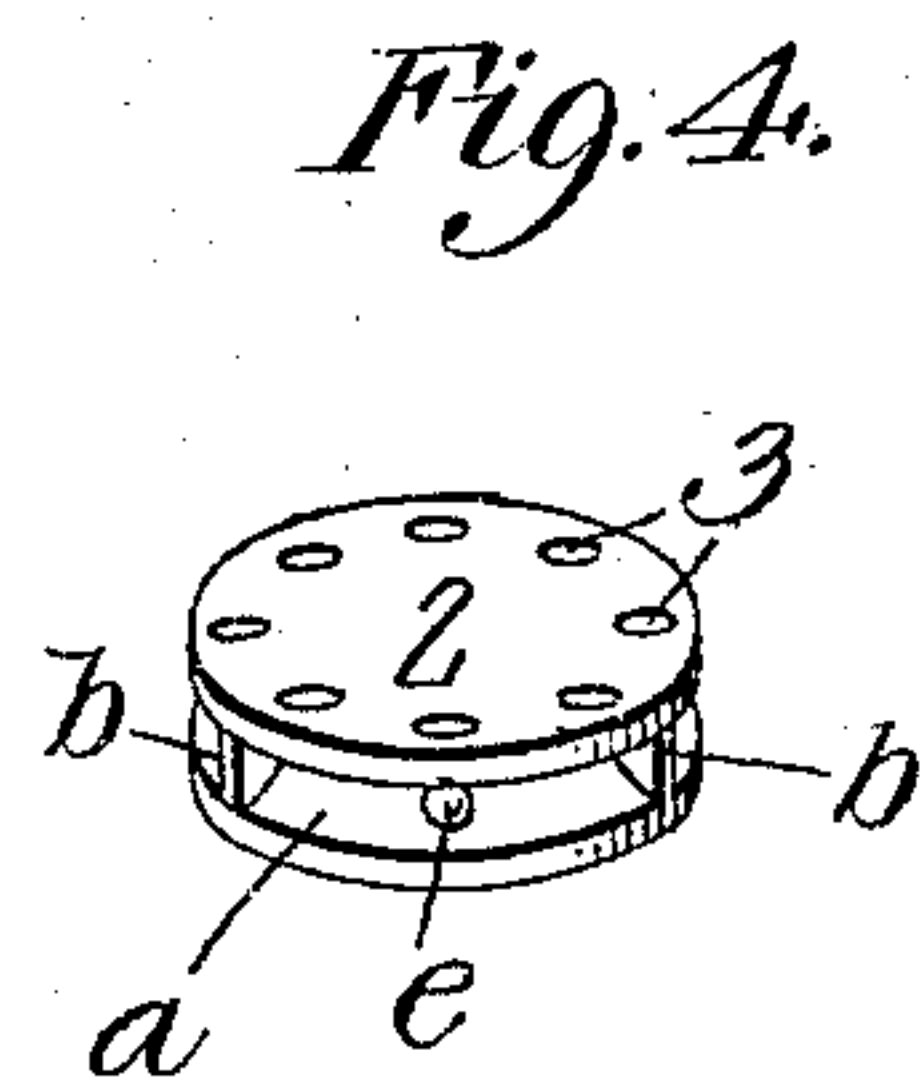
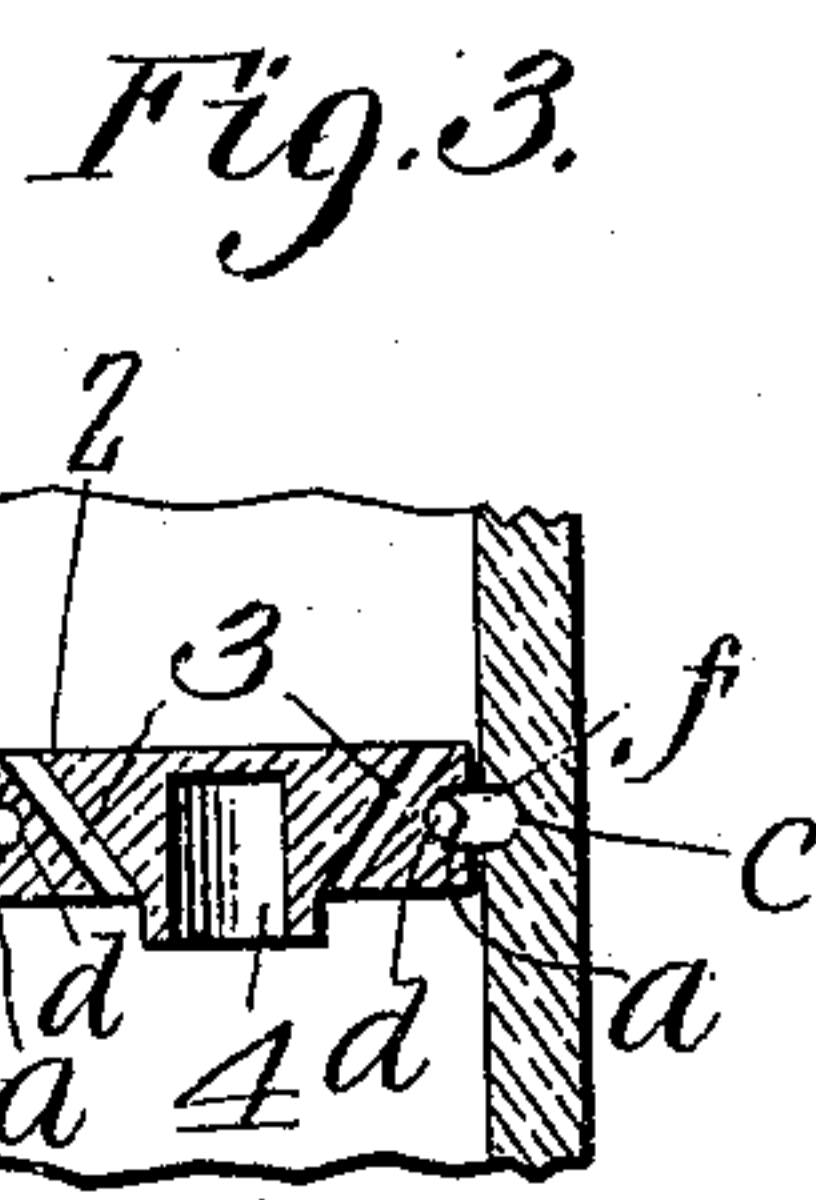
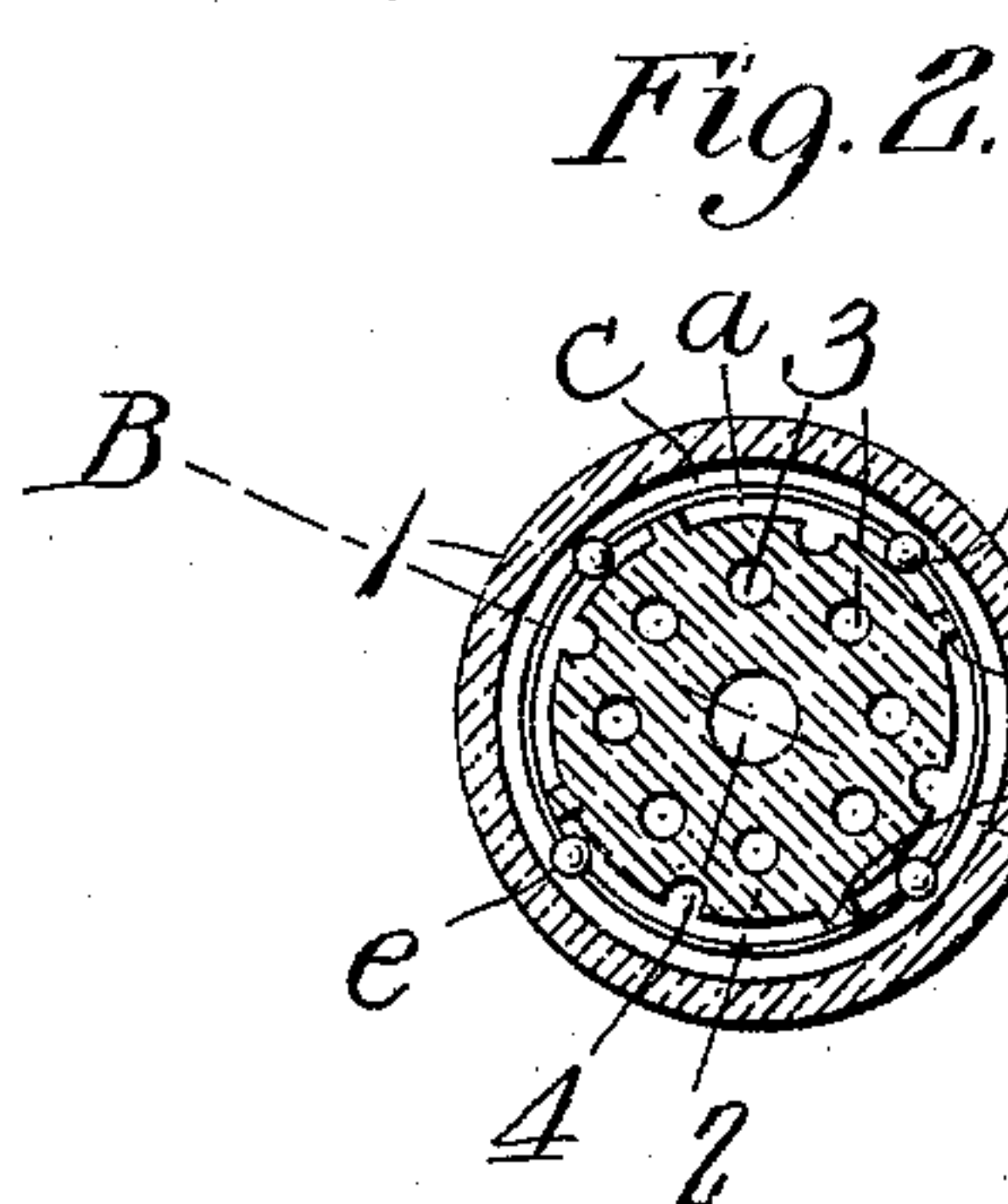
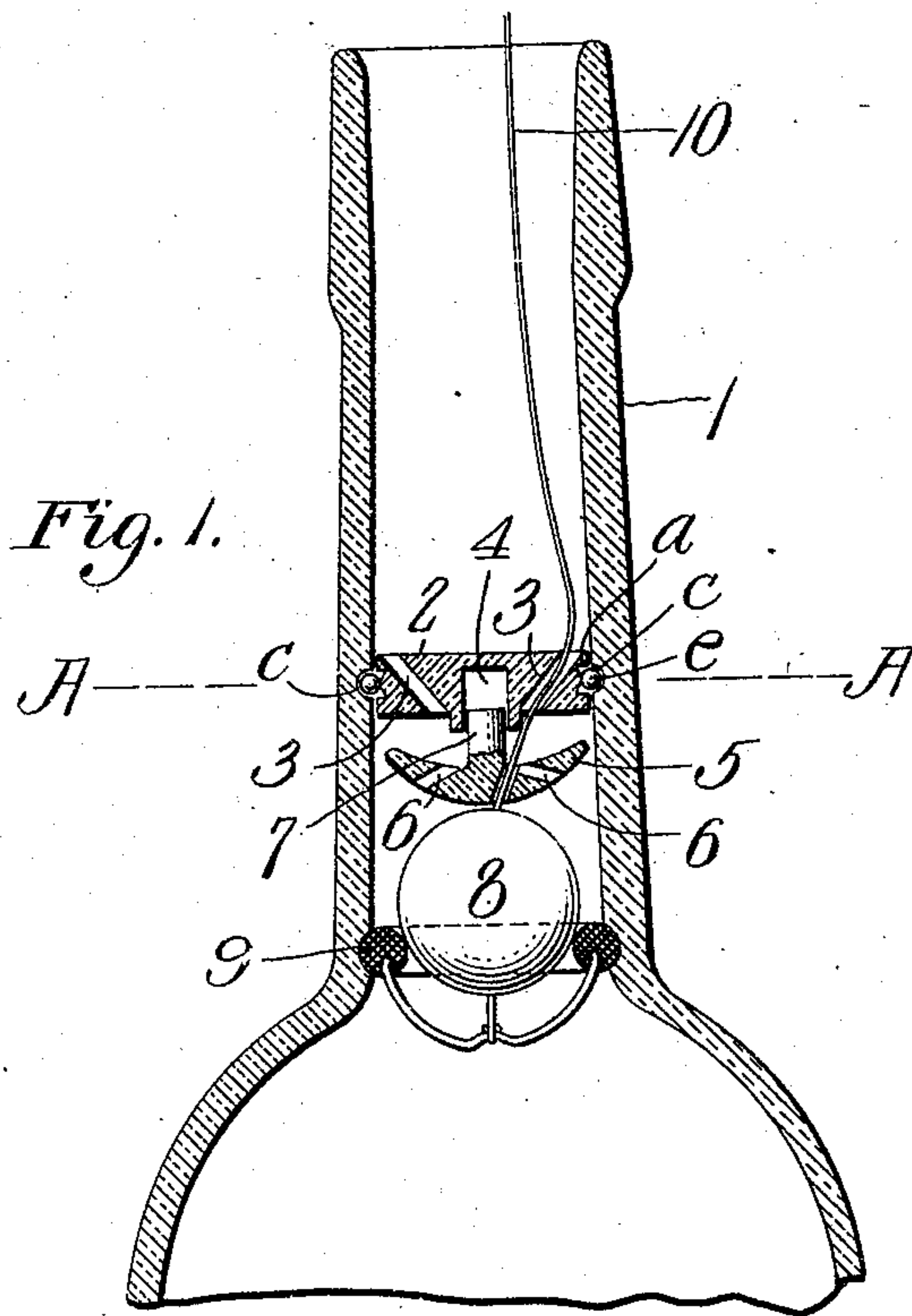


No. 842,145.

PATENTED JAN. 22, 1907.

J. T. GILMER.
BOTTLE CLOSURE.

APPLICATION FILED SEPT. 27, 1906.



Witnesses

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UNITED STATES PATENT OFFICE.

JOHN T. GILMER, OF PENSACOLA, FLORIDA, ASSIGNOR OF ONE-HALF TO
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BOTTLE-CLOSURE.

No. 842,145.

Specification of Letters Patent.

Patented Jan. 22, 1907.

Original application filed June 11, 1906, Serial No. 321,239. Divided and this application filed September 27, 1906. Serial No. 336,489.

To all whom it may concern:

Be it known that I, JOHN T. GILMER, a citizen of the United States, residing at Pensacola, in the county of Escambia and State of Florida, have invented a certain new and useful Improvement in Bottle-Closures; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention (for which the present application is filed as a division of my pending application for non-refillable bottle, Serial No. 321,239, filed June 11, 1906,) relates to closures or guards for keeping the valve mechanism in the bottle-neck; and the object is to provide an improved device whereby the valve mechanism can be placed in the bottle-neck, and the guard can then be inserted and permanently locked.

In the accompanying drawings, which form a part of this specification, Figure 1 is a vertical central section of the upper portion or bottle-neck of a non-refillable bottle, having a guard and locking device embodying my invention. Fig. 2 is a horizontal cross-section taken through the neck of the bottle on line A A of Fig. 1. Fig. 3 is a vertical section taken on line B B of Fig. 2. Fig. 4 is a detail perspective view of the guard detached.

The numeral 1 denotes the bottle-neck, in which is arranged a valve mechanism rendering the bottle non-refillable. It is understood that such valve mechanism is not concerned in the present invention, but is shown merely for illustration of the utility of the guard and its securing means.

The valve mechanism may be described as follows: In the bottle-neck 1 is fixedly secured a glass disk 2, (which is the guard,) said disk having a number of holes or perforations 3 therein and having a bottom socket 4. Below said guard-disk 2 is a concavo-convex glass disk 5, having holes or perforations 6 and having an upwardly-projecting stud 7, which is loosely fitted or seated in the socket 4. Said disk 5 rests on a glass ball or ball-valve 8, the disk 5 being movable up and down between the limits allowed by said ball 8 and by the depth of the socket 4. The ball or ball-valve 8 normally rests on or in a valve seat 9 in the neck of the bottle, said valve-

seat 9 being a rubber ring or gasket. As thus constructed liquid can be poured into the bottle only when the ball or ball-valve 8 is raised from its seat, which is done, in the first instance, by means of a thread 10 attached to said ball and passing up out of the mouth of the bottle-neck. After the bottle has been filled at the outset the said thread 10 is cut off, and thereafter the bottle cannot be refilled, although the liquid contents thereof can be poured out by the displacement of the ball 8 when the bottle is inverted or partially inverted. The valve mechanism or elements mentioned can be placed in proper assemblage within the bottle-neck, and then fixedly and permanently secured by the means now to be described.

The guard-disk 2 is formed with an annular peripheral groove *a*, which groove is divided by partitions *b* into a number of sections, four sections or quadrants being shown. The bottle-neck 1 is interiorly formed with a confronting groove *c*. The groove *a* in the disk 2 has a number of sockets or recesses *d*, one or more of such sockets being provided for each quadrant or section of such groove. In the said sockets *d* beads or balls *e*, preferably of glass, are placed before the disk 2 is inserted in the bottle-neck. Said disk 2 is then inserted into the bottle-neck until the grooves *a* and *c* register, whereupon the glass beads *e* pass out from their sockets *d* and engage in the confronting grooves *a* and *c*, thus securely locking the disk 2 in place. The grooves *a* and *c* are of such depth as to loosely inclose the beads or balls *e* therein, so as to allow free running of the said beads or balls and prevent them from binding. Both of said grooves *a* and *c* may be approximately semicircular; but the groove *a* in the disk 2 is preferably of angular shape, as shown in Fig. 3, the bottom of said groove *a* being slightly ridged medially, as indicated at *f*, to prevent any tendency of the beads or balls *e* from returning into the sockets *d* after the disk 2 is secured in place. Said sockets *d* are of just sufficient depth to allow the balls to seat therein in order to prevent contact with the interior of the bottle-neck while the disk 2 is being inserted. With this contrivance the valve mechanism is inserted in the bottle-neck as represented in Fig. 1 in the following manner: The sev-

eral parts are first assembled together outside the bottle, the ball 8 being seated on its rubber ring 9, forming the valve-seat, and the thread 10 being attached to said ball and being threaded through the disks 5 and 2. The parts now being assembled the rubber ring 9, together with the parts attached thereto and with the ball 8, is inserted down into the bottle-neck until said rubber ring 9 seats itself in its proper place, which is usually a groove in the bottle-neck. The concavo-convex disk 5, through which the string 10 is threaded, follows after the ball, and finally the perforated guard-disk 2 having the glass beads *e* held in its sockets *d* is inserted in the bottle-neck until the grooves *a* and *c* register, whereupon by turning the bottle on its side and revolving it once or twice the said beads *e* readily drop out and engage in the grooves *a* and *c*, thus securely and permanently locking the guard-disk 2 in place. Thereafter it is impossible to remove the device, for even if one of the beads *e* could be gotten back into its recess or socket *d* it would be impossible to get all the beads back into their sockets.

The invention is not limited to any particular character of bottle-valve mechanism, but is adapted for securing any guard member or bottle-closure in the bottle-neck.

I claim as my invention and desire to secure by Letters Patent of the United States—

1. In a bottle-closure, the combination of a bottle-neck, a guard member in said bottle-neck having a peripheral groove, the bottle-neck having a confronting groove regis-

tering therewith, and balls or beads engaging in said grooves and holding the guard member in place, the groove in the guard member having sockets or recesses in which the beads are inserted before the guard member is inserted in the bottle-neck, substantially as described.

2. In a bottle-closure, the combination of a bottle-neck, and a guard member in said bottle-neck, the said guard member having a peripheral groove and the bottle-neck having an internal confronting groove, balls or beads engaging in said grooves, the groove in the guard member having sockets or recesses in which the balls are placed before the guard member is inserted in the bottle-neck, and said groove in said guard member having a ridged bottom to prevent tendency of the balls from returning into such sockets.

3. In a bottle-closure, the combination of a bottle-neck, a guard member therein having confronting grooves, and balls engaging in said grooves, the guard member having sockets in its groove to receive the balls before said guard member is inserted in the bottle-neck, and said guard member having partitions in its said groove dividing the same into sections, there being one or more balls and sockets in each of said sections.

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

JOHN T. GILMER.

Witnesses:

W. P. JONES,
L. M. WAITE.