

(No Model.)

R. M. WILLIAMSON.

BOTTLE STOPPER.

No. 306,302.

Patented Oct. 7, 1884.

Fig. 1.

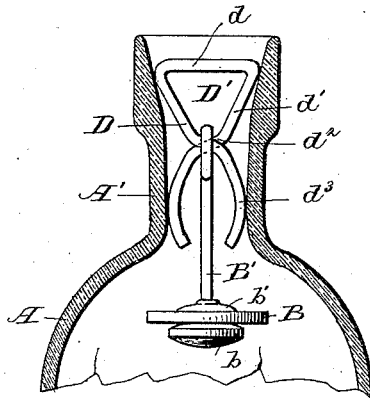


Fig. 2.

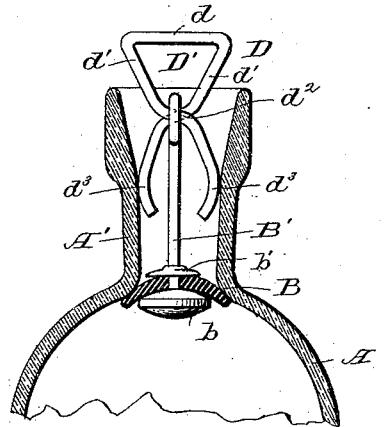


Fig. 4.

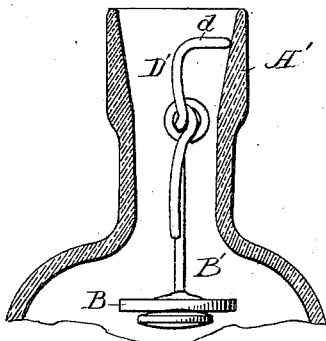


Fig. 3.

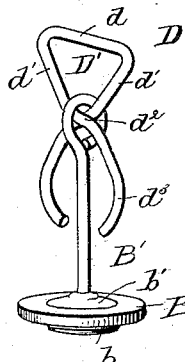


Fig. 5.

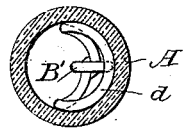


Fig. 6.

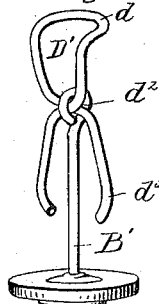
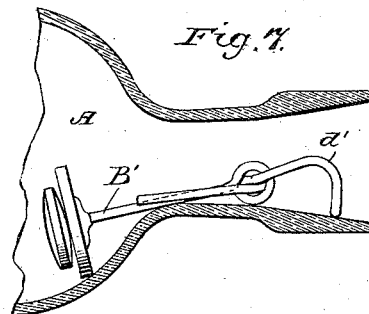


Fig. 7.



Witnesses:  
Jno. W. Stockell  
W. J. Osgood.

Inventor:  
Rely M. Williamson  
by M. E. Darton  
Attorney

# UNITED STATES PATENT OFFICE.

RELLY M. WILLIAMSON, OF CHICAGO, ILLINOIS.

## BOTTLE-STOPPER.

SPECIFICATION forming part of Letters Patent No. 306,302, dated October 7, 1884.

Application filed May 29, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, RELLY M. WILLIAMSON, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Bottle-Stoppers; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

The improvement herein described relates to the class of bottle-stoppers generally known as "interior" stoppers, and it more particularly concerns the construction of the spring-bail which supports the stopper, and to the connection of the latter with said bail.

In my improved device the spring-bail is flexibly joined to a stopper of rubber or other yielding material by a rod projected from the center of the stopper and hinged to the bail. The said bail is formed of a single piece of wire bent to form an eye at the top, at the lower side of which the ends of the wire cross, and beneath which said ends are prolonged to form springs which have frictional engagement with the walls of the bottle-neck. The eye or upper portion of the bail is of sufficient width to engage the walls of the nozzle and prevent the passage of the device into the bottle, and the wire attached to the stopper is provided with an eye which embraces the spring-wires at their point of intersection.

The principal object of the flexible connection between the bail and stopper is to enable the former to be swung out of the way when the bottle is uncorked, so as to permit the free entrance of cleansing devices or the exit of the fluid contained therein.

In the accompanying drawings, Figure 1 is a vertical section of the upper portion of a bottle to which is applied a stopper constructed according to my invention, the stopper being shown in position to discharge the contents of the bottle. Fig. 2 is a similar section, the stopper being shown in position to close the orifice of the bottle. Fig. 3 is a perspective view of the stopper detached, and Figs. 4, 5, 6, and 7 illustrate a form of the spring-bail in which the upper portion of the

eye thereof is bent laterally to conform with the shape of the wall of the bottle-neck.

Referring to the drawings, A represents the detached upper portion of a bottle, and A' the nozzle or neck thereof.

B is a stopper having a flexible disk, preferably of rubber, secured to the lower end of a rod, B', between buttons *b* and *b'*, as shown, and as heretofore constructed.

D is the bail, formed of a single wire having an eye, D', whose upper portion, *d*, is straight, or it may be curved, as will be hereinafter set forth. The sides *d'* of the eye converge to form the sides of a triangle, and are crossed at *d''* and prolonged in the curved direction indicated to form springs *d'''*, which are spread sufficiently to bear forcibly against the walls of the bottle-neck, as shown in Figs. 1 and 2. The rod B' has its upper end bent to loosely embrace the wires *d'* at their intersecting point *d''*, so that the stopper B is flexibly suspended from the bail, and will be free either to adjust itself to the orifice when raised, or to swing to one side and out of the way when lowered to the position shown in Fig. 1.

In Figs. 4, 5, 6, and 7 the upper portion of the bail D is shown laterally curved, so as to leave a free passage through the center of the bottle-neck. The object of this construction is to enable cleansing devices to be freely inserted and more conveniently operated through the neck of the bottle.

The neck of a bottle specially adapted for the device described should preferably be flared outwardly, as shown, and narrow enough in its narrower portion to arrest the bail when the latter is forced inwardly flush with or a little below the top of the bottle. When it is desired to close the bottle, the bail D is drawn upwardly by any sort of hook or lever inserted in the eye D', and the expanding spring ends *d'''*, by means of their engagement with the walls of the nozzle A', will sustain the stopper even in the absence of pressure within the bottle to assist in holding said stopper firmly in place.

In the application of the stopper to pop and beer bottles a portion of the liquid contents may be withdrawn.

I claim as my invention—

1. The combination, with an interior bottle-stopper, of a bail formed with an eye in its upper portion, and having its depending ends crossed and extended to form springs adapted  
5 to engage the walls of a bottle-neck, and a rod attached to said stopper and flexibly connected with the bail at the crossed portion thereof, substantially as described.

2. The combination, with a bottle-neck, of  
10 an interior stopper having a rod attached thereto provided with an eye upon its upper end, and a spring-wire bail bent to cross within said eye of the rod, the upper portion of said

bail forming an eye wider than the narrower portion of the orifice of the bottle-neck, and 15 the lower portion forming opposite springs which press outwardly against the walls of the bottle-neck, substantially as described.

In testimony that I claim the foregoing as my invention I affix my signature in presence 20 of two witnesses.

RELLY M. WILLIAMSON.

Witnesses:

OLIVER E. PAGIN,  
M. E. DAYTON.