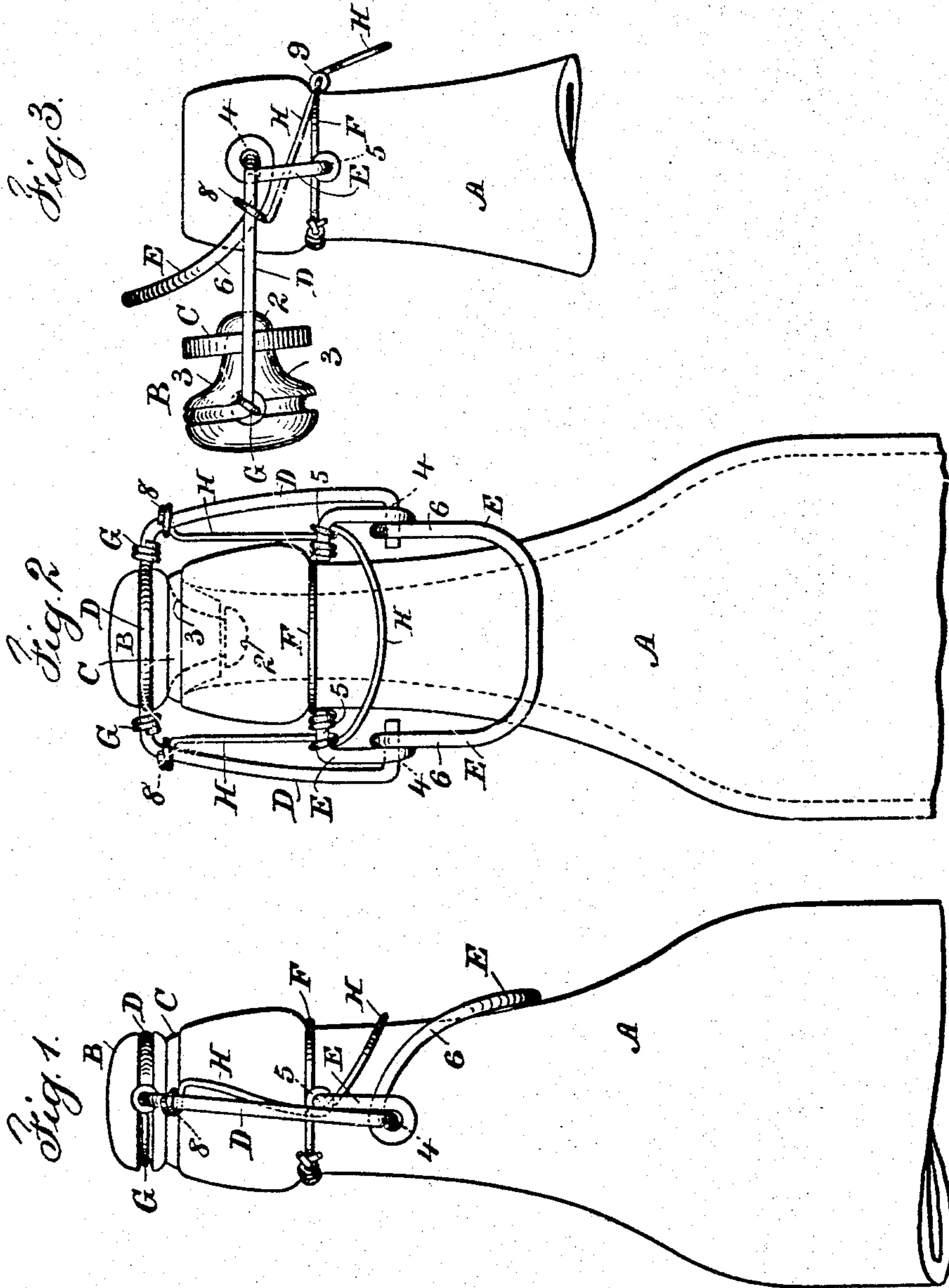


(No Model.)

L. H. BROOME.
BOTTLE STOPPER.

No. 603,724.

Patented May 10, 1898.



Witnesses

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UNITED STATES PATENT OFFICE.

LEWIS H. BROOME, OF JERSEY CITY, NEW JERSEY.

BOTTLE-STOPPER.

SPECIFICATION forming part of Letters Patent No. 603,724, dated May 10, 1898.

Application filed February 6, 1897. Serial No. 622,257. (No model.)

To all whom it may concern:

Be it known that I, LEWIS H. BROOME, a citizen of the United States, residing at Jersey City, in the county of Hudson and State of New Jersey, have invented an Improvement in Bottle-Stoppers, of which the following is a specification.

A bottle-stopper has been connected with a bail pivoted at its ends upon a lever and the lever pivoted upon the neck wire or band; but in this form the stopper is liable to swing upon the bail and interfere with the discharge of the liquid as poured from the bottle, and the stopper is also liable to become misplaced, so that it is not easily applied in again closing the bottle except by an experienced person. In some instances efforts have been made to secure the stopper to the bail-wire, but they are liable to injury, and it has been difficult to cause the stopper to take a uniform bearing upon the mouth of the bottle.

In my present improvement the stopper and bail-wire are rigidly connected together by a binding-wire, so that the stopper is not liable to be swung out of its proper position in relation to the bail-wire, and the lever that intervenes between the bail-wire and the neck-band acts to raise the stopper off of the mouth of the bottle vertically, or nearly so, or to restore the same to position in the opposite direction, and I add to the before-named devices a bail-turner pivoted at the neck-band and acting upon the bail to swing the bail and stopper into the proper position for closing the bottle or for removing the stopper out of the way of the liquid as poured out of such bottle.

In the drawings, Figure 1 is a side view, and Fig. 2 is an elevation at right angles to Fig. 1, representing the stopper in position upon the bottle; and Fig. 3 is an elevation representing the stopper as thrown back.

The bottle A is of any desired size and character, and the stopper B is provided with a button-head 2 at its lower end, and the elastic washer C, usually of india-rubber, is sprung over the head 2 and around the neck of the stopper, and instead of using a conical neck with a flange or shoulder at the upper end, as now usual, the neck is formed with concave sides 3, flaring outward and without any shoulder at the upper part, so that when pressure

is applied to the stopper B the taper of the neck above the washer first acts to spread the washer and then the washer assumes a conoidal form and is pressed outward and downward by the stopper, as shown by dotted lines in Fig. 2, so as to firmly hold the elastic washer against the mouth of the bottle at the rounding inner edge of the glass, thus insuring a perfect action of the elastic washer in closing the mouth of the bottle.

The bail-wire D is pivoted at 4 to the lever E, which in turn is pivoted at 5 to the neck-band F. These parts, except as hereinafter specified, are similar to those that have been heretofore made use of—that is to say, the neck-band is bent up with eyes for the reception of the ends of the lever E, and usually the neck-band is made of two pieces of wire, that which passes half-way around the neck at one side being of sufficiently heavy wire to have the pivot-eyes or projections in the ends of it, and the other portion of the neck-wire being separate; but in many forms of bottle-stoppers now in use the neck-wire is made in one piece.

The lever E is made in the form of a loop, with the ends received in the eyes of the neck-band and with eyes for the pivots 4 of the bail-wire; but in bottle-stoppers of this general character the lever E has usually set closely against the sides of the bottle-neck, and hence it has been difficult to apply the fingers to the lever for giving motion to the same. To rectify this difficulty, the lever E is made longer than usual, so that the side portions 6 are nearly parallel and stand out from the sides of the bottle-neck, so that the fingers can freely be passed in between the lever and the bottle to pry the lever outward and away from the bottle, and the lever only rests against the side of the bottle-neck near the middle portion of such lever. This I find a convenience in opening the bottle.

The bail-wire D is made in one piece extending across the stopper, and a binding-wire G is made use of for connecting the bail and stopper rigidly together. It is usually advantageous to make a peripheral groove around the stopper and to bend the middle portion of the bail-wire in a semicircular form horizontally and to form an eye in one end of the binding-wire around the bail-wire and

then to pass such binding-wire along the peripheral groove of the stopper and bend the same into an eye around the other part of the bail-wire to tightly hold such bail-wire and stopper together, and the binding-wire performs its duty also of holding the stopper and bail rigidly together in cases where the binding-wire G passes through a hole or opening in the stopper itself, as illustrated in Fig. 3, the binding-wire extending in both cases from the bend in the integral bail-wire at one side to the bend at the other side.

The object of the binding-wire G is to hold the bail D and stopper in a fixed relative position, so that the stopper does not swing or change position when the bail is swung aside from over the end of the bottle, and when the bail is brought back into position over the mouth, as hereinafter described, the stopper will be in its proper position to descend upon the mouth of the bottle and close the same effectually.

When the stopper has been lifted by the lever acting to raise the bail-wire, the lever can swing entirely over the end of the bottle-neck, so as to be adjacent to the stopper itself, as indicated in Fig. 3, and in this position the parts can remain and will be out of the way while the contents of the bottle are being poured out, and I make use of a bail-turner II in the form of a forked lever with eyes S at the ends, that surround and slide upon the sides of the bail-wire, and this bail-turner may be pivoted at 9 upon the neck-band F, as seen in Fig. 3, or it may be pivoted upon the inward-turned ends of the lever E, forming the pivot 5, as seen in Fig. 2. In either instance the bail-turner is adapted to act upon the bail at each side simultaneously, and by pressing down the projecting portion of the bail-turner the eyes S act upon the bail to swing the bail and the stopper and bring the stopper into line directly over the mouth of the bottle, and by having the bail-turner of the proper shape the projecting end of the bail-turner will come into contact with the side of the bottle-neck and arrest the further movement when the stopper is in its proper position in relation to the mouth of the bottle, and the lever E is now to be acted upon to bring the stopper down upon the mouth of the bottle and to close the same tightly.

By the foregoing construction facility is given for actuating the lever in releasing the stopper and in lifting the same bodily from the mouth of the bottle, and then the parts are swung backward out of the way, and when the bottle is to be recorked or stopped the bail-turner is acted upon to bring the bail and stopper into position, and this can be accomplished with great facility, because the operator simply has to press upon the outer end of the bail-turning lever, and then the lever E is swung down and the stopper compressed firmly into its place, and these operations can be performed without the attendant inspecting the movements, and hence the bail-turner forms a very important appendage to the stopper in bottles that are frequently opened and closed or employed in places where there is but a dim light.

I claim as my invention—

1. The combination with the stopper having a peripheral groove, of an integral bail-wire having a curved portion to pass around the stopper in such groove and bent to extend down at each side of the stopper and the neck and a binding-wire extending from one bend to the other to hold the bail and stopper rigidly together, substantially as specified.

2. The combination with the stopper and a bail-wire rigidly connected thereto, of a lever to which the lower ends of the bail-wire are pivoted, and a bail-turning lever for swinging the bail and stopper and for supporting them when the bottle is open, substantially as set forth.

3. The combination with the stopper and the bail-wire, of a binding-wire for holding the bail-wire and the stopper rigidly together, a neck-band and a lever pivoted upon the neck-band and pivoted to the bail-wire, a bail-turner having eyes at its ends sliding upon the bail-wire and a pivot at the neck-band for the bail-turner, whereby the stopper is brought into position above the mouth of the bottle by the action of the bail-turner, substantially as set forth.

Signed by me this 27th day of January, 1897.

L. H. BROOME.

Witnesses:

GEO. T. PINCKNEY,
S. T. HAVILAND.