No. 846,550. PATENTED MAR. 12, 1907.

V. CLARK.

DEVICE FOR RENDERING BOTTLES NON-REFILLABLE.

APPLICATION FILED MAY 22, 1906.

Fig. 1

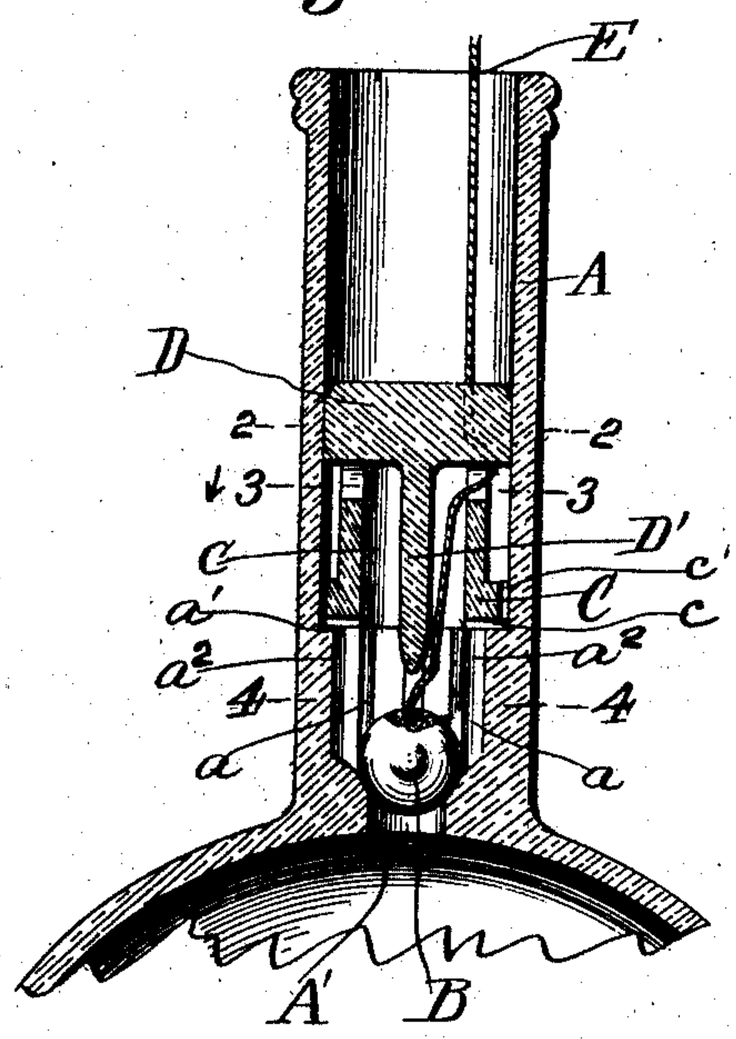


Fig. 2

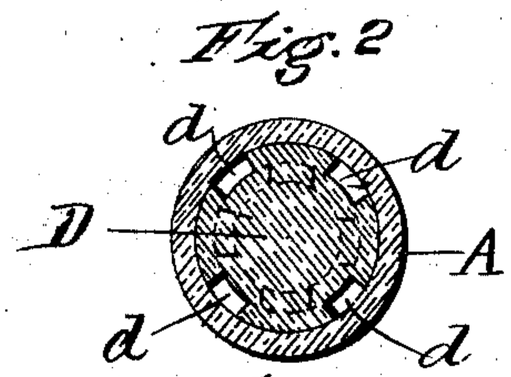


Fig. 3

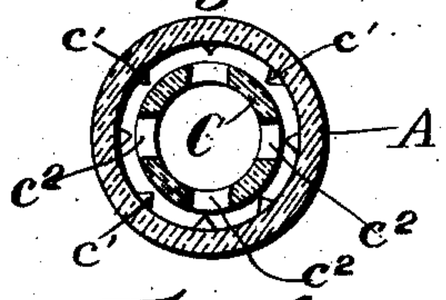


Fig. 4

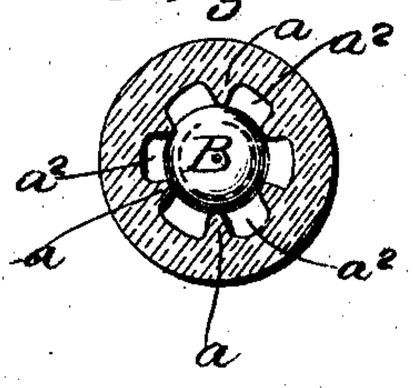


Fig. 5

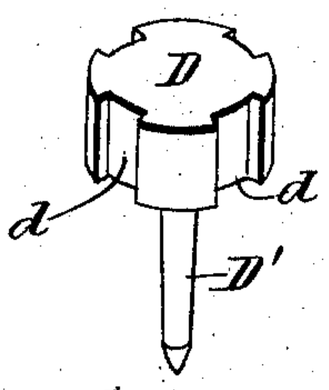
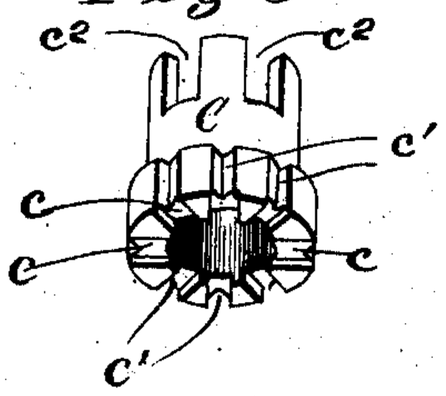


Fig. 6



WITNESSES

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DEVICE FOR RENDERING BOTTLES NON-REFILLABLE.

No. 846,550. Specification of Letters Patent. Patented March 12, 1907.

Application filed May 22, 1906. Serial No. 318,131.

To all whom it may concern:

Be it known that I, VALENTINE CLARK, a citizen of the United States, residing at Dryad, in the county of Lewis and State of Washington, have invented a new and useful Improvement in Devices for Rendering Bottles Non-Refillable, of which the following is a specification.

My invention relates to that class of bottles designed to prevent the clandestine and fraudulent refilling of bottles by unauthorized or unscrupulous persons, and has for its object to furnish a cheap and effective means of preventing such refilling without detection.

My invention consists in certain features of construction, arrangement, and combination of parts, as will be hereinafter fully described, and pointed out in the claims, reference being had to the accompanying drawing, in which—

Figure 1 is a vertical section of a bottle with my improvements located in operative position. Fig. 2 is a transverse horizontal section on line 2 2 of Fig. 1. Fig. 3 is a similar section on line 3 3 of Fig. 1. Fig. 4 is a similar section taken on line 4 4 of Fig. 1. Fig. 5 is a perspective view of the top member of the guard. Fig. 6 is a perspective view of the central member of the guard.

At the lower end of the bottle-neck A is molded a valve-seat A′, in which ball-valve B fits. Vertical guards *a* are formed on the inside of the neck which support the ball-valve in position concentric with the valve-seat as it opens and closes the opening in the valve-seat. The diameter of the opening of the valve-seat and the space above it within the vertical ribs *a* is somewhat less than the main body of the bottle-neck, thus forming a shoulder *a*′, upon which rests the central cylindrical glass member C of the guard device. This member is a cylinder of glass having a horizontal flange or shoulder C′, which rests on the shoulder *a*′. This horizontal flange C′ is provided on its under face with the radial grooves or notches *c*, as shown in Fig. 6. Said flange C′ is also provided with the vertical grooves *c*′, which connect with the radial grooves *c* and extend to the upper edge of the flange C′. The upper edge of the glass cylinder C is provided with the elongated vertical open slots c^2.

Upon the top edge of the cylinder C is supported and rests the top guard member D, made of glass, which comprises cylindrical head and the downwardly-projecting central pin D′, the head having vertical grooves *d* in its circumference extending the entire vertical length of said head, as plainly shown in Fig. 6. The greater diameter of the head—that is, the distance across between the vertical grooves—is such that the head just fits within the upper bore of the bottle-neck. It is rigidly conected with the neck after being put in place by means of a suitable cement, which is not affected by liquids, and which is placed on the outer face of the head in a fluid or plastic state and allowed to harden and set.

As shown in Fig. 1, a cord or wire E is attached to the ball-valve. This may be done by making a small hole in the ball-valve, inserting one end of cord or wire, or said cord or wire may be simply forced into the small hole before mentioned. To place my improved guard device in operative position after the bottle has been filled with the desired liquid, the ball-valve B is dropped to its seat, the cord E being held in one hand. The glass C is then slid down upon the shoulder *a*′, the cord or wire passing through the center of C. The top glass member D is then slid into place until it rests upon the upper edge of the cylinder C, the edge of D having been previously coated with the glass-cement. The cord E is manipulated so that it passes through one of the slots a^2 and up through one of the grooves *d* of the head D between said head and the inner wall of the bottle-neck. The cement on the head D is given a sufficient time to harden and set, after which the cord E may be withdrawn by giving it a smart jerk. If, however, it is desired to fill the bottle after the guard device is in place, the cord still being secured to the ball-valve, the ball-valve is held up off its seat by the cord and the bottle filled through the neck and the cord then removed by a smart jerk.

It should be understood that in assembling the parts of the device the projecting portions of the head D between the grooves or passages *d* must be placed directly over the slots c^2, so that a wire cannot be inserted through the device to raise the ball-valve from its seat.

It will be seen that tilting the bottle sufficiently the ball-valve will leave its seat and roll along on the ribs *a*, being restrained from rolling too far by the point of pin D′. The liquid will now pass from the bottle into the

grooves between the ribs *a*, some going through the center of cylinder C and out the slots c^2, and some passing through the radial grooves *c*, then between cylinder C and the inner wall of the bottle-neck and out through the grooves or passages *d* of the head D, the portion of liquid entering the central part of cylinder C and the slots c^2 also passing through said passages or grooves *d*. To aid in filling the bottle, a small rubber tube may be passed into the bottle through the various passages, so as to let out air and provide a vent for same.

It will be seen that I provide a simple, cheap, and efficient guard for preventing the refilling of a bottle without breaking the bottle or parts of the guard, as they are all made of glass.

I claim—

1. In a device for rendering bottles non-refillable, a bottle-neck having an opening at its lower end and a valve-seat above said opening, and having vertical grooves extending upwardly from said valve-seat, an open-ended cylinder disposed above said vertical grooves said cylinder having radial grooves on its lower edge, and vertical grooves on its outer circumference connecting with said radial grooves, a top guard member consisting of a head resting on said cylinder and a central downwardly-extending pin projecting into said cylinder, said top member having vertical grooves or passages in its outer circumference, and a ball-valve adapted to be seated on the valve-seat and control the opening between the bottle-neck and the body of the bottle.

2. In a device for rendering bottles non-refillable, a bottle-neck having an opening at its lower end and a valve-seat above said opening, vertical ribs extending upwardly from said valve-seat and having grooves between said ribs, an open-ended cylinder disposed above said vertical ribs, a horizontal flange extending outwardly from the base of said cylinder and having radial grooves in the lower face of said flange and vertical grooves in the circumference of said flange connecting with the radial grooves, the upper edge of said cylinder having vertical slots, a top guard member resting on the top edge of the cylinder and rigidly secured within the bottle-neck, said top guard comprising a head and a downwardly-extending central vertical pin projecting into the cylinder, the head of said top member having vertical grooves or passages in its circumference, and a ball-valve seat on the aforesaid valve-seat to control the opening between the bottle-neck and the body of the bottle.

3. In a device for rendering bottles non-refillable, a bottle-neck having an opening at or near its lower end and having an enlarged passage above the same, an open-end cylinder disposed above said passage, said cylinder being of less diameter than the internal bore of the bottle-neck and having openings through its vertical walls, a top guard member consisting of a head resting on said cylinder and a downwardly-extending pin projecting into said cylinder, said head having passages therethrough, and a valve adapted to be seated above and control the opening at or near the lower end of the bottle-neck.

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