

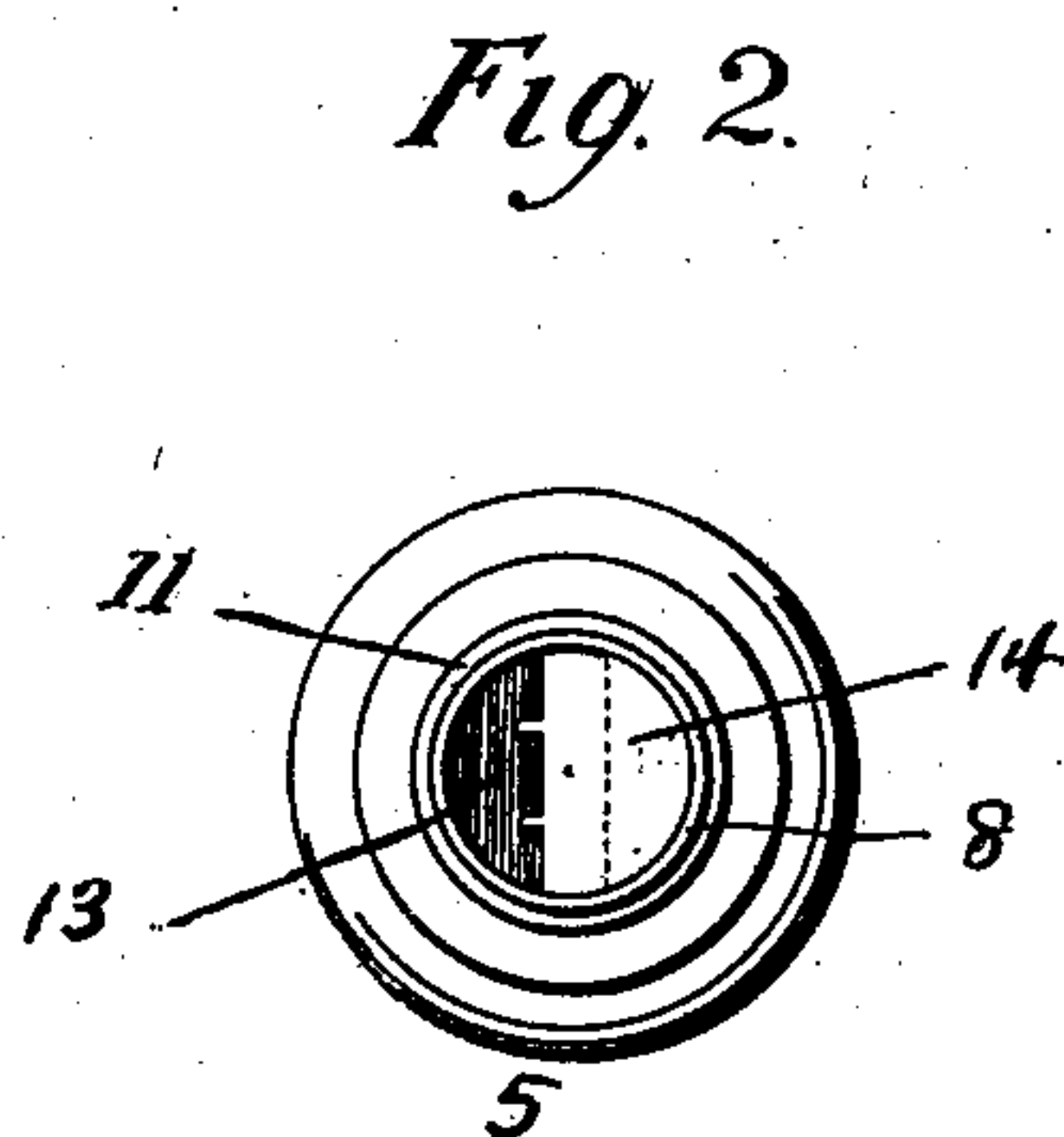
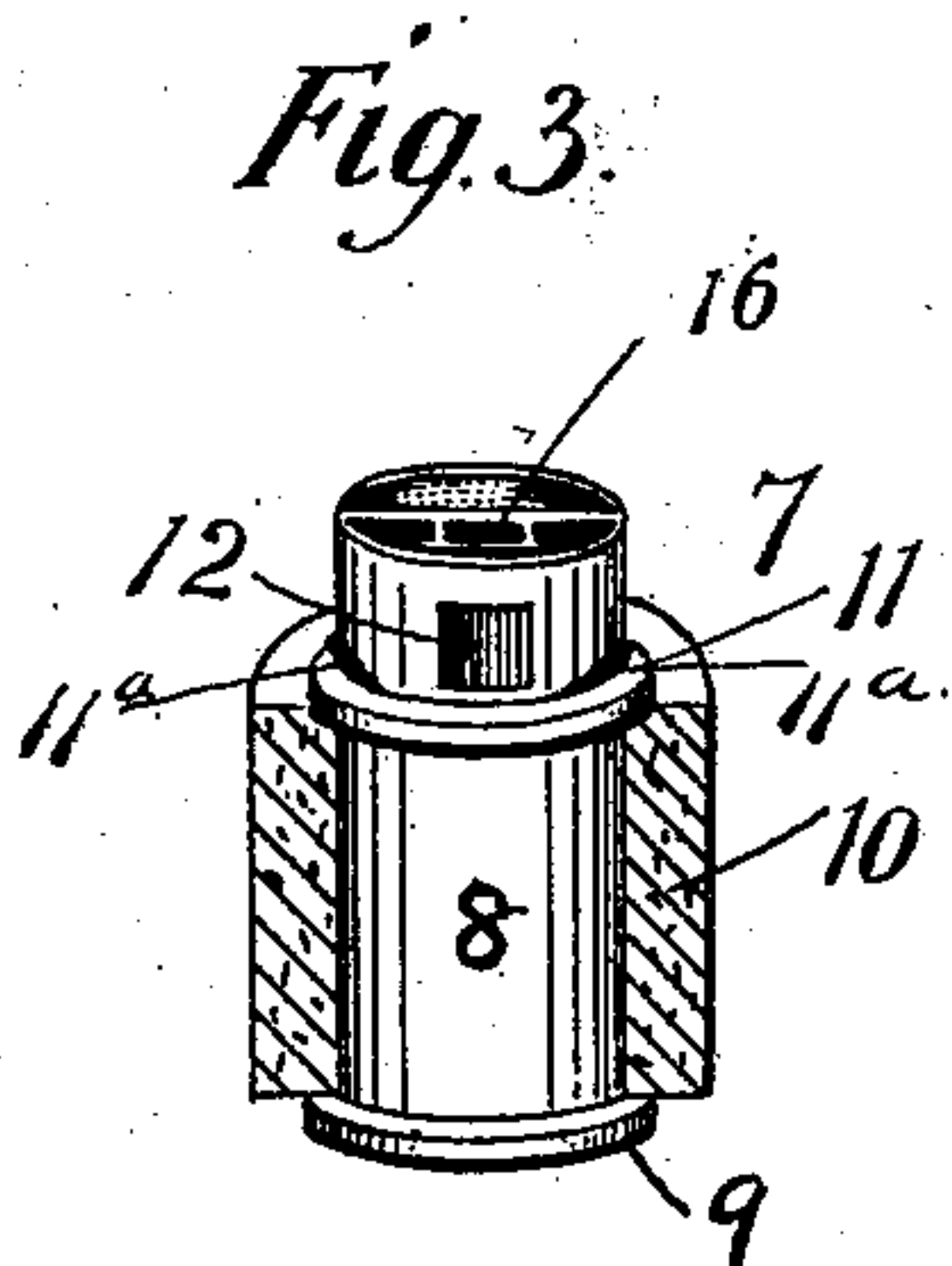
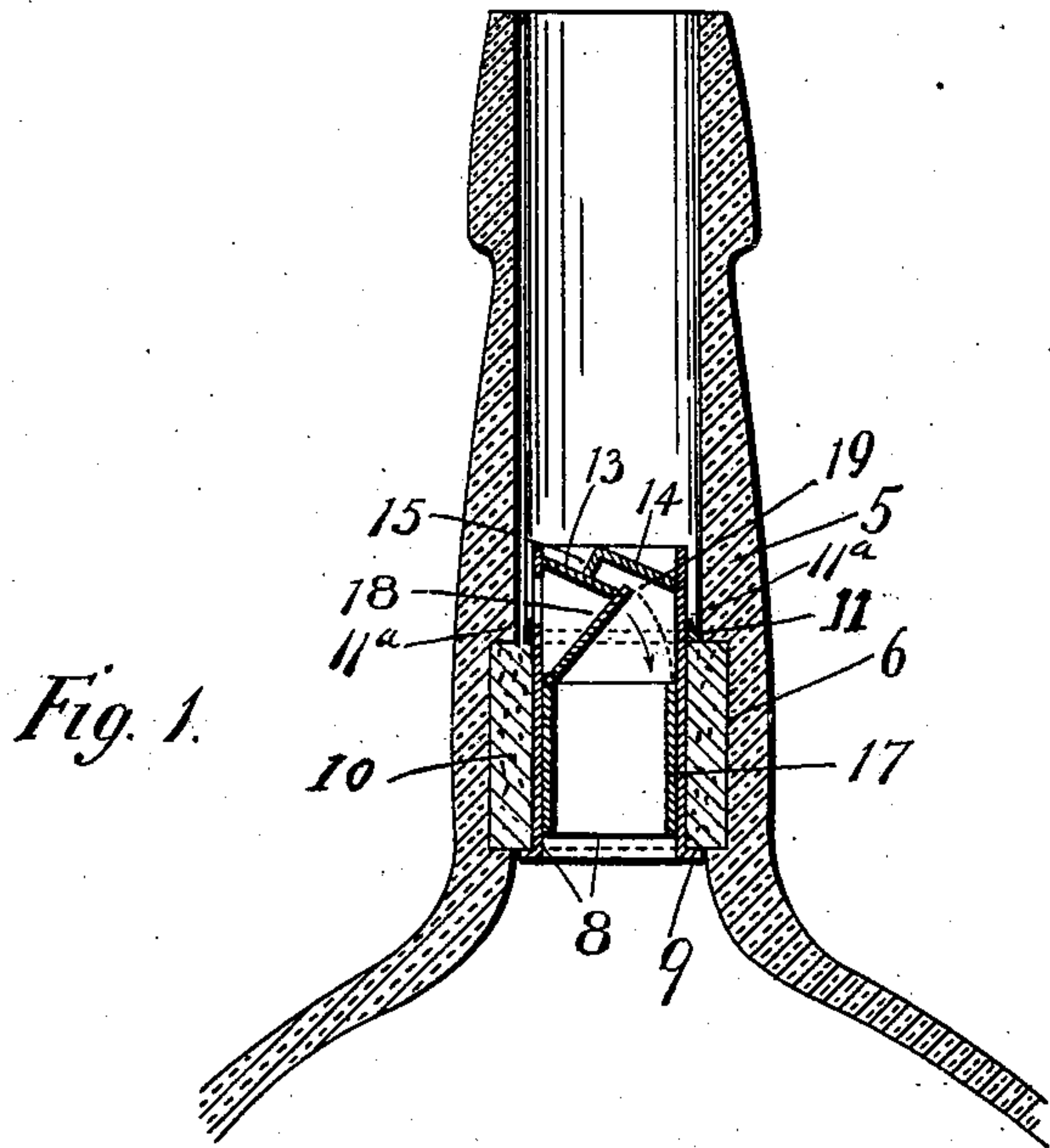
No. 713,236.

Patented Nov. 11, 1902.

T. J. F. MÜLLER.  
NON-REFILLABLE BOTTLE.

(Application filed Apr. 2, 1902.)

(No Model.)



Witnesses  
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# UNITED STATES PATENT OFFICE.

THEODORE J. F. MÜLLER, OF PORTLAND, OREGON.

## NON-REFILLABLE BOTTLE.

SPECIFICATION forming part of Letters Patent No. 713,236, dated November 11, 1902.

Application filed April 2, 1902. Serial No. 101,060. (No model.)

*To all whom it may concern:*

Be it known that I, THEODORE J. F. MÜLLER, a citizen of the United States, residing at No. 523 Union avenue, Portland, in the county of Multnomah and State of Oregon, have invented certain new and useful Improvements in Non-Refillable Bottles; and I do 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, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in bottle-stoppers, and has particular relation to such devices known as "non-refillable bottles."

The object of my invention is to provide a device of this character which can be inserted within the neck of a bottle and securely held therein and which will permit of the liquid within the bottle being poured out, but which will prevent the pouring in of liquid after the device is in position.

A further object is to provide a device of this character which is simple in construction, efficient in operation, and which can be manufactured at a low cost.

To these and other ends the invention consists in the improved construction and combination of parts hereinafter fully described, illustrated in the accompanying drawings, and particularly pointed out in the appended claims.

In the drawings, in which similar reference characters indicate similar parts in all the figures, Figure 1 is a vertical cross-sectional view of the upper portion of a bottle, showing my device in position therein, the device being shown in section and having the valve in its raised position to more clearly show the position assumed while the liquid is being poured out, the movement of the valve being indicated by the arrow and the dotted line. Fig. 2 is a top plan view. Fig. 3 is a detail view, the fastening-cork being shown in section.

5 designates the neck of a bottle having on its interior surface an annular recess 6, the latter being of a suitable length vertically.

7 designates my improved device, which

consists, essentially, of a tubular portion 8, having its lower end bent outwardly, as at 9, the upper end being without such bend.

10 designates a tubular supporting and securing part, preferably formed of a material which is compressible or yielding—such, for instance, as cork. This part is of a length to fit within the annular recess 6 and has its inner diameter of a size to closely fit over the periphery of the tubular portion 8. The part 10 is held in position on the portion 8 by means of an annular ring 11, soldered, as at 11<sup>a</sup>, or otherwise permanently attached to the periphery of the portion 8 and bearing on the upper edge of the part 10, thus securing said part 10 in fixed position on the outer surface of the portion 8. The portion 8 is of a diameter less than that of the neck of the bottle, thereby providing an annular space between the neck of the bottle and the periphery of the upper portion of the device, as shown in Fig. 1. The exposed upper end is provided with one or more openings 12, for a purpose hereinafter described.

Secured within the upper end of the interior of the portion 8 are two inclined parts 13 and 14, extending from opposite sides and in parallelism with each other, said parts preferably extending beyond the axial center of the portion 8. The portions 13 and 14 are separated from each other to form an opening therebetween, a spider-lip 15 extending between the two, as best shown in Fig. 3. This construction provides a closure for the top of the portion 8, with the exception of the openings 16, which are left by the spider formation of the lip 15. The portions 13 and 14 are located above the openings 12.

Secured within the lower end of the portion 8 is a tubular valve-seat 17, which is of a suitable length and to the upper edge of which is pivotally connected the valve 18. Said valve is of a diameter which will rest upon its seat, but which will not prevent its moving pivotally within a limited distance. The valve-seat is arranged relative to the inclined portions 13 and 14 in such manner that the exposed edge of the portion 13 will form a stop for the valve 18, as shown in Fig. 1, in which position the outer edge of the valve will be a slight distance from the under surface of the inclined portion 14. There is therefore provided a pas-



sage-way from the interior of the bottle to the upper portion of the neck through the space between the inclined portion 14 and the edge of the valve (which space is designated as 19) 5 along the portion 13 and through the openings 16, hereinbefore described, thus permitting the liquid when the bottle is tilted to pass out.

It will be obvious that any attempt to refill 10 the bottle will be prevented by the fact that the valve is normally on its seat and any liquid which would be poured in the neck of the bottle would find its way through the openings 12 and 16 onto the upper surface of the 15 valve, and thereby hold it closed and prevent the entrance of liquid into the bottle.

Having thus described my invention, what I claim as new is—

1. The combination with a bottle-neck having 20 an annular recess; of a stopper secured within said recess, said stopper having a valve pivotally mounted therein and normally held to its seat by gravity; and an inclined passage-way, the lower wall of which forms a 25 stop to limit the outward movement of the said valve.

2. A bottle-stopper consisting of a tubular portion having a valve pivotally mounted

therein, and an inclined passage-way above the said valve, said inclined passage-way consisting of walls extending from opposite sides 30 of the stopper, the lower wall forming a stop to limit the outward movement of the said valve.

3. The combination with a bottle-neck having 35 an annular recess; of a stopper comprising a tubular portion having an external yielding part adapted to fit within said recess to secure said tubular portion within the neck of the bottle; a valve and valve-seat secured 40 within said tubular portion below its top; and two inclined portions extending from opposite sides of said tubular portion to a point beyond the axial center of said portion, said inclined 45 portions being spaced and in parallelism with relation to each other, one of said inclined portions forming a stop to limit the movement of said valve, the space between said inclined 50 portions forming a portion of the passage-way through said tubular portion.

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

THEODORE J. F. MÜLLER.

Witnesses:

JAMES GLEASON,  
T. G. THORNTON.