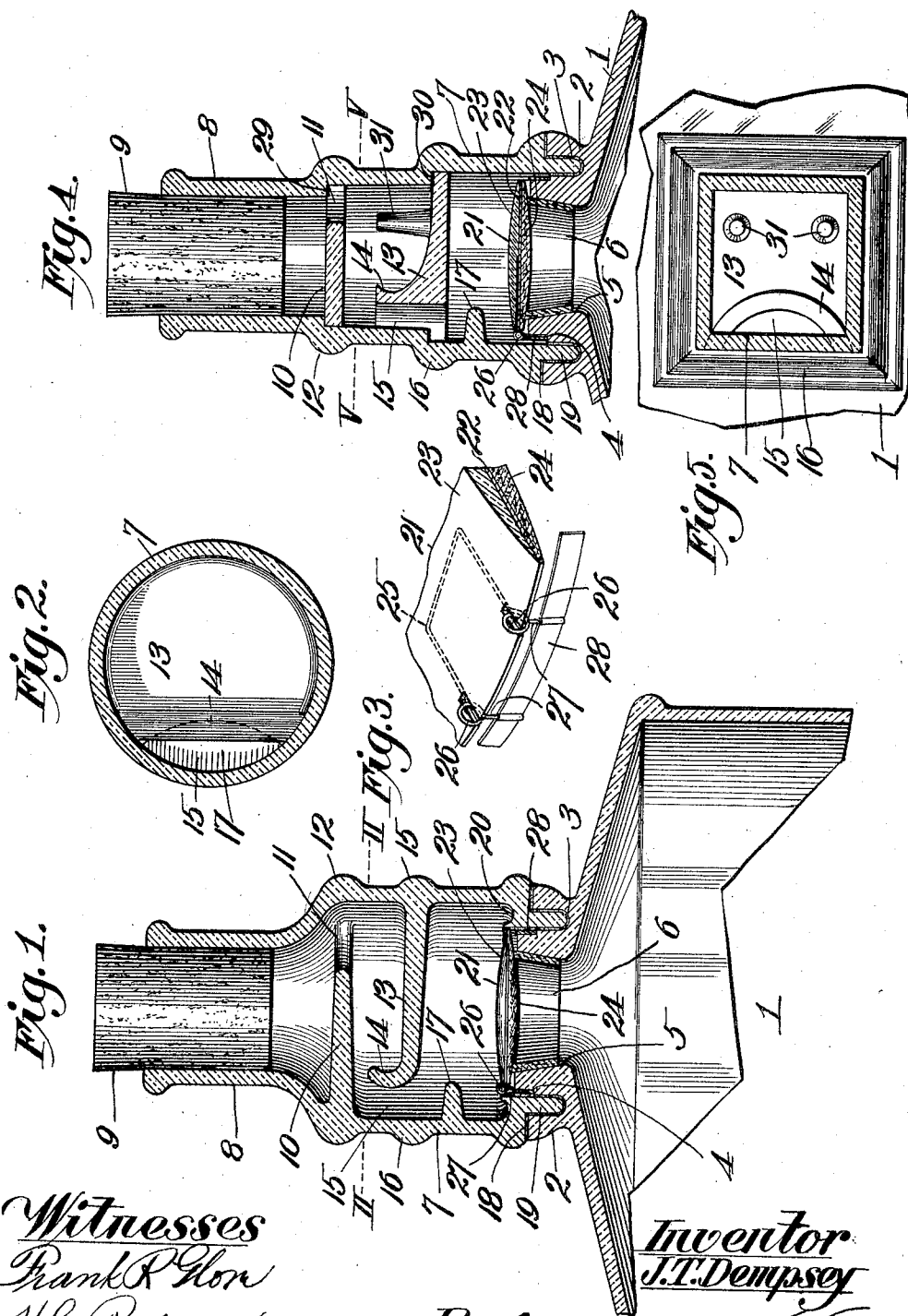


J. T. DEMPSEY.
NON-REFILLABLE BOTTLE.
APPLICATION FILED SEPT. 14, 1910.

1,038,496.

Patented Sept. 10, 1912.



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NON-REFILLABLE BOTTLE.

1,038,496.

Specification of Letters Patent.

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Application filed September 14, 1910. Serial No. 582,072.

To all whom it may concern:

Be it known that I, JAMES T. DEMPSEY, a citizen of the United States, residing at Kansas City, in the county of Wyandotte and State of Kansas, have invented certain new and useful Improvements in Non-Refillable Bottles, of which the following is a specification.

This invention relates to non-refillable bottles and has for its object the production of a bottle of this character from which the contents can be readily poured and which is of simple and inexpensive construction.

With this object in view the invention consists in certain novel and peculiar features of construction and organization as hereinafter described and claimed; and in order that it may be fully understood reference is to be had to the accompanying drawing, in which—

Figure 1, is an enlarged vertical section of the upper portion of a non-refillable bottle embodying my invention. Fig. 2, is a horizontal section on the line II—II of Fig. 1. Fig. 3, is an enlarged fragmentary perspective view of the valve and band for securing the valve to the bottle. Fig. 4, is a vertical section of a modified construction of the bottle. Fig. 5, is a horizontal section on the line V—V of Fig. 4.

Referring now to the drawings where like reference characters identify corresponding parts in all the figures, 1 indicates the body of the bottle which may be of the ordinary or any preferred type, except that it is formed with a relatively short neck 2, provided with a groove 3, in its upper side, which groove will preferably correspond to the cross sectional form of the neck, that is to say, if the neck is circular the groove will preferably be circular. The inner wall of the pair of walls formed by grooving the neck as described, is of greater height by preference than the outer wall and is recessed at its outer side at 4, the inner side of said wall flaring upward at 5, and cemented or otherwise rigidly secured in the flaring neck passage 5 is a cork or equivalent ring 6 which projects above the

upper end of the neck to constitute a valve seat.

7 indicates a long neck of contracted diameter at its upper end at 8 to receive an ordinary plug or cork 9, and partitioning said long neck at the lower end of the contracted portion is a baffle 10, the same being provided at one margin with a relatively small opening 11, the baffle which is shown in Fig. 1, being preferably formed integral with neck 7, and at the junction of said baffle with the neck the latter is preferably beaded or enlarged at 12 to strengthen the junction point, so that any attempt made to break the baffle by striking it from above after the cork is removed will result in the breakage of the neck as the latter above and below bead is thinner and therefore weaker than the baffle or at the line of junction of the same with the neck.

Underlying the baffle 10 is a baffle 13, the same completely underlying the opening 11 of baffle 10, and said baffle 13 terminates short of the opposite side of the neck in an upturned arc-shaped end 14, the space between said upturned end and the wall constituting a relatively small opening 15 at the diametrically opposite side of the neck from opening 11, the openings 11 and 15 being thus staggered with relation to each other and at the junction of baffle 13 with the neck the latter is beaded or enlarged as at 16, for the same reason that the neck is beaded or enlarged at 12, viz. to insure the breakage of the neck rather than the baffle 13 should the latter be struck a heavy blow from above, and below the opening 15 the neck 7 is also preferably provided with a relatively small baffle 17, these baffles being such that it will be practically impossible for a person to introduce a wire in the neck, to a point below baffle 17, which would be of sufficient rigidity to engage and raise a valve hereinafter described.

At its lower end the long neck is formed with a downwardly disposed shoulder 18 and inward thereof with a depending flange 19, the former being adapted to rest upon

the outer wall of the neck of the body 1, and the flange to engage the groove 3 of said neck, and above the said flange the neck is provided with a flange 20 which projects inwardly and upwardly.

21 is a valve which consists preferably of a metallic plate 22, completely covered by a casing consisting preferably of a top portion 23 of glass and a bottom portion 24 of cork or other compressible material, the bottom portion being adapted to normally rest upon and form a liquid-tight joint with the valve seat 6, as shown in Figs. 1 and 4, and to secure this valve in fixed relation to the neck of the body 1, and to hold it upon its seat when the bottle is inverted, if empty, it is provided with a spring hinge bent to form an arm 25 embedded in the valve, hinge coils 26, and depending arms 27 secured rigidly in any suitable manner to the band 28 cemented or otherwise rigidly secured in the recess 4 of the inner wall of the neck of the body. The valve when in closed position is closely surrounded by flange 20, so that should a person succeed in introducing a wire to the plane of the valve, it would more than likely enter the space between said flange 20 and the wall of the neck and be deflected upwardly and thus be incapable of lifting the valve from its seat, it being noticed in this connection that the hard upper surface of the casing of the valve would deflect the wire if contact therewith occurred. After the valve is secured in position as explained, it is opened and the bottle is filled with a liquid, not shown, or the bottle may be filled before the valve is secured in position. Cement is then applied by a brush or otherwise to the groove 3, the upper surface of the outer wall, and the exposed surface, by preference, of band 28, and then the said long neck is fitted down upon the neck of the body with the shoulder 18 upon the outer wall and the flange 19 within the groove 3. The cork is then inserted and in a short time the cement will set and secure the long neck permanently in position.

In Fig. 4, a modified form of neck is shown, and in this construction, the neck is diametrically reduced to provide a downwardly disposed shoulder 29 against which baffle 10 is rigidly cemented or otherwise secured. It is also diametrically reduced to form a similar shoulder 30 against which baffle 13 is likewise secured, the last-named baffle being preferably provided with a plurality of upwardly projecting studs 31 to act in conjunction with the upturned end 14 for the purpose of supporting baffle 10 in a horizontal position should the latter be forced downward from its position against shoulder 29, it being also noted that the baffle 10 is sufficiently small to pass shoulder 30, being fitted in position from the lower

end of the long neck, and that the internal diameter of said neck below shoulder 30 is slightly larger than the diameter of baffle 13, so that the latter may likewise be fitted against shoulder 30 from the lower end of said neck, it being understood that the baffle 17 is slightly smaller than opening 15 of baffle 13 so that it shall not prevent the latter being secured in position as explained.

In the construction shown by Fig. 4, the neck and baffles 10, and 13 are preferably of angular form in plan view so that in the event of dislocation of either, it will be impossible for it to be turned within the neck and thus place the openings in vertical alignment and hence render it comparatively easy for a spring wire to be slipped down from above and engaged with the valve to raise the same.

To pour off any of the contents of the bottle, the cork 9 is removed and the bottle tipped to a sufficient angle, the contents unseating the valve and then successively flowing through the openings 15 and 11. As the bottle is restored to an upright position, the valve is automatically resealed through the force of gravity and the action of the spring.

It will be apparent that the bottle cannot be charged with liquid after neck 7 is secured in position, as the pressure of the liquid forced through openings 11 and 15 with the bottle in a horizontal position will force the valve more tightly against its seat.

From the above description it will be apparent that I have produced a non-refillable bottle possessing the desirable feature enumerated, and I wish it to be understood that I do not wish to be restricted to the exact details of construction shown and described as obvious modifications will suggest themselves to one skilled in the art.

I claim:

A non-refillable bottle, comprising a body having a short neck at its upper end provided with a circular groove, a long neck fitting and cemented in the circular groove and provided with an annular external flange resting upon and cemented to the neck at the outer side of the groove, a ring secured rigidly in the neck and projecting above the same and forming a valve seat, a valve normally engaging the seat, a spring hinge connecting the valve with the neck and holding the former seated with a yielding pressure, the long neck having a pair of downwardly disposed internal annular shoulders and a baffle projecting inwardly between the undermost shoulder and the valve in the vertical plane of the hinged side of the latter, a baffle cemented to the undermost internal shoulder of the long neck and provided with an opening in the vertical plane of the first-named baffle and extending upwardly in said shoulder around said opening and provided with a stud pro-

jecting upwardly to the plane of the top of
said extension, a baffle cemented to the other
internal shoulder of the long neck and pro-
vided with an opening out of alinement with
5 the opening of the baffle secured to the other
shoulder, and a removable cork fitting in
the long neck at its upper end.

In testimony whereof I affix my signature,
in the presence of two witnesses.

JAMES T. DEMPSEY.

Witnesses:

HELEN C. RODGERS,
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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."
