

(No Model.)

S. C. ROWELL.
BOTTLE.

No. 579,684.

Patented Mar. 30, 1897.

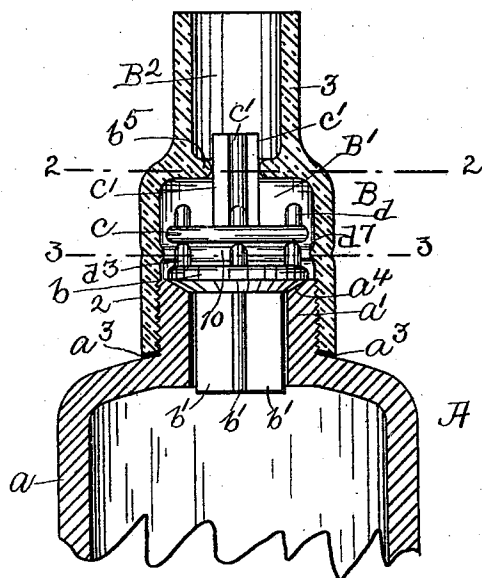


Fig. 1.

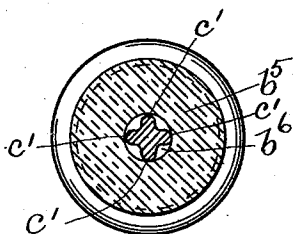


Fig. 2.

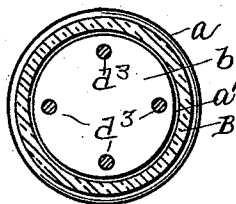


Fig. 3.

WITNESSES.

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SAMUEL C. ROWELL, OF BOSTON, MASSACHUSETTS, ASSIGNOR OF ONE-FOURTH TO EDWARD ELLIS AND HENRY D. DUPEE, OF SAME PLACE.

BOTTLE.

SPECIFICATION forming part of Letters Patent No. 579,684, dated March 30, 1897.

Application filed September 10, 1895. Serial No. 562,042. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL C. ROWELL, a citizen of the United States, residing in Boston, in the county of Suffolk and State of Massachusetts, have invented an Improvement in Bottles, of which the following description, in connection with the accompanying drawings, is a specification, like letters and figures on the drawings representing like parts.

This invention has for its object to provide a bottle which is not capable of being refilled after once being emptied without destroying the bottle, the said bottle being especially adapted to contain the higher grades or kinds of spirituous liquors—such, for instance, as whisky—and is also applicable for holding the higher grades or classes of perfumes and other liquid substances.

In accordance with this invention the bottle is provided with a neck portion which is normally separated from the body portion of the bottle, but which is adapted to be fastened or sealed thereto in such manner as to securely fasten the neck portion to the body portion, so as to prevent the neck portion being detached from the body portion without being broken, and thereby without destroying the bottle.

The body portion is provided with, preferably, a substantially small neck portion which is integral with the body and which is preferably beveled to form a seat for the beveled underside of a valve, having on its under side a stem which projects toward the body of the bottle and forms a guide for the valve in its movement.

The separate neck portion of the bottle is adapted to be fitted over the neck portion integral with the body, and preferably will be screw-threaded thereon and then sealed in a manner as will be described, and the said separate neck portion is preferably provided with an annular inwardly-projecting flange which forms, with the neck portion of the bottle below it, a chamber in which the valve is located.

The annular flange referred to is preferably provided with a substantially central opening, into which extends a stem or rod on a movable guard or piston, preferably provided

on its upper surface with one or more nubs or projections, which are adapted to be brought into contact with the under side of the inwardly-projecting flange to limit the outward movement of the said guard or piston and thereby leave clearance sufficient for the unobstructed flow of the liquid.

The guard or piston, preferably annular in shape, is designed to be separated from the valve by one or more projections preferably attached to the upper face of the valve, so that in the normal or upright position of the bottle the guard or piston will preferably rest upon the said projection or projections and form an auxiliary chamber between the guard and the valve for a purpose as will be described.

The separate neck portion of the bottle may and preferably will be provided with an annular inwardly-projecting bead for a purpose as will be described.

These and other features of this invention will be pointed out in the claim at the end of this specification.

Figure 1 is a vertical section and elevation of a sufficient portion of a bottle embodying this invention to enable it to be understood, the valve and the guard or piston being shown in elevation; Fig. 2, a sectional detail on the line 2 2, Fig. 1, looking downward; and Fig. 3, a sectional detail on the line 3 3, Fig. 1, looking downward.

Referring to Fig. 1, A represents a bottle or other suitable vessel, which may and preferably will be made of glass, and which in accordance with this invention consists of the body portion *a*, a preferably substantially short neck portion *a'*, and an extended neck portion B, which latter is made separate from the neck portion *a'*, but is adapted to be secured and to be firmly locked thereto in any suitable or desired manner. In the present instance the substantially short neck *a'* is represented as provided with screw-threads on its outer circumference, and the extended neck portion B is represented as provided with corresponding screw-threads on its interior circumference at its lower end, which engage the screw-threads on the neck *a'*. The extension B of the neck may be firmly secured to the short neck *a'* by cementing the

lower end of the neck B to the body *a*, as represented by the heavy black line *a*³, Fig. 1.

The upper end of the neck portion *a'* is preferably beveled, as at *a*⁴, to form a seat for the beveled under side of a valve *b*, preferably a disk or annular plate, having secured to or forming part of its under side a stem, herein represented as composed of four ribs or wings *b*¹, (see Fig. 1,) which fit the neck portion *a'* somewhat snugly, so as to form a guide for the valve.

The valve *b* made be made of any suitable or desired material—such, for instance, as wood, cork, glass, or other material which will not affect the taste of the liquid—but I prefer to make the same of wood, cork, or other buoyant material.

The extended neck portion B may and preferably will be made of two diameters, the lower portion 2 being of sufficiently large diameter to fit over the neck portion *a'* and form the valve-chamber B¹, and the upper portion 3 being of narrower diameter to form a cork-receiving chamber B², into which is inserted the usual cork. (Not herein shown.)

The neck portion B is provided with an inwardly-projecting annular flange *b*⁵, having a substantially central opening *b*⁶, by which communication is established between the valve-chamber B¹ and the cork-receiving chamber B², and the said valve-chamber also contains within it a preferably annular imperforate plate or disk *c*, constituting a guard or piston, as will be described, which is provided with a stem or rod preferably composed of wings *c*¹, which extend into the opening *b*⁶ and fit into the same somewhat snugly to guide the piston or guard in its movement.

The guard or piston *c* prevents access to the valve by means of a wire inserted through the opening *b*⁶, and when the bottle is tipped, as in the act of pouring the liquid, the guard is prevented from making a close contact with the flange *b*⁵, so as to leave sufficient space between the said guard and the flange to obtain a free discharge or flow of the liquid out of the bottle. The guard or piston *c* may and preferably will be held away from the flange *b*⁵ by one or more nubs or projections *d*, preferably secured to or forming part of the guard or piston.

The guard or piston *c* in the normal or upright position of the bottle (represented in Fig. 1) is held away from the valve *b* by one or more projections or nubs *d*³, herein shown as secured to or forming part of the valve, but which may be attached to the under side of the guard or piston. These nubs or projections *d*³ separate the guard or piston and the valve and form a chamber 10 between them for a purpose as will be described.

To still further guard against reaching the valve by the insertion of a wire through the opening *b*⁶, I prefer to provide the lower portion 2 of the neck B with an inwardly-extended bead *d*⁷, which may also be utilized to limit the movement of the valve from its seat.

In operation the bottle is filled before the neck B and the valve and guard are placed in position, and after the bottle is filled and the valve is placed on its seat the neck B is screwed upon the projection or neck portion *a'*, the guard *c* having been placed within the neck B. The neck B is sealed to the bottle by means of soluble glass applied to the threaded neck *a'* or by the cement *a*³ or by any other suitable material, and when the seal has set the bottle may be closed by the usual cork inserted into the upper portion of the neck B. The bottle is then ready for use, and when the cork is withdrawn in the usual manner the liquid contents may be poured out of the bottle until emptied.

When the bottle is tipped in the act of pouring, the guard or piston *c* is moved toward the flange *b*⁵ and the valve *b* follows the guard, leaving its port uncovered for the flow of liquid out from the bottle. When the bottle is emptied, it cannot be refilled by inverting the bottle, as the flow of liquid into the valve-chamber will pass into the space or chamber 10 between the valve and the piston or guard, and, acting against the guard or piston, which at such time is stationary, will force the valve to its seat, and more especially if the valve is of wood or cork, as its buoyancy will carry it up to its seat. Pressure applied to the liquid with the bottle inverted will also seat the valve. If the bottle is turned on its side and immersed in the liquid, the latter will flow into the chamber or space 10 between the valve and the guard and will seat the valve.

If a vacuum is produced in the bottle, the liquid admitted into the neck portion will flow into the space or chamber 10 between the valve and its guard, and the valve being unbalanced will be closed by the inflowing liquid. It will thus be seen that the valve *b* is unbalanced and that the guard or piston acts as an abutment for the liquid between it and the valve, and consequently the said liquid exerts pressure on the valve and seats the same. The guard also prevents the lifting of the valve from its seat by a fine wire, as the latter would be deflected and bent so as to prevent its being guided past the edge of the guard, and in case the wire should be successfully guided by the edge of the guard it would be again deflected from its course by the bead *d*⁷.

I claim—

In a non-fillable bottle, the combination of the following instrumentalities, viz: a body portion provided with a substantially small neck portion *a'*, an extended neck portion normally separate from the body portion but firmly secured thereto over the substantially short neck portion *a'* and provided with an inwardly-extended flange forming a discharge-opening for the bottle and coöperating with the substantially short neck portion to form a valve-chamber, a substantially flat valve provided on one face with a winged or

ribbed stem extended into the short neck portion and having on its opposite face a nub or projection d^3 , an imperforate substantially flat disk or guard c located in the valve-chamber and provided on one face with a stem extended up into the discharge-opening formed by the said inwardly-extended flange, and having on the same face a nub or projection to engage the said inwardly-extended flange and limit the movement of the guard toward the discharge-opening of the bottle, the oppo-

site face of the imperforate guard normally engaging the nub d^3 to maintain a space between the valve and guard, substantially as and for the purpose specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

SAMUEL C. ROWELL.

Witnesses:

JAS. H. CHURCHILL,

J. MURPHY.