M. PEREZ.

NON-REFILLABLE BOTTLE.

APPLICATION FILED MAY 29, 1909.

956,597. Patented May 3, 1910.

Fig. 1.

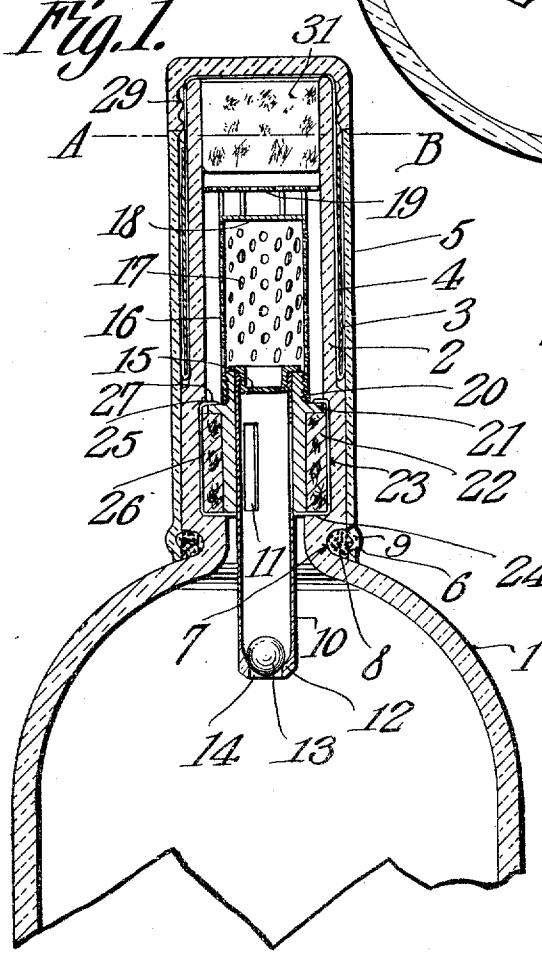


Fig. 2.

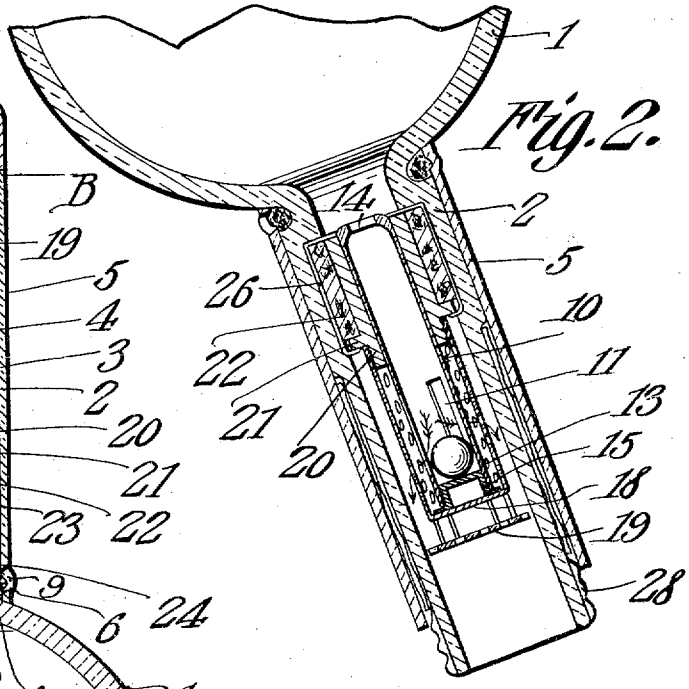


Fig. 3.

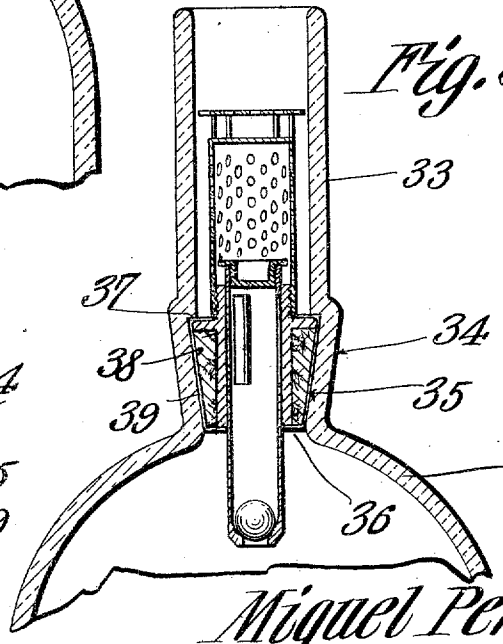
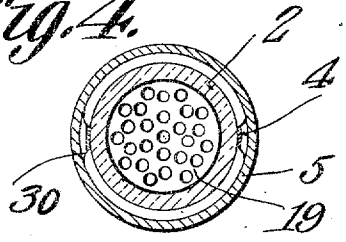


Fig. 4.



Witnesses

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NON-REFILLABLE BOTTLE.

956,597. Specification of Letters Patent. Patented May 3, 1910.

Application filed May 29, 1909. Serial No. 499,187.

To all whom it may concern:

Be it known that I, MIGUEL PEREZ, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Non-Refillable Bottle, of which the following is a specification.

My invention relates to non-refillable bottles as shown and described in United States Letters Patent issued to me August 20, 1907, No. 863,631, and has for an object to simplify the construction of the valve in general and particularly the manner of seating the valve casing in the neck of the bottle.

Another object is to provide the casing or housing for the neck of the bottle with an enlargement to permit the insertion of cement or like material whereby to secure the casing to the neck of the bottle.

Still another object is to provide an improved means for positively holding the valve casing in the neck of the bottle thereby to prevent the removal of the valve for fraudulently refilling the bottle.

With these and other objects in view, which will be shown in the following specification and set forth in the claims, my invention embraces the structure illustrated in the following drawing, wherein:—

Figure 1 is a vertical section of the non-refillable bottle. Fig. 2 is a similar view, showing the bottle in inverted position. Fig. 3 is a vertical section of a modification of the non-refillable bottle. Fig. 4 is a cross sectional view, taken on the line A—B of Fig. 1.

In a more detailed description of my invention, in which like characters of reference designate similar parts wherever they occur in the views shown, 1 designates the body of the bottle, having the neck 2, label 3 and mutilating fingers 4 for destroying the label as shown and described in my former patent.

I lay no claim to the above construction in the following specification, my present invention residing instead, in the improved valve and means for seating the valve, and the improved sleeve, and housing for the neck of the bottle herein described.

The sleeve 5 forming a casing or housing for the neck of the bottle is provided adjacent the lower end with an enlargement 6 adapted to combine with a similar positioned recess 7 formed in the neck of the bottle to form an annular cavity 8. The purpose of this cavity is to receive cement or other like material whereby to secure the sleeve to the neck of the bottle, an opening 9 being formed in the enlargement 6 of the sleeve communicating with the recess 8 to permit the insertion of the cement.

The valve casing comprises a plurality of sections, the inner of which consists of a pipe or tube 10 having spaced openings 11 formed in the walls thereof to permit the discharge of the contents of the bottle. The lower end of the tube is conical in shape and constitutes a valve seat 12 for the reception of a ball valve 13. The lower end of the pipe has formed therein an opening 14 which communicates with the interior of the body of the bottle and is of a size to readily permit the liquid to be discharged through the valve seat when the bottle is inverted. The upper end of the tube 10 is provided with internal screw threads for engagement with external screw threads formed on the cap or top plate 15, the peripheral edge of which extends laterally beyond the side walls of the tube to form a flange, the purpose of which will presently appear.

Positioned axially in the neck of the bottle is a casing 16 provided with a plurality of openings 17, through which the liquid escapes into the neck of the bottle. The casing is adapted to slidingly receive the flange 15 and terminates in an imperforate top 18 constituting a stop for contact with the flange when the bottle is inverted as shown in Fig. 2. It is thus seen that the flange seats the valve 13 when the bottle is in operative or inverted position and also provides a contact head for limiting the sliding motion of the tube in the casing 16.

Spaced from the imperforate top 18 of the casing 16 is a transverse, perforated disk 19 of a size to slidingly fit the interior walls of the neck of the bottle whereby to prevent the escape of liquid between the flange and the adjacent walls of the neck, and also to serve as a guard plate to prevent the insertion of a wire or other implement for tampering with the valve.

Fitted into the lower end of the casing 16 is a sleeve 20 made of rubber, wood, pressed paper or like material, the longitudinal bore of said sleeve being of a size to slidingly fit the tube 10, the upper edge of the sleeve constituting a stop for the flange 15 of the said tube when in normal or upright position. The sleeve 20 may be secured to the casing 16 in any desired manner, but

preferably by screw threads formed on the outer surface of the sleeve engaging screw threads formed on the inner surface of the casing, as shown. Disposed adjacent the upper end and extending laterally from the exterior walls of the sleeve is a flange 21 of a size to slidingly fit the interior walls of the neck of the bottle to permit the sleeve to be inserted therein, as shown.

Arranged without the sleeve 20 is a casing 22, preferably made of cork although any other like material will do equally as well. The casing is of a size to engage and snugly fit the interior walls of the chamber 23 formed in the neck of the bottle and also to engage and snugly fit the external walls of the sleeve 20, and serve to secure the same in said chamber. The chamber 23 terminates at its lower end in a stop shoulder 24, extending laterally from the interior walls of the chamber a sufficient distance to support the lower ends of the sleeve 20 and casing 22 and prevent the same from being forced down into the interior of the bottle. The upper end of the chamber terminates in an annular shoulder 25 to assist in securing the casing in the chamber and to prevent the casing from being withdrawn from the neck of the bottle. The cork casing 22 can be forced downward through the neck of the bottle, until in engagement with the stop shoulder 24 of the chamber. The cork expands when seated in this chamber and snugly fits the interior walls thereof, whereby the casing can neither be pulled from the neck of the bottle nor pushed downward into the bottle.

For locking the cork casing 22 and sleeve 20 securely in position, a spring 26 is provided. The spring embraces the bottom and longitudinal sides of the casing and terminates in bent-over portions 27 adapted to bear against the stop shoulder 25 and engage the upper face of the sleeve 20.

The upper end of the neck of the bottle projects beyond the end of the sleeve 5, and has formed thereon screw threads 28 for engagement with a detachable cap 29, there being oppositely disposed longitudinal grooves 30 formed in the threads for seating the label mutilating fingers 4. A stopper 31 is provided to close the neck of the bottle and may be made of cork, glass, or other suitable material. The cap 29 engages the upper end of the sleeve 5 thereby forming a continuous outer housing for the neck of the bottle and also secures the stopper 31 and the upper portion of the label mutilating fingers firmly in place.

In order to reduce the cost of manufacture of a bottle of this kind, the outer sleeve 5, label mutilating fingers 4 and cap 29 may be omitted in the construction, and also the chamber in the neck of the bottle may be more simply formed.

A modification of the non-refillable bottle is shown in Fig. 3 which embodies the above named advantages. Referring to the said figure, a non-refillable bottle is shown having a body 32, a neck 33, and a chamber 34 having downwardly inclined interior walls 35, the lower ends of which define an annular opening 36 communicating with the body of the bottle. The upper ends of the interior walls terminate in a stop shoulder 37, the purpose of which is to hold the valve seated in the chamber. The valve in this case is the same as above described with the exception of the outer cork casing 38. The exterior side walls of the casing incline downwardly to conform to the contour of the interior walls 35 of the chamber, and serve to prevent the valve from being forced down into the body of the bottle. The cork will expand when seated in the chamber and bear against the stop shoulder 37 positioned at the upper end of the chamber and serve to prevent the valve from being withdrawn from the neck of the bottle by an unauthorized person desiring to fraudulently refill the bottle. The spring 39 is of a size to snugly fit the side walls and bottom of the cork casing 38 when seated in the chamber, and bears against the stop shoulder 37 of the chamber, the opposite ends being bent over and engaging the upper surface of the casing whereby to lock the casing in the chamber.

In order to empty the bottle, the cap 29 is removed, the mutilating loop 4 withdrawn which tears through the label longitudinally, and the stopper 31 removed. The bottle is now inverted when the tube 10 slides down in the casing 16 until the flange comes in contact with the imperforate top 18 of the tube. The ball valve 13 gravitates and takes up the position shown in Fig. 2, when the contents of the bottle escape through the seat 14 into the bore of the tube 10 thence through the spaced openings 11 formed in the lateral walls of the tube to the casing 16 from whence they flow through openings 17 into the neck of the bottle, and escape through the perforated disk 19 into the cup or other receptacle desired to receive the contents of the bottle.

From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of my invention will be readily understood without a more extended explanation, it being understood that various changes in the form, proportion and minor details of construction may be made without sacrificing any of the advantages or departing from the spirit of the invention.

Having described my invention, what I claim is:—

1. The combination with a bottle neck, of a tubular casing therein, a foraminous tube

extending through the casing, a slidable tube mounted in the casing and having one end formed into a valve seat and provided with a valve stop at its other end; said slidable tube being adapted to enter the foraminous tube and being imperforate through the greater portion of its length and provided near its stop end with lateral ports adapted to establish communication with the foraminous tube when the bottle is inverted, and a valve mounted within the said slidable tube.

2. A receptacle having a neck, a valve casing disposed within said neck having terminal and interfitting intermediate sections, the lower section being slidingly mounted in the interfitting intermediate sections and provided with a valve seat, the upper section having an imperforate top constituting a stop to limit the movement of the lower section, a stop carried by the lower section, the peripheral edges of said stop being extended to produce a flange adapted to slidingly fit the interior walls of the upper section and adapted for contact with the imperforate top of said section, and a guard disk carried by the upper section in spaced relation to the top thereof whereby to prevent the insertion of a wire or other instrument for tampering with the valve casing.

3. A receptacle having a neck, a valve casing disposed within said neck having terminal and interfitting intermediate sections, the inner intermediate section having its lateral walls extended to produce a flange constituting a stop shoulder for contact with the adjacent end of one of the terminal sections, said inner member having a bore adapted to slidingly receive the other terminal section, a valve seat carried by the lower terminal section, a valve engaging said seat and adapted to gravitate in said lower terminal member, an imperforate top carried by said lower member constituting a stop to limit the movement of said valve and to form a compartment in said lower terminal member, and a transverse perforated guard disk carried by the upper member, said guard disk having its peripheral edges extended to produce a flange to slidingly fit the adjacent interior walls of the neck whereby to prevent the insertion of a tool for tampering with the valve casing.

4. A receptacle having a neck provided with a chamber, a valve casing disposed within said neck comprising terminal and intermediate sections, the outer intermediate section being adapted to engage and snugly fit the interior walls of said chamber, said outer section having an axial bore adapted to snugly conform to the contour of the outer surface of the inner intermediate member, a valve seat carried by the lower terminal member, said valve seat having a passage communicating with the neck of the bottle and adapted to permit the flow of the contents thereof through said valve seat, a valve engaging said seat, a guard plate carried by said upper member provided with a plurality of annular openings to permit the discharge of the contents of said receptacle and a means for positively holding said casing in said chambered neck.

5. A receptacle having a neck provided with a chamber having interior terminal stop shoulders, a sectional valve casing having telescoping terminal members, and interfitting intermediate members, the outer intermediate member being adapted to conform to the contour of the interior walls of said section and being terminally adapted for contact with stop shoulders thereof whereby to prevent said member from being forced into the body of said receptacle or pulled upward through the neck of the bottle, said outer member axially seating the inner intermediate member, said inner member being terminally adapted to receive the upper terminal member and to slidingly fit the lower telescoping terminal member, and a spring combined with said outer intermediate member to engage the stop shoulders of said chamber and impinge the top surface of said member whereby to positively hold the valve casing seated in said chamber.

6. A receptacle having a neck, the outer walls of which are provided with an annular groove, said neck having a chamber provided with stop shoulders to retain a valve casing therebetween, a sectional valve casing having terminal and intermediate members, the outer intermediate member being adapted to snugly fit the said chamber and be retained therein by said stop shoulders, a spring carried by said outer intermediate member and adapted to conform to the inner walls and stop shoulders of said chamber and to impinge the upper surface of said outer intermediate member whereby to hold the valve casing seated in said chamber, and a frangible sleeve having an enlarged portion adapted to combine with the annular groove formed on said neck and form a compartment to receive cement or like substance to positively hold said casing on said neck.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

MIGUEL PEREZ.

Witnesses:
ERNEST NICOLI,
GEORGE C. HAWKINS.