H. J. COLE.

SIPHON TAP AND STOPPER FOR AERATED LIQUID BOTTLES.

No. 185,853. Patented Jan. 2, 1877.

Fig. 1.

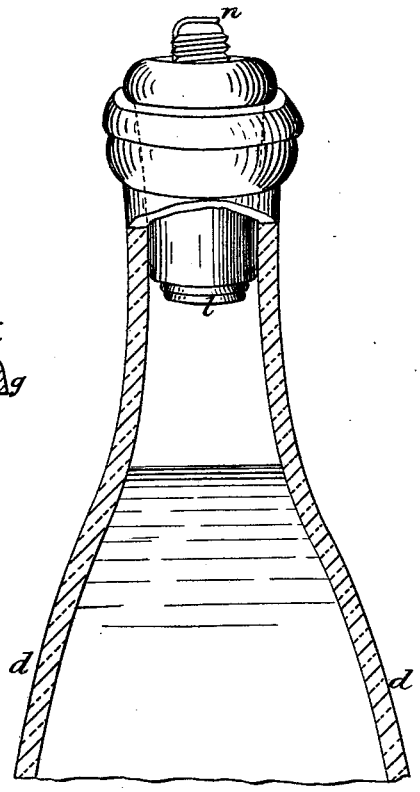


Fig. 2.

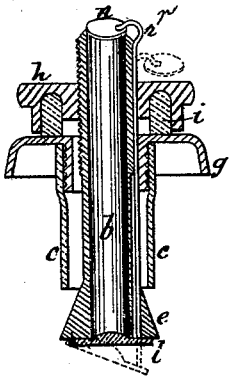


Fig. 3.

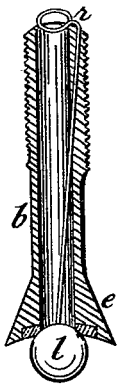


Fig. 4.

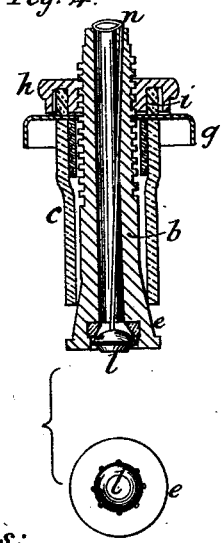
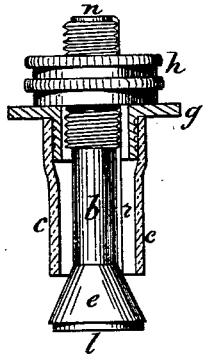


Fig. 5.



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UNITED STATES PATENT OFFICE.

HENRY JAMES COLE, OF WANDSWORTH ROAD, ENGLAND.

IMPROVEMENT IN SIPHON-TAP AND STOPPER FOR AERATED-LIQUID BOTTLES

Specification forming part of Letters Patent No. **185,853**, dated January 2, 1877; application filed November 3, 1876.

To all whom it may concern:

Be it known that I, HENRY JAMES COLE, of Wandsworth Road, in the county of Surrey, England, have invented an Improved Siphon-Tap and Stopper for Aerated-Liquid Bottles, of which the following is a specification:

My invention relates to forming a hollow plug so as to fit the neck of the bottle to which it is to be applied. Near the top of the plug it is formed with a collar, which rests upon the top of the bottle-neck, and so supports the hollow plug within the latter. Beneath the collar the hollow plug is surrounded with india-rubber, cork, or other elastic material, so as to make the hollow plug fit the interior of the bottle-neck in a perfectly air-tight manner. The bottom of the hollow plug is closed by a valve formed of a piece of any elastic material secured at one side to the bottom of the plug, while the other side is acted upon by a wire which leads from the top of the hollow plug to the valve.

The top of the hollow plug may be screw-threaded, so as to receive a nut by which it may be drawn up well within the bottle-neck, and securely held in its place. The top of the wire projects from the top of the plug, and is suitably formed to be turned by the finger, or in any convenient manner.

By my invention, when it is desired to remove any portion of the aerated liquid, the wire is pushed down, thus opening the valve when the aerated liquid will flow out, and this flow may be immediately stopped by releasing the wire, when the valve will be immediately closed, and of course completely shut off the liquid.

Figure 1 represents a bottle, *d*, with the appliance in another form, the tube *a* and the head *j* being in this case dispensed with, and the valve *l* fitted to act against the bottom of the tube *b*, which valve *l* can, by a partial rotation of the button *n* and a depression of it, be removed from its seating, as shown in Figs. 2, 3, 4, and 5. The button *n* may, in this form, be a flat plate to cover the top opening of the tube *b;* or it may be simply a ring at the end of the wire *r*, through which the valve *l* is operated for opening the passage. The plate or the ring *n*, when turned over the mouth of the tube *b*, prevents the valve being accidentally opened, the pressure of gas within the bottle being at all times sufficient to keep it to its seating.

In Fig. 2 I have shown the valve *l* as flat with a bulb in the center, and in Fig. 3 as a sphere to insure a close touch on the seating, which may be of rubber or other soft yielding material. Fig. 4 is a section of Fig. 5, the valve *l* in this being of half-round form, and guided within the base of the tube *b*.

The wire *r* may be outside the tube *b* and through the cone, as in Fig. 2, or through the wall of the tube, as in Figs. 3 and 4, as desired, the wire by this means being kept vertical.

I claim as my invention—

1. A bottle stopper, provided with an elastic packing, *c*, and a tube, *b*, having a cone, *e*, for expanding the packing, in combination with a valve, *l*, having a wire or rod, *n*, for operating the same, all substantially as shown and described.

2. The tube *b*, having the cone *e* on its lower end, in combination with the elastic packing *c* and a screw-cap, *h*, for tightening the same, all constructed and arranged to operate substantially as set forth.

HENRY JAMES COLE.

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