(No Model.)

R. H. BROWN, Jr.

BOTTLE.

No. 469,677. Patented Mar. 1, 1892.

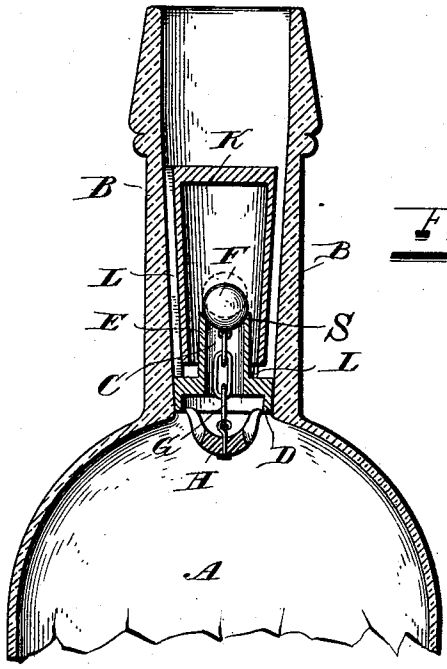


Fig. 1.

Fig. 2.

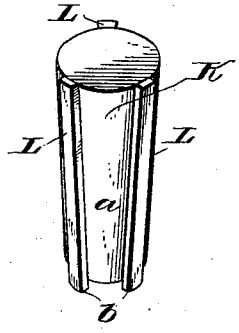


Fig. 3.

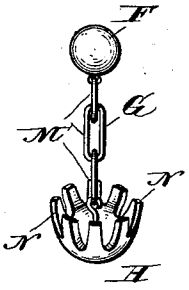
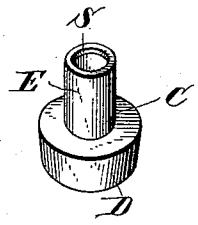


Fig. 4.



Witnesses.
J. Thomson Cross
George Schott

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UNITED STATES PATENT OFFICE.

ROBERT H. BROWN, JR., OF RISING SUN, INDIANA.

BOTTLE.

SPECIFICATION forming part of Letters Patent No. 469,677, dated March 1, 1892.

Application filed February 19, 1891. Serial No. 382,115. (No model.)

To all whom it may concern:

Be it known that I, ROBERT H. BROWN, JR., a citizen of the United States, residing at Rising Sun, in the county of Ohio and State of Indiana, have invented a new and useful Improvement in Bottle-Stoppers, of which the following is a specification.

The object of my invention is to provide a bottle-stopper which when placed in the neck of the bottle will prevent the refilling of the bottle, however being so constructed that the contents of the bottle can always find egress. The bottle-stopper is permanently located in the neck of the bottle.

In the accompanying drawings, forming a part of this specification, Figure 1 is a section of the upper part and neck of a bottle, showing my improved bottle-stopper in position in the neck of the bottle, the whole being in section. Fig. 2 is a view in elevation of a cap, which is placed over the valve of the bottle-stopper. Fig. 3 is a view of the valve mechanism of the bottle-stopper in elevation, and Fig. 4 a view in elevation of the valve-seat and valve-chamber of the bottle-stopper.

A represents the body of the bottle, and B the neck of the bottle. The opening in the neck of the bottle is preferably widest at the top and grows narrower as it proceeds downward.

C represents the valve-support, preferably of the shape shown—that is, having a base D and neck E—the base being slightly tapered downward.

F represents the valve, G a valve chain or stem, and H the weight.

K represents a cap or hood provided with ribs L. This cap is preferably of the shape shown—that is, cylindrical and tapering downward, open at its lower end and closed at the top.

The valve F is preferably of a ball shape and made of rubber, and preferably connected to the weight H through the medium of links, as M, so as to form a slightly-yielding connection. The weight H is preferably shaped as shown, having openings between the projections N, so as to allow the liquid to pass into the valve-chamber from the bottle. The chain G is connected to the valve and weight in any suitable manner. This weight keeps the valve in position.

The cap or hood K, weight H, and valve-support C are preferably made of pressed glass. They may, however, be made of any other material and of any other desired shape. The valve-support C of the bottle-stopper rests in the neck of the bottle where the neck connects with the body of the bottle. The valve F rests on the valve-seat S of the valve-support, the weight H being suspended from the valve, as shown in Fig. 1. The cap K is placed over the valve and the neck E of the valve-support, the ribs L impinging against the walls of the neck of the bottle, the ribs being extended below the lower part of the cap to form feet *b*, which rest on base D of the valve-support.

The bottle-stopper is usually placed in the bottle as follows: The bottle is filled. Soluble glass, rubber, cement, or any other highly-adhesive substance is placed around the periphery of the base D of the valve-chamber C, and it, (the valve-support,) carrying the valve and weight, is dropped down into the neck of the bottle, wedging itself into position, as shown in Fig. 1. Soluble glass or its equivalent is also placed on the ribs L of cap K, and it is forced down until the feet *b* of the ribs rest on the base D of the valve-support C, as shown in Fig. 1, thus centering the same in the bottle-neck. The soluble glass or cement becomes so hard that it forms an air-tight connection. In fact, it becomes so hard that it becomes part of the bottle, and the bottle-stopper could only be removed by breaking the bottle. The device operates as follows: The valve is closed and the bottle-stopper is in a normal position, as shown in Fig. 1. When the bottle is tilted sufficiently, the liquid in the bottle passes through the apertures in the weight H into the valve-support C and against the valve F, raising it, as shown in dotted lines in Fig. 1. The liquid then passes out through the valve into the cap K, from which the liquid passes down through the space between the neck E of the valve-support C and the walls of the cap K and then out through the spaces *a*, left between the ribs L of the cap and the inside face of the neck of the bottle and thus gaining its liberty. As soon as the bottle is tilted back the valve finds its seat, the weight assisting. It will readily be seen that it is impossible to refill the bottle, as the

valve F is constantly hugging its seat. Consequently no liquid can enter. Should the bottle be tilted to a position at which the valve of the bottle-stopper would leave its seat, or should the valve be shaken off its seat and liquid forced into the neck of the bottle, the liquid would force the valve back on its seat, as it is light, and the weight would assist it. Consequently no liquid could be forced into the bottle.

The various parts comprising the device may be made of any other shape than that shown and may be made of any other material than that herein described. The neck of the bottle may be differently shaped and also ground on its inner face to make the connection between the soluble glass on the bottle-stopper and the neck of the bottle more perfect.

What I claim as new and of my invention, and desire to secure by Letters Patent, is—

1. In combination with the neck of a bottle, a valve-support seating and a weighted valve extending into a cap K, said cap being provided with ribs which center the cap in the bottle-neck, said ribs resting on the base of the valve-support, all combined substantially as set forth.

2. In combination with the neck of a bottle, a valve-support seating extending up into a cap K, a valve supported upon said seating, said valve carrying a weight, as set forth, and a ribbed cap K, centered in the bottle-neck by means of said ribs, said ribs resting on the base of the valve-support, substantially as set forth.

ROBERT H. BROWN, JR.

Witnesses:
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