F. W. PERRY.
Bottle-Stopper.

No. 197,890. Patented Dec. 4, 1877.

Fig. 1.

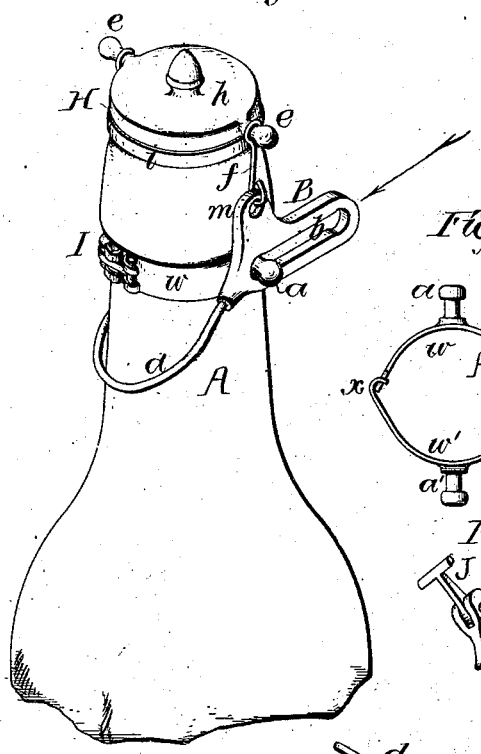

Fig. 2.

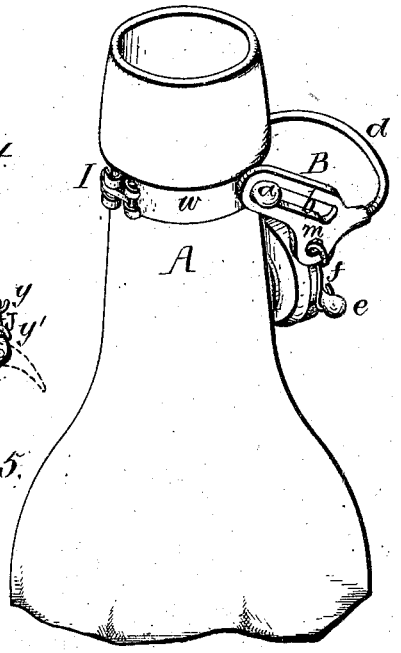

Fig. 4.

Fig. 5.

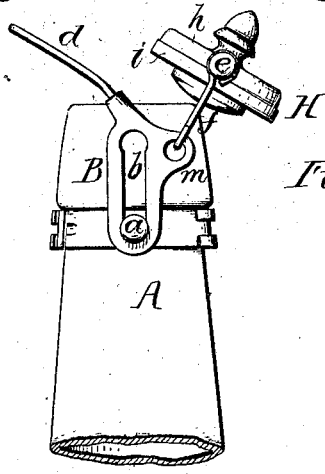

Fig. 3.

Witnesses
John N. Fenner
Harry Smith

Inventor
Frank W. Perry
by his Attorneys
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UNITED STATES PATENT OFFICE.

FRANK W. PERRY, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN BOTTLE-STOPPERS.

Specification forming part of Letters Patent No. **197,890**, dated December 4, 1877; application filed September 24, 1877.

To all whom it may concern:

Be it known that I, FRANK W. PERRY, of Philadelphia, Pennsylvania, have invented a new and useful Improvement in Bottle-Stoppers, of which the following is a specification:

My invention relates to an improvement in that class of bottle-stoppers in which a lever adapted to a collar on the neck of the bottle is caused to depress the stopper on the edge of the mouth; and the object of my improvement is to so combine a slotted lever with projections on the collar and stopper that the latter can be tightly compressed by a slight exertion on the lever.

In the accompanying drawing, Figures 1 and 2 are perspective views of a bottle with my improved stopper; Fig. 3, a side view; Fig. 4, a plan view of the collar, and Fig. 5 a perspective view of the device for securing the collar.

The collar A′ may be made in two parts, secured together in the manner described hereinafter, or it may be constructed for attachment to the neck A of the bottle in any of the modes now adopted in connection with bottle-stoppers of the class to which my invention relates. In all cases, however, the collar must have opposite projections or trunnions *a a′*, adapted to the slots *b* of the two arms B B, which are arranged on opposite sides of, and close to, the bottle, and are connected together by the yoke *d*.

H is the stopper, the upper portion of which is made of metal, and the lower portion of rubber, as usual, the metal portion having opposite projections *e e*, which are connected by links *f* to eyes *m* on the slotted arms B.

In adjusting the stopper to the mouth of the bottle, as shown in Fig. 3, the arms B must be elevated, the lower ends of the slots being in contact, or nearly so, with the projections of the collar, so that the rubber of the stopper may pass freely over the edge of the mouth preparatory to being placed on the mouth itself, after which the arms will descend to a limited extent. The yoke *d* is now depressed from about the position shown in Fig. 3 to that seen in the perspective view, Fig. 1, when the stopper will be firmly secured to the mouth of the bottle, the pins *a* resting in the enlarged ends of the slots in the arms B, so as to prevent accidental movement of the latter.

In thus depressing the yoke *d*, the latter, with its arms B, acts as a lever with a constantly-changing fulcrum, for, as the lever is depressed, the arms B slide on the fulcrum projections *a*, and the eyes *m* approach nearer and nearer to the said fulcrums, until the inner ends of the slots in the arms reach the projections *a*, as shown in Fig. 1, when the eyes *m* bear such relation to the said projections that the stopper will be locked firmly to the mouth of the bottle, from which it cannot be detached without first raising the yoke or pushing the arms B in the direction of the arrow, Fig. 1, by doing which the stopper may be released, and afterward thrown back, so as to hang down the neck of the bottle, where it cannot be any impediment to the filling of the bottle. (See Fig. 2.)

There is an advantage in this constantly-increasing leverage exerted on the stopper as the yoke is depressed, for as the compression of the rubber increases the leverage increases; and hence the desired tight joint is completed by a comparatively slight effort, the releasing of the stopper being also effected with very little exertion.

The collar A′ is made in two parts or segments, *w* and *w′*. These are loosely hooked or permanently hinged together at *x*; but the other ends of the segments are connected together by a T-headed link, J, and cam-lever I, as shown in Figs. 4 and 5. The T-head of the link is connected to the slotted and hooked end *y* of the segment *w*, and the stem of the link inserted into the slot of the hooked end *y′* of the segment *w′*, against which hook bears the cam of the lever I, which is hinged to the link.

By turning this lever from the position shown by dotted lines to that shown by plain lines in Fig. 4, the segments are made to tightly embrace the neck of the bottle, and, after turning the lever in a contrary direction, the pressure will be removed from the segments, and the latter may be withdrawn from the neck of the bottle.

I claim as my invention—

1. The combination of projections *a a′* on the

neck of the bottle, and like projections *e e* on the stopper, with connected arms B B, having slots adapted to the said projections *a*, and with links by which the stopper is connected to the arms, all substantially as set forth.

2. The collar A′, made in two segments connected together at one end, and combined at the other end with the link J and cam-lever I.

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

FRANK W. PERRY.

Witnesses:
HERMANN MOESSNER,
HARRY SMITH.