No. 695,817. Patented Mar. 18, 1902.

J. R. LATHAM.

NON-REFILLABLE BOTTLE.

(Application filed May 3, 1899.)

(No Model.)

Fig. 1.

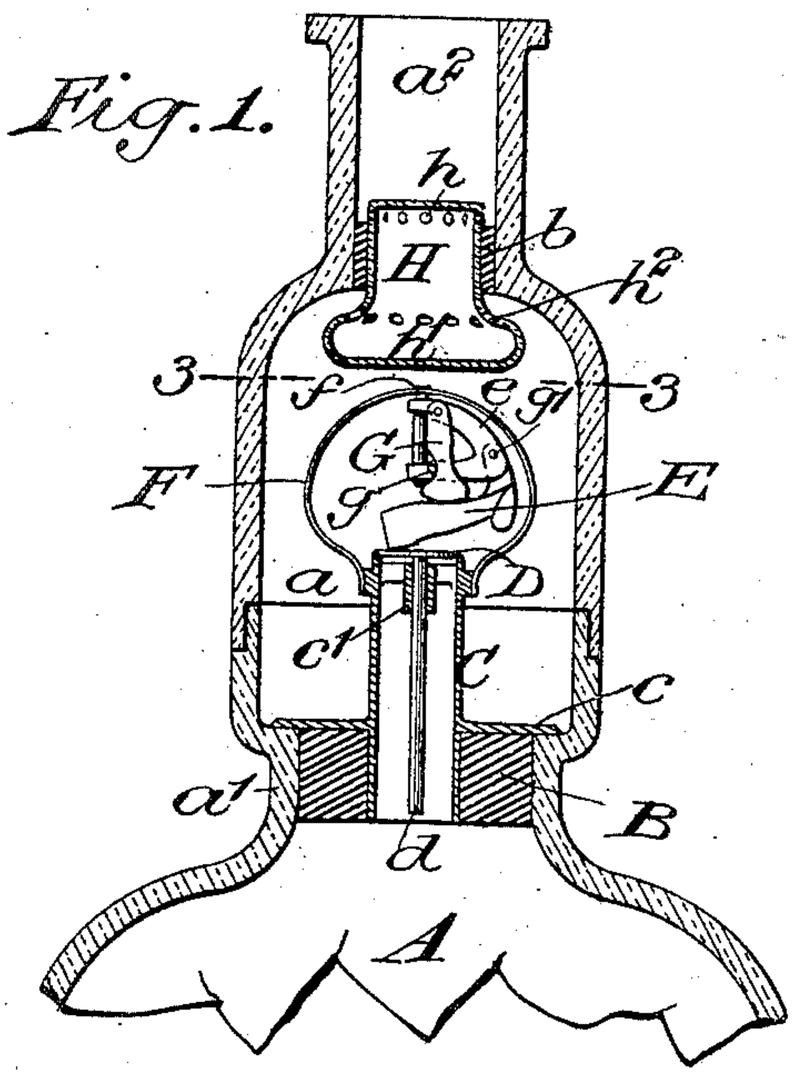


Fig. 2.

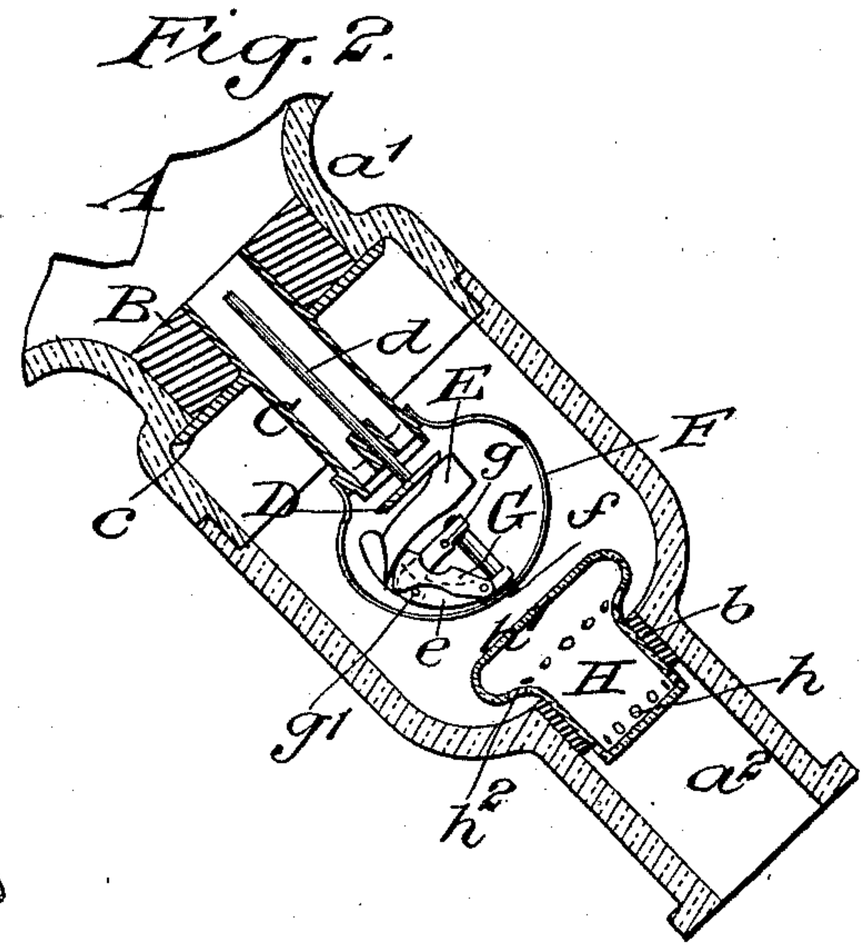


Fig. 3.

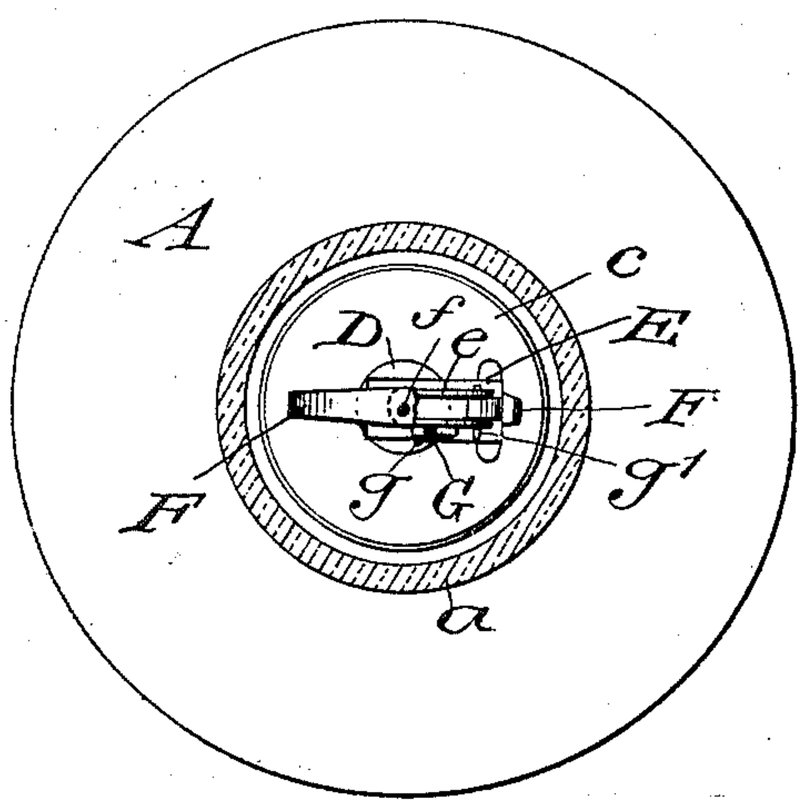
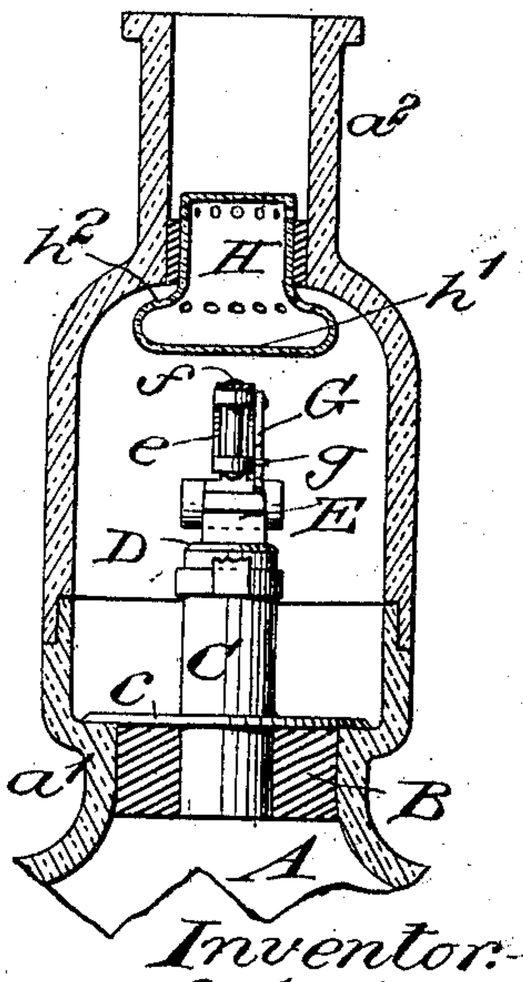


Fig. 4.



Witnesses:-
George Barry Jr.
Edward Viesel.

Inventor:-
James R. Latham
by attorneys
Brown & Lenard

UNITED STATES PATENT OFFICE.

JAMES R. LATHAM, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF TO ROBERT MILBANK, OF NEW YORK, N. Y.

NON-REFILLABLE BOTTLE.

SPECIFICATION forming part of Letters Patent No. 695,817, dated March 18, 1902.

Application filed May 3, 1899. Serial No. 715,411. (No model.)

To all whom it may concern:

Be it known that I, JAMES R. LATHAM, a citizen of the United States, and a resident of New York, in the county and State of New York, have invented a new and useful Improvement in Non-Refillable Bottles, of which the following is a specification.

My invention relates to an improvement in non-refillable bottles, one object being to provide means for positively holding the valve closed while the bottle is in a substantially upright position, even when a sharp longitudinal movement is imparted to the bottle, tending to jump the valve were it not locked in its closed position.

A further object is to provide an improved means for protecting the valve from being tampered with.

A practical embodiment of my invention is represented in the accompanying drawings, in which—

Figure 1 is a vertical central section through the upper portion of the body of a bottle and its neck, the bottle being in an upright position and the parts for rendering the bottle non-re-fillable being represented in the position which they assume under the above conditions. Fig. 2 is a similar view of the upper portion of the body of the bottle and its neck in an inverted position, showing the positions which the parts assume under the above conditions. Fig. 3 is a transverse section taken in the plane of the line 3 3 of Fig. 1 looking toward the interior of the bottle; and Fig. 4 is a vertical central sectional view through the upper portion of the body of the bottle and its neck, the view being taken at right angles to Fig. 1 and the portion of the weighted-lever-supporting frame nearest the observer being broken away to more clearly show the parts beyond the same.

The body of the bottle is denoted by A, the enlarged portion of its neck by a, the contracted portion between the enlarged portion and the body by a', and the contracted portion leading from the enlarged portion to the mouth of the bottle by a^2.

B designates a cork or stopper fitted tightly within the contracted portion a' of the neck intermediate the enlarged portion a and the body of the bottle. This stopper B forms a support for a tube C, through which communication is had between the interior of the neck and the interior of the body. The tube C is still further held against displacement by providing it with an exterior annular flange c, which flange rests at its outer edge upon the shoulder formed by the contracted portion a' of the neck.

The outer end of the tube C is opened and closed by a reciprocating valve D, the stem d of which extends downwardly within the interior of the tube C through a spider c', which serves to guide the valve in its movements toward and away from the mouth of the tube.

The valve D is held normally closed by means of a weighted lever E, one end of which is hinged to a bracket e, swiveled on a pin f, projecting inwardly from the outer portion of a loop-support F, the inner ends of which loop are secured to the exterior of the tube C at or near its outer end. The weighted lever E and its swiveled bracket e are so swiveled in the loop-support F that the weighted lever E will hold the valve D closed in whatever position the bottle is caused to assume between an upright and a horizontal position.

The means which I employ for positively holding the valve closed while the bottle is in a substantially upright position so as to prevent the filling of the bottle by jumping the valve away from its seat, as has heretofore been possible, is as follows: A swinging detent G is hinged at its upper end to the bracket e, and it is limited in its inward and outward swinging movements by stop-pins g g', the stop-pin g' being preferably an extension of the hinged pintle of the weighted lever E. The free end of the detent G is arranged to swing into position when the bottle is substantially upright to engage the back of the weighted lever E and lock the same in its engagement with the valve D. When the bottle is tilted a sufficient distance, the detent G is permitted to swing away from its engagement with the weighted lever, and thus permit the weighted lever to fall outward away from the valve to permit the valve to open.

The device which I have devised for pre-

venting any one from tampering with the several parts of the valve and its closing mechanism consists of a cage H, permanently secured at the inner end of the contracted portion a^2 of the neck by a suitable seal or cork b. The outer end of the cage H projects a slight distance beyond the seal or cork b, and the side walls of the said cage, which thus project beyond the said seal or cork, are provided with perforations h, opening from the interior of the cage into the space between the end of the cage and the walls of the contracted portion a^2 of the neck of the bottle. The inner end of the cage H is enlarged, as shown at h', and a plurality of perforations h^2 lead from the interior of said enlarged portion h' upwardly into the space between the said enlarged portion and the outer end of the enlarged portion a of the neck. It will thus be seen that this structure absolutely prevents the manipulation of the valve by means of a wire or other arrangement which may be inserted from the exterior of the bottle.

The outer portion of the neck of the bottle is separate from the inner portion of the neck of the bottle and is permanently cemented thereto. This structure permits the ready insertion of the valve and its adjacent parts within the neck of the bottle, or the two parts of the neck are secured together.

It is evident that slight changes might be resorted to in the form and arrangement of the several parts without departing from the spirit and scope of my invention. Hence I do not wish to limit myself strictly to the structure herein shown and described; but

What I claim is—

1. The combination with a bottle or other vessel and a tube seated in its neck forming the means of communication between the neck and the interior of the bottle, of a valve seated in the tube to open and close communication therethrough, a gravity-lever arranged to hold the valve closed when the bottle is above a horizontal position and means for automatically locking the lever against movement when the bottle is in a substantially upright position, substantially as set forth.

2. The combination with a bottle or other vessel and a tube seated in its neck forming the means of communication between the neck and the interior of the bottle, of a valve seated in the tube to open and close communication therethrough, a gravity-operated lever arranged to hold the valve closed when the bottle is above a horizontal position and a gravity-operated device for positively locking the lever in position to hold the valve closed when the bottle is in a substantially upright position, substantially as set forth.

3. The combination with a bottle or other vessel and a tube seated in its neck forming the means of communication between the neck and the interior of the bottle, a valve seated in the tube to open and close communication therethrough, a loop-support carried by the tube, a swinging bracket swiveled in the said support, a weighted lever hinged to said bracket and arranged in position to close the valve when the bottle is above a horizontal position and a gravity-operated detent hinged to the bracket in position to lock the lever in position to hold the valve closed when the bottle is in a substantially upright position, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 2d day of May, 1899.

JAMES R. LATHAM.

Witnesses:
FREDK. HAYNES,
C. S. SUNDGREN.