

UNITED STATES PATENT OFFICE.

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NON-REFILLABLE BOTTLE.

No. 815,112.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that we, STACY B. O'DELL and HERSCHEL W. SMILEY, citizens of the United States, residing at Odon, in the county of Daviess and State of Indiana, have invented certain new and useful Improvements in Non-Refillable Bottles, of which the following is a specification.

For a full description of the invention and the merits thereof and also to acquire a knowledge of the details of construction of the means for effecting the result reference is to be had to the following description and accompanying drawings, in which—

Figure 1 is a vertical section showing the upper portion of a bottle having the invention applied thereto. Fig. 2 is a view similar to Fig. 1, the bottle inverted and parts disposed as when contents of the receptacle are being removed. Fig. 3 is a horizontal section on the line 3 3 of Fig. 1.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

The object of this invention is to provide effective means of the type designed to prevent fraudulent refilling of bottles or like receptacles after the original contents thereof have been withdrawn.

In carrying out the invention the means embodying the same are applicable to bottles of the common type with slight modification, and in the drawings the numeral 1 designates the body of the bottle, while the numeral 2 indicates the neck thereof. The neck 2 is adapted to receive a closure, which comprises a hollow body 3, adapted to fit snugly therein to be prevented from displacement by suitable means. Near the mouth thereof said neck 2 is formed with an internal groove 4, and the upper portion of the closure 3 is formed with a similar external groove 5, adapted to register with the groove 4, but formed deeper than the latter. The groove 5 of the closure is adapted to receive a number of small balls 6, which may be wholly received in said grooves 5 as the closure 3 is placed in position in the neck 2; but when the groove 5 registers with the groove 4 these balls will partially enter the latter, and thereby establish a lock, effectively preventing displacement of the closure without breaking or mutilating the receptacle. The lower end of the closure 3 is formed with a valve-opening 7, and the up-

per portion of the closure is likewise formed with an outlet-opening 8. A washer or annulus 9, of rubber or similar material, is located at the lower extremity of the closure 3, being received in a suitable groove formed externally of the latter, and this washer establishes an air and water tight connection between the closure and the inner wall of the neck, obviating all likelihood of escape of the contents of the receptacle between the part 3 and said neck. The hollow portion of the closure 3 is of a size admitting of free movement of a valve 10, which valve is preferably of rubber and formed with a valve-seat 11, cemented or attached to the lower portion of the closure 3 just above the opening 7, said seat 11 being of annular form and having its edge portion received in a groove suitably formed in the hollow portion of the closure, as shown most clearly in Figs. 1 and 2. The valve 10 is of the flap-valve type and is preferably integral with its seat 11, and in this instance will also be made of rubber. The outlet-opening 8, leading through the upper portion of the closure 3 from its hollow portion, is located at one side of the center of the closure, and interposed between the inner end of said opening 8 and the valve is a guard projection 12, preferably integrally formed with the closure and extending from the same, so as to effectively prevent insertion of an instrument or the like through the opening 8 to tamper with the valve 10 and disturb the proper working thereof.

Weight means are preferably employed to hold the valve 10 seated or closed, and such means is comprised in a small weight or member 13, adapted to rest on top of the valve and provided with a stem 14, projecting upwardly therefrom through an opening 15 about central of the upper end of the closure 3. The weight 13 of course operates in the hollow portion of the closure 3, and the stem 14 is designed to facilitate operation of the weight to permit of ready opening of the valve when it is desired to withdraw the contents of the receptacle. The upper extremity of the stem 14 is formed with a lateral extension 16, and as said stem 14 is revoluble in the opening 15 the extension 16 may be readily turned, so as to engage beneath a locking projection 17, formed on top of the closure 3. When the extension 16 is engaged beneath the projection 17, which latter is of hook-like form and preferably molded with the closure 3, the weight 13 is held in a posi-

tion in which it is resting upon the valve 10 to hold the same closed. When, however, it is desired to pour the contents of the receptacle therefrom, the member 16 is disengaged 5 from the projection 17, and on inversion of the bottle the weight 13 will move away from the valve and permit opening thereof under the pressure of the liquid which is passing through the opening 7 to the outlet-opening 10 8. The closure 3 and the adjacent parts composed in its construction are simply arranged, so as to readily permit of displacing the contents of the receptacle in a manner which will be obvious from the description 15 above.

The opening 8 may be closed by a cork or similar closure to prevent contamination of the contents of the receptacle, though ordinarily the valve 10 affords a sufficient means 20 to accomplish this. A cap 18 (shown in Fig. 1) may be employed for the same purpose, if desired, and will constitute an adequate closure.

Having thus described the invention, what is claimed as new is—

In a non-refillable bottle, the combination of a neck, a closure therefor comprising a hollow body, a valve, said closure having a suitable outlet-opening, a member adapted to rest upon the valve to hold the same closed, 30 a stem connected with said member and passing through the outer portion of the closure, an extension projecting laterally from the stem near its outer end, and a locking projection formed with the closure at its outer end 35 and arranged to be engaged by the extension on the stem aforesaid to hold the member connected with said stem resting on the valve.

In testimony whereof we affix our signatures in presence of two witnesses. 40

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Witnesses:

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