

(No Model.)

J. H. GAULT & C. F. SCHRADER.
VALVE STOPPER FOR BOTTLES.

No. 522,203.

Patented July 3, 1894.

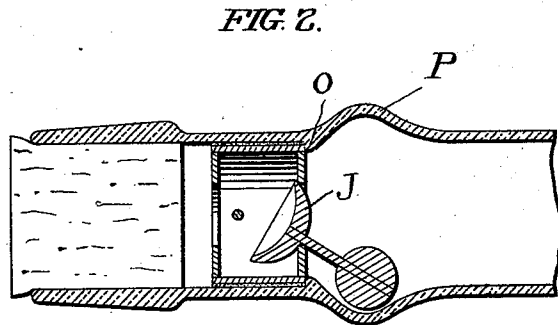
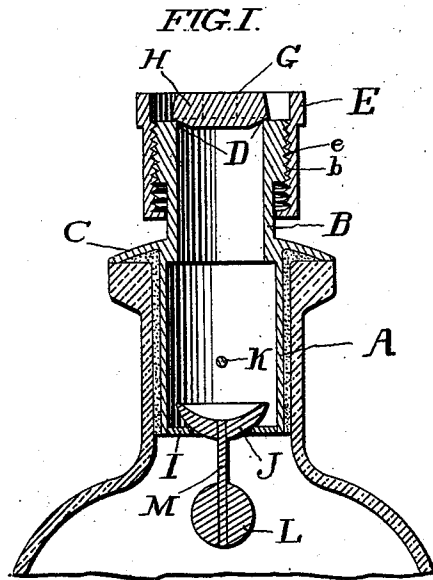
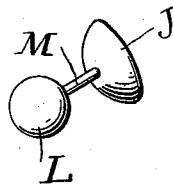


FIG. 3.



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UNITED STATES PATENT OFFICE.

JOHN H. GAULT AND CHARLES F. SCHRADER, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNORS TO SALMON B. ROWLEY, OF SAME PLACE.

VALVE-STOPPER FOR BOTTLES.

SPECIFICATION forming part of Letters Patent No. 522,203, dated July 3, 1894.

Application filed April 20, 1894. Serial No. 508,300. (No model.)

To all whom it may concern:

Be it known that we, JOHN H. GAULT and CHARLES F. SCHRADER, citizens of the United States, residing at Philadelphia, county of Philadelphia, and State of Pennsylvania, have invented a new and useful Improvement in Valve-Stoppers for Bottles, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, which form a part of this specification.

Our invention relates to valve stoppers for bottles. It is designed to be cemented or otherwise permanently secured within the neck of a bottle adapted to contain liquor or other liquid, after the same has been filled, and is so constructed as to permit the contents of the bottle to be readily poured out while it effectually prevents the filling of the same so long as the stopper remains in the bottle.

It consists broadly, of an attachment to a curved valve stopper whereby the latter is made operative for the purpose of preventing refilling under conditions where it has heretofore failed to accomplish this object.

The construction and operation of our invention will be fully described in the specification and pointed out in the claim.

In the drawings: Figure 1 represents, in sectional side elevation, the top of a bottle with our improved stopper inserted therein. Fig. 2 is a similar view, showing our invention as applied to a modified form of stopper, and illustrating the position of the same when the bottle is disposed in a horizontal position. Fig. 3 illustrates a detached view of the curved gravity valve with our invention applied thereto.

In the form shown in Fig. 1, A represents the lower valve shell. B represents the narrower upper valve shell having the flange C, which, when the lower valve shell is welded or otherwise secured to it, forms an internal flange at the upper end of the lower valve shell extending to the wall of the upper valve shell. The upper valve shell B is enlarged at its upper end and has the valve seat D. The screw valve E having the internal screw thread *e* adapted to engage the external thread *b* on the valve shell B, has its open top spanned by the cross-piece G, enlarged centrally to form the disk or valve proper H, adapted to fit over

and close the opening to shell B when the valve is screwed down upon it. After the bottle is filled, the shell A is cemented or otherwise permanently secured to the neck of the bottle, while the flange C engages the top of the neck. Extending between opposite sides of the inner wall of the shell A is the cross-piece K. The shell A has the inwardly projecting flange I forming the seat for valve J. This valve J may be made in the form of a ball, or in the form, as I have shown it, of a semi-spherical or concavo-convex shell.

Assuming the screw valve to be open, inversion of the bottle will cause the valve J to drop by gravity onto the cross-piece K, permitting free passage of the contained liquor through the valve opening. When the bottle is placed in an upright position, the valve J closes and no liquor can be introduced into the bottle. However, by immersing the bottle in a vessel containing liquor and laying it in a horizontal position, the valve J will drop against the wall of the chamber A between the valve opening and the rod K, opening the valve and permitting the liquor to slowly fill the bottle. The device, so far as we have described it, is thus inoperative to prevent the refilling of the bottle and is practically worthless as a protection against the refilling, with an inferior brand of liquor, of bottles originally containing a superior brand and labeled accordingly.

To enable this device and other similar devices to which it may be applied to accomplish its purpose under all conditions is the object of our invention. To this end we attach to the valve J a weight, preferably a ball L, preferably connected with the valve J by the rod M. Now, assuming the bottle to be placed in a horizontal position, as in Fig. 2, the ball L will drop, draw the valve J against the valve seat and close the valve. The bottle may even be tilted at an angle to the horizontal, with the neck downward, and the weight of the ball L will still operate to close the valve. The bottle must be held in a nearly upright position to open the valve.

The valve E and valve shell B may be dispensed with and a cork or other stopper inserted into the neck above the shell A. This modification is illustrated in Fig. 2. In this

construction, a shoulder O, formed in the neck of the bottle, may take the place of the flange C, to limit the extent of insertion of the shell A. In case the neck of the bottle is long and narrow, as in this figure, it should be formed with a bulging part P, located immediately opposite the ball or weight L, to permit the latter to drop a sufficient distance to pull the valve J against its seat.

10 Having now fully described our invention, what we claim, and desire to protect by Letters Patent, is—

15 In a valve stopper, the combination with a valve shell having a flat or disk-like bottom provided with a valve opening and a valve seat,

and a concavo-convex valve loosely contained in said shell and adapted to close said opening, of a weighted rod external to said shell and connected with said valve, said weighted rod being adapted to swing downward and at an angle to the length of the bottle when the latter is caused to assume a horizontal position, substantially as described.

In testimony of which invention we have hereunto set our hands.

JOHN H. GAULT.

CHARLES F. SCHRADER.

Witnesses:

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