

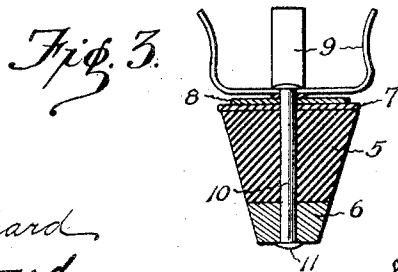
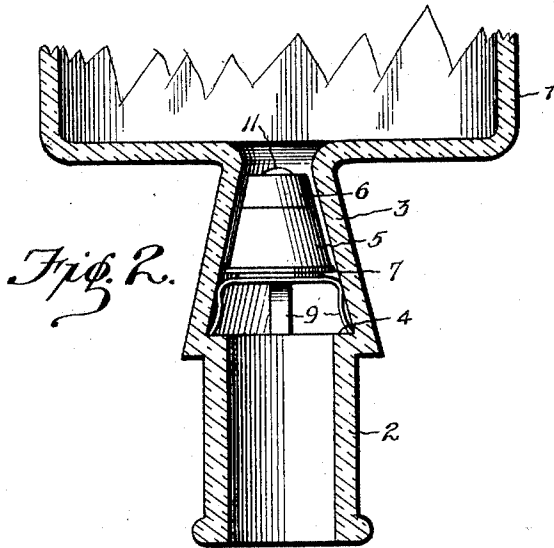
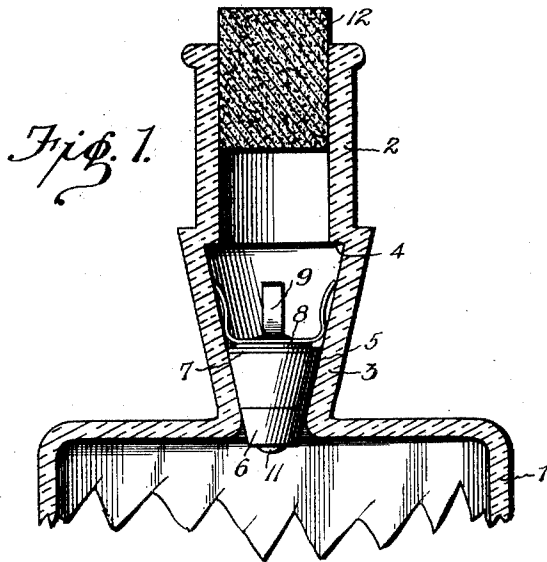
No. 759,347.

PATENTED MAY 10, 1904.

F. D. CHRISTENSEN.  
NON-REFILLABLE BOTTLE.

APPLICATION FILED OCT. 8, 1903.

NO MODEL.



Witnesses

*Ralph A. Shepard*  
*W. J. Shepard*

Inventor  
*Fred D. Christensen*

By *C. C. Shepard*  
Attorney.

# UNITED STATES PATENT OFFICE.

FRED D. CHRISTENSEN, OF SPENCER, IOWA.

## NON-REFILLABLE BOTTLE.

SPECIFICATION forming part of Letters Patent No. 759,347, dated May 10, 1904.

Application filed October 8, 1903. Serial No. 176,230. (No model.)

*To all whom it may concern:*

Be it known that I, FRED D. CHRISTENSEN, a citizen of the United States, residing at Spencer, in the county of Clay and State of Iowa, have invented a certain new and useful Improvement in Non-Refillable Bottles, of which the following is a specification.

This invention relates to bottles, and has for its object to prevent the refilling of a bottle and at the same time to permit of the free and unrestricted decanting of the liquid contents of the bottle.

With these and other objects in view the present invention consists in the combination and arrangement of parts, as will be hereinafter more fully described, shown in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that changes in the form, proportion, size, and minor details may be made within the scope of the claims without departing from the spirit or sacrificing any of the advantages of the present invention.

In the drawings, Figure 1 is a longitudinal sectional view taken through the neck portion of a bottle embodying the features of the present invention. Fig. 2 is a similar view showing the bottle inverted for pouring out the contents thereof. Fig. 3 is a detail longitudinal sectional view of the valve.

Like characters of reference designate corresponding parts in each and every figure of the drawings.

The present embodiment of my invention is shown applied to a bottle 1 of any common or preferred form, having the usual neck 2, the lower portion of which is tapered downwardly, as at 3, to contract the inner portion of the neck and form a valve-seat, as will be hereinafter described. It will be observed that the upper end of the tapered part 3 of the neck is somewhat greater in diameter than the upper portion of the neck, thereby providing an internal annular shoulder 4.

Within the tapered portion of the neck is the valve member or movable stopper, made up of a downwardly-tapered rubber body 5 and a lower end portion 6 of metal to constitute a weight for seating the valve within the

lower portion of the tapered part 3 of the neck. Upon the top of the body 5 is a thin rubber washer in the form of a disk 7, which is peripherally projected beyond the body of the valve, and upon the central portion of this washer is a metallic plate 8. Upon the plate 8 are two substantially U-shaped springs 9, set at substantially right angles to one another, with a headed fastening 10 piercing the springs at their point of crossing and also extending through the plate 8 and the body of the valve, with its lower end upset against the metallic portion 6, as indicated at 11, whereby said fastening connects all of these parts of the valve.

After the bottle has been filled in the usual or any preferred manner the valve 5 is forced through the upper portion of the neck until it is located within the tapered portion thereof, when the spring-fingers 9 will snap outwardly back of the shoulder 4 on the bottle-neck, and thereby prevent the valve from being accidentally or otherwise brought into the upper portion of the bottle-neck. When the bottle stands in its usual upright position, the valve will be seated within the lower contracted portion of the neck; but when it is inverted the valve will move outwardly under the influence of gravity until the spring-fingers engage the shoulder 4, and thereby arrest further outward progress of the valve. It will here be noted that when the valve is supported upon the shoulder 4 it is within the enlarged portion of the neck, whereby there is an annular space around the valve through which the contents of the bottle may pass outwardly to and through the outer end portion of the neck. Upon returning the bottle to its normal position the valve will again be seated under the influence of gravity, and thereby effectually prevent refilling of the bottle.

While it is not essential, it is desirable to place a removable plug or stopper 12 within the outer portion 2 of the neck, which of course must be removed before the contents of the bottle may be poured out.

Having thus described the invention, what is claimed, and desired to be secured by Letters Patent, is—

1. A bottle having the lower portion of its neck internally tapered downwardly and provided with an inner annular shoulder at the outer end of the tapered portion, and a valve  
5 consisting of a tapered yieldable body, a tapered weight upon the lower end of the body, a substantially U-shaped spring upon the top of the body, and a fastening piercing the spring, the body and the weight to connect  
10 said parts.

2. A bottle having the lower portion of its neck internally tapered downwardly and provided with an inner annular shoulder at the outer end of the tapered portion, and a valve  
15 consisting of a tapered compressible body working within the tapered portion of the neck, a tapered weight upon the lower end of the body, a rubber washer upon the top of the body and peripherally projected beyond  
20 the same, a wear-plate upon the top of the washer, a pair of crossed substantially U-shaped springs upon the wear-plate, and a fastening piercing the crossed portions of the

springs, the wear-plate, the washer, the body and the weight.

3. A valve for non-refillable bottles consisting of a tapered yieldable body, a weight upon the lower end of the body, a substantially U-shaped spring upon the top of the body, and a fastening piercing the spring, the body and  
25 the weight to connect said parts.

4. A valve for non-refillable bottles consisting of a tapered yieldable body, a weight upon the lower end of the body, a rubber washer upon the top of the body and peripherally  
30 projected beyond the same, a wear-plate upon the top of the washer, a pair of crossed substantially U-shaped springs upon the wear-plate, and a fastening piercing the crossed portions of the springs, the wear-plate, the  
35 washer, the body and the weight to connect said parts.

FRED D. CHRISTENSEN.

In presence of—

C. P. BUCKEY,

O. A. BJOENSTAD.