while it remains an easy matter to pour out the liquid from the bottle, it is not possible either to introduce liquid into the bottle or to tamper with the preventive means employed. The outward passage of the fluid is through the aperture c' , the orifice e , and thence through the annular space, which is intermediate the periphery of disk G and the bottle-neck. The weight d , aided by the column of liquid that would be introduced into the bottle-neck above the valve D, would, in the event of an attempt to introduce liquid into the bottle past said valve by shaking the bottle, effectually prevent said valve from vibrating or opening and shutting by such action, and thereby prevent such attempt.

Having now described our invention, we declare that what we claim is—

1. The combination with a bottle of a downwardly-tapering neck portion, a circular valve-seat fitting snugly therein and support-

ing a pivotal valve, a circular plug having a central orifice fitting snugly within said neck portion above the valve, a disk of slightly less diameter than the bottle-neck located above said plug, recesses in the bottle-neck, and a lock member sprung into said recesses to retain said disk and plug against withdrawal.

2. In a non-refillable bottle, the combination of a neck portion whose interior tapers downwardly, a cylindrical valve-seat firmly secured within said neck portion and having a pivotal, weighted valve, capable of opening outwardly; recesses in said neck portion above the valve, and a circular member having slotted uprights and a central orifice, fitted within the bottle-neck and locked so that the slots in its uprights aline with the recesses in the bottle-neck; a disk of slightly less diameter than the bottle-neck, and a spring secured to said disk, the length of said spring being in excess of the bottle-neck interior diameter, so that when introduced with the disk therein it is sprung into said recesses, thereby locking the disk and circular member against withdrawal.

WILLIAM FLATTEN.
JOHN C. AHRENS.

In presence of—

GEORGE A. WYRE,
JOHN F. MCFARLANE.