

No. 700,754.

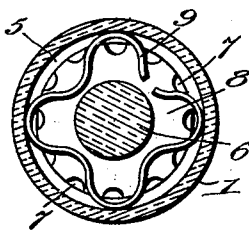
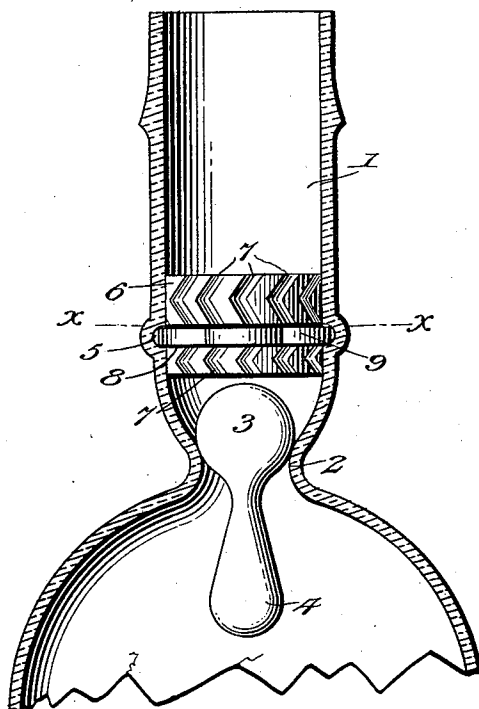
Patented May 27, 1902.

D. F. FITZGERALD, P. M. SEIFERT & M. KIMMEL.

NON-REFILLABLE BOTTLE.

(Application filed May 29, 1901.)

(No Model.)



Witnesses

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UNITED STATES PATENT OFFICE.

DANIEL F. FITZGERALD, PAUL M. SEIFERT, AND MOSES KIMMEL, OF WALKERTON, INDIANA; SAID SEIFERT ASSIGNOR OF ONE-HALF OF HIS RIGHT TO WILLIAM L. WALLACE, OF WALKERTON, INDIANA, AND IRA J. KREIGHBAUM, OF TYNER, INDIANA.

NON-REFILLABLE BOTTLE.

SPECIFICATION forming part of Letters Patent No. 700,754, dated May 27, 1902.

Application filed May 29, 1901. Serial No. 62,395. (No model.)

To all whom it may concern:

Be it known that we, DANIEL F. FITZGERALD, PAUL M. SEIFERT, and MOSES KIMMEL, citizens of the United States, residing at Walkerton, in the county of St. Joseph and State of Indiana, have invented new and useful Improvements in Non-Refillable Bottles, of which the following is a specification.

Our invention relates to non-refillable bottles, the object being to provide one which is simple in construction, yet effective in operation, and which may be manufactured at small cost.

The invention consists of a bottle-stopper comprising a corrugated cylindrical portion and a foiled spring mounted within said cylindrical portion, which is adapted to be compressed into engagement with a groove or recess in the interior of the neck of the bottle.

The invention further consists in having the bottle-neck contracted adjacent to its body portion to form a seat for a weight-valve which underlies the above-mentioned stopper.

The construction of my improvement will be fully described hereinafter in connection with the accompanying drawings, which form a part of this specification, and its novel features will be defined in the appended claim.

In the drawings, Figure 1 is a central vertical section of a bottle-neck with our improvements in position. Fig. 2 is a sectional view on line *xx* of Fig. 1.

Referring now to the drawings, the reference-numeral 1 designates the neck of a bottle having its lower extremity contracted, as at 2, to form a seat for the weight-valve 3, which is provided with a pendant 4, so as to hold the weight in its normal position. A short distance above the contracted portion 2 the inner surface of the bottle-neck is provided with an annular groove 5 for the reception of the bottle-stopper's locking arms or springs.

The stopper consists of a solid cylindrical

body portion 6, formed on its outer edges with a plurality of vertically-arranged tortuous passages 7, each of which is formed into a double V, joined together at one end.

8 designates an annular recess within the periphery of the stopper a little below its center and within which is fitted a four-foil spring 9. The annular recess is so arranged as to horizontally divide the tortuous passages, thereby leaving one V-shaped passage above the recess and the other below it. The four-foil spring is formed of one continuous piece of metal, and at the side where its two ends approach each other the spring is left open, so as to permit of its insertion and compression. The foils of the spring 9 extend beyond the edges of the stopper, so as to engage the groove in the neck of the bottle, and thereby lock the stopper therein.

The stopper is preferably made of glass, which we have found especially adapted for the purpose. It will, however, be understood that the invention is not restricted to the use of any particular material in its manufacture.

To apply the stopper, it is inserted into the bottle by compressing the foiled spring 9 into the recess in the stopper, after which by forcing the stopper down into the neck of the bottle the neck-engaging portions of the spring will, when they come in contact with the recess in the inner surface of the bottle-neck, spring outward and engage the same, and thereby lock the stopper in position.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

A non-refillable bottle having a contracted neck for the reception of a valve, and an annular groove on the inner surface of the neck above the contracted portion, in combination with a solid stopper having its periphery provided with a plurality of vertically-arranged tortuous passages, said passages substantially double V-shaped, an annular groove in the

periphery of the stopper so arranged as to horizontally divide the tortuous passages thereby leaving one V-shaped passage above the groove and the other below it, a foil-
5 spring within said groove, the foils thereof projecting beyond the periphery of the stopper and engaging with the groove in the bottle-neck.

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

DANIEL F. FITZGERALD.

PAUL M. SEIFERT.

MOSES KIMMEL.

Witnesses:

GEO. P. ROSS,

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