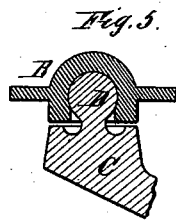
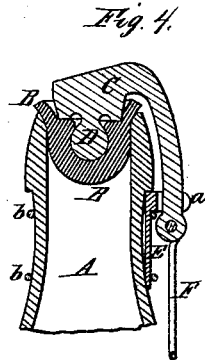
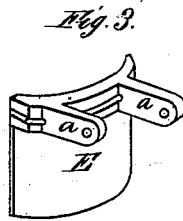
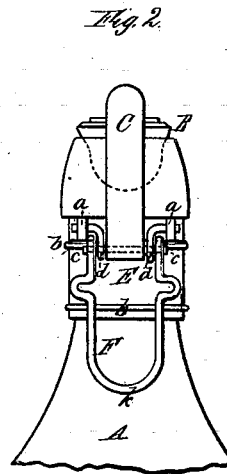
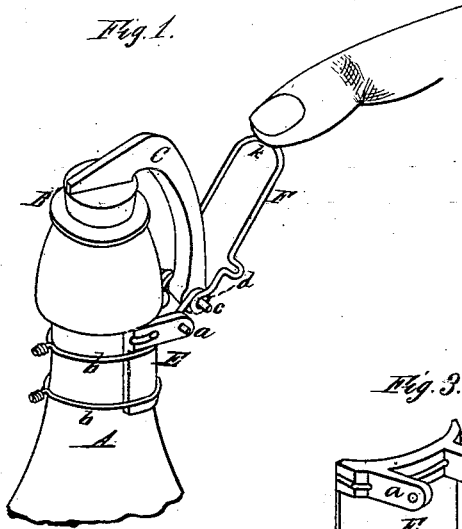


W. D. DOREMUS.
Bottle-Stopper.

No. 202,525.

Patented April 16, 1878.



Attest:
Charles H. Searle.
George W. Smith

Willard D. Doremus
Inventor:
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Attorneys.

UNITED STATES PATENT OFFICE.

WILLARD D. DOREMUS, OF WASHINGTON, D. C., ASSIGNOR OF THREE-FOURTHS HIS RIGHT TO JOHN W. MANCOURT, OF BROOKLYN, N. Y.

IMPROVEMENT IN BOTTLE-STOPPERS.

Specification forming part of Letters Patent No. **202,525**, dated April 16, 1878; application filed March 16, 1878.

To all whom it may concern:

Be it known that I, WILLARD D. DOREMUS, of Washington city, county of Washington, and District of Columbia, have invented certain new and useful Improvements in Bottle-Stoppers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Figure 1 is a perspective view, showing the improved stopper as applied to the neck of a bottle, the stopper being only partially seated, as indicated by the position of the operating-lever. Fig. 2 is a rear view, showing the stopper in place and firmly closing the mouth of the bottle. Fig. 3 is a perspective view of the collar detached from other portions of the device. Fig. 4 is a vertical section through the neck of the bottle and the attached stopper, and Fig. 5 is an inverted section, showing the construction of the rubber cap and the adjacent portion of the stopper-arm.

Like letters in all the figures indicate corresponding parts.

The object of my invention is to produce a bottle-stopper which shall not only be simple in its operation and cheap in its construction, but easily manipulated and not liable to get out of order or to be damaged in handling; and it (the invention) consists in certain peculiarities of construction and relative arrangements or combinations of parts, as will be hereinafter first fully described, and then pointed out in the claims.

A is the neck of the bottle, and B the rubber disk, which serves as a cork. The rigid arm C is provided with a circular or other form of neck, D, slightly undercut, as shown, which enters the disk B, and holds the said disk so that it will not be displaced when the bottle is uncorked. E is a metallic collar having the hinge-arms *a a*, and is intended to be secured to the bottle-neck by means of the wires *b b* or other suitable means.

The lever F is made of wire, and bent at the ends so as to enter the perforations in the arms *a a*, thus forming the fulcrum for the lever; and the arm C has two projections, *c c*, which enter the loops *d d* formed by coiling the wire F. The lever F bears against the

back of the operating-arm at the portion thereof which unites its two parallel arms, the lever itself, from the pivots to the bow or bearing-surface *k*, being shorter than is the operating-arm C from its pivots to its elbow.

The operation of the device is as follows: The arm is simply elevated by means of the lever F, when it automatically assumes its proper position over the mouth of the bottle. The end of the lever is then depressed, which draws the arm down, and through said arm forces the stopper-disk firmly to its seat within the neck of the bottle, from which position the disk is not liable to be displaced either by pressure of gas from within the bottle or by any accident to the bottle.

By reason of having the arm C in a single piece of rigid material, the construction of the apparatus is greatly simplified, and the expense of manufacture thereby reduced, and the movement given this arm also obviates the necessity of hinging the stopper-disk thereto, as in various constructions, whereby I am enabled to construct the stopper with only two pivotal connections. The movement of the stopper under this construction is such as to require no special or particular attention to adjust it, in consequence of which much less time is required to fill a number of bottles than would be required were the stoppers hinged, as in former arrangements.

For convenience the projections *c c* may be cast with the rigid arm C; and the invention further contemplates the employment of any desired method of hinging the lever to the bottle-neck, though the collar shown possesses several obvious advantages.

Having thus fully described my invention, I will state that I am aware of previous forms of stoppers wherein the rubber cap is employed and wherein the arm which controls the motions of said cap is hinged to the bottle-neck. I do not, therefore, desire to be understood as claiming such features; but

What I do claim as new, and desire to secure by Letters Patent, is—

1. The combination of the stopper, the operating-arm rigidly attached thereto, and the lever, the latter being pivoted to the neck-fastening and to the operating-arm, and being

provided with a portion adapted to bear against the operating-arm, whereby, by vibrating the lever upon its connection with the bottle, it will (through the medium of the arm) automatically carry the stopper to its proper location over the mouth of the bottle, for the purposes set forth.

2. The combination of the stopper-disk rigidly connected to the operating-arm, the single operating-arm provided with pivots at its lower end, the lever receiving said pivots and being hinged to the collar which is attached to the bottle, substantially as shown and described.

3. The combination, with the stopper carrying the rigid arm C, having projections *c c*, with lever F, pivoted to arm C and to collar E, having hinge-arms *a a* and neck-wires *b b*, substantially as described.

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

WILLARD D. DOREMUS.

Witnesses:

W. B. WILLIAMSON,
FRANK H. HALL.