J. FROHNHOLZER.

NON-REFILLABLE BOTTLE.

APPLICATION FILED MAR. 22, 1912.

1,039,669. Patented Sept. 24, 1912.

Fig. 1.

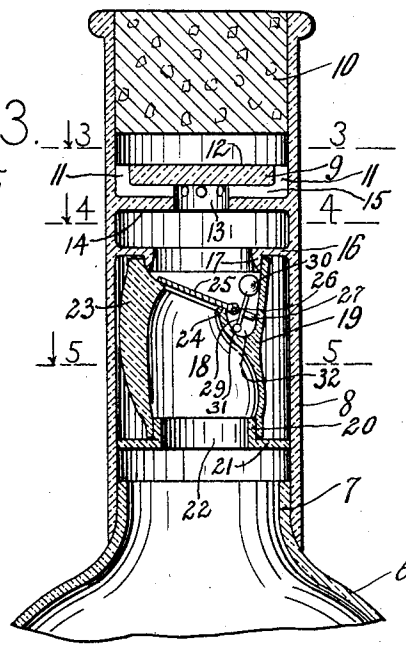


Fig. 3.

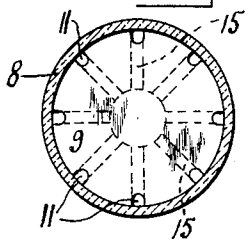


Fig. 4.

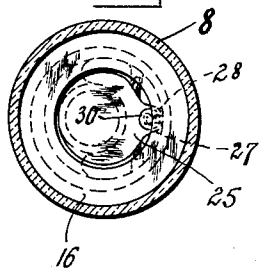


Fig. 5.

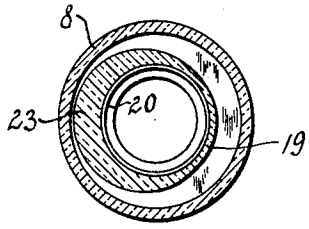
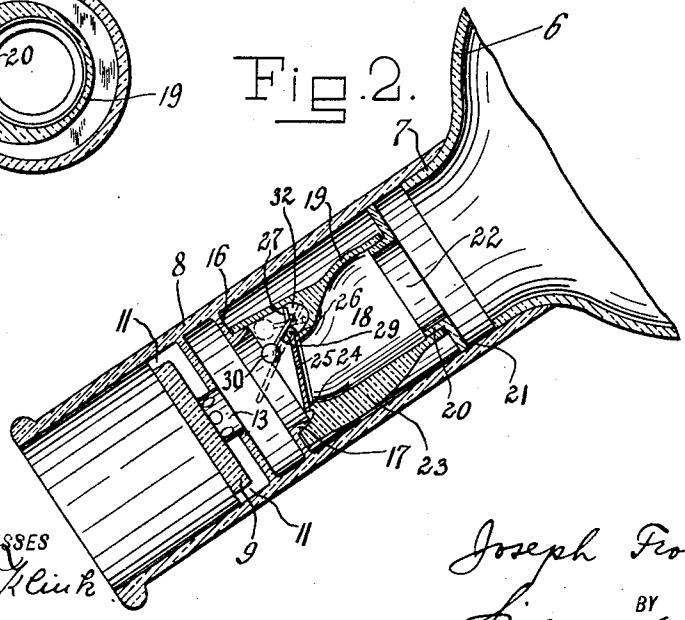


Fig. 2.



WITNESSES

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NON-REFILLABLE BOTTLE.

1,039,669. Specification of Letters Patent. Patented Sept. 24, 1912.

Application filed March 22, 1912. Serial No. 685,472.

To all whom it may concern:

Be it known that I, JOSEPH FROHNHOLZER, a subject of the German Emperor, and resident of the city of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Non-Refillable Bottles, of which the following is a specification.

The present invention relates to bottles, and has for its object to prevent the refilling of a bottle after the original contents of the same have been withdrawn.

Another object of the invention is to provide a bottle of this class in which all of the parts may be readily constructed of glass.

A further object of the invention is to provide a simple and inexpensive device of this type which can be manufactured on a commercial scale, or in other words which is not so difficult to produce as to be beyond the reasonable cost of such an article.

With these and other objects in view, which will more fully appear as the nature of the invention is better understood, the same consists in the combination, arrangement and construction of parts hereinafter fully described, pointed out in the appended claims and illustrated in the accompanying drawings, it being understood that many changes may be made in the size and proportion of the several parts and minor details of construction within the scope of the appended claims without departing from the spirit or sacrificing any of the advantages of the invention.

One of the many possible embodiments of the invention is illustrated in the accompanying drawings, in which:—

Figure 1 is a longitudinal section taken through the neck portion of a bottle embodying the features of the present invention; Fig. 2 is a similar view of the neck of the bottle down; Fig. 3 is a section taken on line 3—3 of Fig. 1; Fig. 4 is a section taken on line 4—4 of Fig. 1; and Fig. 5 is a section taken on line 5—5 of Fig. 1.

The bottle body 6 is provided with a main neck 7, to which is cemented, or otherwise attached, a supplemental neck 8. A horizontal partition 9 is arranged in the supplemental neck of the bottle at a point so far below the outer end thereof that space is provided for the insertion of a stopper 10, preferably of cork. Through this horizontal partition extend passages 11, running, preferably, from the upper surface 12 of said partition at the circular edge thereof downward and then radially and horizontally inward toward the center of said wall, merging there in a centrally arranged hole 13, which extends from the lower face 14 of the partition up to the uppermost level of the horizontal portions 15 of the passages 11. This particular design of the passages 11 prevents the insertion of wires or similar devices in an effort to lift the valve hereinafter to be described from its seat.

A suitable distance below the partition 9 the supplemental neck is provided with a horizontal annular flange 16, having a downwardly extending annular rim 17, which engages the bore 18 of a sleeve 19, the lower end of which is in a similar manner engaged by the upwardly extending annular rim 20 of a disk 21, which is cemented or otherwise secured to the supplemental neck. This disk is provided with a centrally arranged opening 22, through which the contents of the bottle are adapted to flow into the bore 18 of the sleeve 19. The sleeve is rotatably arranged upon the rim portions 17 and 20 of the flange 16 and the disk 21, respectively. A substantial portion of the wall of the sleeve 19 is enlarged in thickness, as clearly shown at 23, whereby, as the bottle is being tilted, said sleeve will rotate around its longitudinal axis into the position shown in Fig. 2 of the drawings, that is to say until the said heavy portion 23 reaches its lowermost position. The purpose of this arrangement will be hereinafter described.

In the sleeve 19 is formed an annular valve seat 24, which is somewhat inclined, and upon which is adapted to rest a valve disk 25, which is pivoted at 26, at a point opposite to the heavy portion 23 of the sleeve, to the body thereof. The valve disk is provided with an extension 27, extending beyond its pivot 26; said extension being provided with a slot 28, which is engaged by the stem 29 of a weight 30, the latter being normally arranged above the upper surface of the valve disk 25. To prevent the disengagement of the stem 29 from the valve disk, the lower end of said stem is provided with an enlargement 31, the width of which is greater than the width of the slot 28. Normally, that is to say when the bottle is in its upright position, the enlargement 31 of the stem 29 rests in a recess 32 in the

sleeve 19, the surface of which supports the weight 30 which will thus not influence the position of the valve disk 25.

In assembling the bottle, first the valve disk 25 is pivoted to the sleeve 19, and the weight 30 engaged therewith. The sleeve 19 is then placed into the supplemental neck, and the disk 21 brought to its proper position. The bottle is then filled with liquid, and the supplemental neck cemented to the main neck of the bottle. When the bottle stands in its usual upright position, the valve disk 25 is seated upon its valve seat 24, and being inverted, the valve will by the weight of the liquid move into the dotted position shown in Fig. 2 of the drawings, allowing thus the contents of the bottle to pass outwardly to and through the outer portion of the supplemental neck, if previously the cork 10 has been removed therefrom. Upon returning the bottle to its normal position, the valve disk will be reseated by gravity, and close thereby the communication between the interior of the bottle and the outer end portion of the supplemental neck, and thereby prevent the refilling of the bottle. After the entire contents of the bottle have been removed and the bottle is inverted, the weight 30, which is considerably heavier than the valve disk 25, will keep the said valve disk upon its seat, as shown in full lines in Fig. 2 of the drawings, and prevent thus the refilling of the bottle in its inverted position. The weight 30 is always brought to its operative position, since the sleeve 19 rotates around its longitudinal axis until it occupies the position shown in Fig. 2 of the drawings.

What I claim is:—

1. The combination with the main neck of a bottle, of a supplemental neck irremovably attached thereto, a horizontal partition arranged a substantial distance below the outer end of said supplemental neck provided with passages extending therethrough, an annular flange below said partition having a downwardly extending rim, a perforated disk below said flange having an upwardly extending rim, a sleeve engaging the rims of said flange and disk and adapted to revolve thereon around its longitudinal axis, the wall of said sleeve being upon one of its sides enlarged in thickness, a valve seat formed in said sleeve, a valve disk pivoted to said sleeve at a point opposite to the portion of the same which is enlarged in thickness, said valve disk being provided with an extension beyond its pivot, and a weight attached to said extension, said weight being normally arranged above the upper face of said valve disk.

2. The combination with the neck of a bottle, of a horizontal partition arranged a substantial distance below the outer end thereof provided with passages extending therethrough, a sleeve mounted below said wall adapted to rotate around its longitudinal axis, the wall of said sleeve being upon one of its sides enlarged in thickness, a valve seat formed in said sleeve, a valve disk pivoted to said sleeve at a point opposite to the portion of the same which is enlarged in thickness, said valve disk being provided with an extension beyond its pivot, and a weight attached to said extension, said weight being normally arranged above the upper face of said valve disk.

Signed at New York, in the county of New York and State of New York, this 18th day of March, A. D. 1912.

JOSEPH FROHNHOLZER.

Witnesses:

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