

No. 698,907.

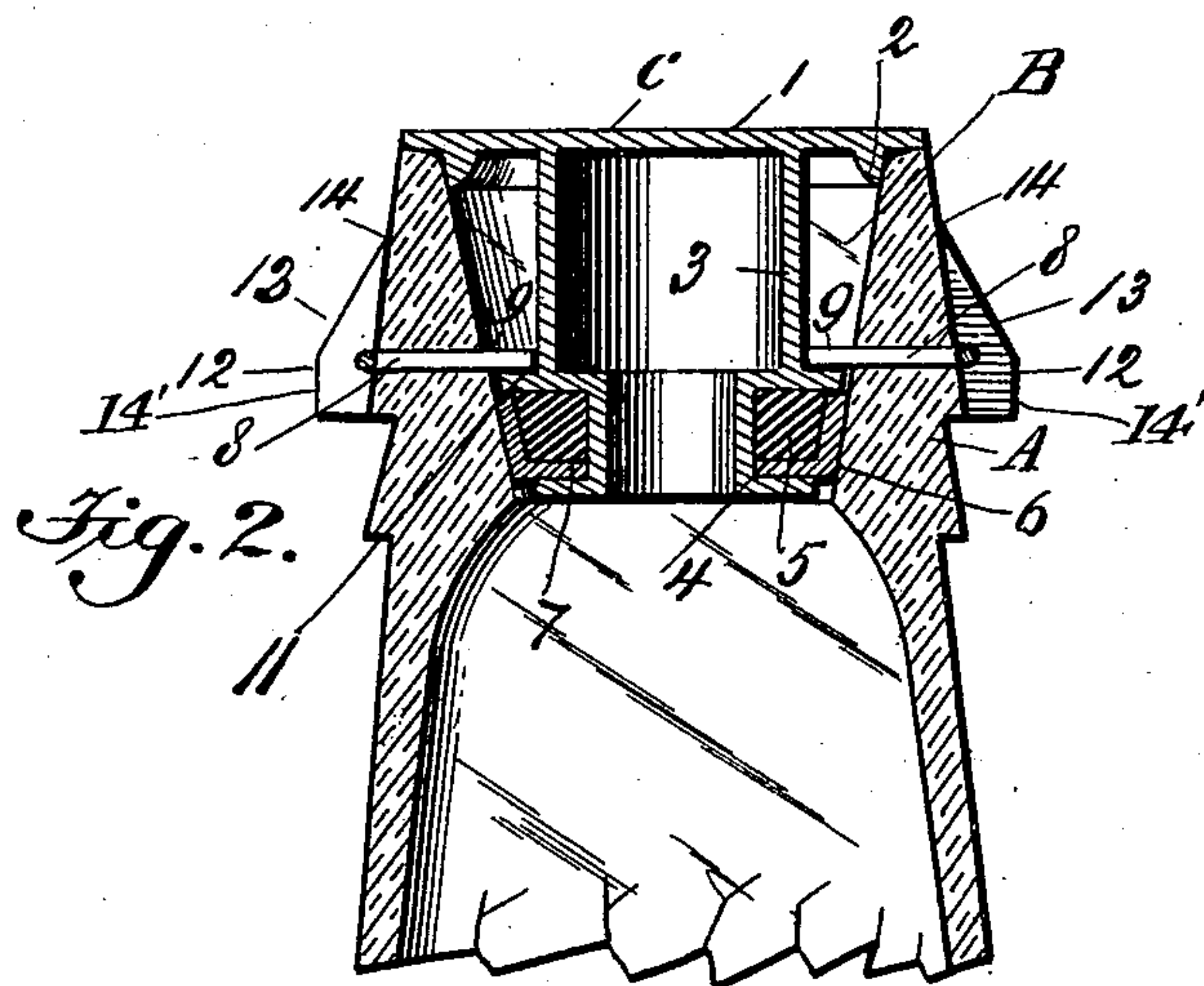
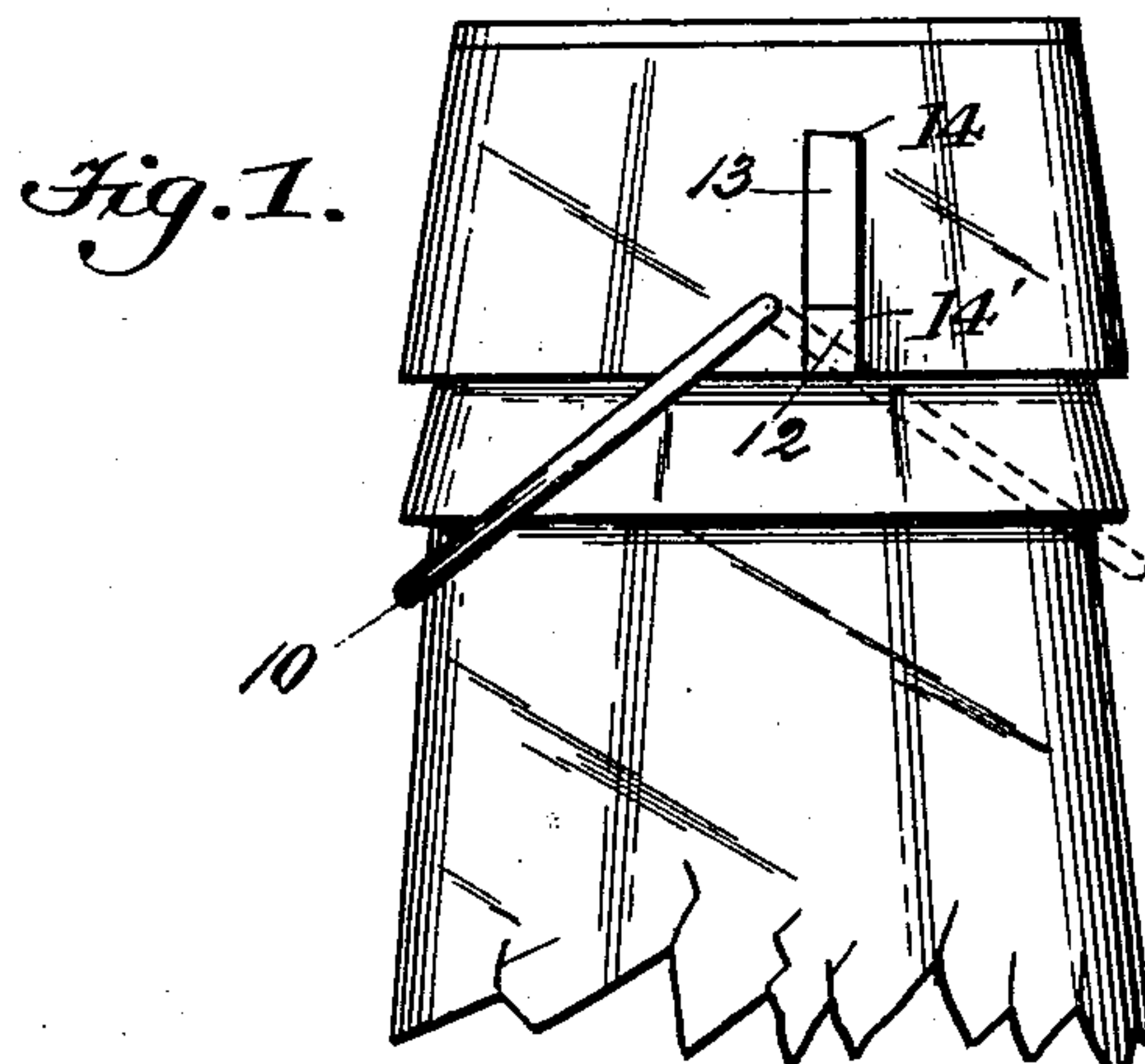
Patented Apr. 29, 1902.

J. DAKERS.  
BOTTLE CLOSURE.

(Application filed June 25, 1901.)

(No Model.)

2 Sheets—Sheet 1.



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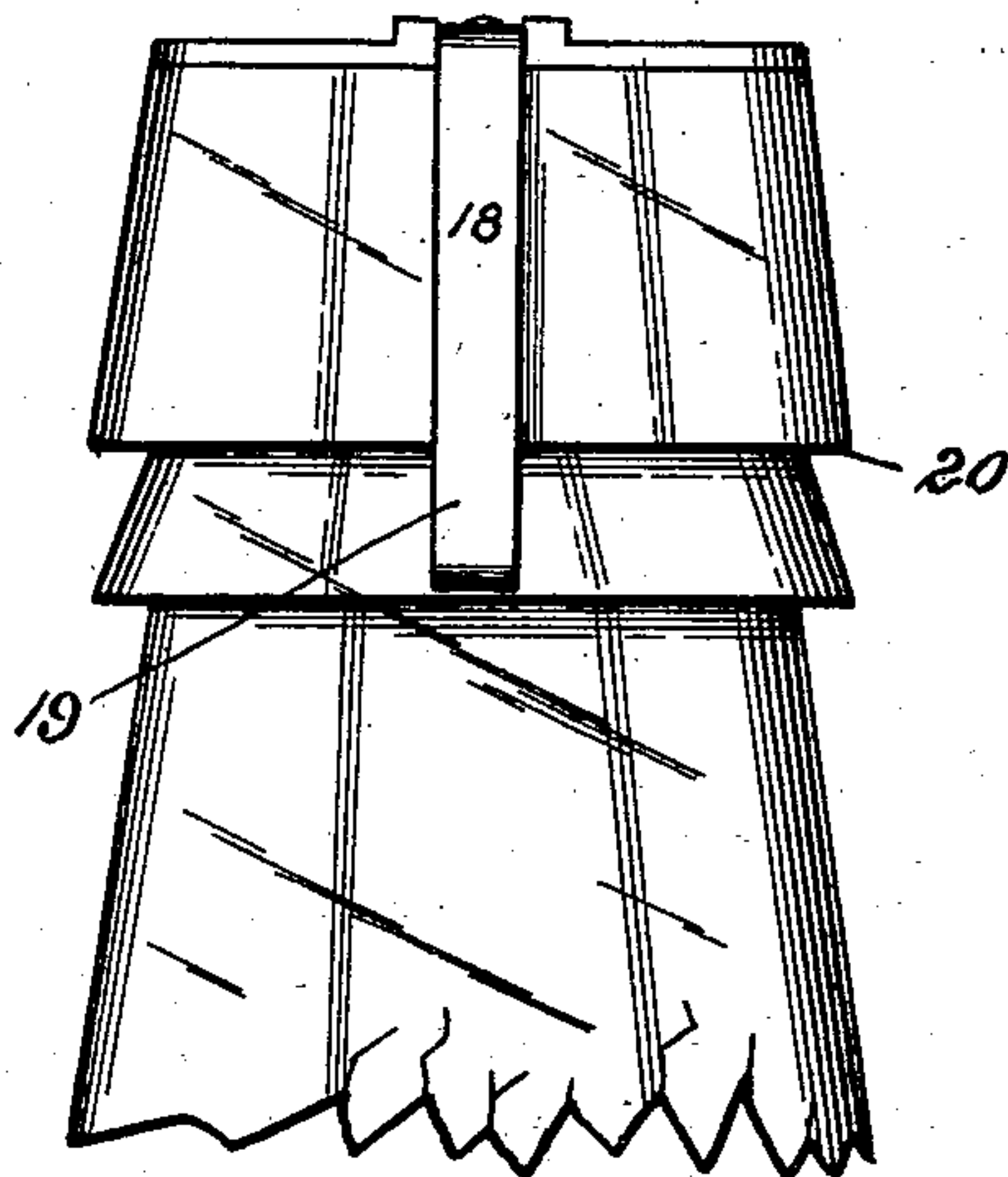
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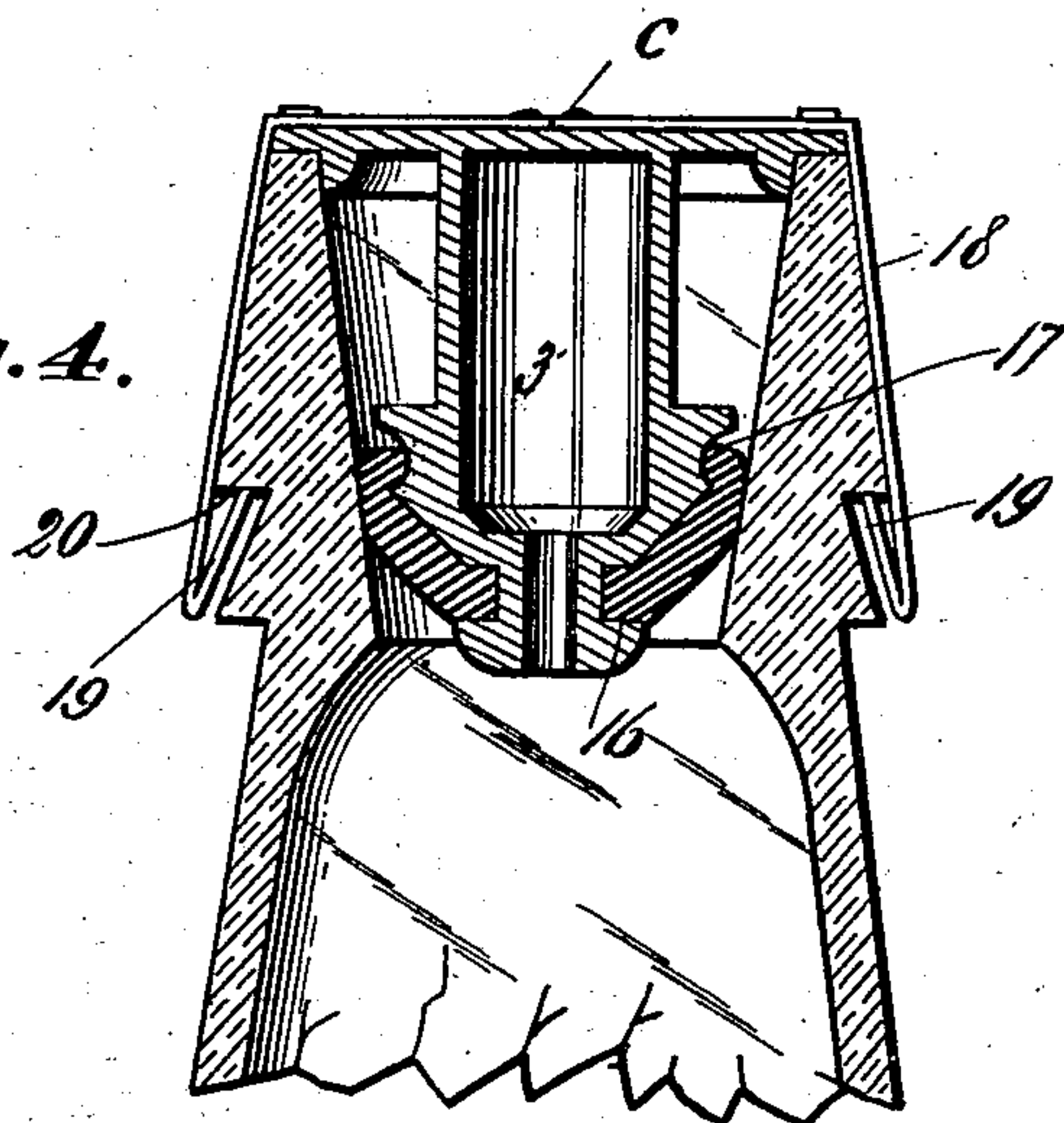
(No Model.)

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*Fig. 3.*



*Fig. 4.*



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# UNITED STATES PATENT OFFICE.

JAMES DAKERS, OF ABERDEEN, SCOTLAND.

## BOTTLE-CLOSURE.

SPECIFICATION forming part of Letters Patent No. 698,907, dated April 29, 1902.

Application filed June 25, 1901. Serial No. 65,904. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES DAKERS, a subject of the King of Great Britain, residing at Aberdeen, in the county of Aberdeen, Scotland, have invented certain new and useful Improvements in Bottle-Closers, of which the following is a full and complete specification, such as will enable those skilled in the art to which it appertains to make and use the same.

10 The object of my invention is to provide a bottle-closer of a new and improved form of construction by which the closure may be made perfect, so as to prevent the deterioration of beers, effervescent wines, and like liquids.

To such ends my invention consists in substance of a bottle the interior of the neck-orifice of which flares outwardly and the exterior of which neck is provided with an annular groove or grooves; a plug of porcelain, metal, or other hard substance provided with a groove or grooves adapted to receive a suitable washer of elastic material, such as soft rubber; a protective covering of flexible material for the elastic washer, the central portion of the stopper-plug being provided with a flange above the washer and with a central perforation communicating with the hollow interior thereof; a cap of the same material as the plug, larger than the orifice and closing the extreme end of the bottle-orifice; two broad base-lugs extending from the bottle-neck on opposite sides adjacent to the orifice, merging at the forward ends gradually into the bottle-neck, and a bail of resilient spring-wire, the ends of which are bent at right angles to the loop of the bail and extend inward through orifices or passages formed in the bottle-neck adjacent to the lugs, so as to project over the flange of the bottle-stopper.

In the accompanying drawings, forming part of this specification, in which like characters of reference designate corresponding parts in the several views, Figure 1 is a side view of my improved form of bottle and bottle-closer in position together, and Fig. 2 is a view of Fig. 1 in section on the line *xx* of Fig. 1 looking to the right. Fig. 3 is a view of a modified form of the construction shown in Figs. 1 and 2, and Fig. 4 is a view of such

modifications in section on the line *yy* of Fig. 3 looking to the right.

Referring to the drawings, A designates the bottle-neck, which is provided at the top with the outwardly-flaring orifice B.

C designates the bottle-stopper, which is usually formed of metal, porcelain, or any other suitable hard material.

The stopper C consists of a top plate 1 of the same diameter as is the bottle-top, which is provided upon the inner side with the inwardly-projecting annular flange 2, which fits tightly into the orifice B. Extending downward from the central portion of the plate 1 is the annular hollow central portion 3, ending in the annular hollow rectangular ring 4, which is open at the outer side and in which is placed the elastic rubber packing-ring 5, which usually is protected from the corrosive action of the liquid in the bottle by a washer 6, of any suitable soft flexible material, such as sheepskin which is secured in place by having the inner edge 7 thereof inserted beneath the rubber packing-ring 5. Located on opposite sides of the bottle-neck and formed in and through the same are two perforations 8 to receive the ends 9 of the spring-bail 10, which project into the bottle-neck and over the upper outwardly-projecting flange 11 of the annular flat-walled ring-groove 4 of the stopper C, as shown in Fig. 2. On opposite sides of the bottle-neck and located to one side of the perforations B are lugs 12, each having a sloping-surfaced forward partition 13, slanting toward the extreme end of the bottle-neck and merging therewith at 14, and the square-surfaced rear or bottom portion 14.

The operation of the device will be readily understood from the foregoing description, taken in connection with the accompanying drawings, and the advantages resultant from the use thereof will be manifest to all who are conversant with devices of this character.

To assemble the parts, the protective sheepskin covering 6 is first slipped into position by the bottom flange of the stopper C, and the elastic rubber washer then sprung into position above the same, and the outer portion of the sheepskin protecting-washer turned up over the outside of the rubber



washer all around. The bottle having then been filled with the required liquid, the stopper C is inserted in the neck and forced fully down, during this operation the bail 10, of  
 5 spring-wire, being in the position shown in dotted lines in Fig. 1 and resting on the straight-edged rear portion 14' of the lugs 12, whereby the points 9 of the bail will be withdrawn from the interior of the bottle, so as  
 10 to allow the lower part of the stopper to pass fully down into the same. As soon as the stopper has been inserted and forced fully home the bail 10 is thrown over into the position shown in full lines in Fig. 1, when the  
 15 resiliency of the wire will force the ends 9 of the bail into the bottle-neck and over the flange 11, as shown in Figs. 1 and 2, whereby such stopper will be firmly locked in the closed position. To remove the stopper, it is  
 20 only necessary to throw this spring-bail into the position shown in dotted lines in Fig. 1, when the natural effervescence of the liquid in the bottle will at once force out the stopper, and if such liquid is not effervescent the  
 25 stopper can be easily removed by pulling upon the top cap-plate A.

In the modified form shown in Figs. 3 and 4 the central portion 3 of the stopper is of a conical form at the lower end, and the washer,  
 30 which in this case is unprovided with a cover, is of a conical cup shape to fit thereover, resting at the lower end in the groove 16 and at the upper end in another groove 17. While this form of stopper may be used with  
 35 the securing-bail shown in Figs. 1 and 2, I usually prefer to provide this stopper upon opposite sides with two metallic members 18, of resilient metal, which are riveted or  
 40 otherwise screwed to the top of the stopper C and extend down upon each side, ending at the bottom in inwardly-turned back end portions 19, the ends of which when in position are forced under and abut against the  
 45 upper edge 20 of an exterior groove formed for that purpose in the bottle-neck.

I do not desire to confine myself to the exact formation of parts herein shown and described, as I conceive my invention to be novel in its plan and broad in its scope.

50 It is manifest that my invention may be altered or varied within the scope thereof.

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

55 1. A bottle closure or stopper, having a cap-plate provided on the inside with a hollow cen-

tral plug provided adjacent to the bottom with an annular groove topped by an outwardly-extending annular flange, a washer of elastic material located in the annular groove, 60 and means coacting with the outwardly-extending annular flange for locking the stopper in position in the bottle, substantially as shown and described.

2. A bottle closure or stopper, having a cap- 65 plate provided on the inside with a hollow central plug provided adjacent to the bottom with an annular groove topped by an outwardly-extending annular flange, a washer of elastic material located in the annular groove, 70 a covering of flexible protective material for the washer, and means coacting with the outwardly-extending annular flange for locking the stopper in position in the bottle, substantially as shown and described. 75

3. In a bottle-closure, the combination with a bottle provided adjacent to the neck-orifice with two lugs extending from the bottle-neck on opposite sides provided with square bases and an upwardly-extending sloping surface 80 slanting gradually toward and merging into the bottle-neck at the upward end, and perforations having formed in and through the side of the bottle-neck adjacent to the lugs, of a stopper provided at the inner end with 85 an annular ring of elastic packing material, a flange located above the ring of elastic packing material, and a spring-bail with inwardly-turned ends, which ends are adapted to pass through the perforations and into the neck- 90 orifice above the flange of the stopper so as to hold the same in place, substantially as shown and described.

4. A bottle closure or stopper having an outer top cap-plate adapted to abut upon the 95 outer end of the bottle-orifice, an annular flange extending inward from the cap-plate and adapted to fit snugly into the bottle-orifice, a central plug extending inward from the cap having an annular groove at the inner 100 end, a ring of elastic packing material carried by the groove, and means for securing the stopper in place in the bottle, substantially as shown and described.

In testimony that I claim the foregoing as 105 my invention I have signed my name, in presence of the subscribing witnesses, this 11th day of June, 1901.

JAMES DAKERS.

Witnesses:

FREDERICK WILLIAM KAY,  
 ALEXANDER JAMES CROMBIE.