No. 721,493. PATENTED FEB. 24, 1903.

P. J. ATZBERGER & F. W. PETERS.

NON-REFILLABLE BOTTLE.

APPLICATION FILED JULY 31, 1902.

NO MODEL.

Fig. 1.

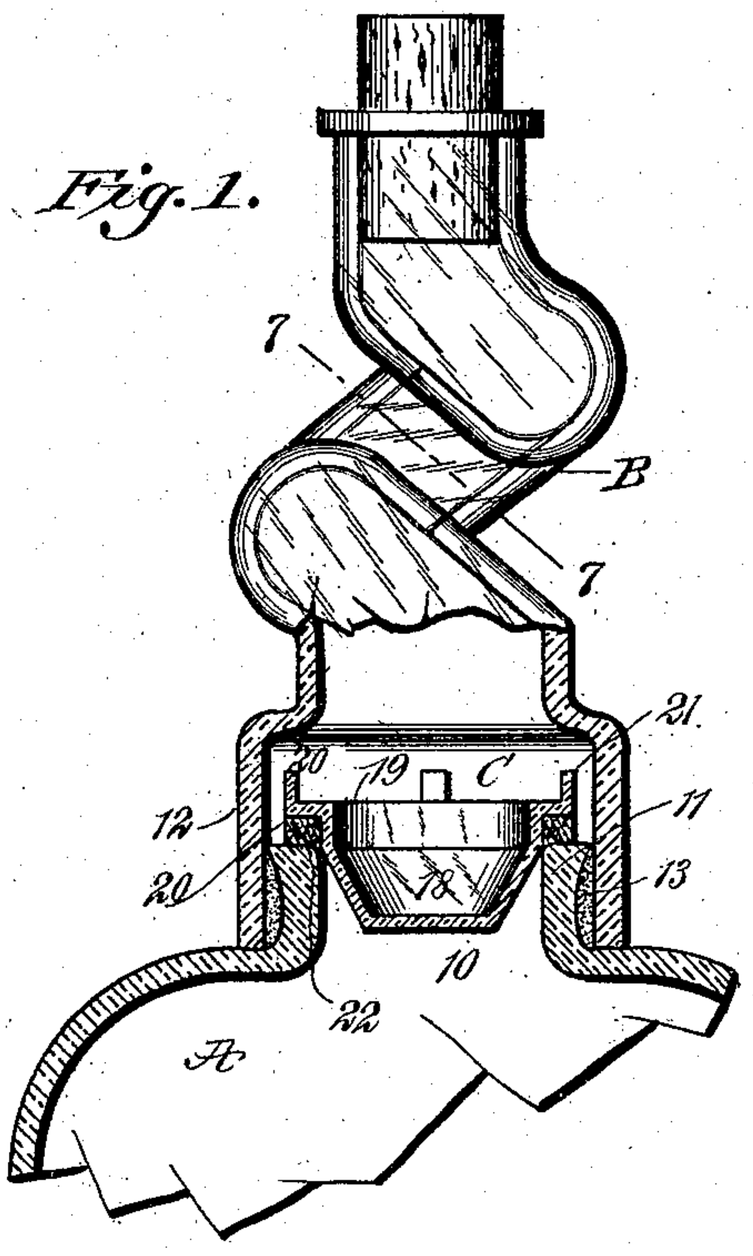


Fig. 2.

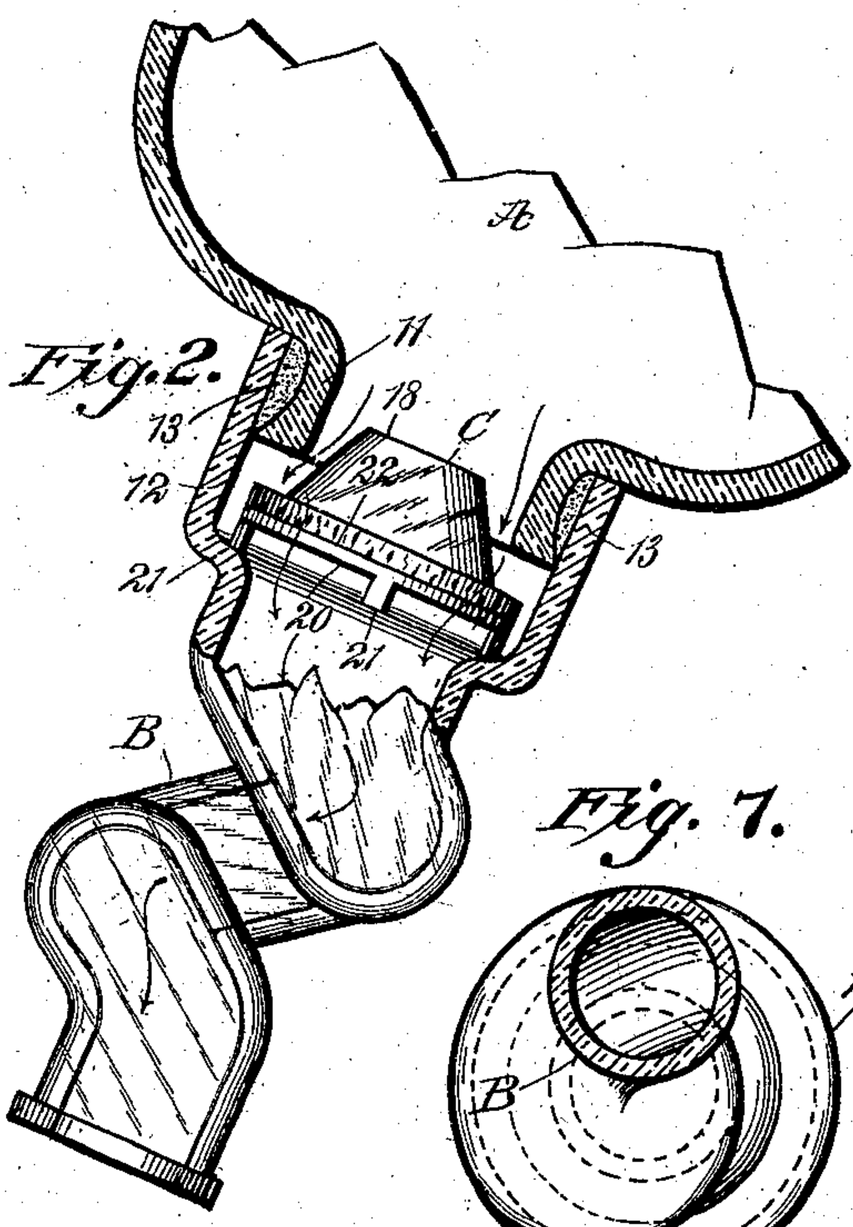


Fig. 7.

Fig. 3.

Fig. 5.

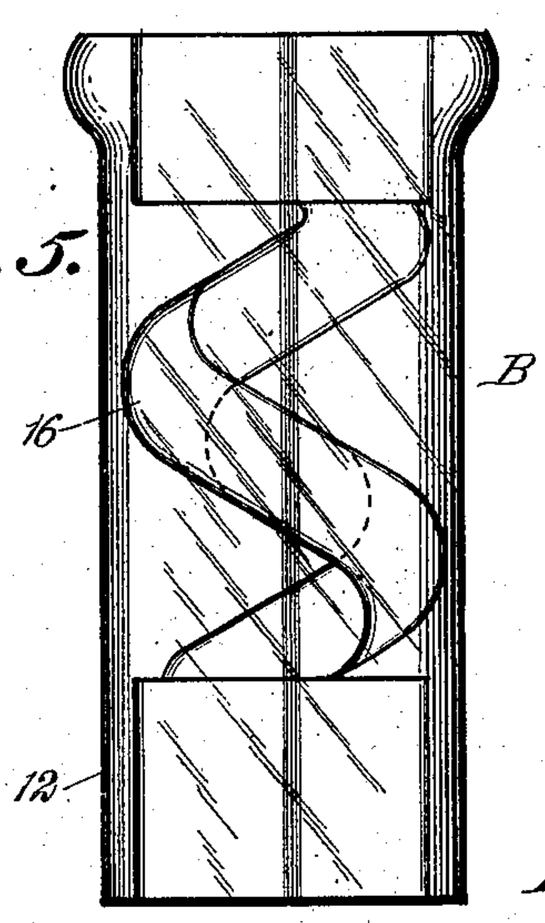


Fig. 4.

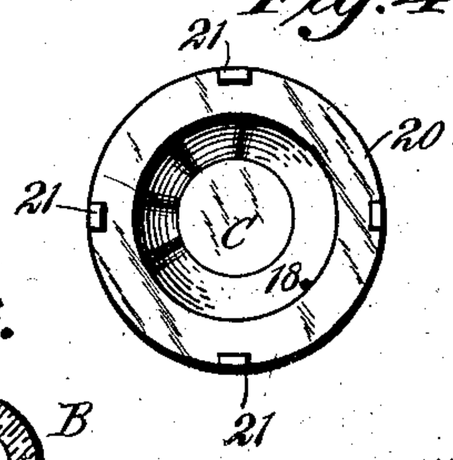
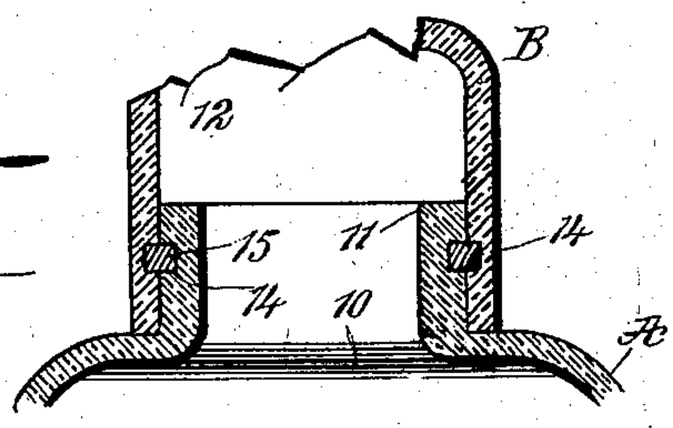


Fig. 6.



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PHILIP J. ATZBERGER AND FREDERICK W. PETERS, OF CLEVELAND, OHIO.

NON-REFILLABLE BOTTLE.

SPECIFICATION forming part of Letters Patent No. 721,493, dated February 24, 1903.

Application filed July 31, 1902. Serial No. 117,841. (No model.)

To all whom it may concern:

Be it known that we, PHILIP J. ATZBERGER and FREDERICK W. PETERS, citizens of the United States, and residents of Cleveland, in the county of Cuyahoga and State of Ohio, have invented a new and Improved Non-Refillable Bottle, of which the following is a full, clear, and exact description.

The purpose of the invention is to provide a bottle so constructed that after it has been emptied of its contents it cannot be refilled and again presented as an original package.

A further purpose of the invention is to provide a bottle of the character described which can be conveniently constructed and which may be given substantially the same shape as an ordinary bottle.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a sectional side elevation of the upper portion of the body of the bottle and the neck thereof, the parts being shown in an upright position. Fig. 2 is a view similar to that shown in Fig. 1, the parts being shown in decanting position. Fig. 3 is a bottom plan view of the valve employed in connection with the bottle. Fig. 4 is a plan view of the said valve. Fig. 5 is a side elevation of a slightly-modified form of the neck of the bottle; and Fig. 6 is a vertical section of a portion of the body and neck of a bottle, illustrating another method of securing the parts together. Fig. 7 is a transverse section through the neck of the bottle, the section being taken on the line 7 7 of Fig. 1.

The body A of the bottle is provided at the top with an opening 10, surrounded by a collar 11, the outer surface of which is preferably concaved or grooved for a purpose to be hereinafter described. The lower portion 12 of the neck B is circular in cross-section and is of sufficient diameter to fit over the collar 11, and said lower portion 12 of the neck is attached to the collar of the body A by a cementing material 13 of any description, the groove or cavity in the collar permitting an ample quantity of such material being employed, or, as illustrated in Fig. 6, the neck and the body of the bottle may be connected by producing registering annular grooves 14 in the exterior of the collar 11 and the interior of the neck B, in which grooves a split ring 15 is introduced. The neck B, above its base-section 12, is of interior and of exterior spiral formation and circular in cross-section, as is shown in Figs. 1, 2, and 7, although said neck may be exteriorly circular or polygonal and provided with an interior spiral channel 16, as is shown in Fig. 5, extending from its mouth to the base-section 12, which latter is interiorly circular in both forms of the neck, and in both forms of the neck also the interior of the neck at the mouth is circular to receive a suitable cork 17.

A valve C is located within the base-section 12 of the neck, extending into the opening 10, surrounded by the collar 11, as is shown in Figs. 1 and 2. This valve C is made of aluminium or other light metal or can be made of glass, if desired. It consists of a dished or substantially conical body 18, which body when the valve is seated extends down within the collar 11, and an upper circular flange 19, together with an outwardly-extending and horizontal upper marginal flange 20, from which latter flange 20 spurs 21 extend in an upward direction. When the bottle is in an upright position, the valve is seated upon the upper edge of the collar 11, as is shown in Fig. 1, and in order that the seat for the valve need not be ground a washer 22, of cork or a like material, is made to surround the body-flange 19 and have bearing against the under surface of the marginal flange 20, as is shown in Figs. 1 and 2. When the bottle is tilted, as shown in Fig. 2, to decant its contents, the valve C unseats itself and the spurs 21 engage with that portion of the base 12 of the neck where the spiral section connects with the base, and the liquid is free to flow from the body of the bottle around the valve and into the spiral section of the neck. If an attempt be made to fill the bottle while it is in the upright position, the liquid will fill the cavity in the valve C and cause the said valve to seat itself, if displaced. When the bottle is in a horizontal position, no liquid can enter, as the liquid would have to flow upward

in the spiral section of the neck whichever way the bottle may be turned, and the air in the bottle, being inclosed, will prevent the liquid from going any farther than the first upward inclination of the spiral section of the neck. Should any extra pressure be used, the valve C will be forced to its seat by the incoming liquid. Should an attempt be made to fill the bottle when it is inverted, as the liquid is forced upward the valve C will act as a float and will rise to its seat, thus cutting off all communication between the neck and the body of the bottle.

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

1. In a non-refillable bottle, a body having an opening in its top surrounded by a collar, the upper edge of said collar forming a valve-seat, a neck having a straight base-section adapted to fit over the collar, the said section when in position engaging the top portion of the body, a straight mouth-section in line with the base-section and an intermediate portion having a spiral channel therein, and a valve seated on the valve-seat and normally closing communication between the body of the bottle and its neck as described.

2. In a non-refillable bottle, a body, a neck having a spiral formation, a dished valve adapted to be seated at the junction of the neck with the body, the said valve having an upper circular flange and an outwardly-extending marginal flange, a cork washer held on the circular flange and engaging the inner surface of the marginal flange, the said washer being adapted to be seated on the valve-seat, and projections on the marginal flange of the valve for limiting the movement of the valve from its seat, substantially as described.

3. In a non-refillable bottle, a body having an opening in its upper portion, a valve-seat surrounding said opening, a neck having a spiral channel therein establishing communication between the mouth of the neck and the said opening in the body, a dished valve extending in direction of said opening in the body, the dished surface of the valve being uppermost, and extensions from the valve whereby to engage with a surface of the neck to limit the movement of the valve when the bottle is in decanting position, the dished section of the valve tending to seat the valve when liquid is introduced into the bottle and the valve is in operative position, as set forth.

4. In a non-refillable bottle, a body having a contracted mouth at its upper portion forming a valve-seat, a neck having a straight circular portion adapted to fit over the mouth of the body and rest on the upper surface of said body, the neck having a spiral channel therein communicating with the straight portion, a valve at the junction of the said neck with the body and adapted to be seated on the said valve-seat, and means located between the neck and the mouth portion of the body of the bottle for fastening the said parts together, as set forth.

5. In a non-refillable bottle, a body having a mouth at its upper portion forming a valve-seat, a neck adapted to fit over the mouth of the body and having a spiral channel therein, a valve comprising a dished body adapted to extend within the mouth of the body of the bottle, and having an upper circular flange, and an outwardly-extending marginal flange, a washer of yielding material surrounding the circular flange and engaging the under or inner surface of the marginal flange, the said washer being adapted to be seated on the valve-seat, means for limiting the movement of the valve from its seat, and means for securing the neck to the body of the bottle, as set forth.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

PHILIP J. ATZBERGER.
FRED. W. PETERS.

Witnesses:
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FRANK G. NURM.