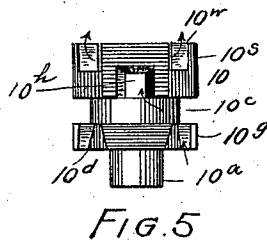
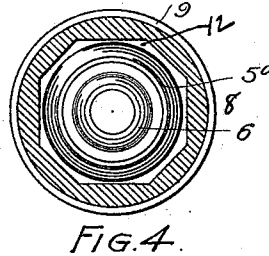
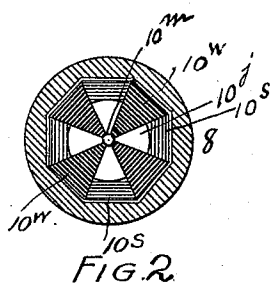
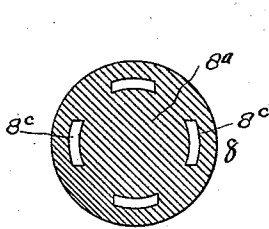
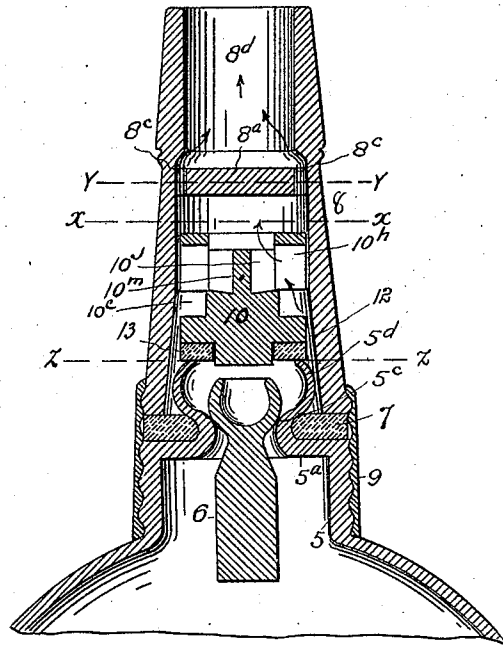


(No Model.)

W. VON BOKERN.
BOTTLE.

No. 575,675.

Patented Jan. 19, 1897.



Witnesses
J. J. Holland
Chas. E. Lawton

Inventor
Wm Von Bokern.
By *his* Attorney *Wm. J. O'Brien*

UNITED STATES PATENT OFFICE.

WILLIAM VON BOKERN, OF DENVER, COLORADO, ASSIGNOR OF ONE-HALF
TO HERBERT HEATLEY, OF SAME PLACE.

BOTTLE.

SPECIFICATION forming part of Letters Patent No. 575,675, dated January 19, 1897.

Application filed March 24, 1896. Serial No. 584,631. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM VON BOKERN, a citizen of the United States of America, residing at Denver, in the county of Arapahoe and State of Colorado, have invented certain new and useful Improvements in Bottles; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification:

This invention relates to improvements in bottles; and its object is to prevent the refilling of the bottle after it has been exhausted of its original contents. A bottle that cannot be refilled is a desideratum, since it prevents the practicing of frauds on the manufacturer or bottler of superior goods and the subsequent palming off on the public of an inferior article under the guise of a superiority.

To this end the invention consists of the features hereinafter described and claimed, all of which will be fully understood by reference to the accompanying drawings, in which is illustrated an embodiment thereof.

In the drawings, Figure 1 is a vertical longitudinal section taken through the nozzle and neck of the bottle, which is broken away below the antirefilling mechanism. Figs. 2, 3, and 4 are sections taken on the lines *x x*, *y y*, and *z z*, respectively, Fig. 1. Fig. 5 is a detail elevation of the movable safety device.

Similar reference-characters indicating corresponding parts in the views, let the numeral 5 designate the neck of the bottle, having a shoulder 5^a and a seat 5^c for the valve 6. Surrounding the valve-seat 5^c and resting on the shoulder 5^a is a washer 7, preferably composed of cork, but which may consist of any suitable or desirable material. Upon the washer 7 rests the nozzle 8. The neck and nozzle are exteriorly threaded to receive a connecting-sleeve 9.

Located in the upper part of the nozzle and formed integral therewith is a partition or diaphragm 8^a, around which are formed a number of ports 8^c, forming passage-ways for

the exit of the liquid when the bottle is tipped to the pouring position. Below the diaphragm 8^a is located the safety device 10, which has a limited gravity movement between the top 5^d of the neck and the diaphragm.

The lower extremity of the device 10 consists of a short stem 10^a, which is surrounded by a washer 13, preferably composed of cork. When the bottle is in the upright position, (see Fig. 1,) this washer 13 engages the top 5^d of the bottle's neck, which is enlarged above the seat and projects a slight distance above the top of the valve.

As shown in the drawings, the device 10 is provided with a circumferential groove 10^c and exteriorly open notches 10^d, forming the part 10^e into a mutilated ring composed of a number of segments. Above these segments and on the opposite side of the groove 10^c are lateral opening 10^b, communicating with vertical openings 10^j, extending from the upper extremity of the device downward between the central tongue 10^m and the outer wall 10^s. In the upper edge of the outer wall are formed notches 10^v. It must be understood that I do not limit the safety device to these details of construction, as I am aware that many other forms may be employed without departing from the spirit of the invention.

The passages for the liquid around and through the safety device are arranged in zig-zag form, to the end that it may be impossible to insert from the outside any instrument through this devious way for the purpose of tampering with the valve.

The notches 10^v in the safety device are located opposite or register with the ports 8^c in the nozzle, so that the liquid may flow freely when the device 10 is resting on the diaphragm 8^a. The outer wall of the safety device and the inner wall of the nozzle are formed correspondingly polygonal in horizontal section for the purpose of maintaining this relative position of said notches and ports.

Around the lower part of the safety device the nozzle-opening 8 is considerably larger than said device, as shown at 12, (see Fig. 1,) to the end that the liquid after escaping from the neck-top 5^d may flow around the safety device and the washer 13 on its way to the groove 10^c, while the upper part of the device 10 fits closely but moves easily in the nozzle.

This is permissible since the liquid after it reaches the groove 10^c flows through the safety device rather than around the same and thence to the ports 8^c in the nozzle.

5 When the bottle is tipped to the pouring position, the safety device 10, together with the washer or cork ring 13, moves by gravity toward the top of the nozzle until stopped by the diaphragm 8. The valve 6 at the same
10 time leaves its seat and allows the liquid to flow from the neck of the bottle around the lower part of the device 10, thence via the groove 10^c, the openings 10^a and 10^b, the notches 10^w, and the ports 8^c to the discharge
15 extremity 8^d of the nozzle, as indicated by the arrows. (See Fig. 1.) If an attempt is made to force liquid into the bottle when in an inverted position, the pressure on the safety device 10 will hold the cork ring or
20 washer 13 in contact with the top 5^d of the bottle-neck, which projects upward into the nozzle above the valve, and thus prevent the inflow of the liquid.

The valve 6 is elongated. Its upper extremity is ball-shaped exteriorly, making a tight joint when the valve is seated. The lower part of the valve, which extends into the bottle below the seat, is solid, while its upper part is hollow. Hence the lower part
25 is relatively of greater gravity than the top, thus making it more difficult to unseat the valve.

The screw-sleeve 9 should be cemented to the neck and nozzle, so that it cannot be removed without destroying it.
35

Having thus described my invention, what I claim is—

1. The combination with the bottle having the integral valve-seat formed in its neck, and a movable valve adapted to engage said
40 seat, of the detachable nozzle provided with the diaphragm formed integral therewith, and one or more passage-ways to allow the liquid to flow from one side of the diaphragm to the other, the movable safety device located in
45 the nozzle between the neck and the diaphragm and normally resting on the neck which projects upward into the nozzle above the valve-seat, said device having zigzag passages, whose upper extremities register with the passages in the diaphragm, the outer wall of the safety device and the inner wall of the
50 nozzle being formed correspondingly polygonal in cross-section to maintain the said relative position of the passage-ways in the safety device and the diaphragm, and suitable means for connecting the neck and nozzle, substantially as described.

2. The combination with a bottle having
60 an integral valve-seat formed in its neck and a shoulder surrounding said valve-seat, a washer engaging said shoulder, a valve adapted to engage said seat, a nozzle having a diaphragm formed integral therewith, and
65 one or more passages to allow the liquid to pass from one side of the diaphragm to the other, and suitable means for connecting the

neck and nozzle, of the movable safety device located in the nozzle between the diaphragm and the neck, said device being provided with zigzag passages, and having a short
70 stem on its lower extremity, a packing-ring surrounding said stem and resting on the neck, which projects upward into the nozzle above the valve-seat, said ring closing the
75 passages in the safety device from below, the nozzle opening around the lower part of the safety device being formed considerably larger than said device, while the upper extremity of the latter fits closely in the nozzle, substantially as described.

3. The combination with the bottle having an integral valve-seat and a shoulder surrounding said seat, a washer engaging said shoulder, a valve adapted to engage said seat, a nozzle engaging the washer around the valve-seat, said nozzle having a diaphragm formed integral therewith, and one or more
80 passages to allow the liquid to pass from one side of the diaphragm to the other, and suitable means for connecting the neck and nozzle, of the movable safety device located between the neck and the diaphragm of the nozzle, said device being formed with zigzag
85 passages adapted to register with the passages in the diaphragm, and having a short stem on its lower extremity, a packing-ring surrounding said stem and resting on the neck which projects upward into the nozzle above the valve-seat, said ring closing the
90 passage-ways in the safety device from below, the nozzle opening around the lower part of the safety device being formed considerably larger than said device, while the upper extremity of said device fits closely in the nozzle, the safety device and the inner wall of the nozzle being formed correspondingly polygonal in cross-section to maintain the relative position of the passages in the safety device and diaphragm substantially
95 as described.

4. The combination with a bottle having a valve-seat formed in its neck, a suitable valve and a detachable neck having a diaphragm formed integral therewith, and one
100 or more passages to allow the liquid to pass from one side of the diaphragm to the other, of a movable safety device located between the top of the neck and the diaphragm of the nozzle, said device having zigzag passages adapted to register with the passages in the diaphragm, the outer wall of the safety device and the inner wall of the nozzle being correspondingly polygonal in cross-section to maintain the said relative position of the
105 passages in the safety device and diaphragm, substantially as described.

In testimony whereof I affix my signature in the presence of two witnesses.

WILLIAM VON BOKERN.

Witnesses:

G. J. ROLLANDET,
ALFRED J. O'BRIEN.