

T. HIPWELL.

LOCKING DEVICE FOR BOTTLE-STOPPERS, &c.

No. 174,817.

Patented March 14, 1876.

Fig. 1.

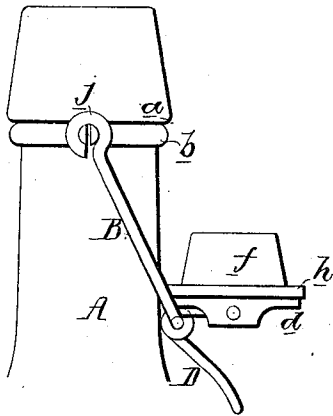


Fig. 2.

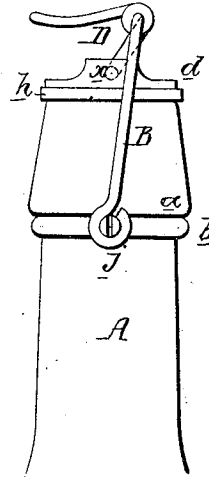


Fig. 5.

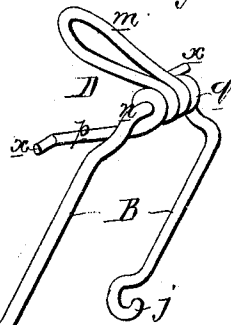


Fig. 6.

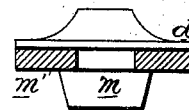


Fig. 3.

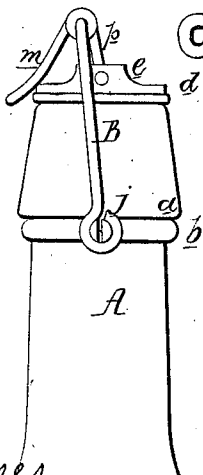
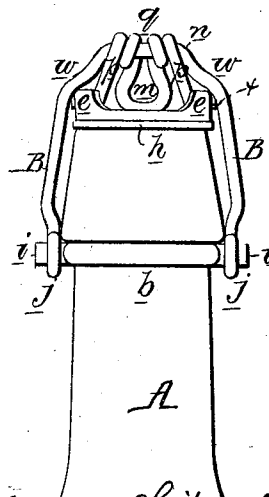


Fig. 4.



Witnesses
Harry Howson Jr.
Harry Smith

Thomas Hipwell
by his Attorneys
Howson and Son

UNITED STATES PATENT OFFICE

THOMAS HIPWELL, OF BRIDGETON, NEW JERSEY, ASSIGNOR TO THE
COHANSEY GLASS MANUFACTURING COMPANY.

IMPROVEMENT IN LOCKING DEVICES FOR BOTTLE-STOPPERS, &c.

Specification forming part of Letters Patent No. **174,812**, dated March 14, 1876; application filed
October 29, 1875.

To all whom it may concern:

Be it known that I, THOMAS HIPWELL, of Bridgeton, in the State of New Jersey, have invented a new and useful Improvement in Locking Devices for Stoppers of Bottles, Jars, and similar vessels, of which the following is a specification:

The object of my invention is to secure stoppers to the mouth of a bottle by a device which exerts a yielding pressure, in the manner which I will now proceed to describe, reference being had to the accompanying drawing, in which—

Figure 1 is a side view of the upper portion of a bottle, showing the stopper hanging down; Fig. 2, a view showing the stopper on the mouth of the bottle prior to being locked thereto; Fig. 3, the stopper as it appears when locked; Fig. 4, a front view of Fig. 3; Fig. 5, a perspective view of the locking device, and Fig. 6 a modified form of stopper.

The neck and mouth of the bottle are of the usual shape, the former having the shoulder *a*, against which bears the collar *b*. The stopper consists of a metal disk, *d*, on the upper face of which are two projections or lugs, *e*, for a purpose rendered apparent hereafter, and to the under side of the disk is fitted a rubber cap, *f*, having a flange, *h*, for bearing on the edge of the vessel's mouth. The stopper may be made as shown in Fig. 6—that is, with a projection, *m*, having an annular recess for the reception of a packing-ring, *m'*, which bears on the edge of the vessel's mouth.

The locking device consists of three main parts, namely, the above-mentioned collar *b*, the bail *B*, and bell-crank lever *D*. The collar *b* consists, in the present instance, of a single piece of wire embracing the neck of the bottle below the shoulder *a*, and having two projections, *i i*, adapted to the hooked ends *j j* of the bail *B*. The bell-crank lever *D* is made of wire, in the manner best observed in Fig. 5, the arm *m* of the lever consisting of a loop of wire which is coiled at *q* round the upper portion *n* of the bail, the latter constituting the fulcrum of the lever. From the coil *q*

project the two arms *p p* of the crank-lever, each arm terminating in a pin, *x*, and the two pins passing through the lugs or projections *e* on the stopper.

On reference to Fig. 2, it will be observed that the lugs of the bail are inclined to the right from the pins *x x* of the bell-crank lever, the arms *p p* of the latter being inclined in the same direction. When the parts are in this position, the stopper simply bears on the mouth of the bottle, but is not yet locked thereto. On depressing the arm *m* of the bell-crank lever, however, the stopper will be forced down tight to the mouth of the bottle, and when the parts have reached the position shown in Fig. 3, the lugs of the bail and arms *p* of the lever being inclined to the left of the pins *x*, the stopper will be effectually locked to the mouth of the vessel, and cannot be elevated from the same without the exercise of considerable effort in raising the arm *m*.

It is essential to the proper maintenance of the stopper in tight contact with the mouth of the bottle that the pressure imparted shall be a yielding pressure; or, in other words, that the lever should not be rigid, but slightly yielding or elastic, and this elasticity is attained mainly by the coils *q*, which embrace the bail.

The maintenance of this coil in its proper lateral position is secured by bending the bail inward at *w w*, as shown in Fig. 4.

I do not desire to claim, broadly, a wire lever coiled round a bail for the purpose of depressing a stopper to the mouth of a bottle; but

I claim as my invention—

The combination of the stopper and its lugs *e*, the bail *B* hinged to the neck of the bottle, and the lever *D* made of wire coiled round the bail, and having arms *p* terminating in pins *x* adapted to orifices in the said lugs of the stopper, all as set forth.

THOMAS HIPWELL.

Witnesses:

DANIEL SHARP,
JOHN S. DUNN.