S. S. NEWTON.

BOTTLE-STOPPER.

No. 185,694. Patented Dec. 26, 1876.

Fig. 3.

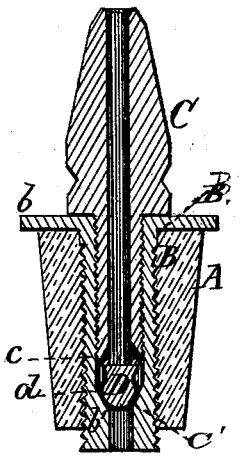


Fig. 4

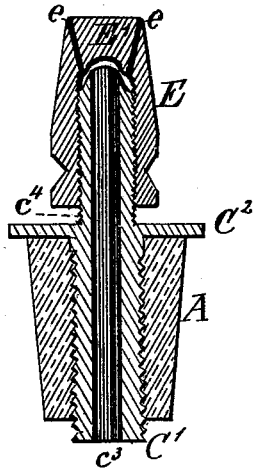


Fig. 5

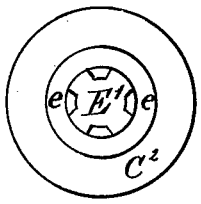


Fig. 1.

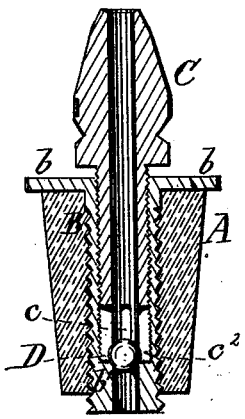
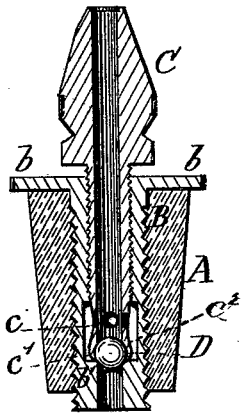


Fig. 2.



Witnesses.

Henry Orth

H. H. Bliss.

Inventor.

S. S. Newton

by H. H. Doubleday Jatty

UNITED STATES PATENT OFFICE.

STEPHEN S. NEWTON, OF BINGHAMTON, NEW YORK.

IMPROVEMENT IN BOTTLE-STOPPERS.

Specification forming part of Letters Patent No. **185,694**, dated December 26, 1876; application filed October 30, 1876.

To all whom it may concern:

Be it known that I, STEPHEN S. NEWTON, of Binghamton, in the county of Broome and State of New York, have invented a new and valuable Improvement in Bottle-Stoppers; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a vertical section of a stopper embracing my invention, and Fig. 2 is a vertical section of a modification thereof. Fig. 3 represents a further modification.

The same letters indicate like parts in the figures.

A represents a cylindrical plug, of cork or other suitable material, made, by preference, tapering in form, and adapted to fit within the mouth of a bottle. B is a tube fitting closely a hole cut for its reception centrally in the plug A. The outside of the tube B is screw-threaded, in order that it may the better take hold of the plug and withdraw it from a bottle, and has a flange or cap, *b*, attached to its upper end, which flange is, by preference, milled upon its edge to facilitate handling. The interior of tube B is also screw-threaded, as indicated in the drawings, and is provided at its lower end with a valve-seat, *b'*. C is the delivery nozzle or tip, the hole through which terminates, near its lower end, in a number of ports, *c*. D *d* is a ball-valve. By preference, I make this valve of rubber, and secure it to the lower end of the screw tip or nozzle C. For this purpose, I sometimes form the lower end of this screw-nozzle with a cup-shaped cavity, c^1, in the lower end, the mouth of the cavity being somewhat contracted, so that when the rubber ball-valve has been compressed and forced in position it cannot be readily removed from its proper place, this feature of construction being plainly shown in Fig. 3.

When, however, a metallic ball-valve is used, the lower end of the screw-tip may be slitted, as shown in Fig. 2, so that the prongs or jaws c^2 thus formed can be opened a little, the ball inserted, and the jaws then closed, and the ball thereby held in place.

Under some circumstances I may find it advisable to leave the ball detached, and merely press it upon the valve-seat by screwing down the screw-tip, this construction and arrangement of parts being especially adapted for use when a metal ball-valve is used, because it will insure that the valve shall be properly seated upon the valve-seat *b'*, even though there be some slight imperfection in the construction or operation of the parts of the device.

In the construction shown in Figs. 2 and 3 the ball-valve is somewhat smaller than internal diameter of the tube B. Thus an annular space is left around the valve, through which the liquid can pass freely, and a convenient place for the ports *c* is made around the neck, by which the ball-valve D *d* is connected with the tip C. This construction also facilitates the application of an outer covering or packing, *d*, to the inner portion D of the valve. (See Fig. 3.)

What I claim is—

The combination of the tip C and ball-valve D with the plug B, provided with the valve-seat *b'*, substantially as set forth.

In testimony that I claim the foregoing I have hereunto subscribed my name in the presence of two witnesses.

STEPHEN S. NEWTON.

Witnesses:

A. W. DAVIS,

W. H. WAGONER.