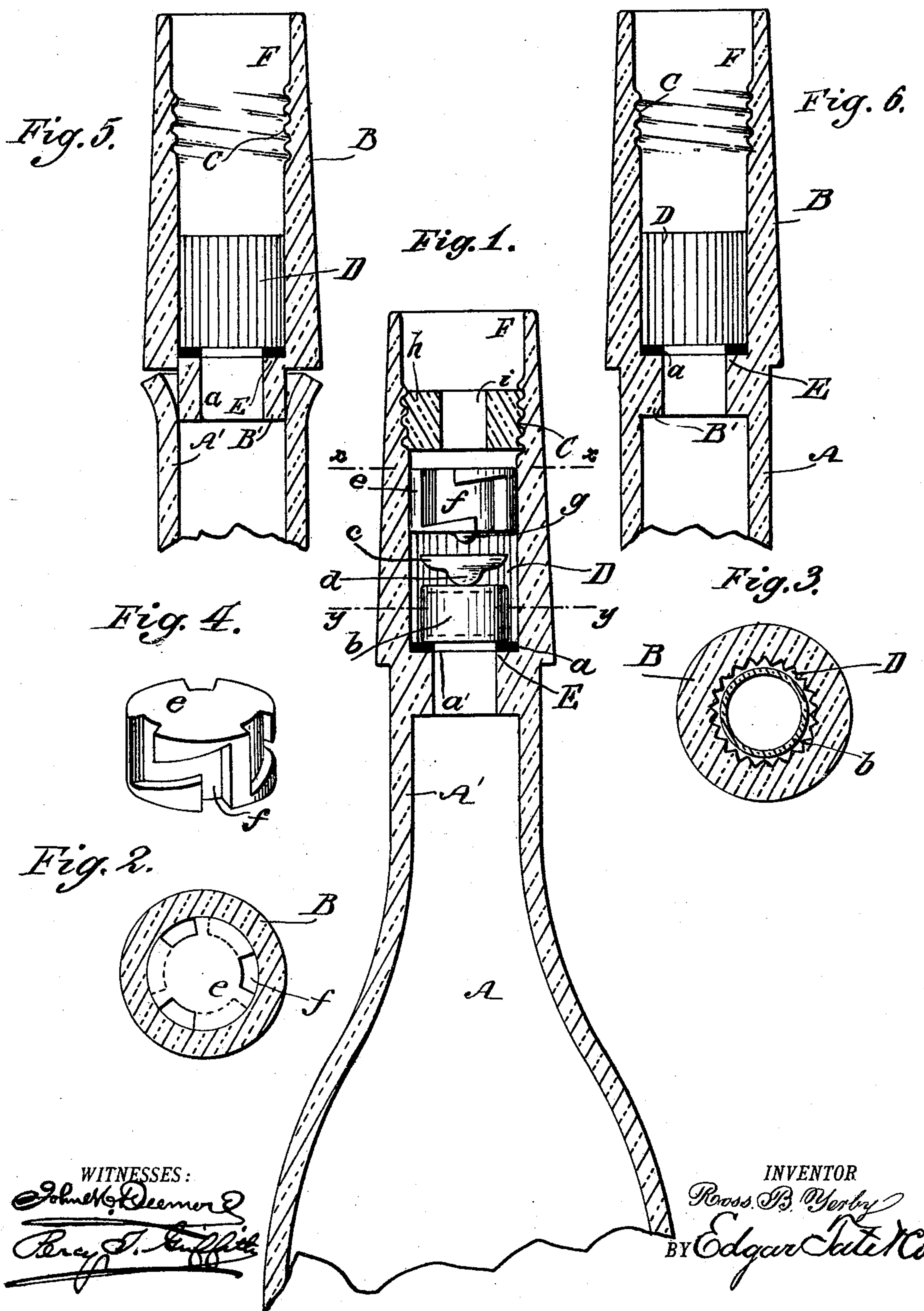


(No Model.)

R. B. YERBY.
BOTTLE.

No. 543,518.

Patented July 30, 1895.



WITNESSES:

John H. Deemer
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INVENTOR

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UNITED STATES PATENT OFFICE.

ROSS B. YERBY, OF BROOKLYN, NEW YORK, ASSIGNOR OF NINE-TWENTIETHS TO JOHN COTTIER, OF SAME PLACE.

BOTTLE.

SPECIFICATION forming part of Letters Patent No. 543,518, dated July 30, 1895.

Application filed March 20, 1894. Serial No. 504,358. (No model.)

To all whom it may concern:

Be it known that I, ROSS B. YERBY, of Brooklyn, in the county of Kings, State of New York, have invented a new and Improved Bottle, of which the following is a full, clear, and exact specification.

This invention relates to devices for preventing the refilling of bottles, and has for its object to provide a bottle the neck of which is so constructed and arranged that the bottle may be easily emptied, but cannot be refilled, the invention being an improvement upon that covered by Letters Patent No. 516,006, issued to me upon the 6th day of March, 1894.

My present invention consists in providing an auxiliary member of such shape as to act as a weight upon the valve proper to hold the latter seated when the bottle is in an upright position, and also to act as a wedge for holding said valve upon its seat when the bottle is in a horizontal position, and yet to release said valve to allow the free egress of the contents of the bottle when the latter is tilted sufficiently past a horizontal position.

In the accompanying drawings, forming part of this specification, in which like letters of reference designate corresponding parts throughout, Figure 1 is a central vertical section through a bottle embodying my invention, the plug and the valve which form a part thereof being shown in elevation. Fig. 2 is a horizontal section of the same, taken upon the line *x x*, Fig. 1. Fig. 3 is a corresponding section upon the line *y y*, Fig. 1. Fig. 4 is a perspective view of the plug forming part of my invention. Fig. 5 is a central longitudinal section of my invention with the interior apertures removed, the device being applied to the neck of a bottle of which only the upper portion is shown. Fig. 6 is a similar view with the parts joined together.

In the practice of my invention I form, by the usual or by any other approved method, a bottle A, the neck A' of which is flaring at the mouth. To this bottle, while the glass is in a heated condition, I secure an auxiliary neck B, having a tubular flange B' depending therefrom, the said flange being of considerably less diameter than the neck B. The two parts are securely joined by pressing the

mouth of the bottle-neck A' around the flange B', so that the two members will be practically welded together, as shown in Fig. 6. The auxiliary neck B is internally screw-threaded near its top, as shown at C, and at the bottom is provided with vertical corrugations D extending from the base of the neck to a point slightly more than half-way to the screw-threaded portion C. The top of the tubular flange B' forms a seat E, on which I place a washer *a*, having an aperture *a'* corresponding to the interior diameter of the flange. On this washer rests a hollow circular air-filled valve *b*, having upon the top thereof a disk *c*, which said disk is supported upon the valve by a semi-globular shoulder or protuberance *d* upon its undersurface. Above this valve and the disk resting thereon I secure in the neck B a plug *e*, having sinuous or zigzag ports or passages *f* in its outer circumference, these ports being preferably three in number and opening at top and bottom. The plug has on its under side at the center a stud or shoulder *g*, which limits the movement of the disk *c*, though this could be effected by lowering the depth of the plug.

When the valve and disk *b c* and the plug *e* are secured in place, I insert a stopper *h* in the neck B somewhat below the mouth thereof, the said stopper being externally screw-threaded to engage with the threaded portion C, in which it fits. This stopper has a central or other aperture *i*, and after inserting in the neck is further secured by sealing.

The neck B is sufficiently high to leave a space F for the reception of the ordinary cork or stopple. (Not shown.)

The operation of the device will be readily apparent from the foregoing description taken in connection with the drawings. The bottle having first been filled and the various parts placed within the neck B, as hereinbefore stated, and it being desired to empty the contents of the bottle, the cork of the same is withdrawn and the bottle held in a horizontal position or upside down, as ordinarily, whereupon the liquid therein will open or raise the valve *b* and passing around the same escape by way of the ports *f* in the plug *e* and through the aperture *i* in the fixed stopper *h*. In this

manner the whole or part of the contents may be readily emptied. Should, however, it be attempted to refill the bottle, the liquid will enter through the aperture *i* and the ports *f*; but the moment that it touches the valve *b* or the disk *c* the said valve will immediately close and prevent the liquid from passing beyond the seat *E*. Where the bottle is held upside down the valve, being hollow and air-filled, would, when the liquid surrounds it, float upwardly or against the valve-seat. The effect would be similar and the attempt correspondingly futile were an endeavor made to pump liquor into the bottle. With many devices of this character it is possible to refill the bottle by laying the same in a vat or other vessel containing the liquor, and with nearly all of the present devices the liquor passes around the valve and by reason of the horizontal position of the bottle succeeds in obtaining entrance thereto. Where a bottle embodying my invention is so placed, the liquid after passing through the ports *f* or the pressure of the air within the neck of the bottle will force the valve *b* against the seat, thereby closing the aperture *a* and confining the air present in the bottle within the same, thus preventing any ingress of the liquid, and at the same time, or immediately thereafter, the disk *c* tilts or is forced obliquely forward and wedges the said valve in place.

It will be understood that the object of forming the corrugations *D* is to prevent any considerable movement or play of the valve or disk to either side, while at the same time facilitating the emptying of the bottle. It is not absolutely essential that the disk *c* be formed identically as herein shown, as the same may be changed or modified in any particular whereby tilting of the disk is not prevented or obstructed. It is, however, preferable that the valve be hollow in order to offer no resistance to the exit of the liquid when the bottle is being emptied and also in order that the valve, being light, may immediately close when it is attempted to refill the bottle by placing the same horizontally in the liquid, as before mentioned.

Having thus fully described my invention,

what I claim as new, and desire to secure by Letters Patent, is—

1. A bottle having a shoulder or seat at the bottom of its neck, a protector in said neck, a valve in said neck, between said shoulder and protector, a disk above said valve, having a central rounded protuberance upon its under face, serving as a weight to tilt said disk and resting upon the valve, whereby upon laying the bottle longitudinally said disk will wedge between said valve and said protector, substantially as described.

2. A bottle having a shoulder or seat at the bottom of its neck and provided with vertical grooves formed therein above the seat, a hollow cylindrical valve fitting snugly and sliding longitudinally only in the grooved portion of the neck, a flat disk having a central rounded protuberance upon its under face serving as a weight to tilt said disk, a plug secured in the neck above the said disk having sinuous ports in its periphery, and a central projection thereon which stops the disk when the bottle is wholly or partially inverted.

3. The combination, with a bottle, of an auxiliary neck of similar width therewith, and having a reduced tubular depending portion permanently secured therein and forming an annular shoulder or seat, said auxiliary neck having a series of closely adjacent vertical grooves therein, a plug secured in the said neck above the grooves having sinuous ports in its periphery, a hollow air-tight cylindrical flat-edged valve sliding in the neck longitudinally only, between the shoulder and the plug, and a disk having a depending central protuberance resting on the valve, said protuberance acting as a weight to cause said disk to tilt.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 16th day of March, 1894.

ROSS B. YERBY.

Witnesses:

PERCY T. GRIFFITH,
JOHN M. DUMER.