

No. 650,250.

Patented May 22, 1900.

T. HOWARD.
BOTTLE STOPPER.

(Application filed Mar. 14, 1900.)

(No Model.)

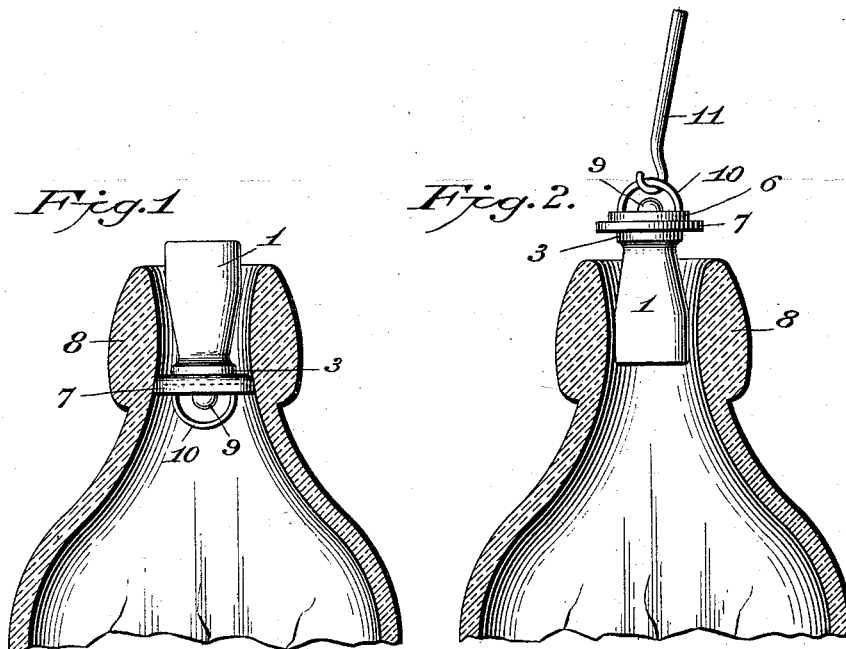


Fig. 3.

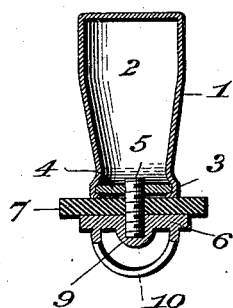


Fig. 4.

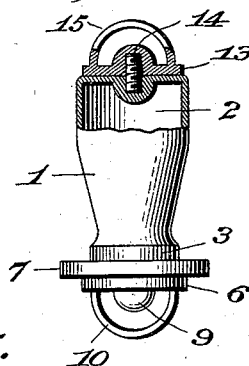
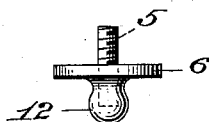


Fig. 5.



Witnesses
L. S. Elliott.
J. M. Koppenhaver.

Inventor
Thomas Howard
By Percy B. Hille.
Attorney

UNITED STATES PATENT OFFICE.

THOMAS HOWARD, OF ASHLAND, KENTUCKY, ASSIGNOR OF ONE-HALF TO
WILLIAM S. HARRISON, OF LOUISVILLE, KENTUCKY.

BOTTLE-STOPPER.

SPECIFICATION forming part of Letters Patent No. 650,250, dated May 22, 1900.

Application filed March 14, 1900. Serial No. 8,623. (No model.)

To all whom it may concern:

Be it known that I, THOMAS HOWARD, a citizen of the United States, residing at Ashland, in the county of Boyd, State of Kentucky, have invented new and useful Improvements in Bottle-Stoppers, of which the following is a specification.

My invention relates to bottle-stoppers of the type wherein the sealing is effected by means of a flexible disk jammed against the inner wall of the bottle-neck, and has for its object to provide certain improvements over the construction disclosed in Letters Patent No. 613,066, granted to me October 25, 1898.

In said Letters Patent there is disclosed a stopper of the character above described having an air-chamber formed in the body thereof for the purpose therein described; but it has been found that the joint uniting the two sections of said stopper does not prevent access of liquid to the air-chamber therein, and it is this defect that my present invention is designed, primarily, to obviate, which I accomplish by forming the opening into the air-chamber at the point where the flexible sealing-disk is located, the latter thus performing the double function of sealing the neck of the bottle and sealing the air-chamber in the stopper against access of liquid.

Certain other minor improvements are also embraced in my present construction, all of which will be definitely pointed out in the description and disclosed in the accompanying drawings, in which—

Figure 1 is a sectional view of a part of a bottle, showing my improved stopper applied thereto in the stoppered position. Fig. 2 is a similar view showing said stopper reversed and in the act of being removed from the bottle-neck. Fig. 3 is a longitudinal sectional view of my improved stopper. Fig. 4 is a view, partly in side elevation and partly in longitudinal section, showing a slight modification; and Fig. 5 is a detail elevation of still another modification.

Similar numerals of reference denote corresponding parts in the several views.

As shown more particularly in Fig. 3, my improved stopper is formed of a hollow main

or body portion 1, containing an air-chamber 2, the lower open end of which is preferably swaged at 3 around a disk 4, having a central screw-threaded aperture therein. Detachably fastened to said body portion 1, by means of a screw 5 engaging the threaded aperture in the disk 4, is a cap 6, between which and the body portion 1 is confined the elastic sealing-disk 7, it being observed that the diameter of said cap 6 is somewhat larger than is the diameter of the swaged portion 3 of said body portion 1, as is usual in stoppers of this construction in order that the stopper may be inserted into the bottle-neck 8 with the cap 6 downward, but cannot be withdrawn therefrom until the stopper is reversed and the cap 6 is upward.

As shown, the cap 6 is provided with an enlargement 9, into which the screw 5 projects, though the same is not essential, as the screw 5 may be formed integral with the cap 6, it being necessary only that said screw shall not project through the cap in order that the liquid may not follow the thread of said screw and thus enter the air-chamber 2. For convenience in removing the stopper from the bottle I preferably form on said cap 6 a bridge 10, with which to engage a suitable hook 11 for withdrawing said stopper reversed from the bottle, as shown in Fig. 2, though, if desired, I may dispense with said bridge and extend the enlargement 9, as shown in Fig. 5, into a knot 12, adapted to be engaged by a suitable bifurcated hook, as will be readily understood.

It is sometimes desired to provide a means for engaging the upper end of the stopper in order to temporarily uncork a bottle, and this I accomplish by providing a cap 13 on the upper end of said stopper, the same being attached thereto by means of a screw 14 and being provided with a bridge 15, as shown in Fig. 4, though said bridge may be dispensed with and a knob, such as shown at 12, employed.

The material of which the stopper is composed may be some light metal, such as aluminium, or some such material as hard or vulcanized rubber, the air-chamber 2 af-

fording the necessary buoyancy and providing that the stopper will automatically assume the position shown in Figs. 1, 3, and 4, whereby it automatically corks the bottle
5 when filled with aerated liquid.

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

1. A bottle-stopper formed in two parts detachably connected together and provided with an air-chamber therein, having a sealing-disk retained between said parts, said disk at the same time sealing the air-chamber against ingress of liquid, substantially as set
15 forth.

2. In a bottle-stopper, the combination with a body portion formed with an air-chamber and open at one end, of a cap detachably uniting with said open end, and a sealing-disk retained between said body portion and
20 cap and adapted to seal the bottle and also the air-chamber in said body portion, substantially as set forth.

3. In a bottle-stopper, the combination
25 with a body portion formed with an air-chamber and open at one end, of a cap adapted to screw into said open end, and a sealing-disk retained between said body portion and cap

and adapted to seal the bottle and also the air-chamber, substantially as set forth. 30

4. In a bottle-stopper, the combination with a body portion formed with an air-chamber and open at one end, of a cap detachably uniting with said open end, a sealing-disk retained between said body portion and cap and
35 adapted to seal the bottle and also the air-chamber in said body portion, and means on said cap for engaging therewith to withdraw said stopper from the bottle, substantially as set forth. 40

5. In a bottle-stopper, the combination with a body portion formed with an air-chamber and open at one end, of a cap detachably uniting with said open end, a sealing-disk retained between said body portion and cap and
45 adapted to seal the bottle and also the air-chamber in said body portion, and means on said body portion and cap for engaging with either end thereof, substantially as set forth.

In testimony whereof I have hereunto set
50 my hand in the presence of two subscribing witnesses.

THOMAS HOWARD.

Witnesses:

M. I. NEWMAN,
S. E. BAGLEY.