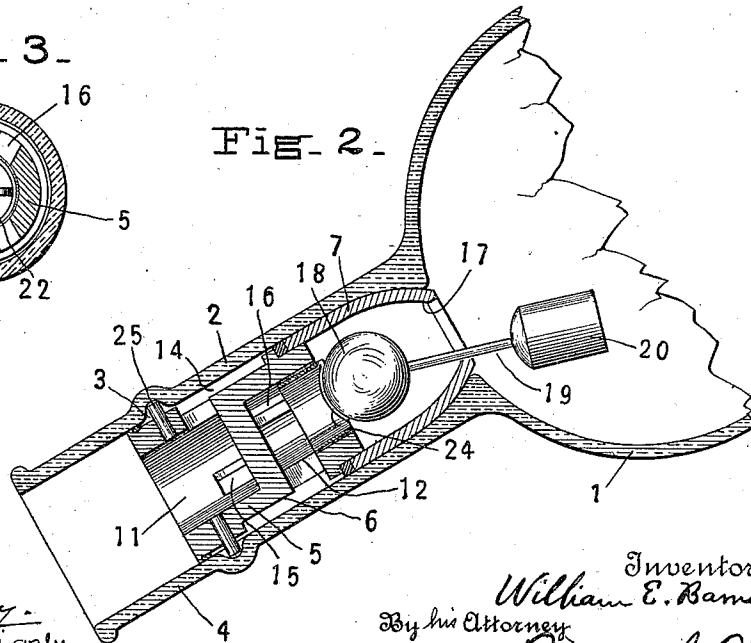
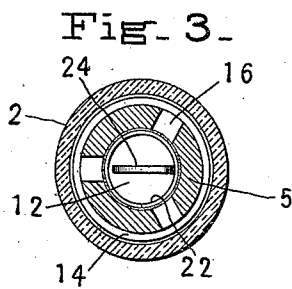
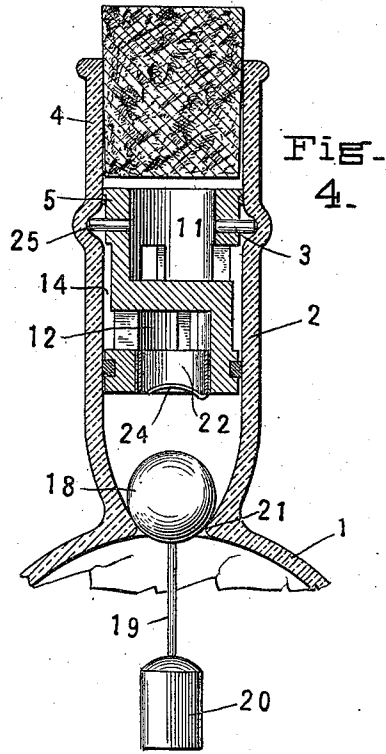
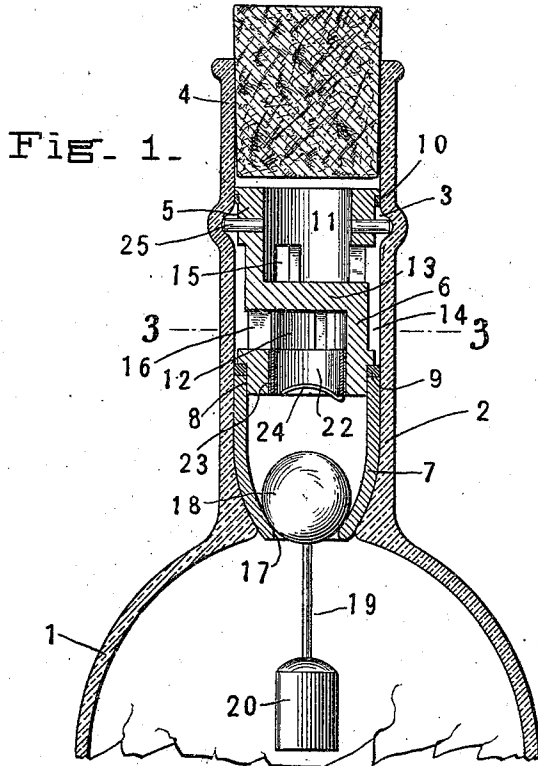


W. E. BARNARD.
NON-REFILLABLE BOTTLE.
APPLICATION FILED DEC. 3, 1909.

984,642.

Patented Feb. 21, 1911.



Witnesses:
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UNITED STATES PATENT OFFICE.

WILLIAM E. BARNARD, OF NEW YORK, N. Y.

NON-REFILLABLE BOTTLE.

984,642.

Specification of Letters Patent. Patented Feb. 21, 1911.

Application filed December 3, 1909. Serial No. 531,121.

To all whom it may concern:

Be it known that I, WILLIAM E. BARNARD, residing at New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Non-Refillable Bottles, of which the following is a specification.

This invention relates to closures for bottles, and has for its broad object the provision of improved means seated in the neck of the bottle adapted to permit the free discharge of the liquid from the bottle but preventing the refilling thereof when the same has been once emptied.

Another object is to provide new and improved means for holding the closure in position within the neck of the bottle such that when once inserted it cannot be removed therefrom without either destroying the device itself or the bottle.

Another object is to provide a device which will resist tampering and of such construction that should heat be applied to the neck of the bottle in an attempt to render said device inoperative, a permanent closure of the bottle will necessarily result.

Other objects and aims, more or less broad than those stated above, will be in part obvious and in part specifically adverted to in the course of the following detailed description, in which the elements, combinations, and arrangements of parts constituting the invention are set forth; and the scope of the application thereof will be indicated in the appended claims.

In the accompanying drawings which are to be taken as a part of this specification and in which I have shown a merely preferred form of embodiment of the invention; Figure 1 is a vertical sectional view taken through the upper portion of the bottle showing my improved device seated in the neck; Fig. 2 is a similar view showing the position of the parts when the bottle is inverted to permit the discharge of liquid therefrom; Fig. 3 is a horizontal sectional view taken on the line 3—3 of Fig. 1; and Fig. 4 is a view similar to Fig. 1 but showing a slightly different embodiment of my invention.

Similar reference characters refer to similar parts throughout the several figures of the drawings.

Referring now to the numerals of the drawings, 1 indicates an upper portion of

the bottle and 2 the neck thereof which, in the present instance, is provided with an annular interior depression 3. The neck of the bottle is preferably extended above this depression as at 4 to provide a cork or stopper receiving portion.

At 5 is indicated a casing adapted to be inserted in the neck of the bottle in the manner shown in the drawings. This casing may be constructed of glass, porcelain or other suitable substance and as shown in Figs. 1, 2, and 3, is divided into upper and lower compartments 6 and 7 respectively, joined by a telescopic connection shown at 8. A gasket 9 is positioned between the sections 6 and 7, said gasket also engaging the inner surface of the bottle neck, and a similar gasket 10 is provided between the upper portion of the casing and the inner surface of the bottle neck. These gaskets insure close fit between the casing and the interior surface of the neck of the bottle, preventing the escape of liquid between the parts.

The upper portion 6 of the casing is provided with a compartment 11, and the lower portion thereof with a compartment 12, said compartments being separated by a transversely extending partition 13. The function of this partition is to prevent a wire prod or other prying instrument from being inserted within the neck of the bottle in an attempt to derange the parts, so that they may be rendered inoperative. The casing is provided with an exterior annular recess 14 into which lead radially extending apertures 15 and 16 formed in the walls of the casing and extending from the compartments 11 and 12 respectively. The apertures of each set, in the present instance, are disposed at a distance of 120° apart and are arranged in staggered relation with respect to those of the other set, the object of which construction is to prevent the insertion of an instrument within the bottle.

The lower section 7 of the casing is provided with a valve seat 17 upon which seats a globular valve 18 to which is secured the weight 20 as by means of a rod 19. In some cases it may be desirable to omit the lower section 7 of the casing and seat the valve 18 directly upon the seat 21 formed in the neck of the bottle, at the base thereof as shown in Fig. 4 of the drawings.

Located within the lower compartment 12 of section 6 of the casing is an annular ob-

turator member 22 which is held in the position shown in the drawings by means of a substance as shown at 23, which substance is susceptible to heat. Various gums or other meltable material may be employed in this relation, the object of the same being to provide a substance such that when heat is applied to the neck of the bottle the substance will melt to free the obturator member 22 so that in case the bottle is inverted the valve 18 moving to the position shown in Fig. 2 will engage and move said member within the compartment 12, whereby the apertures 16 thereof will be permanently closed. The member will thereafter be retained in position within the compartment by the resetting of the meltable material. A guard 24 is formed upon the member 22, which guard prevents the valve 18 from forming a closure between the lower end of the compartment and the interior of the bottle when the bottle is inverted, as shown in Fig. 2, to permit the contents of the bottle to be discharged.

In order to hold the casing in proper position in the bottle neck the upper wall is provided with a plurality of radially disposed apertures in which are positioned slidable pins 25 which when moved outwardly to the position shown in the drawings take into the recess 3 and thereby hold the device firmly in position. The inner ends of these pins when moved to the position shown in the drawing are flush with the interior wall of the compartment 11, thus making it impossible to move them inwardly when once positioned, as shown herein.

The operation of my improved bottle closure which should be largely obvious from the above description may now be understood: When the bottle has been once filled the device is inserted in the neck thereof and secured therein as by means of the pins 25. When it is desired to discharge the liquid the bottle is tipped or inverted in the usual way, whereupon the valve 18 moves to the position shown and allows the liquid to be discharged freely through the casing. When the bottle has been once emptied it will be seen that the same cannot be refilled owing to the fact that the valve 18 is held by gravity against its seat and should tampering with the device be attempted as by the application of heat to the neck of the bottle the melting of the substance which holds the obturator member in position will allow the same to be moved into operative position to close the aperture 16 when the bottle is held in inverted or inclined position, as has been above described.

It will accordingly be seen that I have provided a device which is cheap to manufacture and which may be readily inserted in the neck of the bottle. The peculiar construction insures the same against successful

tampering owing to the fact that it is impossible to insert a wire or other instrument through the casing.

As many changes could be made in the above construction and many apparently widely different embodiments of this invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawing shall be interpreted as illustrative and not in a limiting sense.

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

1. In a device of the class described, in combination with the neck of a bottle, a casing adapted to be seated therein and provided with means adapted to hold it in position, a plurality of sets of communicating apertures in the walls of said casing which provide an avenue of discharge for the liquid in the bottle, a member adapted to form a closure for one set of said apertures, and a meltable substance for holding said member in inoperative position therein, a valve seat, and a pendant valve located upon said seat, said valve being adapted to move said member into operative position when said substance has been melted.

2. In a device of the class described, in combination, a casing adapted to be inserted in the neck of a bottle having means for holding it in position therein, the walls of said casing being provided with a plurality of sets of laterally extending communicating apertures which provide an avenue of discharge for the liquid in the bottle, a member slidably mounted in said casing adapted to close one of said sets of apertures, a substance susceptible to heat for holding said member normally in inoperative position, and means within the bottle neck for sliding said member into operative position when the substance employed for holding it in inoperative position has been melted through the application of heat to the neck of the bottle.

3. In a device of the class described, in combination, a casing adapted to be inserted in the neck of a bottle and provided with upper and lower communicating compartments, a transversely extending partition separating said compartments, a member located in one of said compartments adapted to prevent the flow of liquid therethrough when moved inwardly therein, a substance susceptible to heat for holding said member normally in inoperative position, a valve seat, and a pendant valve upon said seat, said valve, when said substance has been melted by the application of heat and the bottle held in inverted position, being adapted to engage and move said means inwardly into operative position, thereby to

close communication between said compartments and prevent a flow of liquid through the casing.

4. In a device of the class described, in combination, a casing adapted to be inserted in the neck of a bottle and provided with means for holding the same in position therein, said casing being provided with upper and lower compartments and having a transversely extending partition separating said compartments, transversely extending communicating apertures provided in the walls of said casing, the apertures of each compartment being arranged in staggered relation with respect to those of the other thereof, a valve seat, a pendant valve seated thereon, and an annular member seated in one of said compartments and adapted when moved inwardly therein to permit the closing of the apertures thereof whereby a flow of liquid through said casing will be prevented, a substance susceptible to heat for normally holding said member in inoperative position, said valve, when the substance holding said member has been melted by the application of heat to the neck of the bottle and the bottle inverted, being adapted to engage said member and move it inwardly, and a guard upon said member which normally

prevents the valve from effecting a closure through said casing when the bottle is held in inverted position.

5. In a device of the class described, in combination, a casing adapted to be seated in the neck of a bottle, said casing being provided with suitable apertures through which the liquid in the bottle may be discharged, an annular member slidably mounted in said casing and adapted when moved inwardly to permit a closure of certain of the apertures thereof, a means susceptible to the action of heat for holding said member in inoperative position, a valve seat, a valve located thereon, said valve when said substance has been melted and said bottle inverted being adapted to engage and move said member inwardly, said member being provided with a transversely extending guard which normally prevents said valve from effecting a closure of said casing when the bottle is inverted.

In witness whereof I affix my signature in the presence of two witnesses.

WILLIAM E. BARNARD.

Witnesses:

ANNA CAREY DILLS,
ELEANOR MEAD.