No. 612,652.

E. J. SCHINDEHÜTTE.

Patented Oct. 18, 1898.

BOTTLE STOPPER.

(Application filed May 9, 1898.)

(No Model.)

Fig. 1.

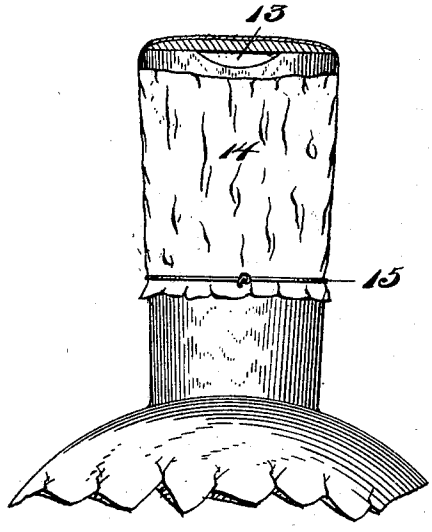


Fig. 2.

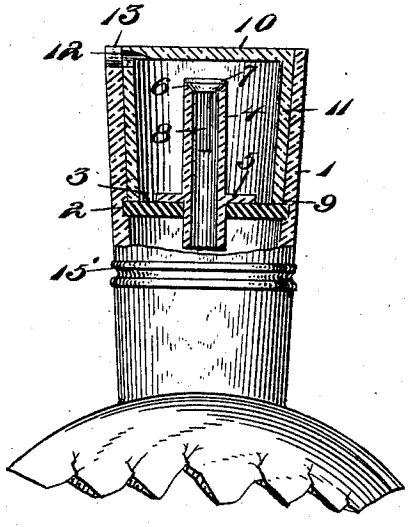


Fig. 3.

Fig. 4.

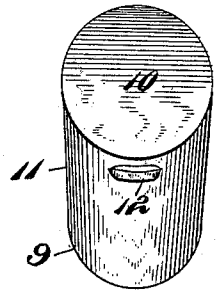
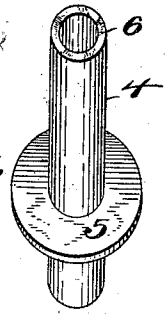
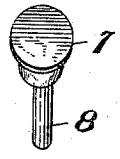


Fig. 5.





WITNESSES:

J. P. Appleman.

N. L. Bogan

INVENTOR

Ernest J. Schindehütte

BY N. C. Evert & Co

ATTORNEYS

UNITED STATES PATENT OFFICE.

ERNEST J. SCHINDEHÜTTE, OF McKEE'S ROCKS, PENNSYLVANIA.

BOTTLE-STOPPER.

SPECIFICATION forming part of Letters Patent No. 612,652, dated October 18, 1898.

Application filed May 9, 1898. Serial No. 680,124. (No model.)

To all whom it may concern:

Be it known that I, ERNEST J. SCHINDEHÜTTE, a citizen of the United States of America, residing at McKee's Rocks, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Bottle-Stoppers, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to certain new and useful improvements in bottles, and relates particularly to that class of bottles known as "non-refillable" bottles.

The object of my invention consists in constructing a bottle in which the liquid may be readily extracted therefrom, but which is so arranged as to prevent any liquid being inserted into the bottle after the stoppers have been secured in position.

The principal features of my invention consist of a stopper secured in the neck of the bottle and provided with a tube secured in the central aperture thereof, the said tube extending above and below the same, and a valve loosely arranged in said tube. A hollow stopper is arranged above the lower stopper, having an aperture therein for the escape of the liquid.

With the above and other objects in view my invention finally consists in the novel combination and arrangement of parts hereinafter described and illustrated in the accompanying drawings, and particularly pointed out in the claim.

In the drawings, Figure 1 is a side view of the neck of the bottle with a part of the seal broken away, showing apertures formed in the upper end of the neck of the bottle and the hollow stopper. Fig. 2 is a vertical sectional view of the same. Fig. 3 is a perspective view of the hollow stopper, showing the aperture therein for the escape of the liquid. Fig. 4 is a perspective view of the lower stopper and valve-tube. Fig. 5 is a perspective view of the valve and valve-stem.

Like figures of reference indicate corresponding parts throughout the several views, in which—

1 indicates the neck of the bottle, having formed on its inner face a continuous groove 2 to receive the lower stopper 3, which is formed of rubber and has a central aperture, within which is secured the tube 4. The tube 4 has formed on its periphery a flange 5, which abuts against the upper edge of the lower stopper and is suitably secured thereto, thereby keeping the tube in a vertical position. Arranged in the top of the tube 4 is a valve-seat 6 to receive the valve 7. The valve 7 is secured to the valve-stem 8, which operates in the tube 4.

Suitably arranged in the neck of the bottle above the lower stopper 3 is a hollow stopper 11, having a hood 10, and the whole being preferably formed of glass, the lower edges of the said hollow stopper abutting against the upper edges of the lower stopper, as at 9. Formed in one side of the hollow stopper at its upper edge is an aperture 12, used for the escape of the liquid. Coinciding with the aperture 12 and formed in the upper edge of the neck of the bottle is an aperture 13.

The hollow stopper may be secured to the neck of the bottle by cement or otherwise; but, as shown, it is secured by a cap of tinfoil 14 or other material, which projects below the groove 15', formed on the outer neck of the bottle, and is secured therein by a wire 15 encircling the same.

The operation of my improved non-refillable bottle is as follows: After the bottle is filled the lower stopper 3, which is formed of rubber and having a tube secured thereto, is inserted into the neck of the bottle and forced into the groove 2 and securely holds the same in position. The valve and valve-stem are then placed within the tube, the valve seating itself against the valve-seat formed in the upper end of the tube. The hollow stopper is then inserted in the neck of the bottle and suitably secured thereto, as hereinbefore described. When the use of the liquid contained in the bottle is desired, the same is tilted, which causes the valve to leave the valve-seat and abut against the inner face of the hood on the hollow stopper. The liquid passes through the tube and out thereof and then escapes through the aperture 12 in the hollow stopper and aperture 13 in the neck of the bottle.

It will be noted that various changes may be made in the details of construction without departing from the general spirit of my invention.

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

The combination with a bottle-neck having a circumferential groove formed on the inner face thereof, a flexible stopper engaging said groove, a tube provided with an external flange engaging a central aperture formed in said flexible stopper, a valve-seat formed in the upper end of said tube, a valve engaging said valve-seat, said valve being provided with a stem operating in said tube, a hollow stopper secured in said bottle-neck the lower edge of which abuts against the upper face of the flexible stopper, said hollow stopper being provided with an aperture registering with an aperture formed in the top edge of the bottle-neck, and an external circumferential groove formed in the bottle-neck below the flexible stopper, substantially as shown and described.

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

ERNEST J. SCHINDEHÜTTE.

Witnesses:
JOHN NOLAND,
E. W. ARTHUR.