

(No Model.)

J. W. SIMONS.
VALVE STOPPER FOR BOTTLES.

No. 573,490.

Patented Dec. 22, 1896.

Fig. I.

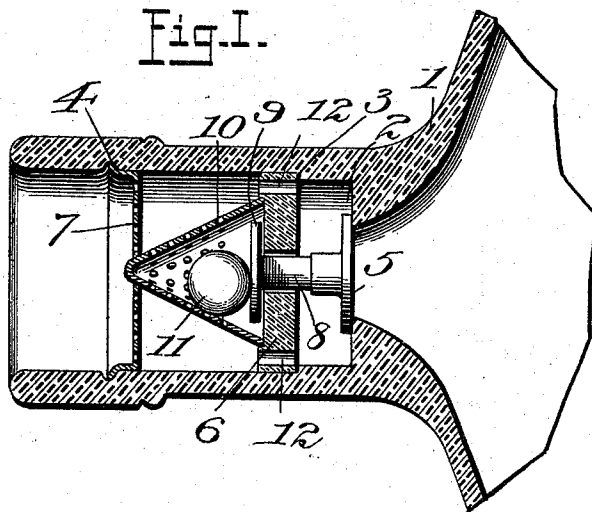


Fig. II.

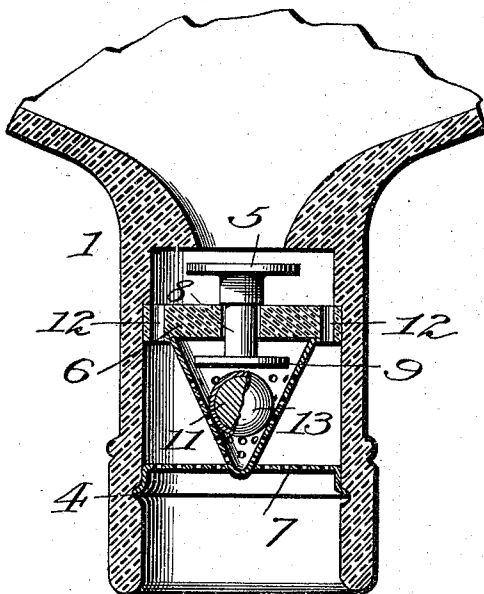


Fig. III.

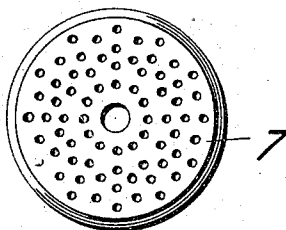
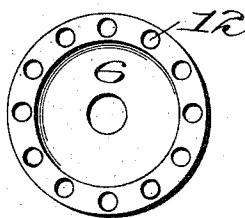


Fig. IV.



Witnesses
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UNITED STATES PATENT OFFICE.

JOSEPH W. SIMONS, OF PORT CHESTER, NEW YORK.

VALVE-STOPPER FOR BOTTLES.

SPECIFICATION forming part of Letters Patent No. 573,490, dated December 22, 1896.

Application filed April 7, 1896. Serial No. 586,506. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH W. SIMONS, a citizen of the United States, residing at Port Chester, in the county of Westchester and State of New York, have invented a new and useful Improvement in Valve-Stoppers for Bottles; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, in which—

Figure I is a longitudinal vertical section of the neck of a bottle turned on its side, showing internal devices arranged according to my invention. Fig. II is a longitudinal vertical section of a similar neck inverted. Figs. III and IV are face views of disks located in the neck of the bottle.

This invention relates to that class of bottles which are used by manufacturers to contain for sale to dealers choice brands of liquors in small quantities; and its object is to provide means for using the liquor out of the bottle from time to time as may be required in retailing it and yet to prevent such a bottle from being refilled by the retailer, in order that the manufacturer may be protected from the tricks of unscrupulous dealers who would otherwise refill bottles with an inferior grade of liquors and sell it under the manufacturer's title, greatly to the injury of the manufacturer's reputation.

To this end my invention consists in the construction and combination of parts forming a "valve-stopper for bottles," as herein- after described, and particularly pointed out in the claims.

1 represents the neck of the bottle, shaped with two inward-projecting ledges 2 and 3 and an interior circumferential groove 4. The ledge 2 is to serve as a seat for the valve 5. The ledge 3 serves as a seat for permanent lodgment of the valve-stem guiding-disk 6 and the groove 4 serves as a seat in which to anchor the outer edge of the sealing-cup 7. The stem 8 of the valve 5 is fitted to slide freely through the guiding-disk 6 and is provided with a cap 9.

10 represents a hollow cone whose base rests in a ring depressed in the outer face of the disk 6, and whose apex rests in a central aperture in the bottom of the cup 7.

11 represents a spherical weight or heavy

ball left free within the cone 10 to rest upon the cap 9 when the bottle is in an upright position, as seen in Fig. I when the drawing is turned upon its right-hand edge. The valve 5 with its stem and cap will be made as light as practicable and the ball 11 will be made as heavy as practicable, so that when the bottle is turned upon one side the ball will roll down the incline of the cone 10 against the cap 9 until the bottle is tipped up so far that the said lower side of the cone 10 passes the horizontal position and its outer end inclines downward, when the ball will roll by gravity away from the cap 9, leaving the valve at liberty to open by either its own weight or by the weight of the contents of the bottle now inverted, as shown in Fig. II. Beyond the circumference of the cone 10 the disk 6 and cup 7 are perforated, as shown at 12 and 14, to permit the outflow of the contents of the bottle, the perforations through the disk being large or of any convenient size, while those in the bottom of the cup 7 are very small to prevent the introduction of any instrument whereby the valve could be held open for the purpose of refilling the bottle. Should it be found necessary to ventilate the chamber within the cone 10 in order that the valve may play freely, it may be done by making fine perforations through the sides of the cone above the path of the valve-cap 9.

In order that the whole device may be made as cheaply as possible, I would prefer glass as the material for making all the parts except the cup 7, and for that I would recommend copper, because its upper edge is to be flared out and very firmly anchored in the groove 4 after the other parts have been put into place. If the work of pressing the edge of the cup into the groove is thoroughly done, it will be impossible to remove the cup without damage to it or breaking the bottle. Therefore this cup becomes a seal to the bottle. Outside of the cup a cork may be placed in the mouth of the bottle, as usual. If it should be found necessary, the ball 11 may be made of lead or other heavy metal; but in that case I would recommend that the ball be glazed or its surface covered with a coating of rubber 13, the latter being preferable because it will serve as a cushion to prevent the ball from breaking its glass surroundings

by rough usage. The valve 5 being located in a chamber of which the only outlet is through the edges of the disk 6, and this disk being located at a considerable distance within the neck of the bottle below the cup 7, through the fine perforations in the bottom of which is the only outlet to the bottle, it will be nearly impossible to insert a wire or any implement through both the cup and the disk to hold the valve 5 raised against the action of the ball 11 for the purpose of refilling the bottle, and the ball 11 and the valve-cap 9 being within the chamber formed by the cone 10, whose openings, if there are any, will be nearly horizontal and above the cap 9, it will be nearly impossible to insert any instrument that will hold the valve open by means of the said cap. As this valve will stay closed by the action of the ball until the bottle is so nearly inverted that the air would not pass out of it on account of the slight difference of pressure due to the difference of level between the two sides of the mouth, therefore any process of refilling it would be so extremely slow as to be entirely unprofitable. Therefore it is thought that by means of this bottle-stopper the manufacturer of liquor and his patrons will be protected from imposition and fraud.

30 Having thus fully described my invention, what I believe to be new, and desire to secure by Letters Patent, is the following:

1. The combination of a bottle having in its neck two ledges and a circumferential groove; a disk permanently fitted upon one of the ledges and having an aperture through its center and a number of apertures near its circumference and further having an annular indentation in its outer face; a hollow cone fitted to rest its base in the said indentation; a cup-shaped portion flanged outward to permanently engage the neck of the bottle in the aforesaid circumferential groove and perforated through its bottom; a valve fitted to the inner one of the aforesaid ledges as a seat and having a stem engaging the central aperture of the said disk as a sliding bearing, the said stems being provided with a cap, and a spherical weight located free within the said cone and upon the said cap, substantially as described.

2. The combination of a bottle-neck; a valve and seat therein; a hollow cone with its opening toward the valve and a spherical weight of heavy material covered with a cushion such as soft rubber, located within the cone to engage the outer side of the valve, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JOSEPH W. SIMONS.

Witnesses:

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