No. 849,246. PATENTED APR. 2, 1907.

W. H. W. JONES.

NON-REFILLABLE BOTTLE.

APPLICATION FILED JAN. 20, 1906.

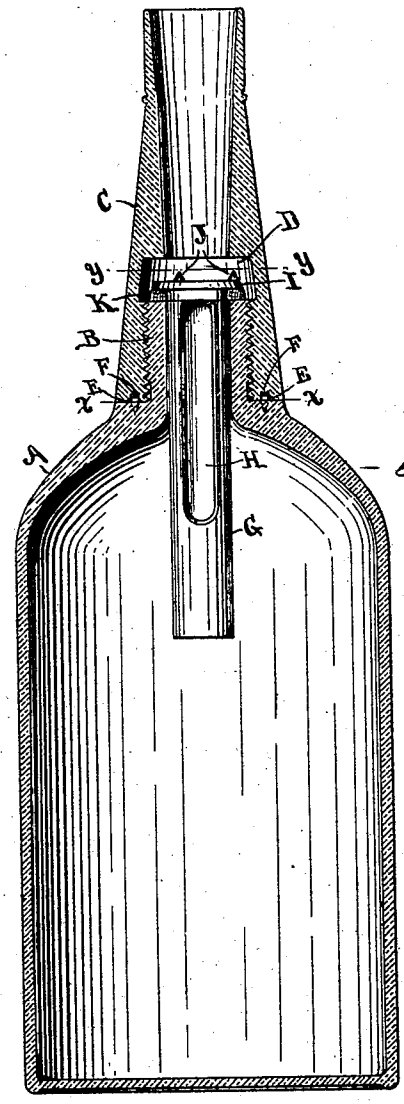


Fig. 1.

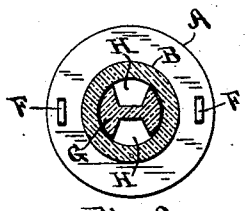


Fig. 2.

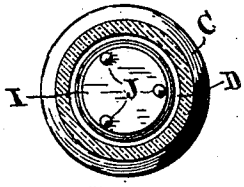


Fig. 3.

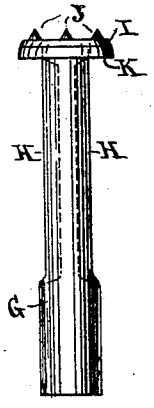


Fig. 4.

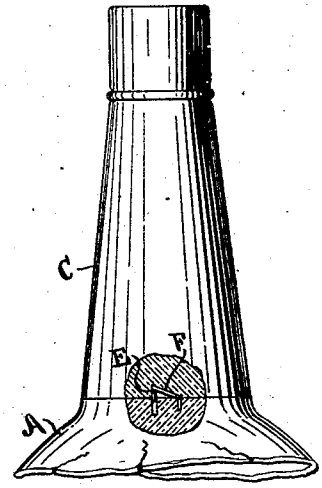


Fig. 5.

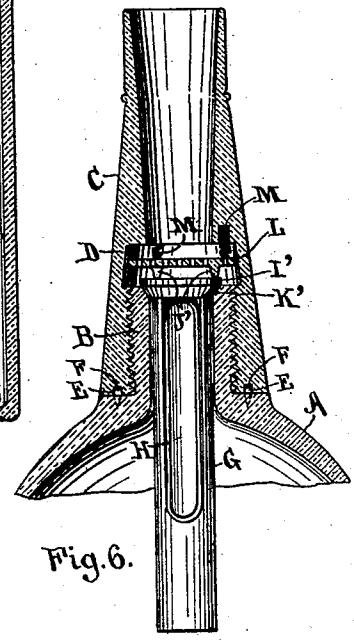


Fig. 6.

WITNESSES:

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## NON-REFILLABLE BOTTLE.

No. 849,246. Specification of Letters Patent. Patented April 2, 1907.

Application filed January 20, 1906. Serial No. 297,007.

*To all whom it may concern:*

Be it known that I, WILLIAM H. W. JONES, a citizen of the United States, residing at Waverly, in the county of Tioga and State of New York, have invented certain new and useful Improvements in Non-Refillable Bottles, of which the following is a specification.

This invention relates to improvements in devices for preventing the fraudulent refilling of bottles and the like after the original contents have been withdrawn; and the object of my invention is to provide a device of this nature which will consist of the smallest possible number of parts and yet be effective for the purpose desired.

A further object is to provide an arrangement which will present no difficulties in the matter of construction and may be manufactured at a low cost.

I attain my objects by arranging the parts of the device in substantially the manner illustrated in the accompanying drawings, in which—

Figure 1 represents a vertical section through a bottle embodying my improvements; Figs. 2 and 3, transverse sections thereof respectively on the lines *x x* and *y y;* Fig. 4, a side elevation of the valve removed; Fig. 5, a partial side elevation showing a portion of the neck of the bottle broken out to disclose the device for locking the parts of the neck together; and Fig. 6, a section of the neck portion, showing a modification.

Like letters of reference designate like parts in the several views.

In carrying out my invention the bottle A or other vessel is provided with a screw-threaded neck B, upon which is screwed a discharge-neck C of any desirable shape adapted at the top to receive a cork or other closure. As illustrated in the drawings, the neck C when in place gives to the bottle the usual appearance, so that from outside inspection it will not look to be other than an ordinary form of bottle. The neck C is so formed as to provide a chamber at D above the top of the neck B, and in this chamber is located a valve I, consisting of a flanged head with a comparatively long and heavy stem G, which fits loosely the inside diameter of the neck B, said stem being provided with oppositely-disposed grooves H to form channels for the outflow of liquid when the valve is open. The valve at K is provided with a seating-face, of cork or other suitable material, which seats upon the top of the neck B. The top of the valve is provided with a number of projecting points J, (three as herein shown,) which when the valve is open engage the top of the chamber D so as to provide a channel around the valve and into the outer bore of the neck C, these parts being all so proportioned as to provide a free discharge of the contents from the bottle.

In assembling the parts after the bottle has been filled the valve I is placed in position and the neck C screwed down upon the neck B, the joint between these two parts being hermetically sealed by the use of a proper cement. In order to prevent the neck from being unscrewed after it has been once set in place, I provide one or more locks F in the form of spring-pawls, which are fastened in the shoulder formed between the neck B and the body A, the neck C being provided with suitably-positioned notches at E to receive said pawl or pawls when said neck has been screwed tight home. To permit the neck C to be screwed into place, the spring-pawls are fastened to the body A by one leg only, the other end of the pawl being provided with a leg which is guided in a socket formed in the body A in order to permit the pawl to be sprung downward as the neck C is screwed into place. From an inspection of Fig. 5 it will be seen that after the neck C is in place it will be impossible to remove it from the body A without breaking it.

The stem G and valve-head I will be preferably formed from one piece of glass in a suitable mold, and the stem will be shaped to slide freely through the neck B. In pouring a liquid from the bottle the valve and its stem will be moved outward by the flow of the liquid and also by the weight of the valve until the points J strike the top of the chamber D, after which the liquid will freely flow around the valve and out of the neck C. When the bottle is tilted back even to a slight degree toward the vertical, the weight of the valve-stem will draw the valve back to closed position, and no liquid can be poured back into the bottle either to refill it or to adulterate the original contents. If it be attempted to force liquid into the bottle when lying on its side, the inflow of the liquid will cause the valve to close, since the stem G will move with very little friction in the neck B, the two parts being made of smooth glass. The head of the valve is beveled, and the points J are so constructed that it will be im-

possible to grip them by means of any instrument inserted through the neck C, and the valve therefore cannot be held open by outside instrumentalities.

To positively insure against the holding open of the valve in any position of the bottle for the purpose of refilling, I may provide in the chamber D a perforated glass disk L, which will be held against the head I′ of the valve (see Fig. 6) by means of light coiled springs M, preferably three in number, positioned in suitable sockets formed in the neck C above the chamber D. These springs will be of just sufficient strength to counterbalance the weight of the valve and its stem in order that the outflow of the liquid from the bottle will cause a sufficient overbalancing of the springs to open the valve, the springs having just sufficient effect to close the valve in the event of an attempted backflow, thus preventing any possible holding open of the valve in any position of the bottle when attempts are made to refill it.

As shown in Fig. 6, the spacing-points may be formed on the disk L, as at J′, instead of on the head I′ of the valve. Also I may use this perforated disk L without the springs, the loose disk being interposed between the valve and the outer bore of the neck, so as to furnish a further safeguard against the manipulation of the valve from the outside by the insertion of hooks or gripping instruments through the neck C. Instead of using cork for the valve-face I may form the valve-head I′ with a conical shoulder K′ to fit a conical seat at the top of the neck B, the valve being ground to its seat in the same manner as a glass stopper.

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

1. The combination, with a bottle, or like vessel, having a tubular neck, of a valve seated at the outer end of the neck, a stem on the valve projecting through and fitted to slide in the bore of the neck, said stem being provided with channels for the discharge of liquid where it passes through the neck and having a weight formed upon its inward end, a valve-inclosing member adapted to be permanently fastened to the vessel, said member being provided with a valve-chamber having a contracted orifice, and means for preventing the closing of said orifice by the valve when in open position.

2. The combination, with a bottle, or like vessel, having a neck provided with outside screw-threads, of a discharge-neck adapted to be screwed upon the first neck and forming a valve-chamber at the outer end of said first neck when in place, a valve in said chamber, a shoulder formed on the vessel around the base of the screw-threaded neck, and one or more spring-pawls projecting upwardly from said shoulder, the under side of the discharge-neck being provided with one or more recesses into which said pawl or pawls are adapted to enter to lock said parts together.

3. The combination, with a bottle, or like vessel, having a discharge-outlet provided with a valve-chamber at a point intermediate its ends, of an outwardly-opening valve in said chamber, and a disk having a plurality of small perforations positioned between the valve and the outer end of the valve-chamber, said disk being separate from the valve and spaced therefrom for the purpose set forth.

4. The combination, with a bottle, or like vessel, having a discharge-outlet provided with a valve-chamber at a point intermediate its ends, of an outwardly-opening valve in said chamber, a perforated disk positioned between the valve and the outer end of the chamber, said disk being separate from the valve and spaced therefrom by lugs projecting from one of said members, and springs in the chamber acting to set the disk against the valve to close it.

5. The combination, with a bottle, or like vessel, having a discharge-outlet provided with a valve-chamber at a point intermediate its ends, of an outwardly-opening valve in said chamber, and an independent spring-actuated guard-disk above the valve to effect the closing thereof when flow of liquid from the vessel ceases.

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

W. H. W. JONES.

Witnesses:
JAMES H. O'BRIEN,
A. S. DIVEN.