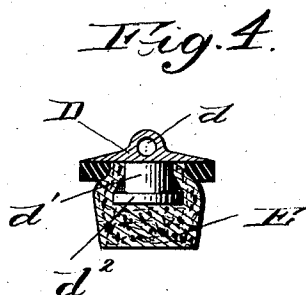
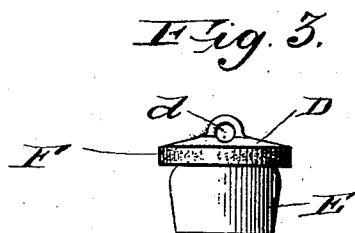
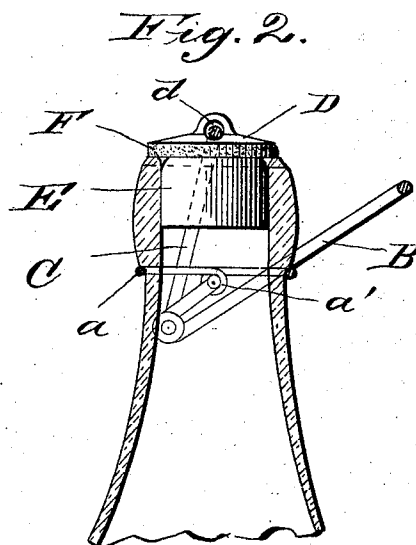
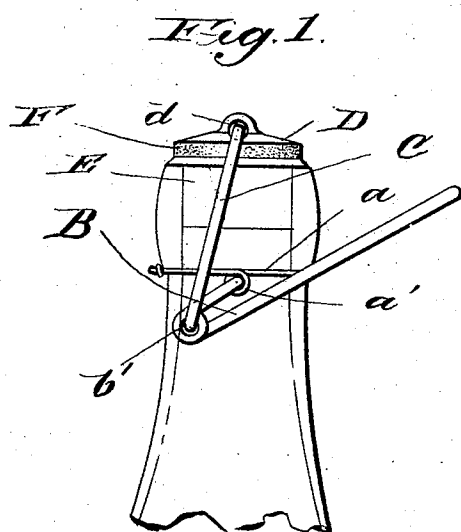


(No Model.)

W. J. EISENHARDT.
BOTTLE STOPPER.

No. 576,102.

Patented Feb. 2, 1897.



Witnesses:
C. M. Sweeney.
Arthur W. Calvert.

Inventor:
W. J. Eisenhardt,
by *Arthur W. Calvert*,
Attorney.

UNITED STATES PATENT OFFICE.

WILLIAM J. EISENHARDT, OF BALTIMORE, MARYLAND.

BOTTLE-STOPPER.

SPECIFICATION forming part of Letters Patent No. 576,102, dated February 2, 1897.

Application filed June 18, 1896. Serial No. 595,976. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM J. EISENHARDT, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Bottle-Stoppers, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to a bottle-stopper which is more particularly adapted for use in connection with swing stopper-fastenings, but which may, however, be used in connection with other fastening devices, if desired. The stoppers at present generally in use with swing stopper-fastenings comprise rubber packing devices or gaskets, which are compressed into or against the tops of the mouths of the bottles in such a manner that the liquid in the bottles comes into contact therewith, so that these rubber packings soon become deteriorated or rotted by the action of the liquid thereon, and these stoppers are also objectionable by reason of the fact that the liquids are more or less injured by contact therewith.

My invention has for its object to provide a stopper which will be free from the objections noted, which will be comparatively cheap to manufacture, and which will be durable in use.

To this end my improved stopper consists of a button of any suitable hard material (preferably metal) having a flange, beneath which is a projection having an enlargement at its lower end, and on which projection is fitted a cork of suitable size to close the mouth of the bottle to which the stopper is to be applied, while surrounding the top of said cork and placed adjacent to the flange of the button is a rubber washer having a comparatively small hole in its center, and which is stretched over the cork and placed adjacent to the flange of the button in such a manner as to compress the top of the cork (which is hollowed out to receive the projection on the button) tightly around the neck of the said projection, and thus securely hold the cork on the said projection, the said packing-washer serving not only to hold the cork in place, but also as a packing-washer to be forced against the top of the bottle when the stopper is fastened in operative position.

In the accompanying drawings, Figure 1 is a side view of the neck of a bottle provided with a swing stopper-fastening and my improved stopper. Fig. 2 is a vertical section of the same, and Figs. 3 and 4 are detail views of the stopper.

The stopper-fastening herein shown and in connection with which my improved stopper is preferably to be employed is essentially the same as that embraced by my application, Serial No. 588,630, filed April 22, 1896, in that it comprises a wire *a*, coiled around the neck of the bottle and provided with eyes *a'*, into which extend trunnions *b* of a locking-lever *B*, provided with coils or eyes *b'*, which are engaged by hooks or upturned portions of a bail or yoke *C*.

My improved stopper, as herein shown, comprises a button *D*, provided with an eye *d* at its top for the reception of the yoke or bail *C*, said button having beneath its body or flange a projection *d'*, provided with an enlargement *d''*.

E denotes a cork, which is of any suitable size to closely fit the mouth of the bottle to which the stopper is to be applied and which is hollowed out for the reception of the said projection *d'*, with its enlargement *d''*. Encircling the top of the cork and the neck or smaller portion of the said projection is a rubber washer *F*, which is provided with a relatively small central hole, so that it can be stretched over the cork when being adjusted to position adjacent to the flange of the button, said rubber washer by its contraction serving to compress the upper portion of the cork around the neck of the projection on the button, so as to securely hold the cork in place. The said rubber washer, being adjacent to the flange of the button and projecting beyond the periphery of the cork, serves not only to hold the latter in place, but also acts as a packing-washer to be forced down against the top of the neck of the bottle when the stopper is locked in operative position by the fastening.

It will thus be seen that I provide a stopper in which only the cork can come in contact with the liquid of the bottle, as the cork *E* fits the mouth of the bottle so tightly that no liquid can pass by the same and come in contact with the rubber washer *F*, while the said

rubber washer, being compressed against the top of the neck of the bottle, will absolutely serve to prevent the escape of any gas from the contents of the bottle, and thus assist the cork in tightly closing the latter.

Owing to the fact that the rubber washer is merely compressed against the top of the neck of the bottle when the stopper is in operative position, there is no appreciable abrasion or wear of the washer, such as occurs with that class of stoppers in which the rubber is more or less stretched in wedging the stopper into the mouth of the bottle, as the rubber packings, when thus under tension and subjected to the action of liquids, soon become deteriorated and rotted. My improved stopper, therefore, in which the rubber is simply compressed when the stopper is in operative position and in the use of which the contents of the bottle cannot come in contact with the rubber to deteriorate the same, is more durable than the stoppers at present in use, such as I have heretofore referred to. Furthermore, owing to the fact that the cork is tightly compressed about the neck of the projection on the metallic button by the rubber, there is a tendency of the cork to bulge outward somewhat, as more clearly shown in Figs. 3 and 4, so that although the cork may when in use be compressed into the neck of the bottle it will when released from use have a tendency to be expanded slightly or bulge outwardly, and thus when again applied to the bottle in operative position it will tightly fit the same.

Although my improved stopper will preferably be used in connection with the form of stopper-fastening herein shown, it will be understood that it may also be used in connection with any other suitable form of swing stopper-fastening, or may be used in connection with any suitable fastening device other than a swing stopper-fastening.

Having thus described my invention, I claim and desire to secure by Letters Patent—

1. A bottle-stopper consisting of the combination of a button, as D, provided with a projection *d'* having an enlargement *d''*, a cork hollowed out or recessed for the reception of said projection and its enlargement, and a rubber washer or gasket placed adjacent to the flange of the said button and tightly encircling the upper portion of said cork so as to compress said portion around the neck of said projection and thus secure the cork to the button, said washer projecting peripherally beyond the said cork and being thus adapted to come in contact with the top of the mouth of the bottle when the stopper is in operative position.

2. A bottle-stopper consisting of the combination of a button, as D, provided with a projection *d'* having an enlargement *d''*, said button having also an eye or opening *d*, a cork hollowed out or recessed for the reception of said projection and its enlargement, a rubber washer or gasket placed adjacent to the flange of the said button and tightly encircling the upper portion of said cork so as to compress said portion around the neck of said projection and thus secure the cork to the button, said washer projecting peripherally beyond the said cork and being thus adapted to come in contact with the top of the mouth of the bottle when the stopper is in operative position, and a swing stopper-fastening the bail or yoke of which passes through the said eye or opening of the said button.

In testimony whereof I affix my signature in presence of two witnesses.

WM. J. EISENHARDT.

Witnesses:

NATHAN H. ROBBINS,
HENRY CALVER.