

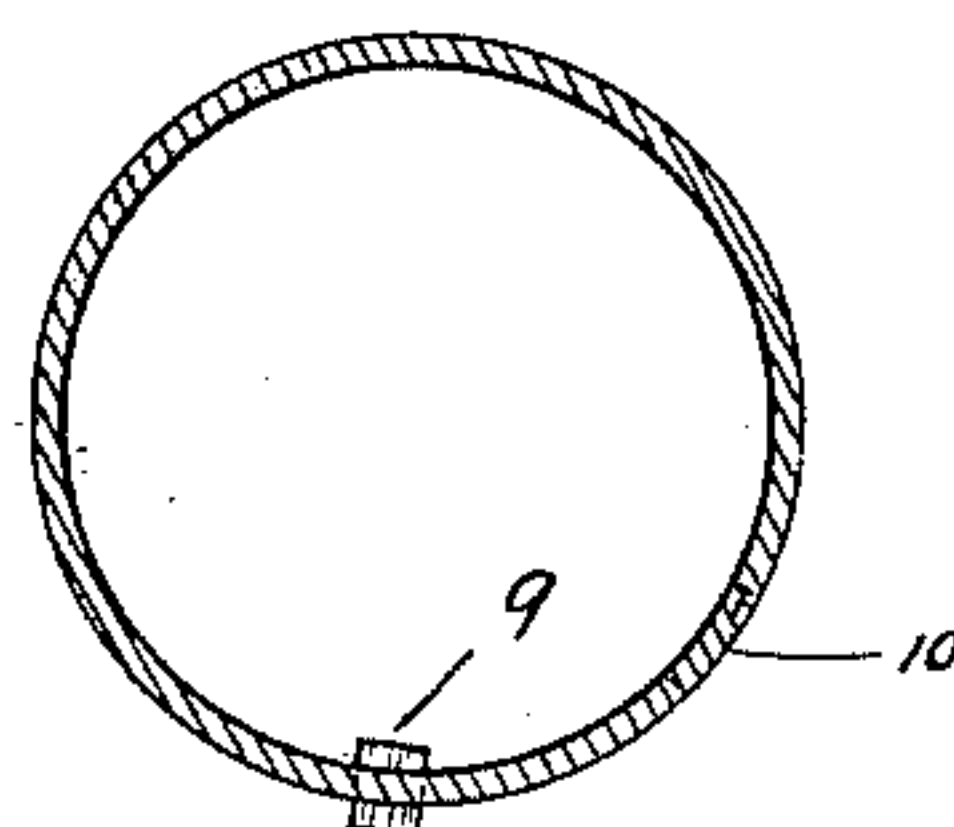
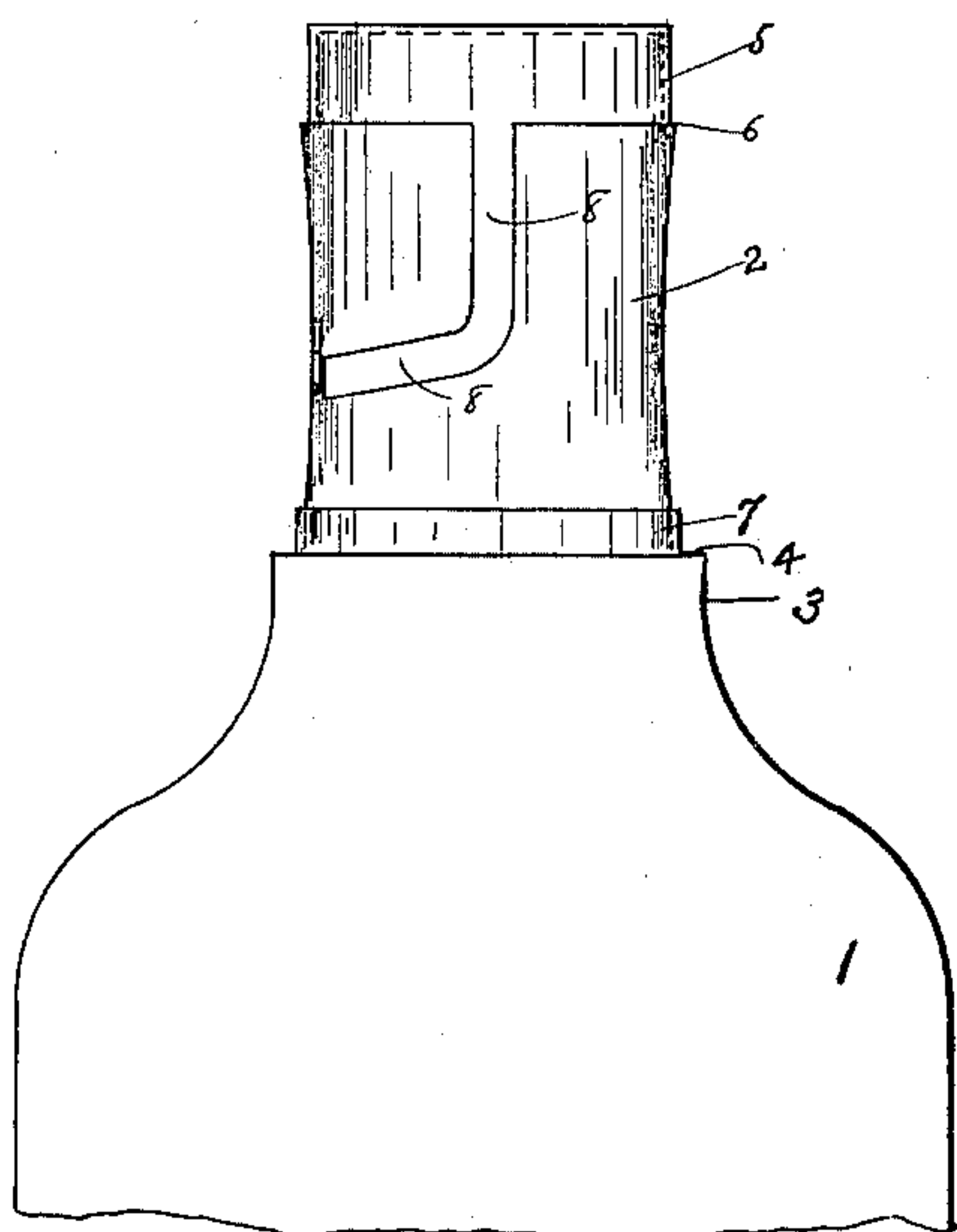
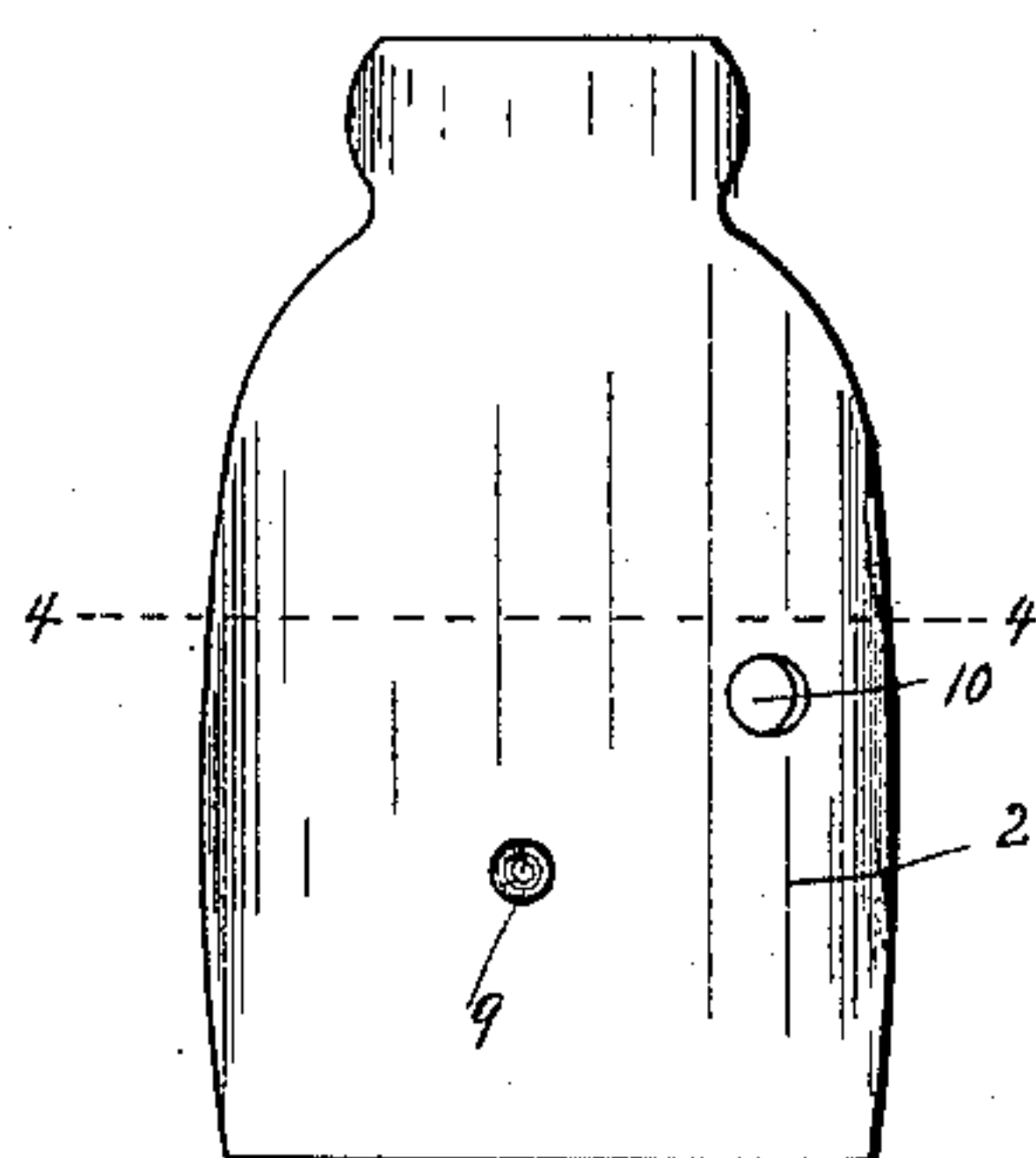
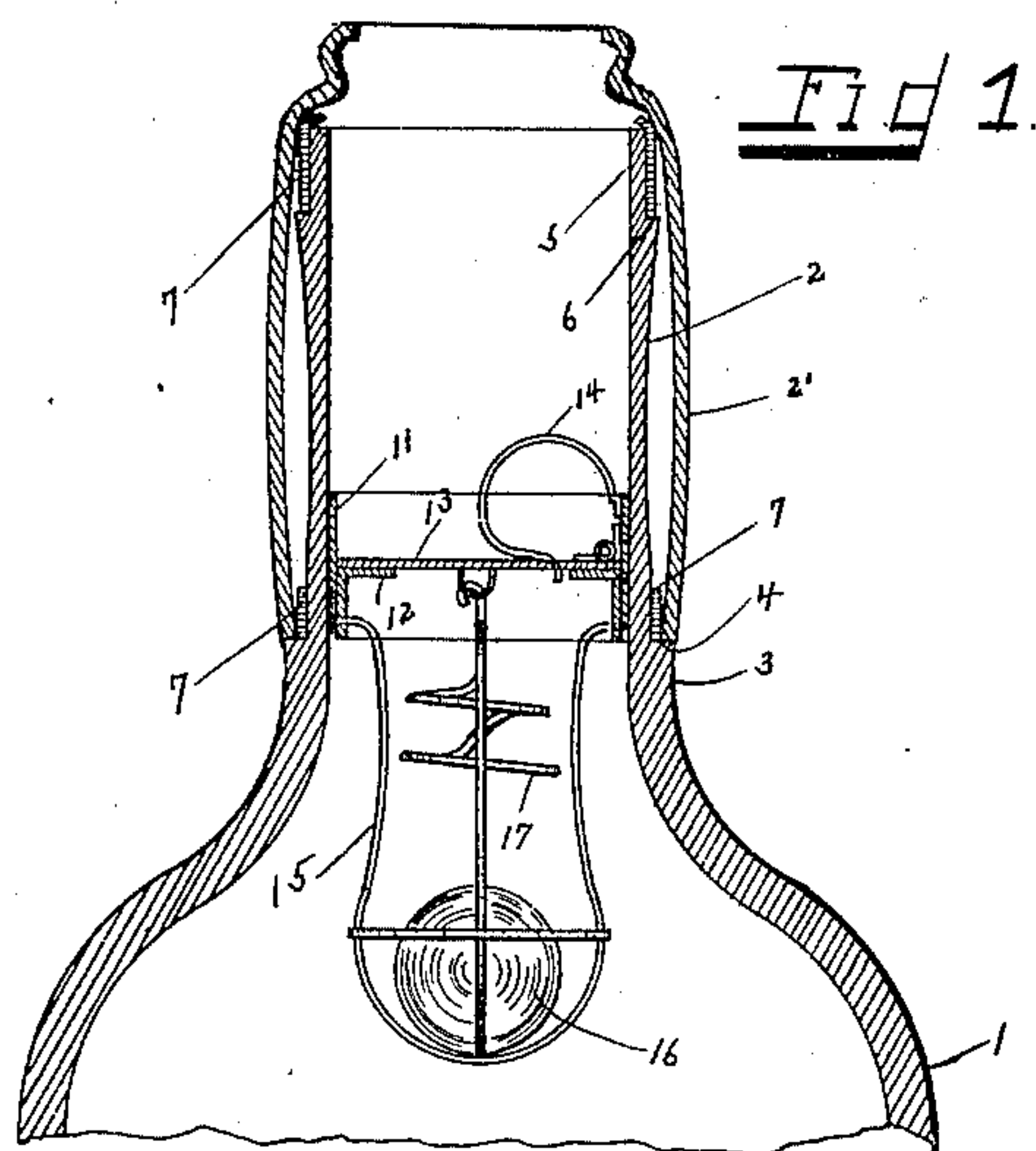
No. 656,671.

**Patented Aug. 28, 1900.**

**A. SOMMERFELD.**  
**NON-REFILLABLE BOTTLE.**

(Application filed Feb. 3, 1900.)

(No Model.)



WITNESSES:

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# UNITED STATES PATENT OFFICE.

AUGUST SOMMERFELD, OF ST. LOUIS, MISSOURI.

## NON-REFILLABLE BOTTLE.

SPECIFICATION forming part of Letters Patent No. 656,671, dated August 28, 1900.

Application filed February 3, 1900. Serial No. 3,845. (No model.)

*To all whom it may concern:*

Be it known that I, AUGUST SOMMERFELD, a citizen of the United States, residing at St. Louis, State of Missouri, have invented certain new and useful Improvements in Non-Refillable Bottles, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention has relation to improvements in non-refillable bottles; and it consists in the novel arrangement and combination of parts more fully set forth in the specification and pointed out in the claims.

In the drawings, Figure 1 is a vertical middle section of the neck of the bottle and ring carried thereby, the basket being shown in elevation. Fig. 2 is an elevation of the outer neck-section detached. Fig. 3 is an elevation of the inner section of the neck of the bottle, and Fig. 4 is a section on line 4 4 of Fig. 2.

The object of my invention is to construct a non-refillable bottle which will be simple, effective, and reliable, and one which shall be comparatively cheap to manufacture.

In detail the invention may be described as follows:

Referring to the drawings, 1 represents the body of the bottle, and 2 the inner section of the neck thereof, the portion 2 having an enlarged base 3, forming a shoulder 4 with the neck-section. The latter terminates in a reduced upper end 5, forming an annular shoulder 6 with the part 2. The shoulders 4 and 6 are designed to receive suitable packing-rings 7 7, over which is subsequently slipped the outer neck-section 2', the latter having a contracted mouth, as clearly seen in the drawings.

Formed in the portion 2 and leading from the end 5 is an angular channel 8, adapted to receive an inwardly-projecting peg 9, carried at a convenient point on the peripheral surface of the outer section 2', the latter being first passed over the portion 2, so as to cause the peg 9 to enter the vertical portion or arm of the channel 8, and when the peg has reached the base of said vertical portion the part 2' is given a turn, so as to bring the peg to the end of the horizontal portion of said channel, when the two sections of the neck become locked. In this position the opening

10 of the outer section 2' comes opposite the vertical arm of the channel, when a suitable cement or filling is introduced into the channel through said opening 10 and the two sections of the neck become thoroughly cemented to one another.

The contracted opening or mouth of the portion 2' prevents the withdrawal from the bottle of the non-refillable device which is introduced into the neck 2 before the outer section 2' is attached. The non-refillable device is composed of a ring 11, inserted into (and subsequently cemented by the use of lead or otherwise) the neck 2, the inner surface of the ring being provided with a ledge 12, against which is adapted to close an outwardly-opening hinge-valve 13, the latter being normally held closed by a spring 14, one end of which is secured to the ring and the other end bearing against the valve. Depending from the ring is a basket 15, which confines a ball or marble 16, against which is adapted to bear the lower end of a spring 17, the upper end being secured pivotally to the bottom of the valve 13, the resiliency of the springs 17 and 14 being about equal. When the bottle is tipped, the pressure of the liquid opens the valve against the resiliency of the spring 14, allowing the contents to run out. To drain the bottle of the last drop of liquid, the bottle is tilted upside down, when the ball 16 will rest against the spring 17, the weight thereof overcoming the resilience of the spring 14, thus opening the valve sufficiently to allow the last few drops of liquid to run out. The purpose of the spring 17 is to take up the sudden impact of the ball 16 when the bottle is tipped or violently shaken to drain its contents, the said spring acting as a cushion under the circumstances. As the valve opens outward only it will be impossible to refill the bottle, and as the opening of the neck 2' is too contracted to permit the temporary withdrawal of the non-refillable device it is impossible to refill the bottle for that reason.

It is apparent that minor changes can be made in the device without departing from the spirit of my invention.

Having described my invention, what I claim is—

1. A non-refillable attachment for bottles



comprising a suitable ring, an outwardly-opening valve mounted therein, a spring for retaining the hinge in a normally-closed position, a cage depending from the ring, a marble or ball confined within the cage, a spring  
5 interposed between the ball and the under side of the valve, the whole being adapted to be inserted into the neck of the bottle, the parts operating substantially as and for the  
10 purpose set forth.

2. In combination with a non-refillable attachment for bottles, a suitable inner neck-section adapted to receive said attachment, an angular channel formed in the outer surface of said section, an outer section having  
15 a contracted mouth or opening adapted to be passed over the inner section, a peg carried by the inner wall of the outer section and adapted to be received by the channel of the  
20 inner section, the outer section having an opening adapted to come opposite the channel after the same has been turned to bring the peg to the end of the horizontal arm of the channel, for introducing suitable ce-  
25 ment into the channel and binding the parts

permanently together, substantially as set forth.

3. A non-refillable attachment for bottles, comprising a suitable ring, an annular ledge formed along the inner surface thereof, a  
30 hinge-valve adapted to close against said ledge, a spring having one end secured to the ring and the opposite bearing against the outer surface of the valve, a depending cage carried by the ring, a marble confined in said  
35 cage, a spring interposed between the marble and the under side of the hinge, the resiliency of the two springs being substantially equal, the whole being adapted to be inserted into, and secured within the neck of a bottle, the  
40 latter having an outer neck-section with a contracted mouth to prevent the withdrawal of the attachment, the parts operating substantially as and for the purpose set forth.

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

AUGUST SOMMERFELD.

Witnesses:

EMIL STAREK,  
G. L. BELFRY.