

UNITED STATES PATENT OFFICE.

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NON-REFILLABLE BOTTLE.

No. 820,100.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JAMES DE HAVEN, a citizen of the United States, and a resident of Roanoke, in the county of Roanoke and State of Virginia, have invented certain new and useful Improvements in Non-Refillable Bottles, of which the following is a specification.

My invention is an improvement in non-refillable bottles; and it consists in certain novel constructions and combinations of parts hereinafter described and claimed.

Referring to the drawings forming a part hereof, Figure 1 is a vertical section through the neck of a bottle provided with my improvement. Fig. 2 is a plan view of the perforated disk. Fig. 3 is a detail perspective of the split ring and disks.

In the practical application of my invention I provide a bottle A, of glass or other suitable material, having a neck portion B, having interiorly thereof a circumferential enlargement or shoulder C at the junction of the neck and the body of the bottle, said projection or shoulder forming with the neck an inverted-cone-shaped valve-seat for the reception of a spherical valve C'. Above the valve-seat is a circumferential groove D, rectangular in cross-section. Resting upon the lower edge of the groove and supported thereby is a perforated disk E. A pin F depends centrally from the perforated disk, and to the lower end of the pin is secured a cup-shaped disk G.

Above the perforated disk E and resting within the groove is a split ring H, of elastic material, for retaining the parts in their respective positions, and above the split ring is an ordinary cork I.

In assembling my device the valve C' is dropped into the neck of the bottle and passes downwardly until engaged by the shoulders. The disks are then dropped into the neck, the perforated disk being of sufficient diameter to engage the edges of the groove. The split ring is afterward forced into the bottle until it is opposite the groove, when it expands, filling the circumferential groove and preventing withdrawal of the other parts from the neck.

Sufficient space is provided between the shoulders in the neck and the cup-shaped disk to allow the valve to pass upward far enough to permit the passage of water between it and the neck. When an attempt is made to pour fluid into the bottle, the valve is seated more firmly upon the shoulders, preventing all ingress of fluid to the bottle.

It will be evident from the description that my device, although simple in construction, is yet efficient in operation and may be constructed at small cost, little change being required from the ordinary form of bottle.

The neck is of sufficient diameter above the shoulders to permit the ready passage of fluid by the valve, the part of the neck above the shoulders being slightly funnel or cone shaped in order that the parts may be readily introduced.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a non-refillable bottle, the combination of a neck provided internally with an inverted-cone-shaped valve-seat and a circumferential groove above the seat, a spherical valve in the seat, a perforated disk of relatively large diameter resting on the lower edge of the groove, a pin depending centrally therefrom, a cup-shaped disk of relatively small diameter secured to the pin, and a split ring resting in the groove above the perforated disk.

2. In a non-refillable bottle, the combination of the neck provided internally with a valve-seat, and having a circumferential groove above the seat, a valve in the seat, a perforated disk of relatively large diameter resting on the lower edge of the groove, a pin depending centrally therefrom, a cup-shaped disk of relatively small diameter secured to the pin, and a split ring resting in the groove above the perforated disk.

3. In a non-refillable bottle, the combination of the neck, provided internally with a valve-seat, and having a circumferential groove above the seat, a valve in the seat, a perforated disk resting in the groove, means connected with the disk and normally out of

contact with the valve for restraining the upward movement thereof, and a split ring resting in the groove above the perforated disk.

4. In a non-refillable bottle, the combination of a neck, provided internally with a valve-seat and having a circumferential groove above the valve-seat, a valve on the seat, a perforated disk in the groove, means

connected with the disk and normally out of contact with the valve for restraining the upward movement thereof, and means for retaining the disk in position. 10

JAMES DE HAVEN.

Witnesses:

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