No. 639,271. Patented Dec. 19, 1899.

C. J. NESBITT.

NON-REFILLABLE BOTTLE.

(Application filed Mar. 13, 1899.)

(No Model.)

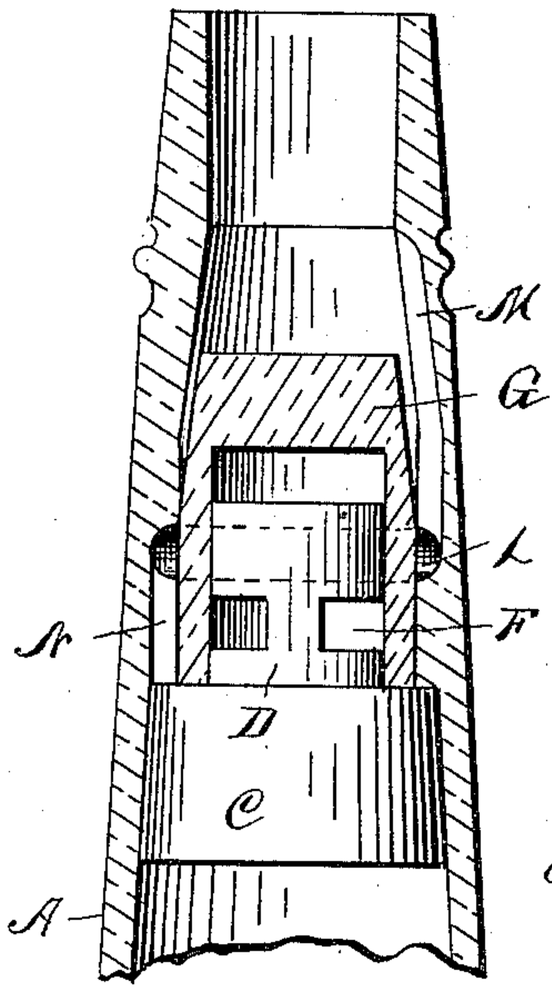


Fig II

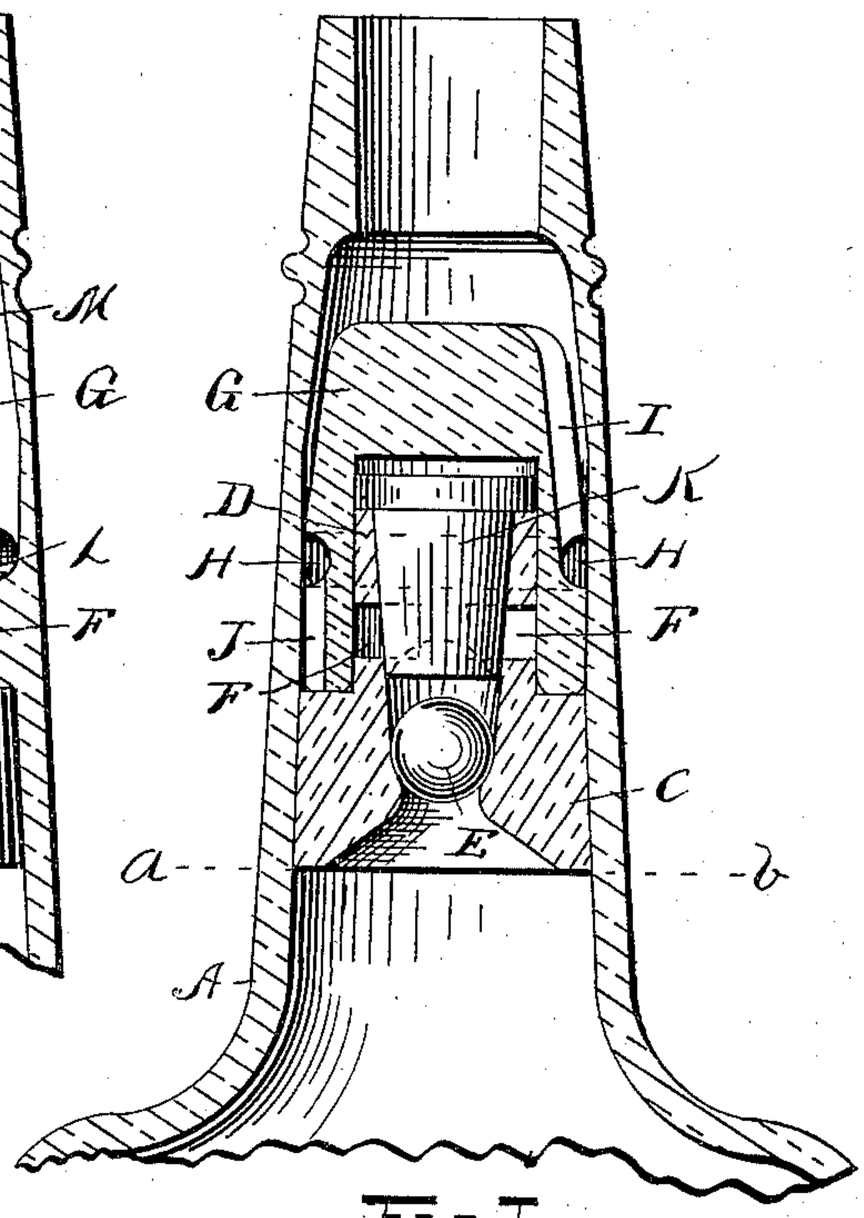
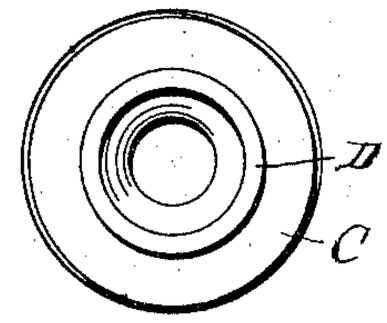


Fig I

Fig III



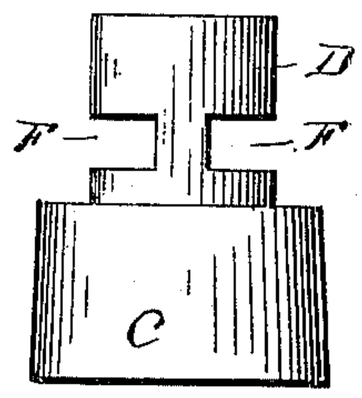


Fig IV

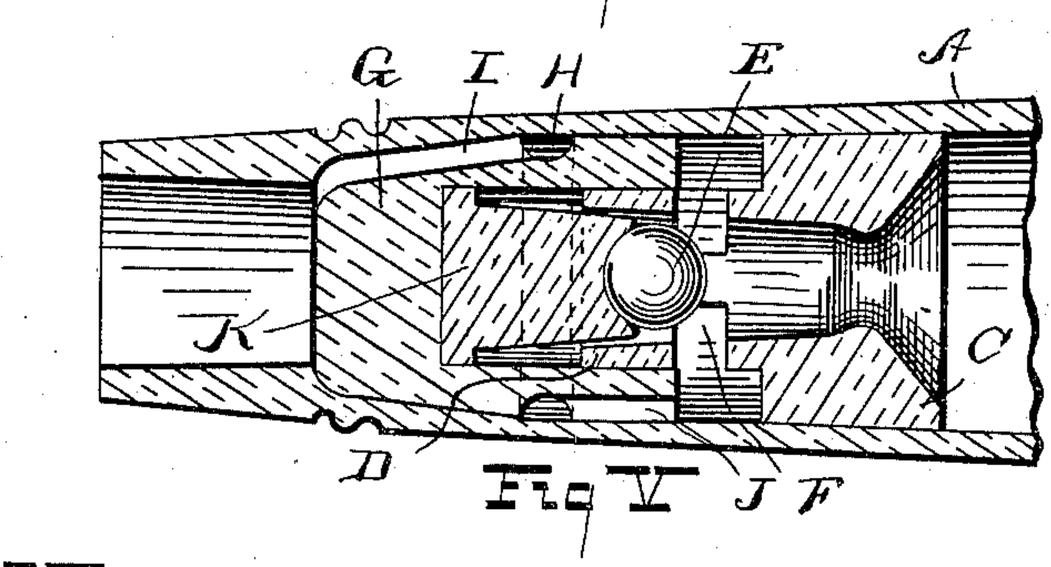
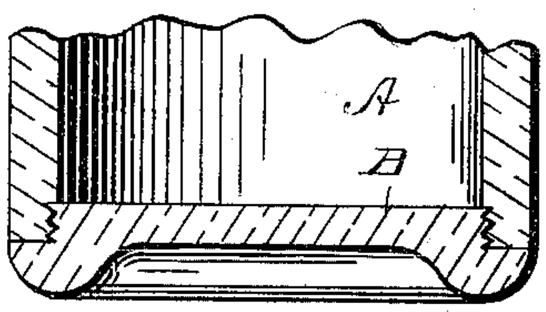


Fig V

Fig VI



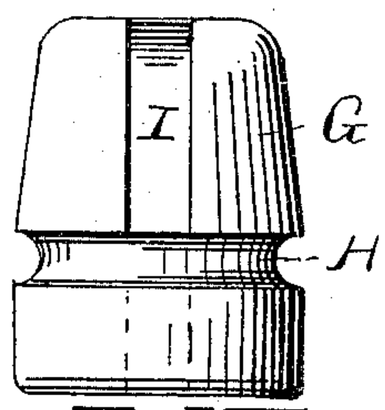
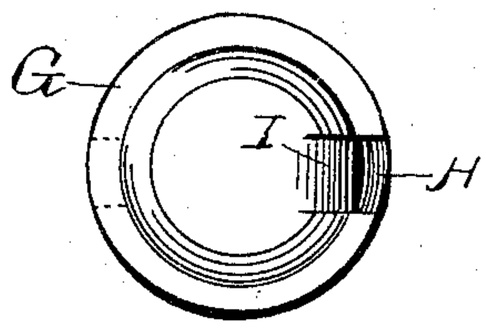


Fig VII

Fig VIII



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UNITED STATES PATENT OFFICE.

CHARLES JACKSON NESBITT, OF KANSAS CITY, MISSOURI, ASSIGNOR OF ONE-FOURTH TO JOSEPH S. CHICK, JR., OF SAME PLACE.

NON-REFILLABLE BOTTLE.

SPECIFICATION forming part of Letters Patent No. 639,271, dated December 19, 1899.

Application filed March 13, 1899. Serial No. 708,818. (No model.)

To all whom it may concern:

Be it known that I, CHARLES JACKSON NESBITT, a citizen of the United States of America, residing in Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Non-Refillable Bottles, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to improvements in non-refillable bottles.

The object of my invention is to provide a novel construction of bottle-stopper which, while permitting the ready emptying of the contents of the bottle, will effectually prevent its refilling by unscrupulous persons with goods fraudulently represented as the original contents of the bottle. It is the well-known practice among dishonest dealers in order to increase their profits to resort to refilling of bottles bearing the labels or trade-marks of well-known brands of goods with a spurious or cheaper article. My invention aims to prevent this imposition on the public and to save to the original filler of the bottle his rightful profits.

My invention comprises certain novel features of construction hereinafter fully described and claimed.

In the accompanying drawings, illustrative of my invention, Figure I represents a vertical sectional view of a stopper of my invention fitted into the interior of the neck of a bottle. In this view the valves and cap are shown covering the ducts leading from the interior of the bottle. Fig. II represents a vertical sectional view of a modified form of my invention in which the interior of the neck of the bottle is provided with ducts for conveying away the contents of the bottle instead of having the ducts or grooves in the cap, as shown in Fig. I. Fig. III represents a plan view of the base of the stopper. Fig. IV represents a side elevation of the same. Fig. V represents a vertical sectional view showing the bottle tipped so as to permit the escape of the liquid contents and showing the valves and cap in the position allowing the passage of the contents. Fig. VI represents in vertical section the bottom end of a bottle provided with a separable bottom, which when removed permits the insertion of the preventive mechanism into the neck of the bottle. Fig. VII represents a side elevation of one form of cap, and Fig. VIII represents a top view of the same.

Similar letters of reference indicate similar parts.

A indicates the bottle, similar in outward form to the ordinary form of bottle and provided at the bottom end with a separable plug or bottom B, which in the drawings is shown as having screw-thread connection with the body of the bottle, but which may be secured in place by cement or any other desirable means. The object in having the bottom separable is to permit the insertion of the preventive mechanism into the neck of the bottle and also to permit the filling of the bottle with the contents to be stored therein. The preventive mechanism comprises four distinct parts—the rigid base C, secured firmly in the neck of the bottle and provided with a reduced tubular upper end D and a vertical liquid-discharge central opening having at its lower end a seat adapted to receive a ball-valve E, the said reduced portion D of the base being provided with lateral discharge-openings F and having fitted to the outer periphery thereof a guard-cap G, vertically movable thereon and provided with an annular peripheral groove H. One or more longitudinal grooves I are provided in the periphery of the guard-cap G, extending upwardly from the annular groove H to the top of the cap. Other longitudinal grooves J, preferably not in line with the grooves I, are provided in the periphery of the cap and extend from the annular groove H to the bottom of the cap G. The cap G is constructed so that when in the lower position (shown in Fig. I) it will cover the outlet-openings F. The central opening in the base C is outwardly flaring and has fitted in its upper end a stopper-valve K, adapted when seated therein, as shown in Fig. I, to close the top of the opening and also to close the lateral openings F. The upper end of the stopper-valve K is preferably provided with a lateral flange adapted to fit loosely in the interior of the central opening in the lower end of the cap G. The upper end of the bottle-neck is provided with a contracted mouth

to receive the ordinary cork; but it is not large enough to permit the removal therefrom of the cap G.

In the form of my invention shown in Fig. II the neck of the bottle is provided in its interior with an annular horizontal peripheral groove L. A longitudinal groove M is provided also in the inside of the neck, extending from the said horizontal groove L to a point above the upper limit of movement of the top of the cap G. Another groove N, preferably not in line with the groove M, extends downwardly from the horizontal groove L to a point below the upper limit of movement of the lower end of the cap G. In this form of my invention the cap G may or may not be provided with external discharge-grooves, as may be deemed best in each particular instance.

It will of course be understood by any one conversant with the art to which this invention appertains that numerous modifications of structure may be resorted to without departing from the spirit of my invention. As many longitudinal grooves may be provided in the cap G or the inner periphery of the neck as may be desired, and as many annular grooves connecting therewith may be provided as may be deemed sufficient for the purpose. The shapes and configurations of the cap and valves may be varied also to a considerable degree.

I prefer to utilize glass in the manufacture of the various parts which are included in my improvement; but any other materials desired may be employed in their construction—as, for instance, porcelain or earthenware, glazed or unglazed, or in certain instances where not prejudicial to the contents metal may be employed for making the parts. The base C may be secured into the interior of the bottle in any manner convenient, and it may be made to conform to the interior shape of the neck or the neck made to conform in shape with the base in any desired way. It is best to have the neck above the base C for a distance equal to the limit of movement of the sides of the cap G provided with parallel sides, so as to permit the vertical play of the cap G upon the reduced upper end of the base C.

My invention is operated as follows: The bottom B is first removed and the parts of the preventive mechanism inserted, as already described, into the neck of the bottle. The base is secured therein in any desired manner, after which the ordinary cork is inserted in the open mouth of the bottle. The liquid contents are then inserted into the bottle through the bottom opening, after which the bottom plug G is secured in place and cemented, if desired, to prevent its removal therefrom. If now the bottle is inverted, the cap G, stopper-valve K, and ball-valve E will move toward the mouth of the bottle, uncovering the lateral openings F in the base C and also the central opening in the base through which the liquid will escape, and after passing through the peripheral grooves I, H, and J pass out the mouth of the bottle, the cork having been previously withdrawn. In the form shown in Fig. II the contents, after passing through the lateral openings F, will escape through the peripheral grooves in the neck of the bottle. After the contents have been removed and an effort is made to refill the bottle by immersion the bottle will have to be tipped at an angle, the mouth extending upwardly. This will cause the ball-valve E to roll against the seat in the base C, thus shutting off ingress of the liquid into the bottle. The stopper-valve K will also slip into its seat, shutting off the lateral openings F and the upper end of the central opening in the base C. The guard-cap G will also slip down on the base, closing the outlet-openings F on the outside and preventing the insertion of anything through the openings F for the purpose of holding back the valves K and E. A further guard against this is the disposition of the grooves in the periphery of the cap G. Even if the cap is held from the outside in any manner from covering the side openings F the said openings cannot be reached by a wire or other such device, as the grooves I and J are not in line, and they provide the only means of getting a wire below the lower end of the cap G. A wire thrust down the groove I will be stopped at the peripheral groove H and even if forced around said horizontal groove could not be made to pass down the groove J. The form of my invention presents three seals against the passage of liquid into the interior of the bottle—the ball-valve E, the stopper-valve K, and the cap G, covering the openings F.

In place of having the bottom of the bottle separable other means may be provided for inserting the preventive mechanism into the neck—as, for instance, the bottle may be made separable at the place indicated by the dotted line *a b* of Fig. I and secured together after filling the bottle and inserting the preventive mechanism in the neck in any manner desired. As stated before, many modifications in structure may be made while remaining within the scope of my invention.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A bottle-stopper comprising a base portion adapted to be secured in the neck of the bottle and having a central opening extending lengthwise therethrough and provided with a reduced upper end having lateral discharge-openings communicating with the central opening, a ball-valve within and adapted to close the said central opening, a stopper-valve movable lengthwise in the said central opening and adapted to cover and uncover the said lateral openings, and a guard-cap fitted upon the outer periphery of the reduced upper end of the base portion and adapted to move lengthwise thereon and cover and un-

cover the said lateral openings, and a channel adapted to convey the liquid contents from the said lateral openings past the said guard-cap, substantially as described.

2. A bottle-stopper comprising the base C having a central opening and the reduced upper end D provided with the lateral openings, a ball-valve E adapted to be seated in the lower end of the said central opening, the stopper-valve K movable lengthwise in the said central opening and adapted to close the said lateral openings, a guard-cap fitted upon the outer periphery of the portion D and movable lengthwise so as to uncover the said lateral openings and provided with outer peripheral grooves for conveying the liquid contents from below the said cap past the same, substantially as described.

3. In a non-refillable bottle, the combination with the neck of the bottle, of a stopper secured in the neck comprising a base portion provided with a central axial opening therethrough and having a reduced upper end provided with lateral openings, a valve controlling the said central opening, a valve controlling the said lateral openings, a guard-cap for shutting off access to the said lateral openings from the mouth of the bottle and one or more channels leading around the said cap, substantially as described.

4. In a non-refillable bottle, the combination with the neck of the bottle, of a stopper therein comprising two members one of which is rigidly secured in the neck of the bottle and provided with a central axial opening and having lateral openings leading therefrom to the outside of the reduced periphery thereof, the other member being vertically movable upon said reduced portion of the other member and substantially filling the annular space between the said reduced portion and the inner periphery of the neck of the bottle, discharge-openings leading past the said movable member and valves controlling the said axial and lateral openings, substantially as described.

5. In a non-refillable bottle, the combination with the neck of the bottle, of stopper mechanism located in the neck and comprising a rigid base provided with a reduced upper end and having a central axial opening and lateral openings in the said reduced portion, valves controlling the said axial and lateral openings, a guard-cap encircling the said reduced portion of the base and vertically movable thereon, and a separable portion of the bottle adapted to be removed for the insertion of the preventive mechanism, substantially as described.

6. In a non-refillable bottle, the combination with the bottle having a separable portion, of a stopper adapted to be inserted in the neck of the bottle after the separable portion has been removed, the stopper comprising a fixed base provided with a reduced upper end having lateral openings, a central opening in the base extending to the said lateral openings, a ball-valve controlling said central opening and a vertically-movable cap mounted upon the reduced upper end of the base and adapted to cover and uncover the said lateral openings and a channel for permitting the passage of liquid from the lateral openings around the cap to the bottle-mouth, substantially as described.

7. A bottle-stopper comprising a fixed member provided with a central reduced tubular upper end the inner periphery of which is flaring and having lateral openings, a ball-valve located in the said central flaring opening and adapted to control the same, an inverted-cone-shaped valve located in the said flaring opening and adapted to control the said lateral openings, and a longitudinally-movable cap mounted upon the said tubular upper end and provided with outer grooves in its periphery extending along its length, the said cap being adapted to cover the said lateral openings, substantially as described.

8. A bottle-stopper comprising the fixed member C having the tubular projection D provided with the lateral openings F, the said member having a central, axial opening, a ball-valve controlling the said opening, the stopper-valve K vertically movable in the said axial opening and adapted to control the said lateral openings F, and the guard-cap G longitudinally movable upon the tubular projection D and provided in its periphery with an annular groove H and longitudinal grooves leading upward and downward therefrom, substantially as described.

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

CHARLES JACKSON NESBITT.

Witnesses:
WARREN D. HOUSE,
D. W. C. HOUSE.