S. E. GILL.

NON-REFILLABLE BOTTLE.

APPLICATION FILED MAY 25, 1909.

976,065.

Patented Nov. 15, 1910.

Fig. 1.

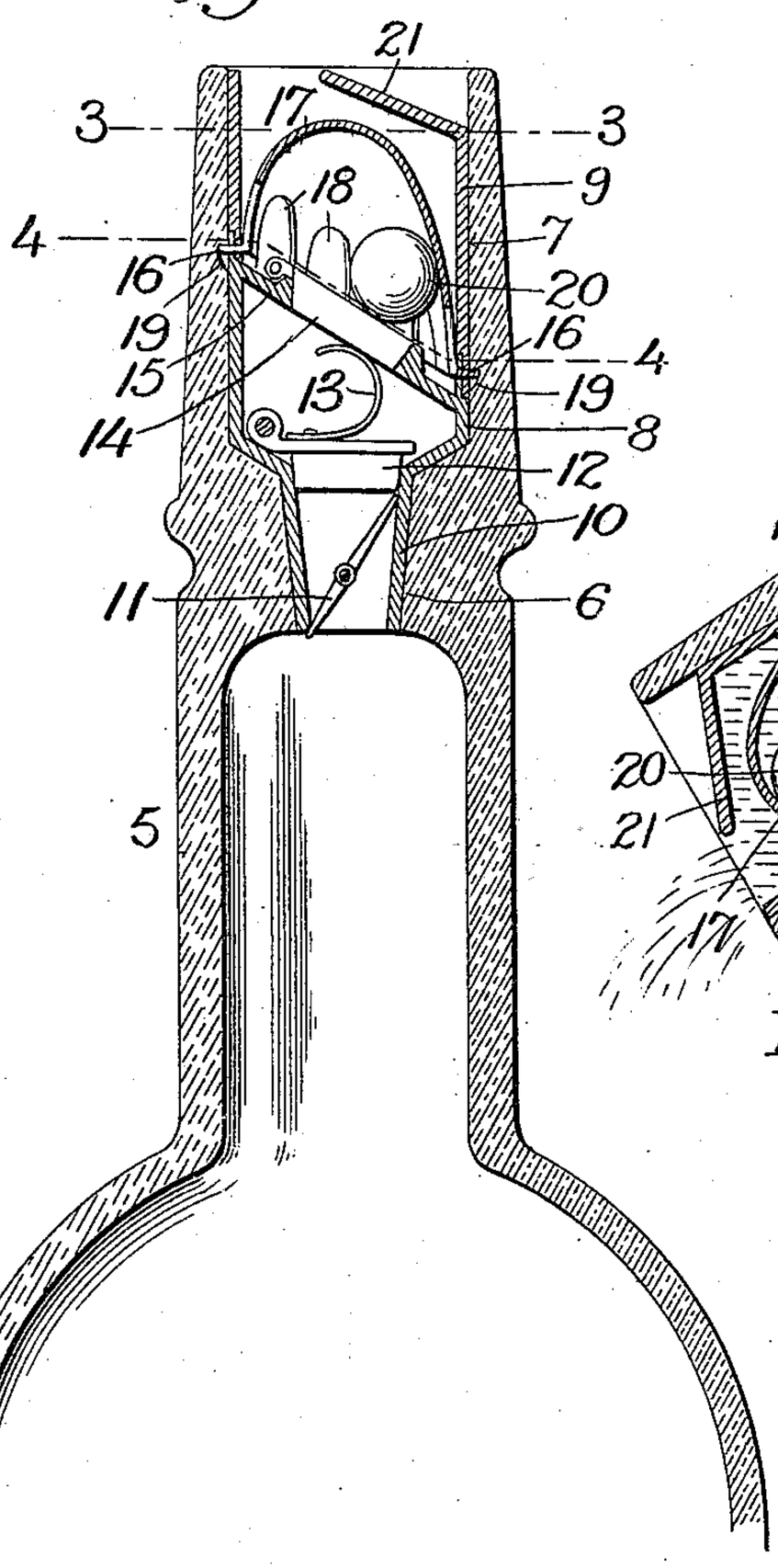


Fig. 2.

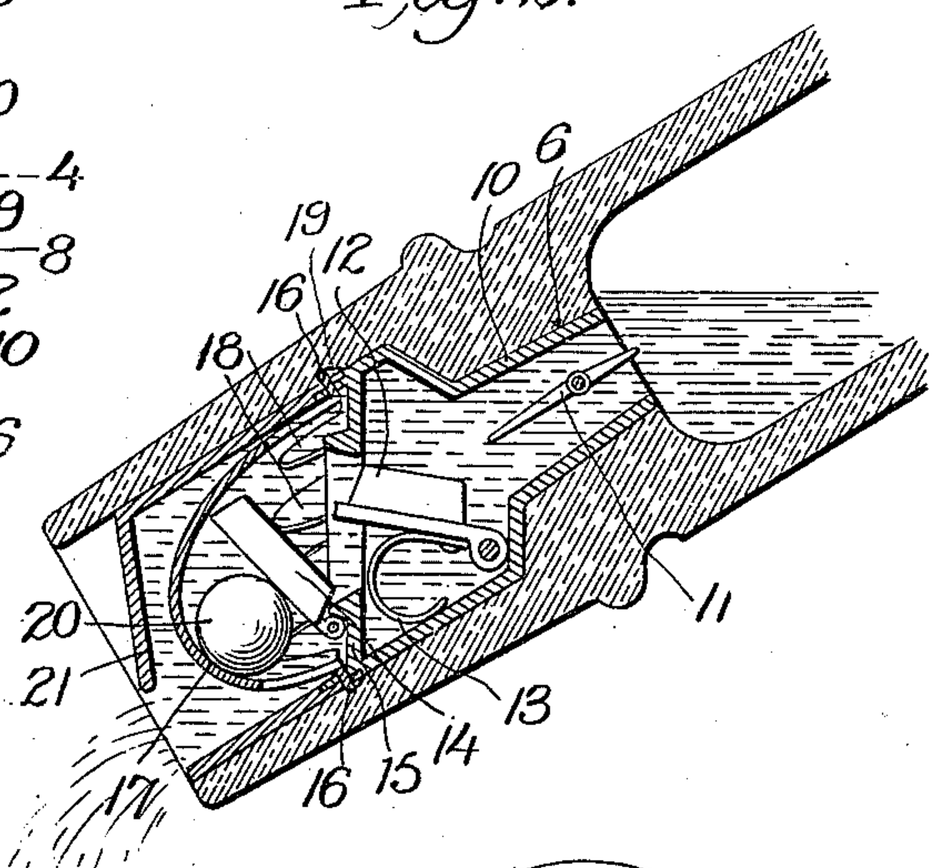


Fig. 3.

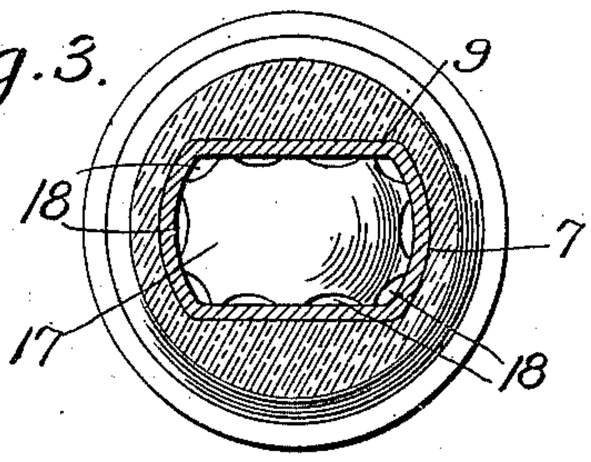
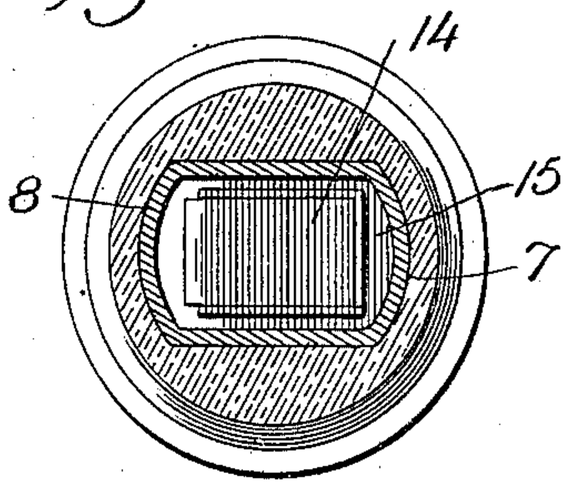


Fig. 4.



WITNESSES:

James F. Duhamel.

Wm S. McDowell

INVENTOR,

Seth E. Gill,

BY Victor J. Evans

ATTORNEY

THE NORRIS PETERS CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

SETH E. GILL, OF BROOKLYN, NEW YORK.

NON-REFILLABLE BOTTLE.

976,065. Specification of Letters Patent. Patented Nov. 15, 1910.

Application filed May 25, 1909. Serial No. 498,343.

To all whom it may concern:

Be it known that I, SETH E. GILL, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented new and useful Improvements in Non-Refillable Bottles, of which the following is a specification.

This invention relates to bottles and more especially to the class of non-refillable bottles and in which valves are placed in the mouth of the bottle in such a manner as to freely permit the exit of any liquid which may be contained in the bottle but which will prevent the entrance of any liquid as will be more fully described in the following specification, set forth in the claims and illustrated in the drawings wherein:

Figure 1 is a sectional view of the neck of a bottle with the invention applied thereto. Fig. 2 is a similar view with the bottle reversed to pour out its contents. Fig. 3 is a cross section through the line 3—3 of Fig. 1. Fig. 4 is a cross sectional view through the line 4—4 of Fig. 1.

The neck 5 of the bottle has a reduced outlet 6 and an oblong mouth 7 into which is placed a closely fitting shell 8 with an upper section 9 secured together as hereinafter described.

Within the contracted part 10 of the shell is a gate 11 so pivoted that one side is longer than the other and this side is in the upper end of this contracted part but is free to shift from one side to the other so that as the liquid flows outward the gate takes a position which does not interfere with its passage, but while the neck of the bottle is in its normal position as shown in Fig. 1 the weight of the upper end of the gate carries it to one side of the rectangular contracted outlet 10 and prevents the entrance of liquid therethrough.

The outlet 10 is normally closed by a valve 12 seated at its upper end and hinged to swing in the lower part of the shell 8 but normally closed by means of a spring 13 on its upper side which is engaged by a second valve 14 at the upper end of the shell 8 and filling the opening in the inclined upper wall 15 of this shell.

The sections 8 and 9 of the shell are rabbeted to fit together and held by means of the lips 16 of a cup 17 with perforations 18 about its base. The lips 16 also enter recesses 19 in the inner walls of the neck of the bottle and fill the double function of uniting the two sections of the shell and holding it in the neck of the bottle. The cup 17 incloses a weighted ball 20 which normally rests on the valve 14 and keeps it closed, the inclined wall 15 and the valve itself causing the ball to rest on the forward end of the valve but when the bottle is reversed the ball runs into the rounded portion at the upper end of the frame.

The upper end of section 9 is partly inclosed by an inclined top 21 and has an outlet 22 for the liquid from the bottle to be discharged.

When the bottle is filled, the device is applied to the neck of same and locked therein by the lips 16, the two valves being held down by the spring and ball respectively, and the gate 11 is closed across the passageway of the outlet, but on the reversal of the bottle to pour out its contents, the ball 20 rolls away from the gate 14 which falls open on account of gravity releasing the spring 13 and permitting the valve 12 to also drop open and the flow of the liquid will press on the longer end of gate 11 and carry it to a central position and offering little opposition to the passage of the liquid. The latter then passes through the two valve openings and out of the perforations 18.

When the bottle occupies its vertical position the valves are both securely closed against the entry of liquid and the gate 11 also closes its outlet and it is held in that position by the valve 12 which fits upon its upper end and prevents its swinging on its pivot.

It is obvious that the parts may be otherwise arranged if found desirable or made of different size.

What I claim as new and desire to secure by Letters Patent is:

1. A bottle having an oblong mouth provided with opposite notches and a reduced outlet below the mouth, a valve casing comprising two sections constituting a lining for the mouth and the outlet, said sections having rabbeted overlapping meeting edges, a cup having lips extending through the overlapped meeting edges of the sections of the valve casing and engaging the notches in the wall of the bottle mouth and a valve operating in the casing.

2. A bottle having a mouth and a reduced outlet below the mouth, a valve casing constituting a lining for the mouth and the out-

let, a gate pivoted in that portion of the casing which extends into the reduced outlet, a valve supported hingedly adjacent to said reduced portion and engaging the gate to retain the latter in obstructing position, auxiliary means to retain the valve in obstructing and gate-engaging position, and means for securing the casing in the mouth of the bottle.

3. A bottle having an oblong mouth and a reduced outlet below the mouth, said mouth being provided with notches, a valve casing constituting a lining for the mouth and the outlet, said casing comprising two sections having rabbeted overlapping meeting edges, a gate pivoted in that portion of the casing which extends into the reduced outlet, a valve supported hingedly adjacent to said reduced portion and engaging the gate to retain the latter in obstructing position, a spring connected with said valve, a second valve seated in the casing and engaging the spring connected with the first valve, said second valve being disposed in an inclined plane when the bottle is in an upright position, a cup arranged above the seat of the second valve and having lips engaging the notches in the mouth of the bottle through the casing or lining, said cup being provided with perforations, and a spherical weight within the cup resting upon the inclined valve to maintain the latter in obstructing position when the bottle is in an upright position.

4. In a bottle, the combination with a shell composed of two sections, of a gate at the bottom of the shell, a valve above the gate, a second valve above the first, means connected with the gate and valves for closing the gate and first valve, a weight closing the second valve when the bottle is upright, and a perforated cup retaining the weight and holding the two sections together and locking the shell in the neck of the bottle.

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

SETH E. GILL.

Witnesses:

CHARLES LA RUE,

MAE W. CLINTON.