

T. J. MAYALL.
Bottle-Stoppers.

No. 140,517.

Patented July 1, 1873

Fig.1

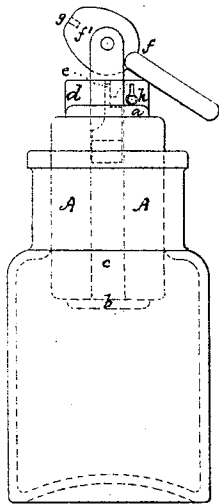


Fig.2

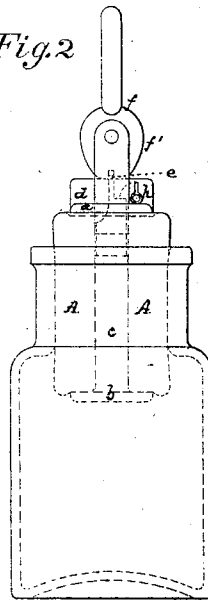


Fig.3

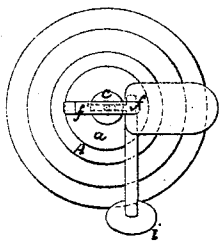
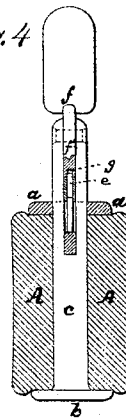


Fig.4



Witnesses:

John Guernsey
Harry C. Birch

Inventor

Thomas J. Mayall
by *[Signature]*
his atty.

UNITED STATES PATENT OFFICE.

THOMAS J. MAYALL, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN BOTTLE-STOPPERS.

Specification forming part of Letters Patent No. **140,517**, dated July 1, 1873; application filed June 18, 1873.

To all whom it may concern:

Be it known that I, THOMAS J. MAYALL, of Boston, Suffolk county, Massachusetts, have invented certain new and useful Improvements in Corks or Stoppers for Bottles, of which the following is a specification:

This invention has for its object the securing and locking of the cork or stopper in the neck of the bottle or jar which is closed by said cork or stopper. The invention may in general be stated to consist in the combination, with a stopper proper of rubber or other expansible material held between two heads or disks capable of movement toward each other to compress the expansible body between them, of a cam-like lever for drawing together said heads or disks and a lock or catch, located in and forming part of the cork or stopper, and arranged to lock the lever in the position it occupies when the said heads are drawn together by it. A key is provided whereby the lever can be unlocked whenever it is desired to withdraw the cork from the bottle.

The accompanying drawing represents the manner in which my invention is or may be carried into effect.

Figure 1 is an elevation of the cork inserted in a bottle, unexpanded and unlocked. Fig. 2 is a like view of said parts with the cork expanded and locked. Fig. 3 is a top view of these parts when in the position shown in Fig. 1. Fig. 4 is a vertical central section of the cork and bottle represented in Fig. 2.

The cork is composed of a stopper proper, consisting of a body of rubber, A, or other expansible material, of cylindrical or slightly tapering form, or of other shape to fit the article to which it is applied. The part A is held between top and bottom metallic disks or washers *a* *b*, the lower one, *b*, being fast to a cylindrical metallic stem or spindle, *c*, which extends up loosely through the upper washer or disk *a*, and is slotted to straddle a central projection or upright case, *d*, of said washer, which contains a lock of suitable construction, the bolt *e* of which is arranged to play up and down through the top of the

case *d* between the two branches of the divided spindle. The divided spindle extends above the washer *a*, and has pivoted between its branches on a horizontal axis a lever, *f*, the end of which that lies between the two branches of the stem is shaped as shown at *f'* in Figs. 1 and 2, so as to constitute in some sort a cam, which will press down with gradually increasing force upon the top of case *d* in proportion as the outer end of the lever is raised. The cam-like surface of this end of the lever, being in contact with the top of bolt *e* during this movement, the bolt will be kept pressed down in its case; but the moment the lever reaches a vertical position a socket or notch or recess, *g*, in its lower end is brought directly over the bolt, which springs up into this socket or recess and locks the lever securely in position. The raising of the lever has had the effect of compressing and laterally expanding the rubber body A, so that the cork is thus jammed and held tightly in the neck of the bottle. The lever must thus remain in its upright position until unlocked, which operation is effected by inserting a key (represented at *i* in Fig. 3) in the hole *h* provided in the side of case *d* for the purpose, and turning the key so as to hold the spring-bolt down until the lever has been depressed. The depression of the lever allows the heads of the cork to move apart; the rubber consequently returns to its original unexpanded condition, and the cork can be removed from the bottle.

I have not deemed it necessary to describe the construction of the lock further than above indicated, inasmuch as it is manifest that any suitable lock can be employed for the purpose.

The cam portion *f'* of the lever is shaped on both edges alike, so that the lever can be vibrated to either side of the bottle at pleasure.

Having now described my invention, and the manner in which the same is or may be carried into effect, what I claim, and desire to secure by Letters Patent, is—

The herein-described expansible cork or

stopper, in which the lever for drawing together the heads of the cork to laterally spread the rubber or other expansible body held between them, is combined with a locking device arranged to lock said lever when the latter is in the position it occupies when the cork is expanded, as herein shown and set forth.

In testimony whereof I have signed my name in the presence of two subscribing witnesses.

THOS. J. MAYALL.

Witnesses:

JOHN BULKLEY,
EDM. F. BROWN.