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PATENTED JUNE 6, 1905.

R. J. BARTLEY.  
NON-REFILLABLE BOTTLE.  
APPLICATION FILED JAN. 6, 1903.

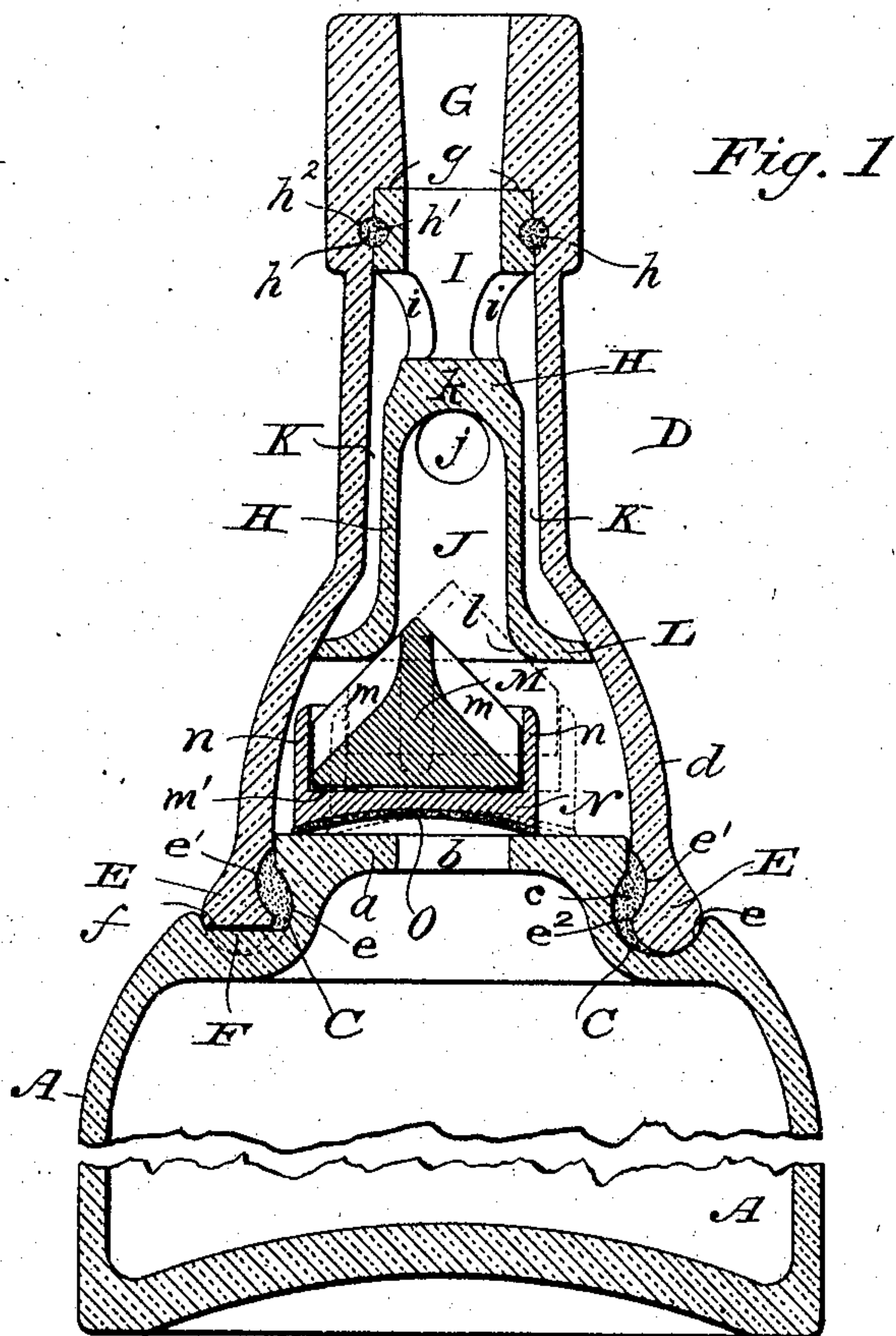


Fig. 2.

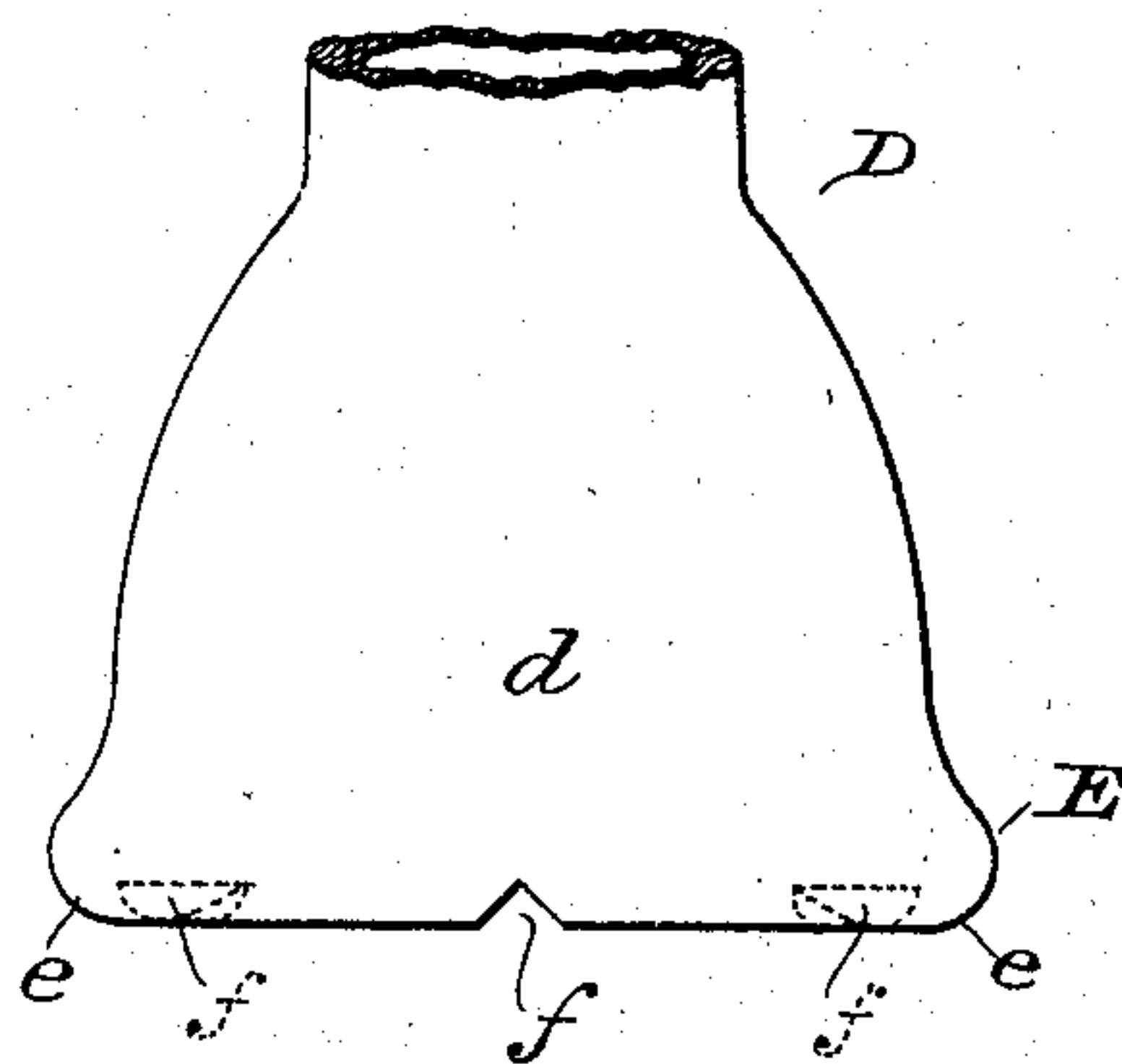


Fig. 4.

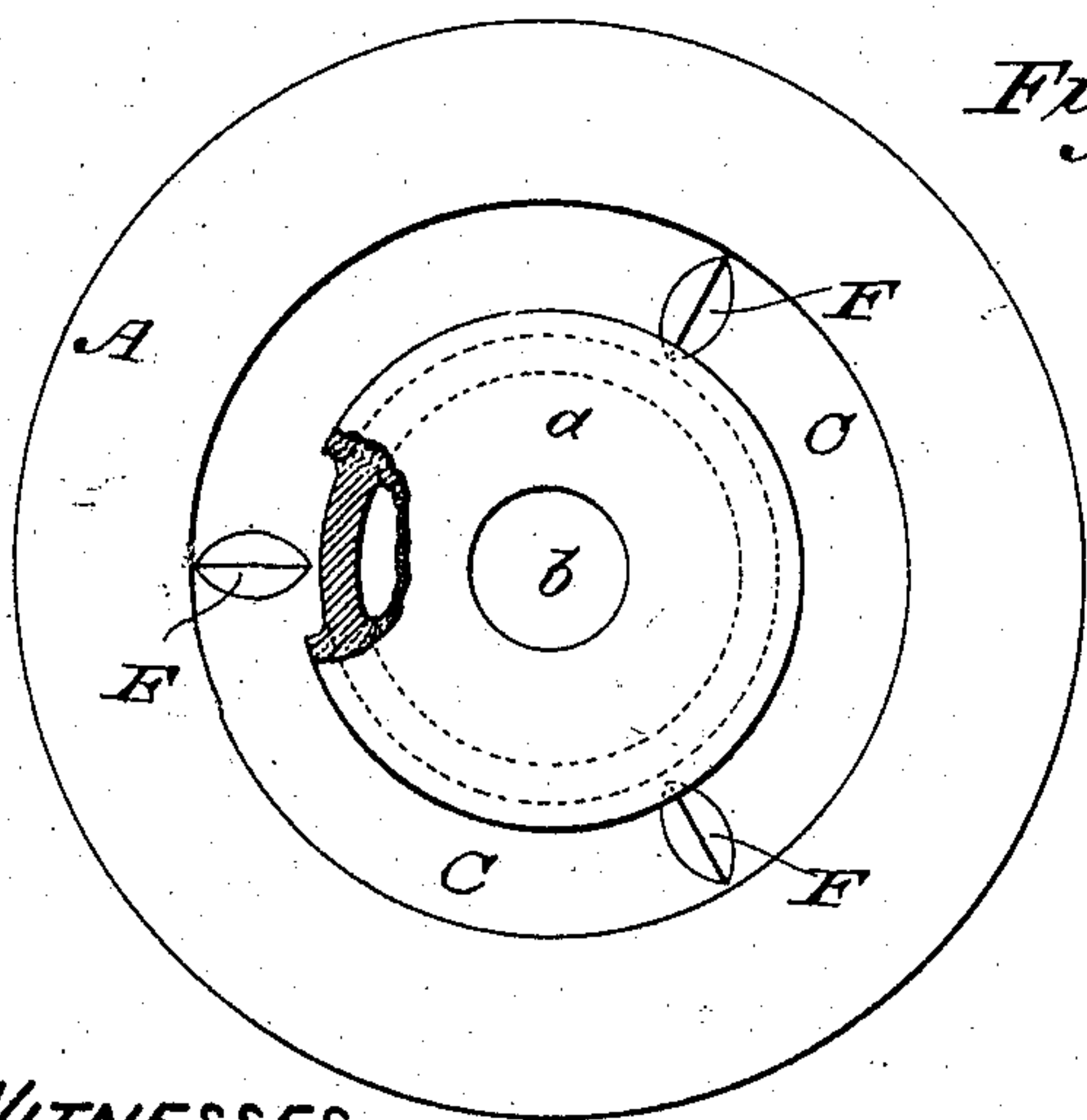


Fig. 3.

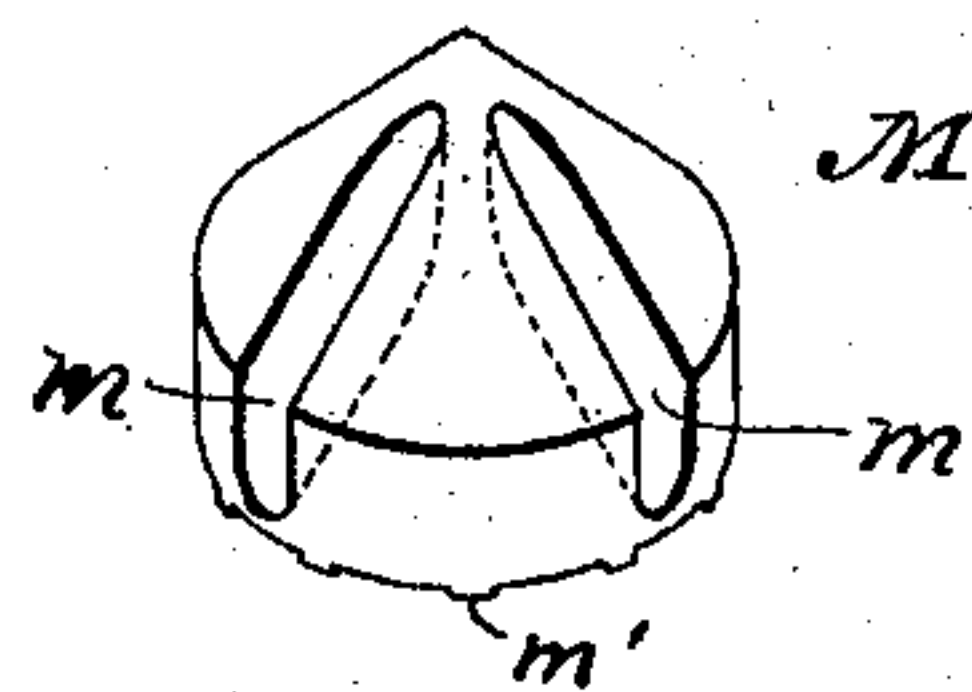
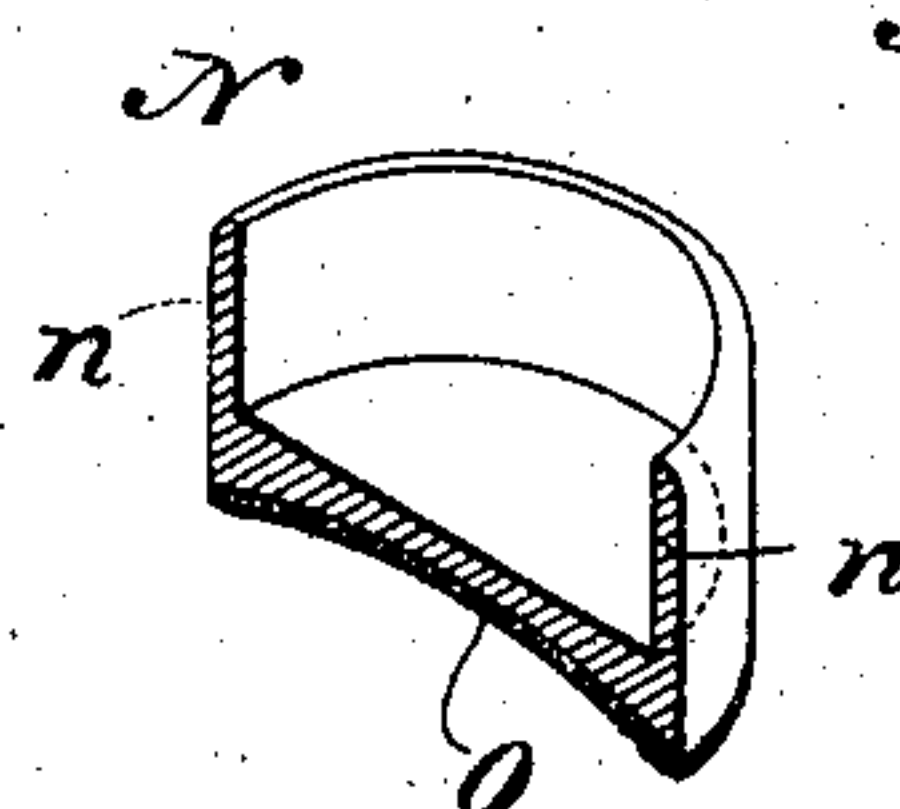


Fig. 5.



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## UNITED STATES PATENT OFFICE.

ROBERT J. BARTLEY, OF CLEVELAND, OHIO.

## NON-REFILLABLE BOTTLE.

SPECIFICATION forming part of Letters Patent No. 791,444, dated June 6, 1905.

Application filed January 6, 1903. Serial No. 138,015.

*To all whom it may concern:*

Be it known that I, ROBERT J. BARTLEY, a citizen of the United States, residing at Cleveland, Cuyahoga county, Ohio, have invented certain new and useful Improvements in Non-Refillable Bottles, of which the following is a specification that will enable those skilled in the art to which my invention pertains to make and use the same, reference being had to the accompanying drawings, forming a part of the same.

My invention relates to the construction of bottles which when once filled with and emptied of their original contents cannot be refilled with any liquid. Its object is to prevent the second use of a package or bottle with other or inferior grades of goods than that originally contained by it; and it consists of certain improvements in the bottle and the check-stopper therefor, as will hereinafter be fully set forth.

The accompanying drawings show my invention embodied in the forms now deemed most desirable by me; but I do not mean to confine myself to the precise forms and arrangements of details therein shown, for changes not requiring the exercise of invention might be made by a skilful mechanic without departure from the spirit of my invention as set forth in the claims at the end of this specification.

Figure 1 is a vertical central section through a bottle embodying my invention. Fig. 2 is a detached elevation of the lower part of the neck portion of my bottle. Fig. 3 is a plan view, partly broken away, of the top of my bottle proper, showing the seat for the detached neck portion. Fig. 4 is a perspective view of the weighted top portion of my separable valve. Fig. 5 is a perspective sectional view of the buoyant lower portion of the valve.

The lower part A of my bottle is made in the usual fashion, except that it is made without a neck. It has a flat flanged top *a* considerably smaller in diameter than the body of the bottle and provided with a central aperture *b*, through which the bottle is filled and emptied. Immediately below this flange-top is formed an exterior annular seating-recess C to receive the lower end of the neck

portion D of the bottle. This neck portion is made separately from the bottle in order that the antirefilling devices may be inserted in its wide-open lower end before the neck is seated on and permanently sealed to the body of the bottle. The neck portion is provided with an expanded bell-shaped lower end *d*, at the bottom edge of which is an annular rib E, rounded on its lower and outer sides, as at *e*, and provided on its inner face with an annular recess *e'*. It will be observed that the inner surface of the bell above this recess snugly fits the outer periphery of the flange *a* on the top of the bottle and, further, that the point *e''* at the juncture of the rib-surface *e* and the recess *e'* is of a diameter to just pass the periphery of the said flange. The seat-recess C at the top of the bottle is also undercut or recessed below the flange *a*.

Now when the neck is to be joined to the bottle the seating-recess C is filled with plastic cement, plaster-of-paris, or any suitable insoluble and impervious substance *c* that will subsequently harden. The seating of the neck in the mass of cement will force and flow a portion of said mass inwardly and up toward the top of the recess, so that the entire annular space between the recesses C and *e'* will be filled with the same, which when set and hardened will absolutely prevent the removal of the neck from the body of the bottle without breaking the body of cement in the recess, and I purpose to use a cement that will be at least as strong as the glass in the bottle and neck.

It will be observed that at the outer side of the recess C the rib E fits so closely that no instrument may be inserted for the purpose of picking or chipping away the cement in the interior of the recess.

In order not to depend entirely upon the adhesion of the cement to the glass and to prevent turning the neck on its seat, I provide one or more interlocking devices. To illustrate this, I have shown several shallow lugs or ribs F extending radially across the bottom of the recess C with corresponding notches *f* in the bottom of the rib E. I prefer to make these ribs and notches V-shaped, as shown.

The exit-orifice of the neck is more con-



tracted than the interior of the neck below it, thus forming a ledge *g* at the bottom of said orifice. Seated within the neck immediately below this ledge is a plug *H*, which at its upper end snugly fits the interior of the neck and which may be locked in place, if desired, by a cork or other compressible ring *h*, fitting when expanded into grooves *h'* and *h''* in the plug and neck, respectively. The plug has two central bores or passages *I* and *J*, separated by a partition *k*, which forms the top of the lower passage. The lower portion of the plug is of a smaller diameter than the interior of the neck, thus providing an annular space or passage *K* between them. The upper passage *I* communicates with this space *K* through side apertures *i*, while the lower passage *J* communicates with it through side apertures *j* set at right angles to or out of line with the apertures *i*, so as to provide a tortuous passage through which liquor may flow, but through which it will be impossible to insert an instrument to tamper with the valve below the plug. The lower end of the plug flares out and has a side flange *L*, which bears against the inner walls of the flaring end of the neck to hold and steady the plug in its proper place and also to close the lower end of the space *K* against the passage of any instrument toward the valve below it. The lower end of the passage *J* is rounded out into the surface of this flange, as shown, to form a rounded corner or edge *l* immediately above the valve.

The valve consists of two separable parts *M* and *N*, the upper part *M* being of some heavy substance that will sink in liquid, while the lower part *N* is made of some buoyant material. The weighty part *M* is a cylindrical body terminating in a conical top and having radial grooves *m* in its surface, which admit of the flow of liquor into or from the passage *J* of the plug when the bottle is inverted and this part of the valve is in the position shown by dotted lines in Fig. 1. The lower buoyant part *N* of the valve consists of cupped disk, the side walls *n* of which loosely embrace the cylindrical part of the weight *M*, so that it will guide but not bind the weight. The lower face of the disk *I* prefer to make concave, as shown, and upon this face *I* secure a covering or washer *O*, composed of some soft, yielding, impervious, and indestructible material that will act as a packing on the valve on the face of the flange *a*. I have found asbestos cloth or felt an exceedingly valuable material for this purpose, more so than any other within my present knowledge. In order that the separable parts *M* and *N* of the valve may always be free to separate, I prefer to form a series of lugs *m'* on the bottom of the weighted portion *M* to raise it slightly from its seat and prevent any such close contact as might produce a suction sufficient to hold the two parts together when they should be separated.

In emptying the bottle the float *N* will fall or float away from its seat and permit the passage of liquid from the aperture *b*; but in any attempt to refill the bottle when it is inverted the incoming liquid will raise the float *N* to the position shown by dotted lines in Fig. 1, holding it firmly on its seat and cutting off access to the aperture *b*.

Having thus described my invention, what I claim as new and useful, and desire to secure by Letters Patent, is—

1. In a non-refillable bottle, the combination of a bottle-body and a bottle-neck made separately and adapted to be inseparably secured together and sealed at the joint, a valve-seating surface formed at the top of the bottle-body with an orifice therethrough, the neck portion enlarged at its bottom to form a valve-chamber, a plug secured in the neck above the valve-chamber and having a central passage leading from said chamber, a valve composed of two separable parts resting on the seating-surface at the top of the bottle the upper part of the valve being heavy and having a conical top standing within the mouth of the plug while the lower part of the valve is buoyant and cup-shaped to embrace the heavy upper part, substantially as set forth.

2. In a non-refillable bottle, the combination of the bottle and its neck made separately and then inseparably joined, a valve-chamber at the bottom of the neck, a flanged top on the bottle-body between said chamber and the interior of the bottle with an aperture therethrough, and a contracted orifice leading from the top of said chamber, with a buoyant valve-disk adapted to close the opening in the flanged top and a heavy disk having a conical upper end which projects into the orifice at the top of the valve-chamber, the heavy disk and the buoyant disk being adapted to spread apart without actual separation, substantially as set forth.

3. In a non-refillable bottle, the combination of a bottle having a valve-chamber at the lower end of its neck, a flanged top on the bottle-body between said chamber and the bottle with an aperture therethrough, a plug secured in the neck providing tortuous passages from the said valve-chamber to the exit-orifice of the neck, the lower end of said passages terminating in a common central orifice at the bottom of the plug which constitutes the top of the valve-chamber, with a two-part separable valve in the chamber one part of which is heavy and has a conical top which projects into the central orifice of the plug while the other part is buoyant and has an annular rim to loosely embrace the heavy part, substantially as set forth.

4. In a non-refillable bottle, the combination of a bottle having a valve-chamber at the lower end of its neck, a flanged top on the bottle-body between said chamber and the bottle with an aperture therethrough, and a



plug having a contracted passage leading from the top of the chamber to the neck-orifice, with a two-part separable valve located in said chamber, the upper one of said parts 5 being heavy and having a conical top which projects into the mouth of the passage, the other part being buoyant and cup-shaped to loosely embrace the heavy part and provided on its lower face with a covering of indestructible yielding material such as asbestos felt or 10 the like, substantially as set forth.

5. In a bottle, the combination of a body part contracted at its upper end and having formed in its sloping side just below the top 15 an annular recess which is undercut beneath its top edge and depressed below its outer peripheral edge and a flanged top on the body part having an aperture therethrough, with a neck part having a lower edge adapted to 20 fit down into the annular recess in the body part and provided with an internal groove opposed to the undercut portion of the recess in

the body part, whereby the two parts may be inseparably united by suitable plastic cement that will subsequently harden, substantially 25 as set forth.

6. In a bottle, the combination of a body portion having an annular depressed seating-groove in its upper surface with lugs or ribs across said groove and a neck portion adapted 30 to be seated and sealed in said groove and having on its seating edge indentations adapted to engage with the ribs in the groove to prevent the neck portion from being turned on its seat in the groove, substantially as set 35 forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ROBERT J. BARTLEY.

Witnesses:

SAMUEL C. BLAKE,  
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