R. Robinson,
Bottle Stopper,

No. 46,864. Patented Mar. 14, 1865.

Fig: 2.

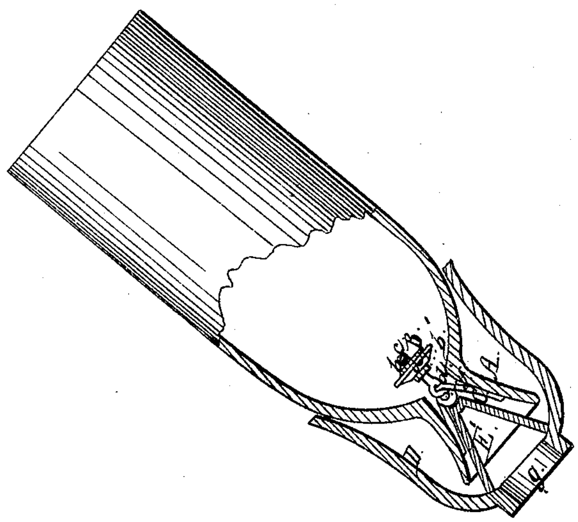


Fig: 3.

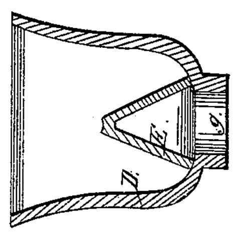
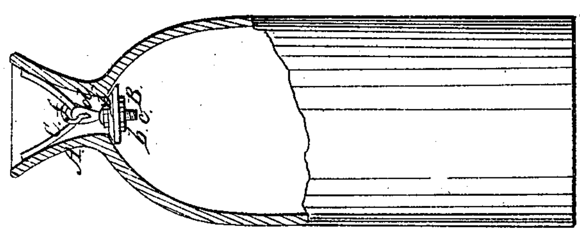


Fig: 1.



Witnesses;

Wm Dean Overell

Thi Twish

Inventor;

Robert Robinson,

per Munn & Co.
Attorneys

UNITED STATES PATENT OFFICE.

ROBERT ROBINSON, OF NEW YORK, N. Y.

IMPROVEMENT IN CLOSING BOTTLES.

Specification forming part of Letters Patent No. **46,864**, dated March 14, 1865.

To all whom it may concern:

Be it known that I, ROBERT ROBINSON, of the city, county, and State of New York, have invented a new and Improved Stopper for Bottles; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side sectional elevation of a bottle provided with my invention, and represented in an upright position; Fig. 2, a side sectional view of the same in an inclined position with the stopper pressed inward for the discharge of the contents of the bottle; Fig. 3, a detached longitudinal section of a cap pertaining to the same, and used for pressing the stopper inward and guiding the liquid from the bottle into the cup or glass designed to receive it.

Similar letters of reference indicate corresponding parts.

This invention relates to a new and improved stopper for bottles, and is designed chiefly for those bottles in which mineral waters, efferverscing drinks, porter, cider, &c., are put up in large quantity by professed bottlers for retail use, and which bottles when empty are returned to the bottlers and refilled.

The object of the invention is to obtain a stopper which will remain affixed to the bottle and be not liable to get lost, and which at the same time will be capable of being readily adjusted to admit of the discharge of the contents of the bottle, and when closed fit perfectly tight, so as to prevent the escape of either liquid or gas from the bottle.

In carrying out my invention it is necessary to have the necks A of the bottles in the form of an inverted frustum of a cone, as shown in Figs. 1 and 3.

The stopper B is simply a valve composed of a circular piece of india-rubber or other suitable flexible material, *a*, larger in diameter than the lower end of the neck A, which is the valve-seat. This rubber *a* is clamped between two circular metal disks, *b b'*, the lower one, *b*, being just equal in diameter to the interior of the lower end of neck A, so that it may pass snugly through it when the stopper is passed down through A into the bottle. The upper disk, *b'*, is smaller than *b*. A screw, *c*, passes centrally through the two disks and rubber securing all together, said screw having an eye, *d*, at its upper end in which a spring, C, is fitted. This spring may be composed of a piece of wire bent so as to have a loop or eye, *f*, at its center to fit into the eye *d* of the screw, and the spring is of V form, its outer parts or ends bearing against the inner surface of the neck A, and having a tendency to keep the valve in close contact with its seat, for it will be observed that the stopper cannot be pressed inward from its seat without compressing the spring C, and the tendency of the spring to expand or straighten out keeps the stopper tightly to its seat.

The valve may be forced down through the lower end of the neck, as the lower disk, *b*, can pass through the same, as previously stated, the rubber *a* admitting of being forced back, so as to present no obstruction in consequence of the upper disk, *b'*, being smaller in diameter than *b;* but the valve cannot be forced upward through the lower end of the neck, the thickness of the rubber *a* preventing the disk *b* passing through the lower part of the neck.

In order to admit of the contents of the bottle being poured out from it, the stopper is simply pressed a little inward, and this is effected by means of a cap, D, which is of bell shape and has a frame or projection, E, within it to rest or bear upon the center of spring C when the cap is fitted over the neck A. (See Fig. 2.) By pressing on the cap the stopper is forced inward and the liquid within the bottle allowed to escape and pass through an opening, *g*, in the outer end of the cap into the glass designed to receive it. The cap D prevents the liquid scattering as it is poured out from the bottle, causing the former to pass in a solid stream into the glass, equally so as if poured from the neck of an ordinary bottle.

The bottles may be filled by pressing down the stopper with the cap, and having a funnel inserted in the latter.

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

1. The valve or stopper B with the spring C attached to it, in connection with the conical neck A of the bottle, substantially as described.

2. The cap D, provided with the frame or projection E, or its equivalent, for pressing inward the valve or stopper B, and serving as a guide for the escaping liquid, substantially as described.

ROBERT ROBINSON.

Witnesses:

M. M. LIVINGSTON,

C. L. TOPLIFF.