No. 654,361. Patented July 24, 1900.

T. P. SCHOTT.

NON-REFILLABLE BOTTLE.

(No Model.) (Application filed Sept. 11, 1899.)

Fig 1

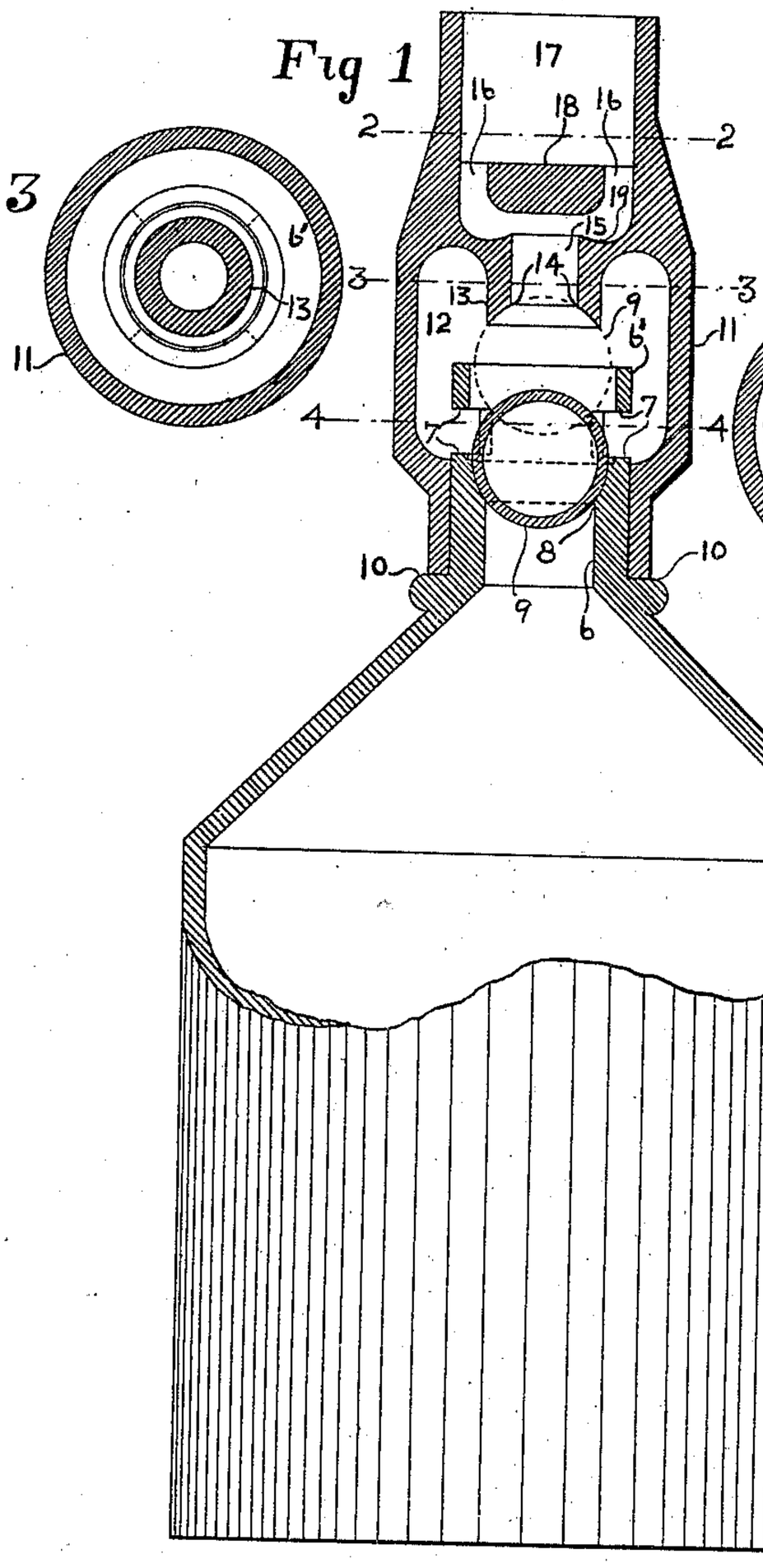


Fig 2

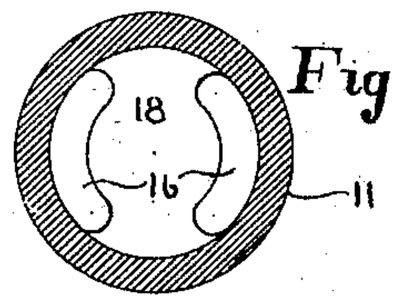
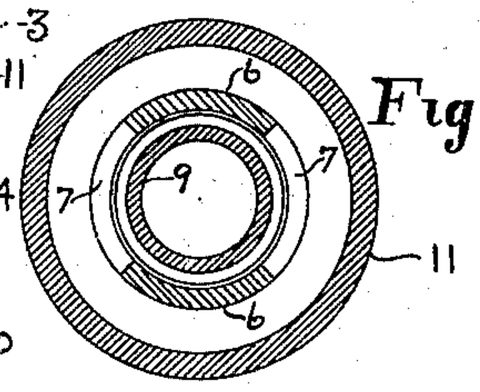


Fig 3

Fig 4



Witnesses
Wm. Thos. Brantzky
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UNITED STATES PATENT OFFICE.

THEODORE P. SCHOTT, OF CHICAGO, ILLINOIS.

NON-REFILLABLE BOTTLE.

SPECIFICATION forming part of Letters Patent No. 654,361, dated July 24, 1900.

Application filed September 11, 1899. Serial No. 730,075. (No model.)

To all whom it may concern:

Be it known that I, THEODORE P. SCHOTT, a citizen of the United States of America, and a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Non-Refillable Bottles, of which the following is a specification.

My invention relates to that class of non-refillable bottles in which a ball-valve is used for controlling the passage of liquids through the bottle-neck.

The main objects of my invention are to provide a bottle of this class in which all of the parts may be readily constructed of glass and to provide an improved construction for preventing tampering with the valve. I accomplish these objects by the device illustrated in the accompanying drawings, in which—

Figure 1 is an elevation of a bottle constructed according to my invention, with the upper parts shown in vertical section. Fig. 2 is a horizontal section on the line 2 2 of Fig. 1. Fig. 3 is a horizontal section on the line 3 3 of Fig. 1. Fig. 4 is a horizontal section on the line 4 4 of Fig. 1.

The bottle-body 5 is provided with a main neck 6, having a concave seat 8 for the ball-valve 9 and provided with ports 7 in its sides. Above the ports the neck is of larger internal diameter, sufficient to allow the ball 9 to move therein, and constitutes a supplemental neck 6′. The ball 9 is made hollow. Outer shoulders 10 are provided at the base of the main bottle-neck. The extension or barrel 11 is made to fit snugly around the bottle-neck and upon said shoulders 10 and has a chamber 12 therein communicating with the ports 7. A depending outlet-neck 13 is provided in the upper central part of said chamber. Said neck is provided at its lower end with a concave seat 14 for receiving the ball 9 and is located sufficiently close to the supplemental neck to prevent displacement of the ball therefrom. The port 15 through said neck communicates with a port 16 on each side. The ports 16 open into the mouth 17 of said barrel. A horizontal wall 18 extends across the barrel 11 above the port 15. The lower walls 19 of the ports 16 curve upwardly slightly toward the port 15 or upper end of the neck 13.

All of the parts are preferably made of glass, and the barrel 11 is cemented upon the neck 6 and shoulders 10. This is done after the bottle has been filled with the desired liquid and the ball 9 has been seated, as shown by the full lines in Fig. 1.

The operation of the device is as follows: When the bottle is tilted for pouring out the liquid, the pressure of the liquid under the ball 9 will tend to force same toward the position indicated by the dotted line in Fig. 1. As soon as the ball has left its seat 8 the liquid will rush through the ports 7 into the chamber 12 and prevent the ball 9 from becoming seated against the seat 14. This is due to the buoyancy of said ball. The liquid will then pass through the ports 15 and 16 and out at the mouth 17. While the liquid is thus passing out, the ball 9 will be free from both of its seats 8 and 14. When the bottle is again turned to an upright position, the ball 9 will be returned to its seat 8. While in this position, it will be seen that no liquid can be injected into the bottle.

The curved wall 19 is intended to increase the difficulty of inserting a wire through the ports 16 and 15 in an effort to get same under the ball. The clearance between the ball and the neck 6′ is very slight and not sufficient to permit the insertion of a wire between said ball and neck. In order to get a wire under said ball, it would therefore be necessary to pass same through the ports 16 and 15 into the chamber 12, and thence through the port 7 and under the ball 9 when said ball is in the inverted position. This, it will be seen, would be an extremely difficult, if not an impossible, task.

If an effort were made to inject liquid into the bottle by securing a tube over its mouth and inverting the bottle, the ball 9 would through the pressure of the liquid be forced against its seat 8.

It will be understood that the minor details of construction of my device, such as form of ports, &c., may be altered in numerous ways without departing from the spirit of my invention. I therefore do not confine myself to such details, except as hereinafter limited in the claims.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A non-refillable bottle comprising a body having a main neck, a supplemental neck rising from the main neck and having discharge-ports in its side walls, and the valve-seat in the main neck below said discharge-ports; the separately-formed barrel sealed to the base of the main neck, extending around and over the supplemental neck, leaving a chamber or space around and over said neck, and having depending neck above and free from the supplemental neck, and provided with a discharge-port of less diameter than the diameter of said supplemental neck; said barrel having a wall above and free from the depending neck, and of greater diameter than said discharge-port; and the hollow ball movable in said supplemental neck; all arranged so that liquid passing from the body of the bottle through the discharge-ports, will support said ball between and free from the seat and the depending neck, substantially as described.

2. A non-refillable bottle comprising a body having a main neck provided with a valve-seat, a ball-valve on said seat, a supplemental neck rising from the main neck and having ports in its sides and being open at its top, said supplemental neck being of an internal diameter adapting it to allow free movement of the ball-valve therein, and a barrel secured to the main neck and inclosing the supplemental neck and valve which has an internal chamber for the passage of the fluid, said barrel having an outlet-neck located above the open top of the supplemental neck at a sufficient distance to permit free passage of the fluid but to prevent displacement of the ball-valve from the supplemental neck.

Signed by me at Chicago, Illinois, this 8th day of September, 1899.

THEODORE P. SCHOTT.

Witnesses:
WM. R. RUMMLER,
FRED WOOD.