No. 840,453. PATENTED JAN. 1, 1907.

H. GEHMAN & N. A. GIANNONE.

NON-REFILLABLE BOTTLE.

APPLICATION FILED JAN. 22, 1906.

Fig. 1.

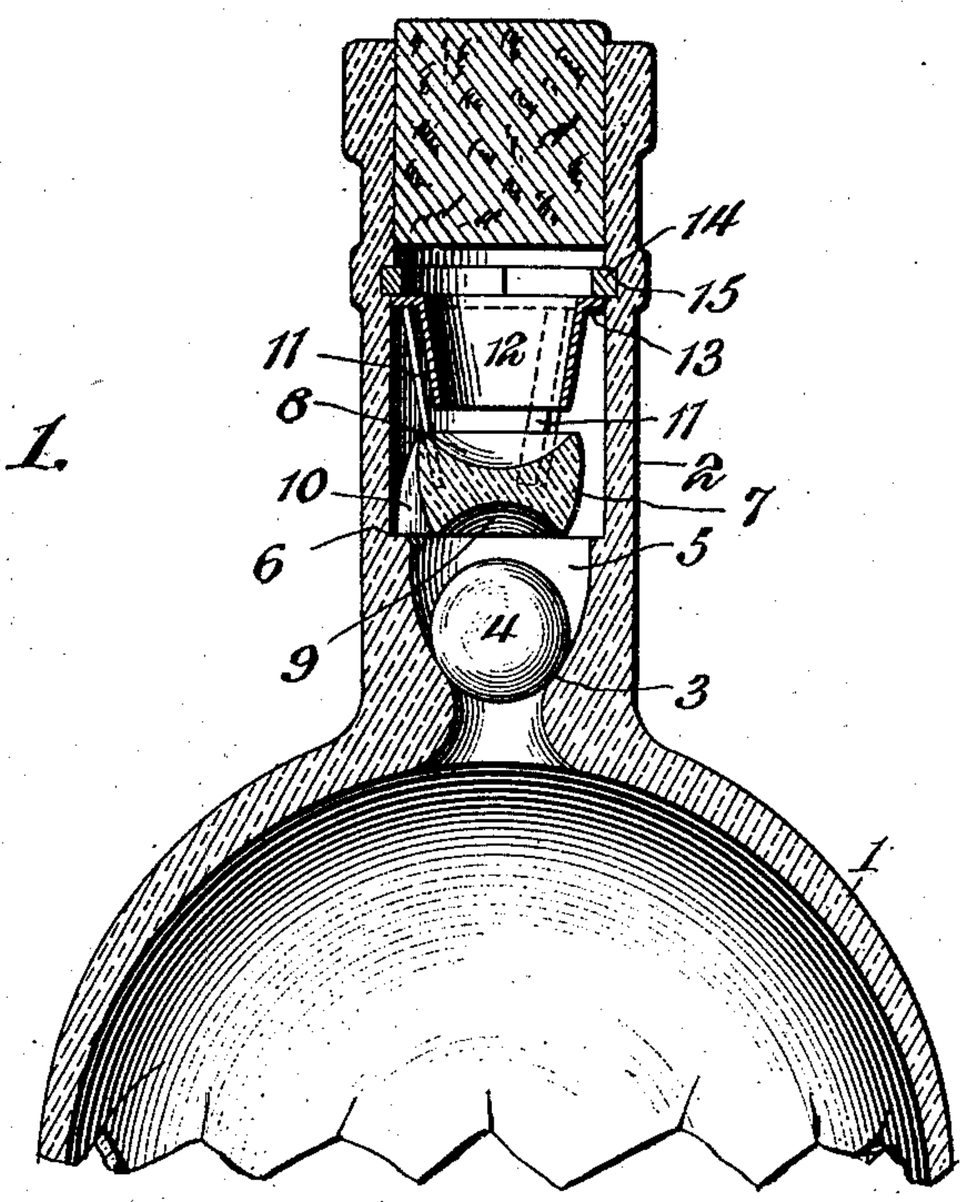

Fig. 2.

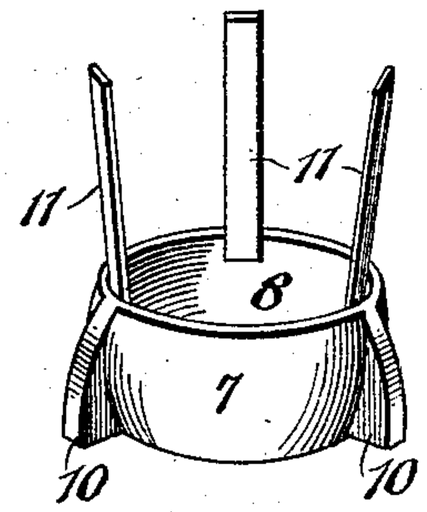

Fig. 3.

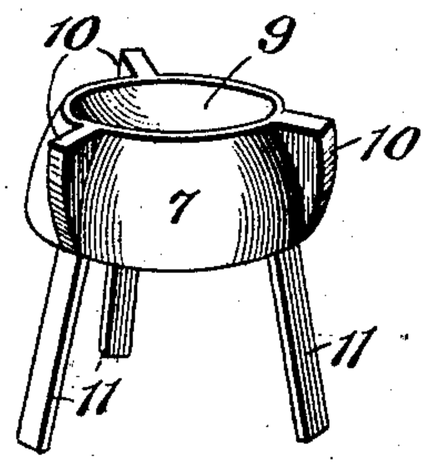

Fig. 4.

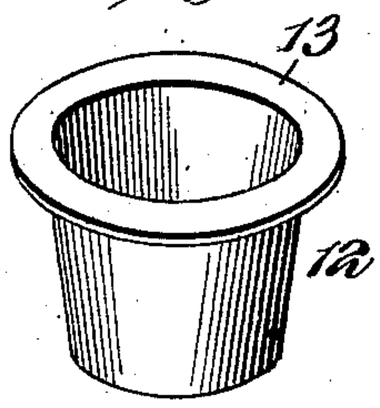

Fig. 5.

Witnesses
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UNITED STATES PATENT OFFICE.

HARRY GEHMAN AND NELSON A. GIANNONE, OF ATLANTA, GEORGIA, ASSIGNORS OF ONE-THIRD TO WILLIAM E. WIMPY, OF ATLANTA, GEORGIA.

NON-REFILLABLE BOTTLE.

No. 840,453. Specification of Letters Patent. Patented Jan. 1, 1907.

Application filed January 22, 1906. Serial No. 297,291.

To all whom it may concern:

Be it known that we, HARRY GEHMAN and NELSON A. GIANNONE, citizens of the United States, residing at Atlanta, in the county of Fulton and State of Georgia, have invented a new and useful Non-Refillable Bottle, of which the following is a specification.

The invention relates to improvements in non-refillable bottles.

The object of the present invention is to improve the construction of non-refillable bottles and to provide a simple and efficient one adapted to be easily and cheaply manufactured and capable of effectually preventing a bottle from being fraudulently refilled or its contents adulterated.

A further object of the invention is to improve the construction of that class of non-refillable bottles having a valve for preventing a liquid from being introduced into it and to provide a simple and effective guard mechanism adapted to prevent the valve from being tampered with by an instrument and capable of permitting a free discharge of the contents of the bottle when the same is inverted.

With these and other objects in view the invention consists in the construction and novel combination and arrangements of parts hereinafter fully described, and illustrated in the drawings, and pointed out in the claims hereto appended, it being understood that various changes in the form, proportion, size, and details of construction within the scope of the claims may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings, Figure 1 is a vertical sectional view of a non-refillable bottle constructed in accordance with this invention. Fig. 2 is a detail perspective view of the lower guard member. Fig. 3 is a similar view showing the same inverted. Fig. 4 is a detail perspective view of the upper guard member. Fig. 5 is a detail perspective view of the locking-spring.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

1 designates a bottle provided with a neck 2, having a valve-seat 3 at its lower end to receive a ball-valve 4, which closes the passage at the bottom of the neck when the bottle is in an upright position. Although the improvements are illustrated in connection with a bottle in the accompanying drawings, yet it will be readily apparent that they are applicable to various forms of receptacles having a neck for the reception of a stopper. The lower portion of the neck is thickened interiorly to provide the said valve-seat 3 and to form a reduced valve-chamber 5. An annular shoulder 6 is also formed at the top of the valve-chamber by reducing the neck, as shown, to provide a seat for a lower guard member 7.

The lower guard member, which is spaced from the valve-seat a sufficient distance to permit the ball to leave the same when the bottle is inverted, consists of a circular solid body having a slight downward taper and provided in its upper and lower faces with circular recesses or concavities 8 and 9, the lower cancavity being adapted to seat and center the ball when the bottle is inverted, whereby the ball is held in spaced relation with the sides of the neck, so that the liquid contents will be permitted to flow freely from the bottle. The circular body portion of the lower guard member is spaced from the walls of the neck to provide an intervening annular space or passage, and it is provided with projecting feet 10, consisting of tapered lugs or flanges extending from the top to the bottom of the body of the lower guard member and projecting from the periphery thereof and having lower straight horizontal edges to rest upon the seat formed by the annular horizontal shoulder 6 of the neck. The projecting peripheral lugs or flanges also fit against the walls of the neck of the bottle to maintain the body portion of the lower guard member in its spaced relation with the neck. The guard member is provided with a plurality of upwardly-extending supporting-arms 11, on which is seated and between which depends an upper tubular guard member 12. The ball-valve is designed to be constructed of glass, porcelain, or other suitable material, and the body portion of the lower guard member is also designed to be constructed of some such material, which will not affect the contents of the bottle or other receptacle. The upwardly-extending arms may be constructed of metal or any other suitable material, and when constructed of

metal may have their lower ends embedded within the same, as shown. The arms when constructed of metal will also be suitably coated to prevent them from affecting the contents of the receptacle.

The upper tubular guard member, which tapers downwardly and which is open at the top and bottom, is provided at the top with an outwardly-extending annular flange 13, which is arranged upon the upper ends of the arms 11 and which is retained on the same by means of a split locking-spring 14. The upper tubular guard member may be constructed of any suitable material, and the locking-spring, which will in practice be coated to prevent it from affecting the contents of the receptacle, engages an annular groove 15, formed on the interior of the neck a suitable distance from the upper end of the same, as clearly shown in Fig. 1 of the drawings. The spring when brought opposite the annular groove of the neck will engage the same and retain the guard members in the position shown. If desired, cement or other adhesive material may be placed in the groove to effectually prevent the spring from being removed therefrom after the parts have been assembled and after the bottle or other receptacle has been filled.

The upper and lower guard members form a tortuous passage and will effectually prevent a wire or other instrument inserted in the neck of the bottle from interfering with the operation of the ball-valve, and when the bottle or other receptacle is inverted the ball-valve will leave its seat and will seat itself within the recess or concavity 9 of the lower guard member, which also operates to space the ball-valve from the sides of the neck to prevent the ball-valve from interfering with a free discharge of the contents of the bottle.

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

1. In a device of the class described, the combination with a neck, and a valve located within the neck, of a lower guard member provided with upwardly-projecting arms, and an upper tubular guard member fitting within the arms of the lower guard member.

2. In a device of the class described, the combination with a neck, and a valve, of a lower guard member consisting of a body and upwardly-extending arms, and an upper guard member fitting within the arms and supported by the same in spaced relation with the lower guard member.

3. In a device of the class described, the combination with a neck having a seat, and a valve, of interfitting guard members located above the valve and forming a tortuous passage for the liquid, one of the guard members being provided with a seat arranged to receive and center the valve when the receptacle is inverted, whereby the valve is held in spaced relation with the walls of the neck to permit a free discharge of the liquid.

4. In a device of the class described, the combination with a neck, of a valve, and a guard member consisting of a circular body portion provided with peripheral supporting projections and having a recess in its upper face, and arms extending upward from the body portion at the walls of the said recess.

5. In a device of the class described, the combination with a neck having a seat, and a valve, of a lower guard member consisting of a body portion provided with projecting feet and having upwardly-extending arms, and an upper tubular guard member supported by the upper ends of the arms and extending downward within the same.

6. In a device of the class described, the combination with a neck having a seat, and a valve, of a lower guard member having projecting supporting-lugs and provided with upwardly-extending arms, and an upper downwardly-tapered tubular guard member supported by the arms and extending downward within the same.

7. In a device of the class described, the combination of a neck having a seat, a valve, a lower guard member consisting of a circular body portion provided with upper and lower recesses and having projecting peripheral supporting-lugs and also provided with upwardly-extending arms, a downwardly-tapered tubular upper guard member fitting within the arms and having a flange at its top arranged upon the upper ends of the said arms, and a locking device engaging the neck and the flange.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

HARRY GEHMAN.
NELSON A. GIANNONE.

Witnesses:
HENRY C. PEEPLES,
LEE M. JORDAN.