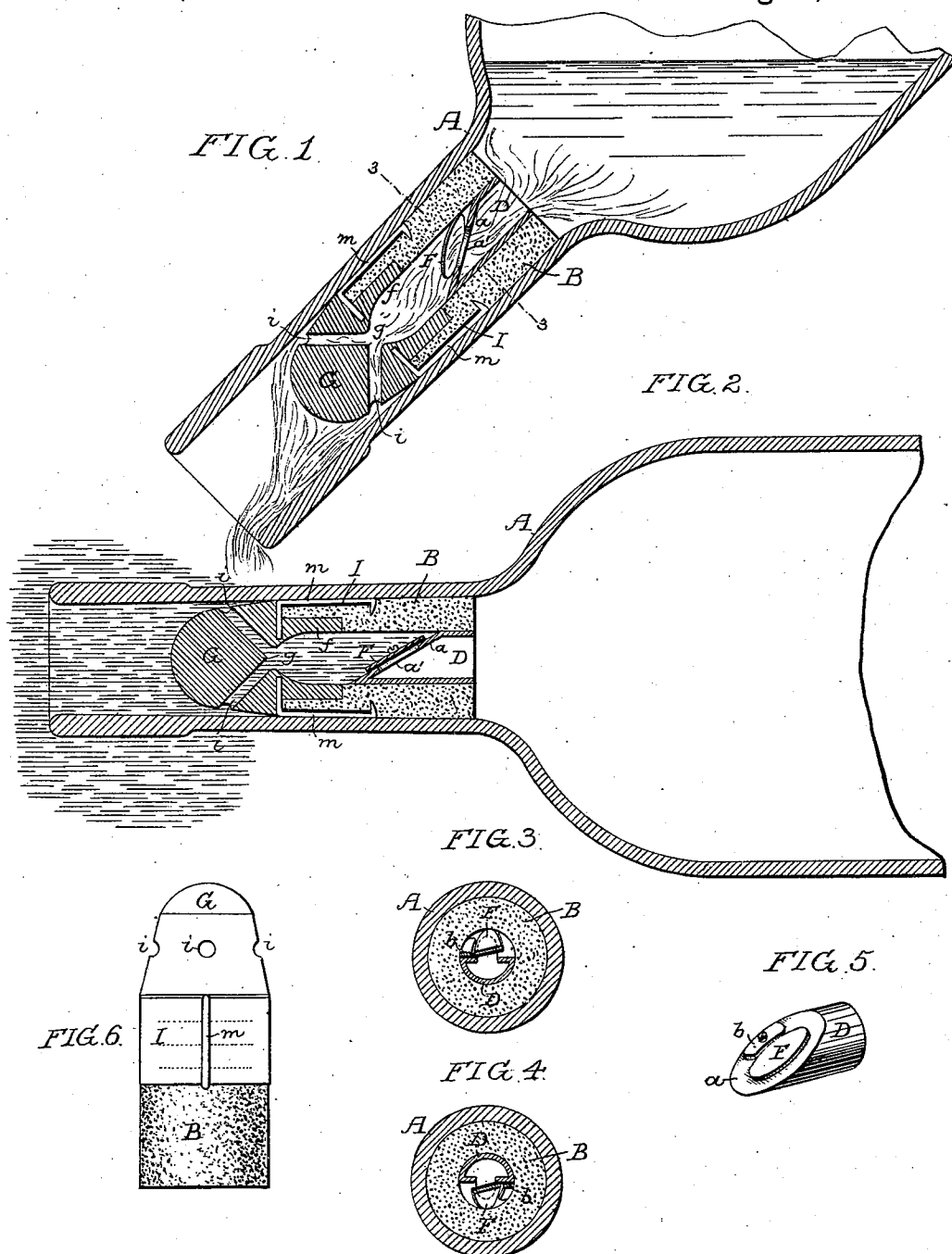


(No Model.)

E. L. LLOYD.
BOTTLE STOPPER.

No. 565,362.

Patented Aug. 4, 1896.



Witnesses:
Wm. A. Barr
Wm. A. Barr

Inventor:
Edwin L. Lloyd
by his Attorneys
Howson & Howson

UNITED STATES PATENT OFFICE.

EDWIN L. LLOYD, OF PHILADELPHIA, PENNSYLVANIA.

BOTTLE-STOPPER.

SPECIFICATION forming part of Letters Patent No. 565,362, dated August 4, 1896.

Application filed August 19, 1895. Serial No. 559,861. (No model.)

To all whom it may concern:

Be it known that I, EDWIN L. LLOYD, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain
5 Improvements in Bottle-Stoppers, of which the following is a specification.

The object of my invention is to provide a cheap and simple form of bottle-stopper which, while permitting the free discharge
10 of the contents of the bottle, will effectually prevent any inflow of liquid, and will therefore render impossible the refilling of the bottle. This object I attain in the manner hereinafter set forth, reference being had to the accompanying drawings, in which—

Figure 1 is a sectional view of part of a bottle with a stopper constructed in accordance with my invention, showing the parts in the position assumed by them when the contents of the bottle are being poured out. Fig. 2 is a similar view illustrating the position of the valve when an attempt is made to fill the bottle. Fig. 3 is a transverse section on the line 3 3, Fig. 1. Fig. 4 is a similar view in
25 an inverted position. Fig. 5 is a perspective view of the valve and its carrier detached from the stopper, and Fig. 6 is a side view of the stopper detached from the bottle.

A represents part of the bottle, and B the stopper inserted in the neck of the same below the mouth, so as to provide for the use of the ordinary cork above the stopper.

The preferred form of stopper is a hollow cork, and to the central opening of this stopper is snugly fitted a tubular shell or casing
35 D, having an inclined or beveled end *a* with opening *a'* therein, and on the outer face of this inclined end of the shell D is pivoted a flap-valve F, adapted to close the opening *a'* and prevent any inflow of liquid through the same.

The valve F is preferably composed of a strip or sheet of flexible material such as rubber or leather, which will seat snugly upon
45 the valve-face formed by the inclined end *a* of the shell D, a metal plate being secured to the back of that portion of the strip which constitutes the valve, but said strip projecting beyond the metal plate, so as to provide a flange which is secured to the end *a* of the casing D, preferably by means of a short segmental plate *b*, that portion of the strip which

intervenes between said plate *b* and the plate on the back of the valve constituting the hinge of the valve.

Owing to the inclination of the end of the tubular shell D the valve F has a tendency to close against its seat even when the bottle is held at such an inclination that the mouth of the same is depressed to a considerable
60 extent below the body, and the valve is so light and is permitted to open to such a slight extent by reason of its contact with the bore of the stopper B, as shown in Fig. 3, that even if the bottle is held so that the valve is below the seat, as in Fig. 4, the slightest flow
65 of liquid acting on the under side of the valve will close the same against its seat and hold it there, experiment having demonstrated that the refilling of a bottle provided with my
70 improved stopper is practically impossible.

The hollow stopper B is closed at the top by means of a conical cap G, which may be of non-corrosive metal, but which is preferably of porcelain or other ceramic ware and
75 secured to the stopper B in any available manner, as, for instance, by means of an inwardly-projecting neck *f*.

The cap G has openings *i* for the escape of the liquid from the bottle, these openings being preferably inclined, so as to afford no hold for an implement whereby the stopper can be removed from the bottle-neck, the top of the cap projecting inwardly in the form of a central cone *g*.

Surrounding the upper portion of the stopper B is a label I of paper, thin sheet metal, or other material which can be readily torn or severed, and carried by the cap G of the stopper are a pair of cutter-wires which are hooked
90 at the upper ends to engage with openings in the stopper-cap and are sharpened at the lower ends, so that any attempt to withdraw the stopper B will simply result in pulling off the cap G, and with it the cutter-wires *m*, the
95 hooked and sharpened lower ends of the latter cutting and tearing the label I, so as to practically destroy the same and show that the stopper has been tampered with. The label thus acts as a sealing-band, and, being
100 readily visible through the neck of the bottle, any cutting or tearing of the same is at once evident to the observer.

As a modified construction the band I may

be secured to the stopper B and cap G, so as to be torn apart when the cap is removed from the stopper.

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

1. A bottle-stopper consisting of a hollow stopper or plug having a valved opening in the bore of the same, a cap closing the upper end of said bore and having inclined openings and central internal cone to prevent engagement of a withdrawing implement therewith, substantially as specified.

2. A bottle-stopper consisting of a hollow stopper or plug having a valved opening in the bore of the same, a detachable cap closing the end of said bore, and cutters carried by said cap and occupying a position between the plug or stopper and the neck of the bottle, whereby a visible portion of said plug or stopper will be mutilated when the cap is detached therefrom, substantially as specified.

3. A bottle-stopper consisting of a hollow stopper or plug having a valved opening in the bore of the same, a label applied externally to said stopper and constituting a sealing-band visible through the neck of the bottle, and a detachable cap carried by said stopper and serving when removed to mutilate the sealing-band, substantially as specified.

4. A bottle-stopper consisting of a hollow stopper or plug having a valved opening in the bore of the same, a sealing-band on said stopper, a detachable cap, and cutters carried by said cap and adapted to cut the sealing-band when the cap is removed, substantially as specified.

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

EDWIN L. LLOYD.

Witnesses:

FRANK E. BECHTOLD,
JOS. H. KLEIN.