

(No Model.)

A. E. SCHLIEDER.
NON-REFILLING BOTTLE.

No. 585,450.

Patented June 29, 1897.

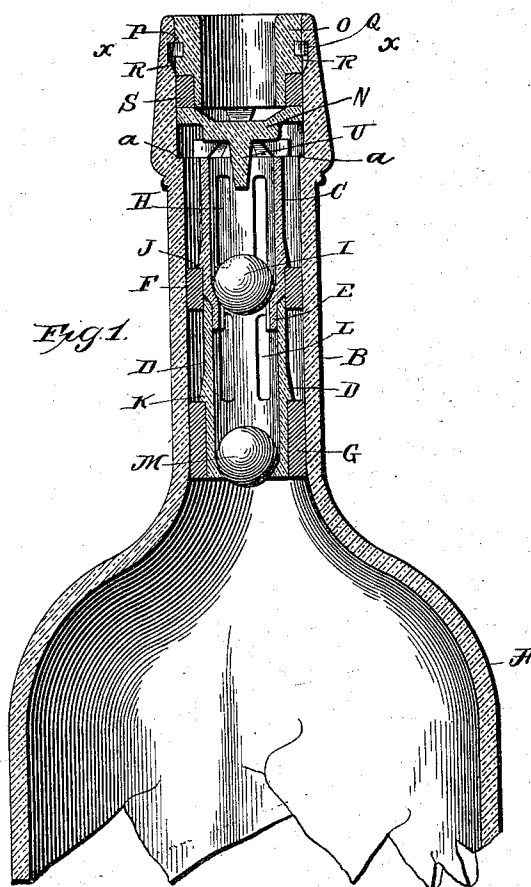


Fig. 2.

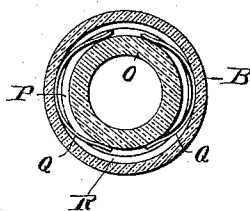
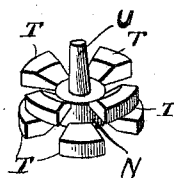


Fig. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

AUGUSTUS E. SCHLIEDER, OF SIOUX CITY, IOWA, ASSIGNOR OF ONE-THIRD
TO GEORGE A. PRESTON, OF SAME PLACE.

NON-REFILLING BOTTLE.

SPECIFICATION forming part of Letters Patent No. 585,450, dated June 29, 1897.

Application filed July 15, 1896. Serial No. 599,265. (No model.)

To all whom it may concern:

Be it known that I, AUGUSTUS E. SCHLIEDER, a citizen of the United States, residing at Sioux City, in the county of Woodbury, State of Iowa, have invented a new and useful Improvement in Non-Refilling Bottles, of which the following is a specification.

My invention relates to a new and useful improvement in non-refilling bottles, and has for its object to provide such a device that, while it may be filled once and its contents poured therefrom as desired, yet it 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 the bottles in which such goods originally came and the public 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be impossible, since when the bottle is once filled and sealed it cannot again be filled after its contents have been withdrawn without destroying the bottle.

Referring to the drawings, Figure 1 is a central vertical section of the upper portion of a bottle, showing my improvement applied thereto; Fig. 2, a section at the line *xx* thereof, and Fig. 3 a detail perspective of the keeper for preventing tampering with the internal mechanism.

In the drawings, A represents the bottle, and B the neck thereof, in which are placed the glass tubes C and D, the former being located in the upper portion of the neck and the latter immediately below, and in practice it is preferable to provide the lower end of the upper tube with an extension E, arranged to fit within the lower tube, as clearly shown and for the purpose hereinafter explained. These tubes are held in place within the neck by the cork washers or rings F and G, which serve not only to hold the tubes in place, but also to relieve them of any undue jar by the handling of the bottle. The upper tube is provided with slots H, and a valve-seat is formed in the lower portion thereof for the reception of the spherical valve I, which latter is preferably made of cork or other light

material and serves to prevent the ingress of liquid, but is free to move from off its seat and permit the outflowing of the contents of the bottle. This tube is also provided with a shoulder J, arranged to bear upon the washer F, so as to facilitate the forcing of the latter into place when the device is being assembled. A like shoulder K is formed upon the tube D for the same purposes in connection with the washer G; and this last-named tube is also provided with slots L and a valve-seat at the lower end thereof for the reception of the spherical valve M, which is preferably made of glass.

The object of the valve M is to further prevent any ingress of liquid to the bottle, and when working in conjunction with the valve I will preclude the possibility of introducing liquid to said bottle.

In order that the valves may not be tampered with, a keeper N is placed next above the superior tube and is held in place by the seal O, which latter is provided with an annular groove P for the reception of the springs Q, and a like groove R is formed in the interior of the mouth of the bottle, so that when these springs are placed in position within the seal and the latter is forced downward within the mouth sufficiently to cause the registering of the grooves the springs will enter the groove R, thereby firmly and effectually sealing the bottle against the removal of the non-refilling mechanism therein.

It is preferable that the lower end of the seal be reduced in diameter, in order that the cork S may be placed therearound, so that when said seal is forced in place this cork will hold it snugly and at the same time serve to hold the keeper in its proper place without immediate contact between the glass surfaces of the keeper and seal.

The construction of the seal is such as to render it impossible to pass a wire or other implement by the same for tampering with the valves, and this is brought about by forming wings T upon the keeper, which are arranged in series, each of which lies in a different horizontal plane, and are alternately disposed, so as to obstruct the passage of such an implement. A lug U is also formed upon the under side of the keeper and serves

to limit the movement of the valve I within the tube C.

In practice the bottle is first filled and the non-refilling attachment then forced into place, after which the keeper is seated upon the superior tube and secured by the forcing of the seal into place. When this has been accomplished, it is obvious that the contents of the bottle or any portion thereof may be readily withdrawn in the usual manner by tipping the bottle or inverting the same, since when this is done the valves M and I will drop from off their seats and the out-flowing liquid will pass around the valves and through the slots within the glass tubes, finally flowing around the wings of the keeper and out through the mouth of the bottle; but should an attempt be made to refill the bottle when it is in its upright position the valves, being upon their seats, will prevent any ingress of liquid poured within the neck of the bottle, and also should an attempt be made at refilling by inverting the bottle and submerging it in a quantity of liquid the valve I by its buoyancy would be floated upward against its seat, thus excluding the liquid. This is also true should the bottle be placed at any angle below the horizontal, and at any angle above the horizontal the valves of their weight will seat themselves. Thus it will be seen that when the bottle has once been filled and sealed as above described it is impossible to refill the same after the contents thereof have been withdrawn without breaking some portion thereof, which would afford easy detection by the most casual observer of the fact that the bottle had been thus tampered with. This would prevent the fraudulent sale of the goods of one manufacturer under the name of another, and is therefore of great importance to the bottlers of certain classes of liquids. A shoulder *a* is formed within the neck by the increased diameter of the mouth of said neck, so that the cap is thereby prevented from being forced downward past a certain limit,

which will prevent the forcing of the safety devices into the bottle.

Having thus fully described my invention, what I claim as new and useful is—

1. In combination with a bottle, a tube secured in the neck thereof, a valve-seat formed in the bottom of said tube, a weighted valve adapted to fit in said seat, a second tube having a reduced lower end adapted to fit in the top of the first-named tube, a valve-seat formed in the bottom of the top tube, a float-valve adapted to fit in said seat, the reduced portion of the upper tube preventing the weight from striking the float when the bottle is inverted, and a keeper adapted to allow the escape of the liquid but prevent the float from leaving the tube, as and for the purpose described.

2. In combination with a bottle, a tube secured in the lower part of the neck, a cork washer surrounding the lower portion of the tube, a weighted valve adapted to fit in the lower part of said tube, a second tube fitted in the upper portion of the neck, a cork washer surrounding the lower portion of the upper tube, a float-valve adapted to fit in said tube, an extension formed on the tube adapted to fit in the lower tube to prevent the weight from striking the float, a keeper secured in the bottle above the tube said keeper being composed of two series of radial wings arranged in different horizontal planes, said wings being disposed alternately to prevent the passage of an implement, a lug formed on the under side of said keeper, and a seal for keeping the entire mechanism in the neck of a bottle, substantially as described.

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

AUGUSTUS E. SCHLIEDER.

Witnesses:

S. S. WILLIAMSON,
G. A. PRESTON.