R. BOLLERMAN & D. L. BOLLERMANN.

Bottle-Stopper.

No. 162,346. Patented April 20, 1875.

Fig.1.

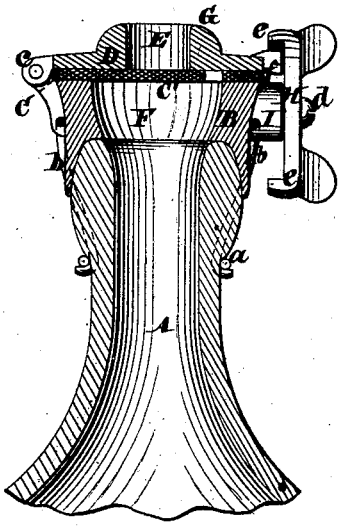


Fig.2.

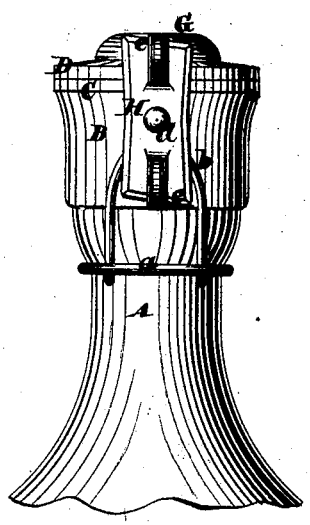
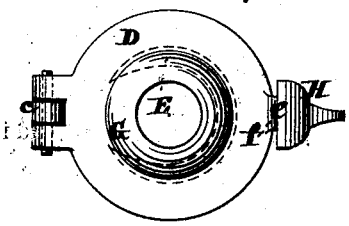


Fig.3.



Witnesses.

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UNITED STATES PATENT OFFICE.

RICHARD BOLLERMAN AND DOMINIK L. BOLLERMANN, OF NEW YORK, N. Y.

IMPROVEMENT IN BOTTLE-STOPPERS.

Specification forming part of Letters Patent No. **162,346**, dated April 20, 1875; application filed April 2, 1875.

To all whom it may concern:

Be it known that we, RICHARD BOLLERMAN and DOMINIK L. BOLLERMANN, both of the city of New York, in the county and State of New York, have invented a certain new and useful Improvement in Bottle-Stoppers, of which the following is a specification:

This invention is illustrated in the accompanying drawing, in which—

Figure 1 shows a vertical section; Fig. 2, a side elevation, and Fig. 3 a plan or top view.

Similar letters indicate corresponding parts.

Our invention relates in particular to stoppers for bottles used for putting up effervescent liquids; and consists mainly in a "flap-valve," combined with a plate which is adapted to be fastened on the mouth of a bottle, and is provided with an inlet-hole, whereby the bottle is adapted to be filled without removing the stopper, while the valve is held shut by the pressure of the contents. It consists, also, in a bottle-shell adapted to be interposed between the valve-plate and the mouth of the bottle, and which forms the connection of the said plate with the bottle, while its interior forms a chamber for the valve to play in. It consists, further, in a peculiar fastening for the valve-plates, consisting of a thumb-button, which is pivoted on the side of the shell that connects the plate to the bottle, and is provided with one or more inclined lips adapted to catch over the edge of the plate, as hereinafter fully set forth.

In the drawing, the letter A designates the neck of a bottle, which is provided with the ordinary neck-wire *a*, and on the mouth of which is fitted a cylindrical shell, B. This shell B is held in place by means of branch wires *b*, connected to the neck-wire *a*, or by any other suitable means, and between it and the bottle may be interposed a packing-ring, in order to insure a tight joint. The bottle-shell B is made with a flat upper surface, in order to form a seat for the flap-valve C, which is composed of a piece of rubber, leather, or other suitable material, so shaped that it has a flap, C′, as indicated in dotted outline in Fig. 3. The said flap-valve C is accurately fitted on the top of the shell, and is held thereon by means of a cap-plate, D, which is connected to the shell, on opposite sides thereof, by means of a hinge-joint, *c*, on one side, and by means of a suitable fastening device on the other side. The valve C is preferably cemented or otherwise secured to the plate D, so that it partakes of a movement thereof, or, in other words, rises from its seat when the plate is raised, in order to admit of discharging the contents of the bottle; but, if desired, the valve may be put loosely in place. In the valve-plate D is formed an inlet-hole, E, of such diameter relatively to the flap of the valve as to leave a shoulder aside of the hole to arrest an outward movement of the valve. The valve is capable of an inward movement, and plays in a chamber, F, formed by the interior of the shell B. The valve-plate D is provided with a nipple, G, which forms a continuation of the hole E, and is adapted to be adjusted under the spout of a bottle-filling apparatus.

When the nipple is thus adjusted, and effervescent or other liquid discharges from the filling apparatus, the discharging liquid displaces the valve C, and passes into the bottle. When the bottle becomes filled the valve C automatically closes, and is held in a closed condition by the outward pressure of the liquid, by which means escape of the liquid is prevented, and the bottle is thereupon rendered fit for transportation.

It will be seen that by this mode of filling the bottle the stopper—that is to say, the valve and its retaining-plate—may be fastened previous to filling the bottle, and the difficulty attending a fastening thereof after the bottle has been filled is obviated.

The valve-plate D is fastened by means of a button, H, which turns on a pivot, *d*, projecting from a stud, I, formed on the side of the bottle-shell. The button H, in this example, has an oblong shape, and it is provided with thumb-ears, by means of which it can be conveniently turned. On one or opposite edges of the button are lips *e*, which are so formed with respect to the valve-plate D that by turning the button one or the other of the lips is caused to catch over and jam the edge of the plate or a lug, *f*, formed thereon, and by this means the plate is firmly held in place. The lips *e* are inclined for part or the whole of their length, as seen in Fig. 2, so that they readily catch over the edge of the valve-plate,

and no great exertion is required to effect this object.

If desired, only one of the lips *e* need be formed on the button H; but we prefer to use two, so that in case one becomes worn or broken the other may be used in its stead.

What we claim as new, and desire to secure by Letters Patent, is—

1. In a bottle-stopper, the combination of the flap-valve C and hinged plate D, which is adapted to be fastened on the mouth of a bottle, and is provided with an inlet-hole, E, substantially as described.

2. In combination with the plate D and flap-valve C, the shell F, adapted to be fastened on the mouth of a bottle, substantially as described.

3. The thumb-button H, provided with one or more inclined lips, *f*, in combination with the shell E and plate D, substantially as described.

In testimony that we claim the foregoing we have hereunto set our hands and seals this 25th day of March, 1875.

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Witnesses:
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