H. V. COLVIN.

NON-REFILLABLE BOTTLE.

APPLICATION FILED OCT. 27, 1909.

966,084. Patented Aug. 2, 1910.

Fig. 1.

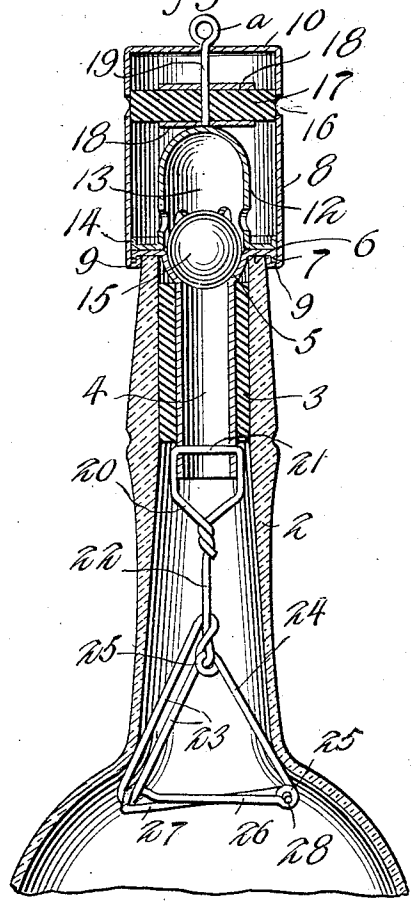


Fig. 2.

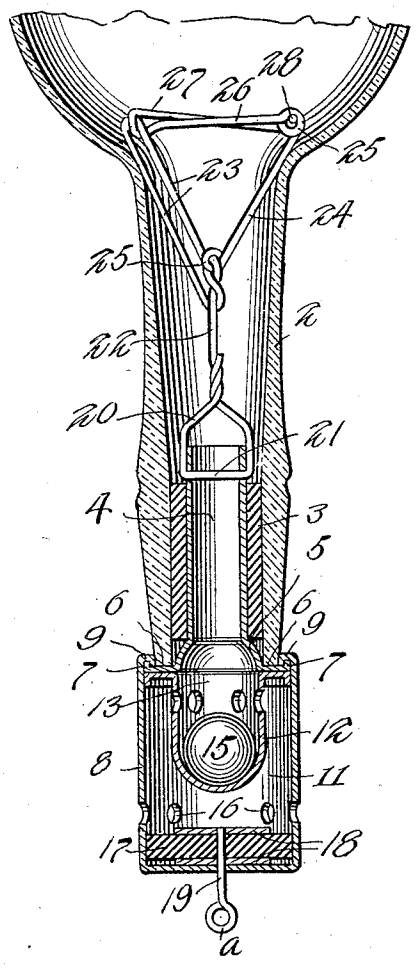
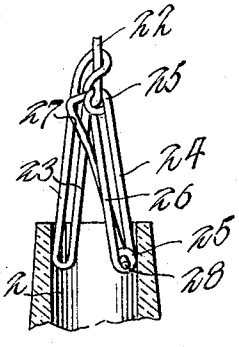


Fig. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

HOMER V. COLVIN, OF ST. LOUIS, MISSOURI.

NON-REFILLABLE BOTTLE.

966,084. Specification of Letters Patent. **Patented Aug. 2, 1910.**

Application filed October 27, 1909. Serial No. 524,843.

To all whom it may concern:

Be it known that I, HOMER V. COLVIN, a citizen of the United States of America, residing at St. Louis, in the State of Missouri, have invented new and useful Improvements in Non-Refillable Bottles, of which the following is a specification.

This invention relates to non-refillable bottles, and one of the principal objects of the same is to provide a stopper adapted to be inserted in the neck of a bottle and anchored therein, said stopper being provided with a ball valve and baffle.

Another object of the invention is to provide reliable and efficient means for preventing the refilling of bottles after the original contents have been used.

These and other objects may be attained by means of the construction illustrated in the accompanying drawing, in which,—

Figure 1 is a central vertical section of a bottle neck and a stopper secured thereto, said stopper made in accordance with my invention. Fig. 2 is a vertical section, showing the bottle neck inverted and the valve in position to permit the decanting of the contents of the bottle. Fig. 3 is a detail section, showing the manner in which the anchor is inserted in the mouth of the bottle for holding the stopper in position.

Referring to the drawing the numeral 1 designates a bottle which may be of any suitable size and shape, said bottle being provided with a neck 2 of preferably smooth bore. The stopper comprises a rubber sleeve or gasket 3 adapted to fit within the neck of the bottle. A tube 4 extends through the rubber gasket 3, and at the upper end said tube is provided with a valve seat 5. The upper end of the valve seat is bent over as at 6 and rests upon the upper edge of the mouth of the bottle, and the said bent portion is extended downwardly to provide an outer annular rim 7. A cylindrical shell 8 has its lower edge upturned to form an annular groove 9 in which the flange 7 of the tube 4 is fitted, the upper end of the said cylinder 8 being closed and formed with a cap 10, said cap being connected to the shell 8 by side integral connections 11. Positioned directly above the tube 4 is a dome-shaped baffle 12 said baffle being provided with a base flange adapted to overlie the flange 6 of the tube 4 and the extremity of the said base is provided with an annular upturned portion designated by the numeral 14, which is adapted to fit tightly against the inner wall of the cylindrical shell 8. Confined between the baffle 12 and the valve seat 5 is a light ball valve 15, preferably formed of wood. Openings 16 are formed at the opposite sides of the shell 8 and to close the said openings a sliding stopper 17 is provided, said stopper being preferably formed of rubber or other suitable compressible material having both an upper and a lower washer 18 and a shank 19 extending through said washers and through the stopper 17.

To anchor the device in a bottle neck I have provided a wire anchoring device comprising a loop 20 having a cross bar 21 secured to the lower end of the sleeve 4. A shank 22 extends from the loop 20 and from said shank a pair of parallel spaced arms 23 extend downward and outward at an angle therefrom. Connected to the lower end of the shank 22 is an arm 24, said arm having a coiled spring 25 formed therein and a spring arm 26 extending from the coil, said arm having a loop 27 bent around the wire forming the end of the arms 23, the end of the spring arm 26 being bent backwardly and inserted through the coil 25 as at 28. To secure the device in the neck of a bottle the arm 26 is moved upward on one of the arms 23 to the position shown in Fig. 3 of the drawing. The anchor is then inserted in the neck of the bottle and pushed downwardly until the anchor reaches a point below the shoulder at the bottom of the neck of the bottle, at which time the arm 26 is thrown downwardly by the tension of the coils 25 to the position shown in Figs. 1 and 2 of the drawing, thus holding the device in place in the bottle neck.

It will be understood that the stopper is secured in the neck of the bottle after the bottle has been filled and when it is desired to use the contents of the bottle the stopper 17 is drawn up by means of a loop *a* on the shank 19. By thus inclining the bottle the liquid will flow through the tube 4 through the valve seat 5 around the outside of the baffle and out through the opening 16. After the contents have been exhausted the bottle cannot be refilled without detection. Should it be attempted to fill the bottle by submerging it in a large body of liquid the ball 15 will float owing to its lightness of weight and will be carried to its seat 5 and thus prevent the filling of the bottle.

From the foregoing it will be obvious that

a non-refillable bottle stopper made in accordance with my invention will prevent the refilling of bottles either by submerging the same or by means of injection and that the device may be manufactured at a low cost and is very efficient for its purpose.

I claim:—

1. In a non-refillable bottle, a stopper comprising a tube, an anchor connected to said tube, said anchor having a sliding spring arm, a valve seat formed in said tube, a baffle connected to said tube, a shell surrounding the baffle and valve seat, a cap formed on said shell and provided with openings, and a sliding stopper fitted in said shell to close said openings.

2. A non-refillable bottle comprising a tube, means for anchoring said tube in a bottle, a sleeve or gasket surrounding said tube, a valve seat formed in said tube, a baffle connected to said tube, a ball valve in said tube, a surrounding shell, and a sliding stopper mounted within said shell.

3. A non-refillable bottle comprising a tube, means for anchoring said tube in a bottle, a valve seat formed in said tube, a baffle connected to said tube, a ball valve and float mounted in said tube between the valve seat and baffle, a shell surrounding said baffle and valve, said shell having openings therein, and a stopper mounted within the shell to close said openings.

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

HOMER V. COLVIN.

Witnesses:

MARTIN L. NEWBERRY,

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