No. 881,551. PATENTED MAR. 10, 1908.

C. D. COLLISON.

NON-REFILLABLE BOTTLE.

APPLICATION FILED MAY 6, 1907.

Fig. 1.

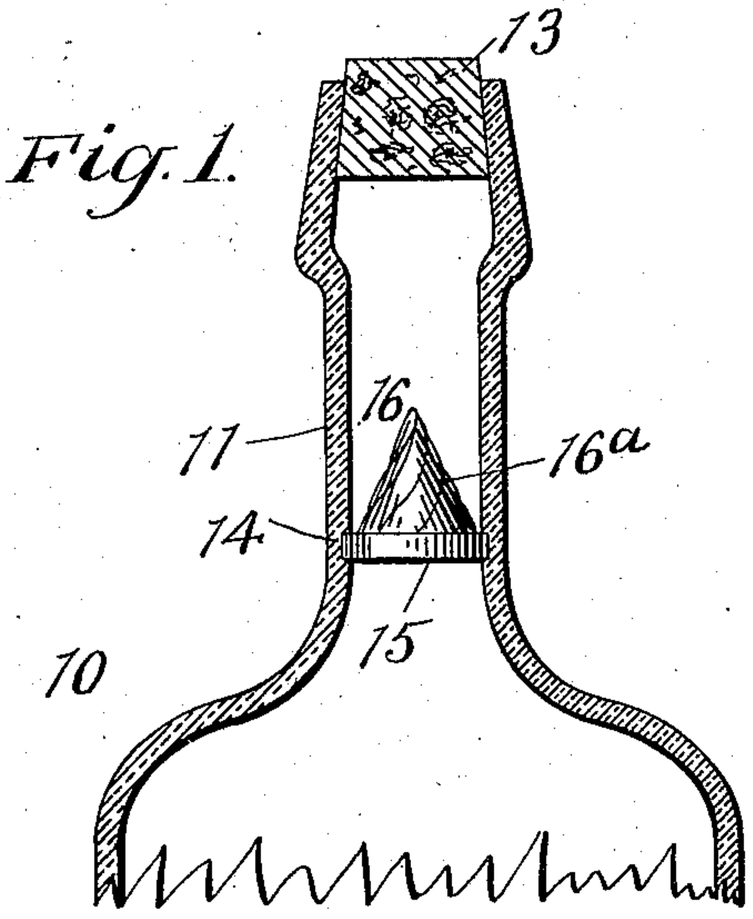


Fig. 2.

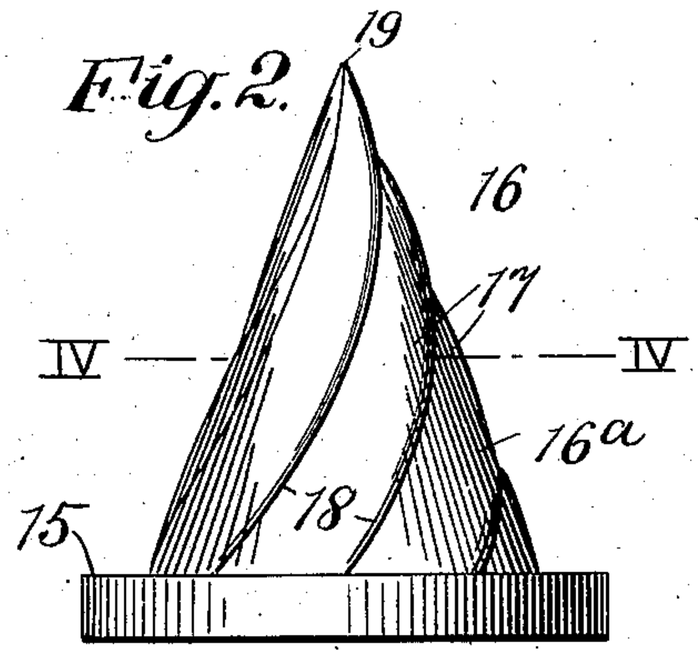


Fig. 3.

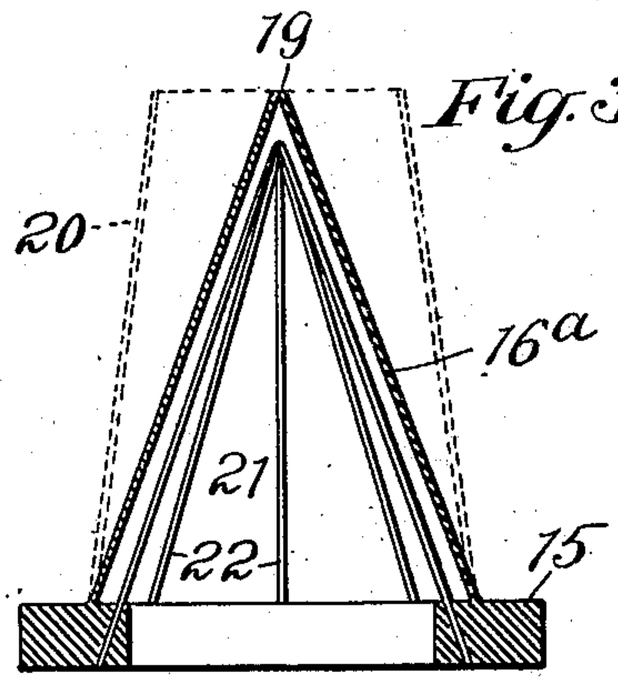
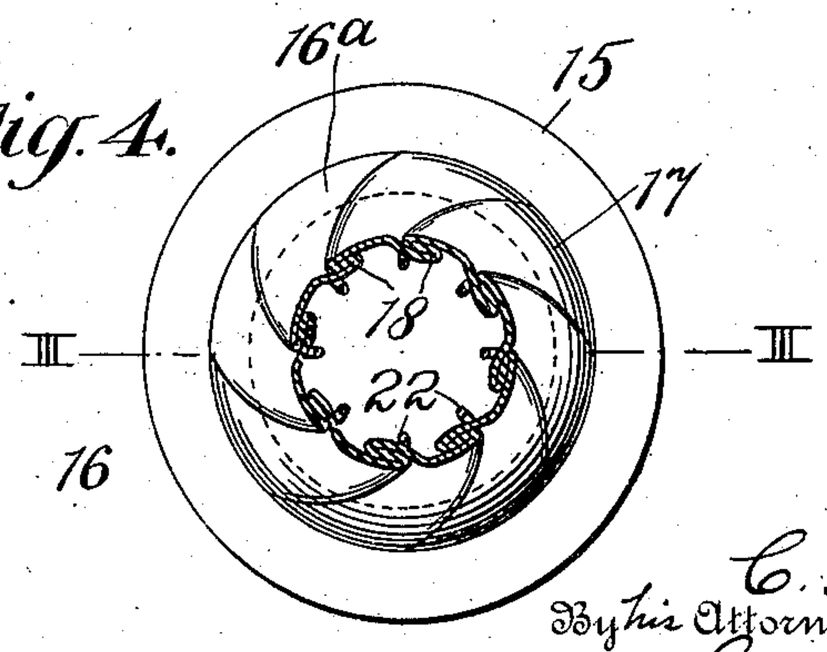


Fig. 4.



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UNITED STATES PATENT OFFICE.

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NON-REFILLABLE BOTTLE.

No. 881,551. Specification of Letters Patent. Patented March 10, 1908.

Application filed May 6, 1907. Serial No. 372,088.

To all whom it may concern:

Be it known that I, CLIFFORD D. COLLISON, a citizen of the United States, and a resident of Montclair, county of Essex, and State of New Jersey, have invented certain new and useful Improvements in Non-Refillable Bottles, of which the following is a full, clear, and exact description.

This invention relates more particularly to a device which is adapted to fit in the neck of a bottle to prevent refilling; and the primary object of the invention is to provide a simple, efficient, and inexpensive device, which may be readily placed in position within the bottle and prevent liquid or other material from being forced or fed therein after the bottle has once been emptied of its contents; which is so made that the device will automatically open for the passage of the liquid or other material contained in the bottle by the weight or pressure of the material itself when the bottle is held in a pouring position, and which will automatically close when the bottle is restored to a filling position or when it is attempted to force the liquid into the bottle through the mouth.

A further object of the invention is to provide means within the device to prevent the body thereof being forced inward, and thereby permit the bottle being filled through the mouth after the device has been placed in position.

With these objects in view, the invention will be hereinafter more particularly described with reference to the accompanying drawings, which form a part of this specification, and will then be pointed out in the claims at the end of the description.

In the drawings, Figure 1 is a fragmentary section through a bottle, illustrating one form of device embodying my invention. Fig. 2 is an enlarged elevation of the stopper or device. Fig. 3 is a vertical section taken on the line III—III of Fig. 4; and Fig. 4 is a sectional plan taken on the line IV—IV of Fig. 2.

The bottle 10 has a neck 11, and in the mouth may be held a cork 13, all of which may be of the usual or of any preferred construction. In the neck 11 of the bottle is a groove 14 in which is adapted to fit the flange 15 of the stopper, device or gasket 16. This device is preferably made of rubber or some other yielding material, and has a collapsible and substantially conical body 16^a. The body portion 16^a may be of thin rubber formed integral with the flange 15, and is provided with folds 17, which extend upward from the flange or base 14, and around the body portion toward the top thereof. The folds 17 each have an overlapping portion 18, and said folds are so arranged that the upper part of the body 16^a will be open at the point 19 when the material is being forced or poured out of the bottle, at which time the body portion 16^a will automatically open by the pressure of the liquid to the position shown in dotted lines, at 20, in Fig. 3, and as soon as the bottle is restored to an upright position the resiliency of the body portion 16^a, and the tendency of the folds 17 to return to their former or collasped position will close the opening 19 as shown in full lines in the several figures. The purpose of the overlapping portion 18 of the folds is to permit the body portion 16^a to open outwardly without straining or stretching the said body, and when in this position the opening at the top will be of sufficient diameter to permit the liquid or contents of the bottle to escape readily through the gasket or device 16.

To prevent the device 16 having its body portion 16^a forced inward so that it will extend downward instead of upward as in the drawing to permit the bottle to be readily refilled, I provide a former or retaining device 21 within the device 16. As shown this former consists of a series of rods or wires 22 which meet at a point adjacent to the opening 19 of the device 16, and the lower ends of the rods are embedded in the flange 15. The upper ends of the rods may be fastened together in any suitable way, and are so made as to lie close to the wall of the body portion 16^a to sustain the same in case an attempt is made to force the latter downward. By this means it will be seen that the body portion 16^a will be prevented from being forced inward, so that the liquid or other means may be employed to spread the body portion 16^a outward to open the end 19 for the purpose of refilling.

From the foregoing it will be seen that a simple and efficient device is provided which is adapted to be inserted in a bottle neck, and which readily opens by the weight of the contents of the bottle as the latter is being poured, and which automatically closes when the bottle has been restored to its nor-

mal position or in case liquid is attempted to be forced through the mouth of the bottle.

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

1. In a bottle of the character described, the combination with a bottle neck having a groove therein, of a device having a flange or base fitting the groove, and a resilient body portion provided with overlapping folds which are adapted to spread and open the end thereof when the contents of the bottle is being poured and to automatically return to a closed position when relieved from pressure within.

2. In a bottle of the character described, the combination with a bottle neck having a groove therein, of a device having a flange or base fitting the groove, a resilient body portion adapted to spread and open the end thereof when the contents of the bottle is being poured and to automatically return to a closed position when relieved from pressure within, and a conical retainer within said device.

3. In a non-refillable bottle, the combination with a bottle neck having a groove therein, of a device having a collapsible resilient open-ended body portion provided with overlapping folds which are adapted to spread by pressure from within to open one end thereof and to automatically close said open end when relieved of such pressure, and a former or retaining means arranged within the body portion of the device.

4. In a non-refillable bottle, the combination with a bottle neck having a groove therein, of a device having a collapsible resilient open-ended body portion provided with folds which are adapted to spread by pressure from within to open one end thereof and to automatically close said open end when relieved of such pressure, and a former or retaining means comprising a plurality of wires or rods arranged within the body portion of the device.

5. In a non-refillable bottle, the combination with a bottle neck having a groove therein, of a device having a base fitting said groove and a resilient open-ended portion provided with folds and adapted to spread by pressure from within to open one end thereof and to automatically close said open end when relieved of such pressure.

6. A device for preventing the refilling of bottles, comprising a base having an opening therethrough, a substantially conical and collapsible resilient body portion projecting from the base and provided with folds which overlap and normally hold the body portion closed at the upper part thereof and which is adapted to spread or be forced outward by pressure from within, and a metallic wire retaining device arranged within the body portion and adapted to prevent the body portion from being forced downward.

7. A device for preventing the refilling of bottles, comprising a base and a resilient body portion projecting from the base and provided with folds which overlap and hold the body portion closed at the upper part thereof and which is adapted to spread or be forced outward by pressure from within.

8. A device for preventing the refilling of bottles, comprising a base having an opening therethrough, a substantially conical collapsible resilient body portion projecting from the base and provided with folds which overlap and normally hold the body portion closed at the upper part thereof and which is adapted to spread or be forced outward by pressure from within, and a conical metallic wire retaining device comprising a plurality of wires arranged within the body portion and adapted to prevent the body portion from being forced downward and having their lower ends embedded in the base and the upper ends thereof joined together near the opening in said body portion.

This specification signed and witnessed this 4th day of May, A. D. 1907.

CLIFFORD D. COLLISON.

Witnesses:
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