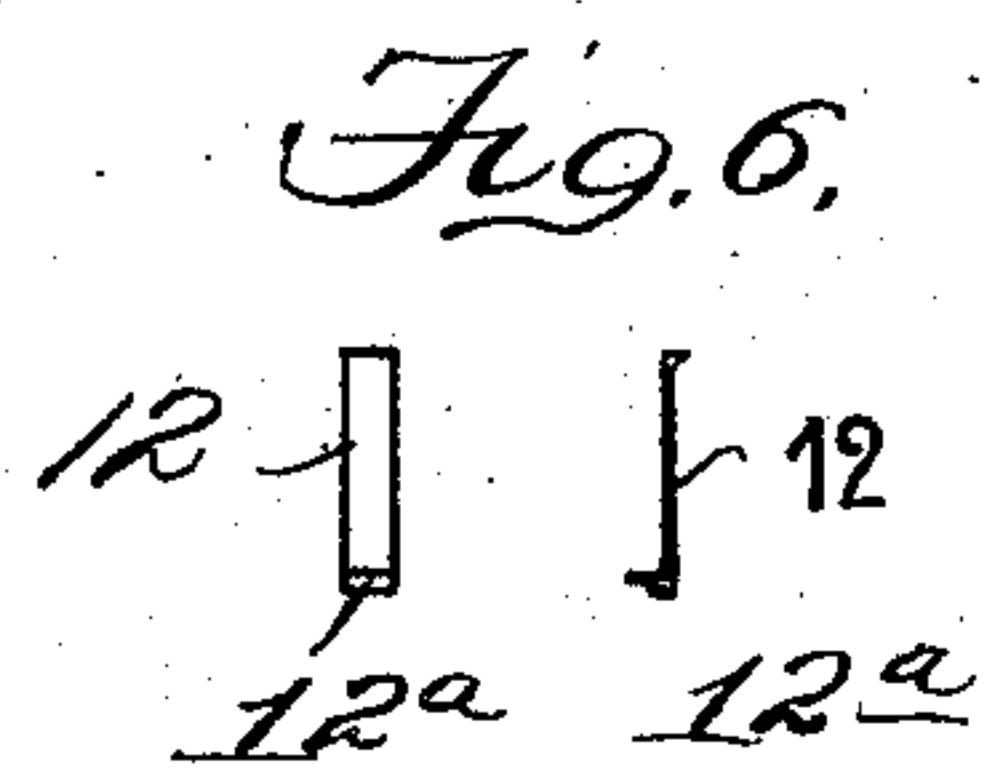
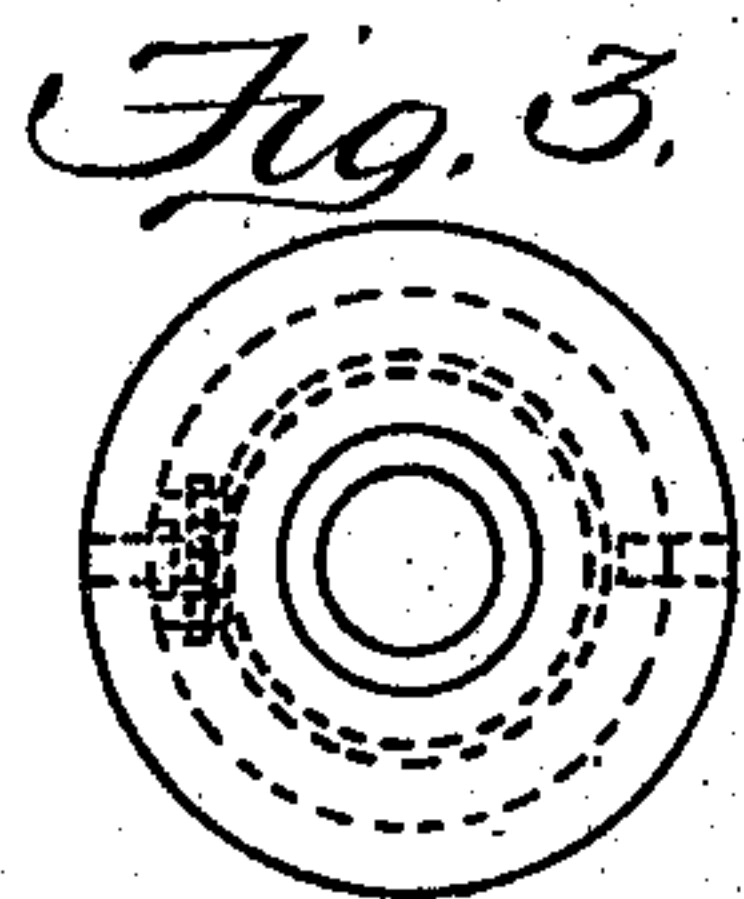
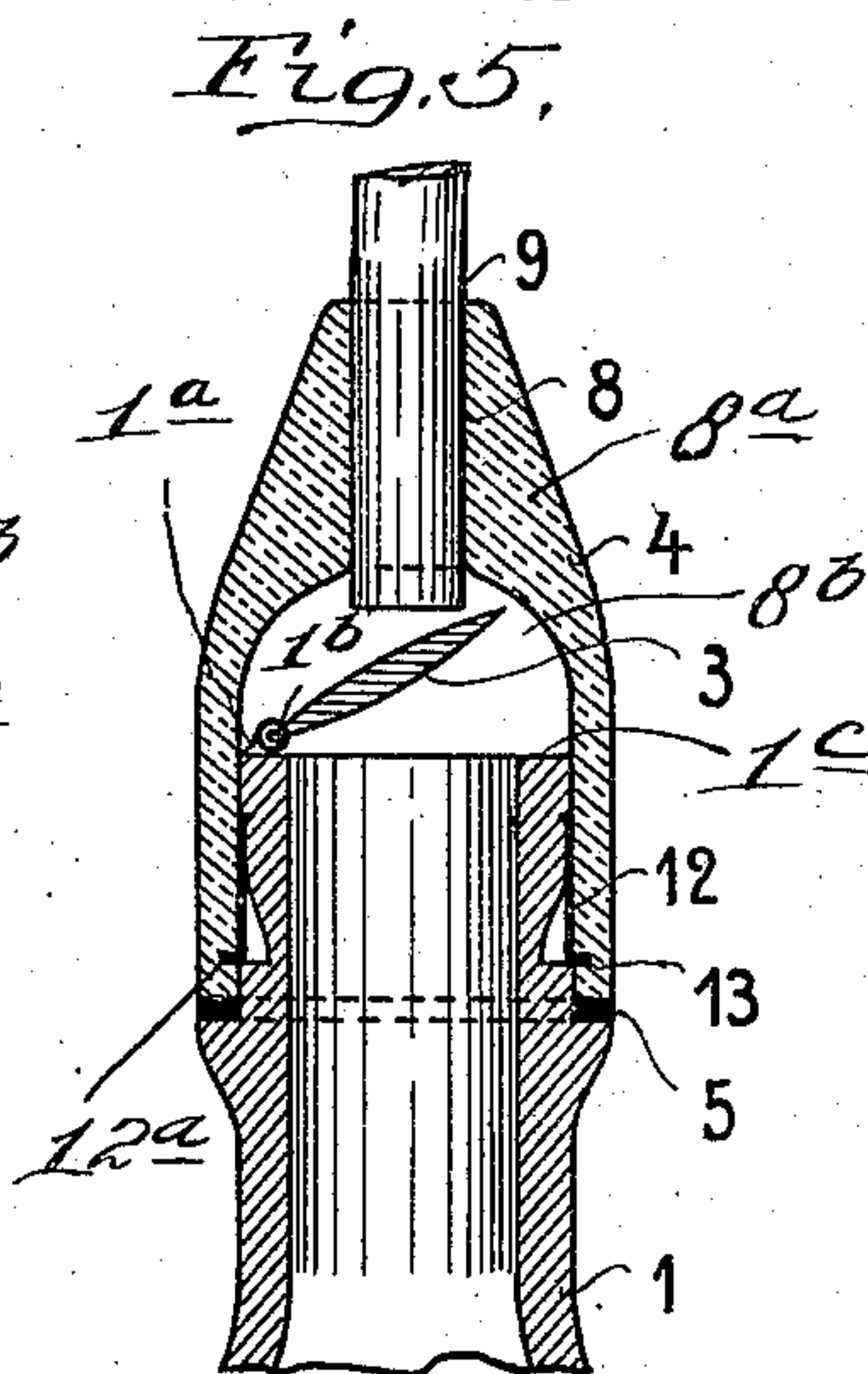
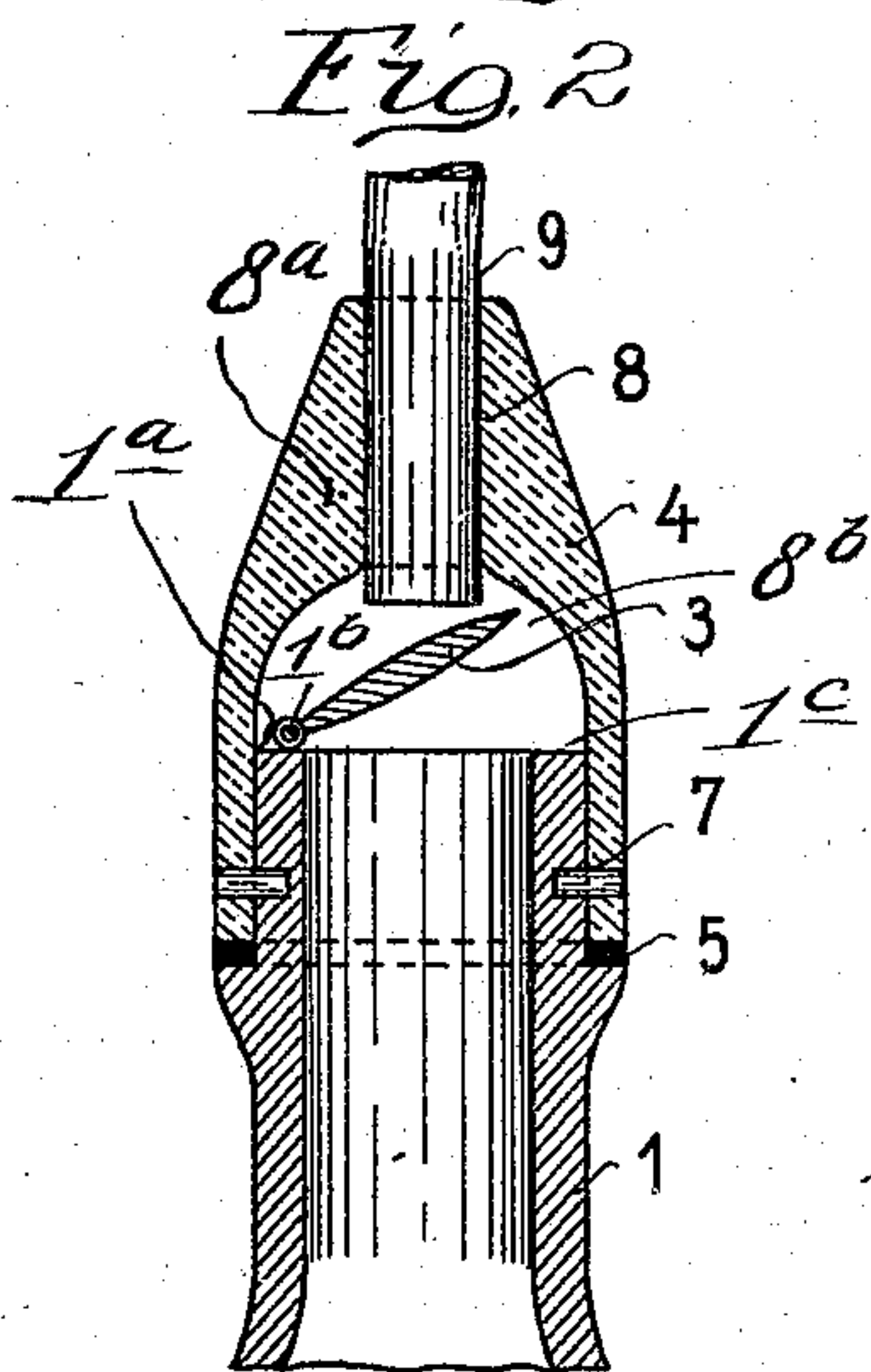
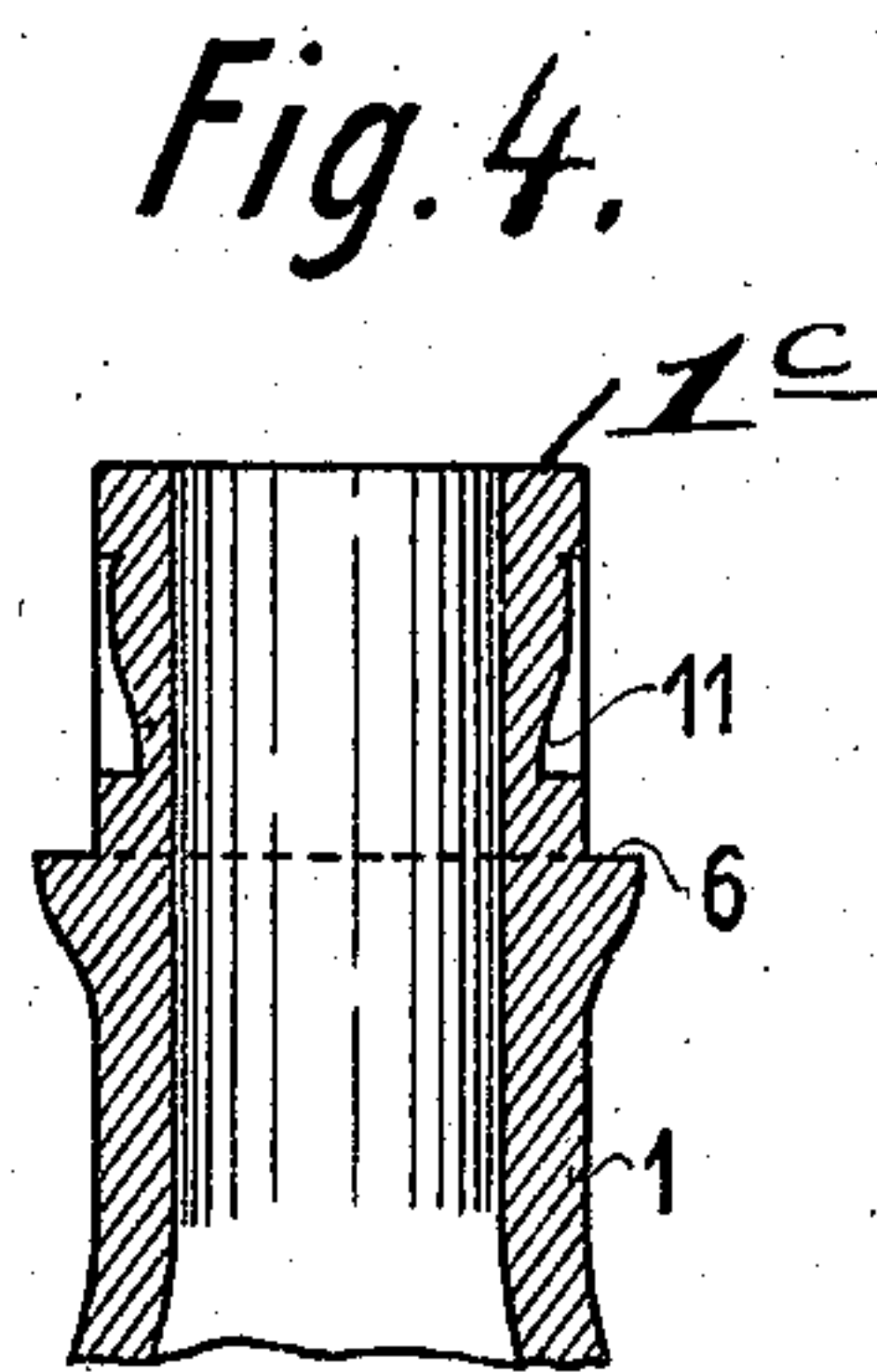
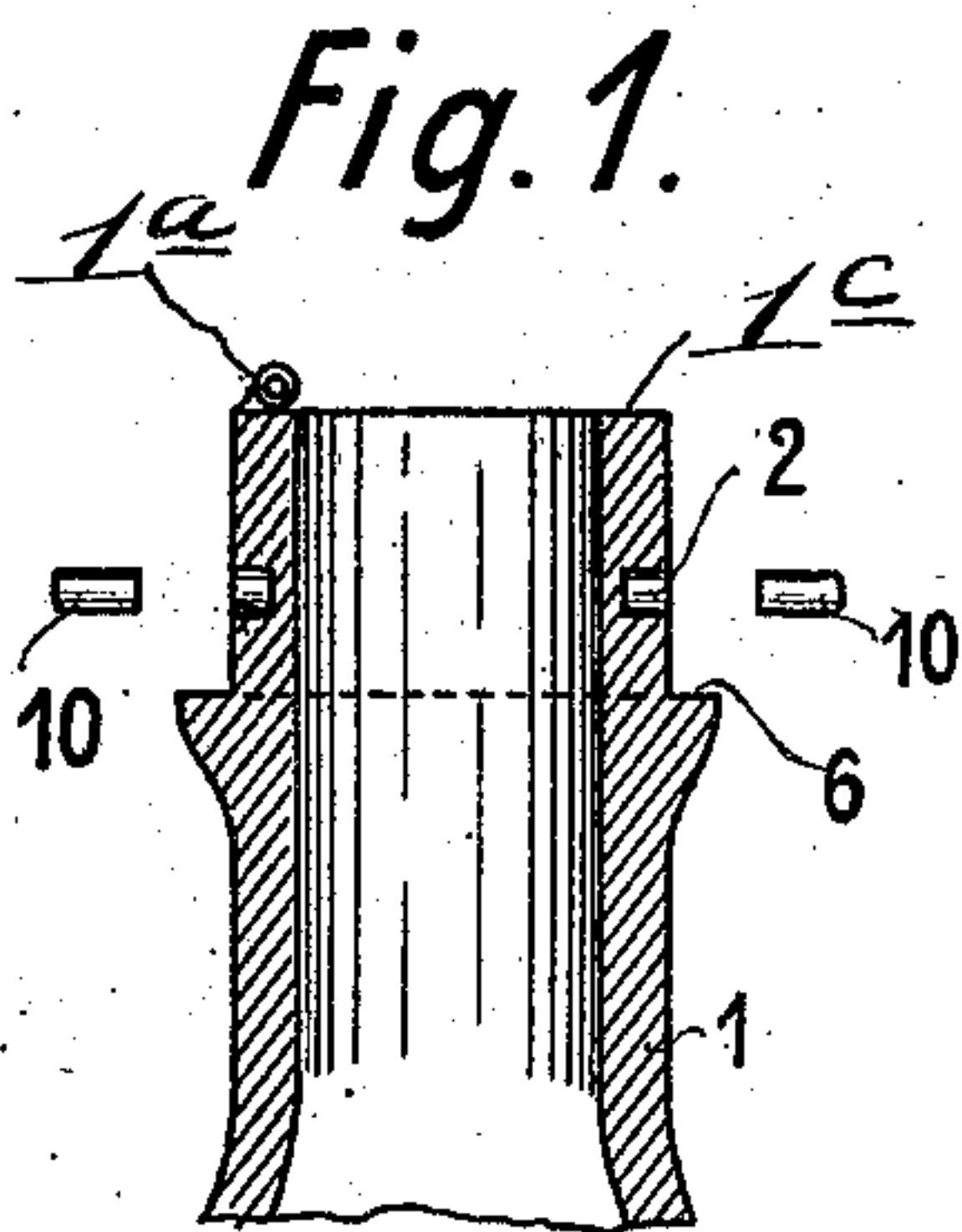


No. 881,817.

PATENTED MAR. 10, 1908.

J. MEYER.  
NON-REFILLABLE BOTTLE.  
APPLICATION FILED MAR. 8, 1907.



Witnesses:  
*J. B. Keeler*  
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*Attorney*



# UNITED STATES PATENT OFFICE.

JAKOB MEYER, OF MUTTERSHOLZ, NEAR SCHLETTSTADT, GERMANY.

## NON-REFILLABLE BOTTLE.

No. 881,817.

Specification of Letters Patent.

Patented March 10, 1908.

Application filed March 8, 1907. Serial No. 361,418.

*To all whom it may concern:*

Be it known that I, JAKOB MEYER, a subject of the Emperor of Germany, and residing at Muttersholtz, near Schlettstadt, Alsace, Germany, have invented certain new and useful Improvements in Non-Refillable Bottles, of which the following is a specification.

This invention relates to non-refillable bottles, and the object thereof is to provide a bottle of such class in a manner as hereinafter set forth, with means to prevent the refilling of the bottle after the contents thereof have been removed, and to this end the invention aims to provide a non-refillable bottle which shall be simple in its construction, strong, durable, efficient in its use, conveniently set up and comparatively inexpensive to manufacture.

With the foregoing and other objects in view, the invention consists in the novel construction, combination and arrangement of parts hereinafter more specifically described and illustrated in the accompanying drawings, wherein is shown the preferred embodiment of the invention, but it is to be understood that changes, variations and modifications can be resorted to which come within the scope of the claims hereunto appended.

In describing the invention in detail, reference is had to the accompanying drawings, wherein like reference characters denote corresponding parts throughout the several views, and in which:—

Figure 1 is a vertical sectional view of a bottle neck in accordance with this invention with the retaining pins for the cap removed. Fig. 2 is a vertical sectional view of the bottle neck with the cap and valve for closing the mouth of the neck in position. Fig. 3 is a top plan view of the structure shown in Fig. 2. Fig. 4 is a vertical sectional view of a modified form of bottle neck. Fig. 5 is a view similar to Fig. 2 of a modified form. Fig. 6 is a detail of the retaining spring shown in Fig. 5.

Referring to Figs. 1, 2 and 3 of the drawings, 1 denotes a bottle neck which is broken away at its lower end and provided on its periphery with a laterally extending annular flange 6, said flange being positioned at a point removed from the mouth of the bottle. Above the flange 6 the neck 1 has formed therein a pair of recesses 2 arranged diametrically opposite each other. The top edge of the neck 1 is provided with an aper-

tured lug 1<sup>a</sup> to which is hinged as at 1<sup>b</sup> a flap valve 3 of a diameter to close the mouth of the bottle and then the said valve engages the top edge 1<sup>c</sup> of the neck, such top edge constituting the seat for the valve 3.

Mounted upon the flange 6 is a resilient packing ring 5, against which bears the lower edge of a cap 4, the latter being provided with a discharge passage 8 adapted to be closed by a stopper 9, the length of such stopper being such that when it is inserted in the passage 8, it will force the valve 3 against its seat 1<sup>c</sup>. The lower portion of the cap 4 is cylindrical in contour, surrounds that portion of the neck 7 above the flange 6, and has its lower edge resting upon the resilient packing ring 5. The lower portion of the cap 4 is provided with openings 7 adapted to register with the recesses 2. The cap 4 is connected to the neck 1 by retaining pins 10 which extend through the opening 7 and engage in the recesses 2. Before the pins 10 are used to attach the cap 4 to the neck 1, they are coated with a suitable adhesive substance which acts as a means for securing said pins in position. The upper portion of the cap 4 is of tapering formation and solid with the extension of the passage 8, but said solid portion which is indicated by the reference character 8<sup>a</sup> is removed the desired distance from the seat 1<sup>c</sup> so as to provide a clearance or chamber 8<sup>b</sup> to allow of the operation of the valve 3. The height of such chamber, however, is such as to prevent the valve 3 from opening to such an extent as to enable the bottle to be refilled.

The construction shown in Figs. 4, 5 and 6 is the same as that shown in Figs. 1 to 3, with this exception, that in lieu of utilizing the pins 10 for connecting the cap 4 to the neck 1, springs 12 are provided which are arranged in recesses 11 formed in the neck 1 above the flange 6 and each of the springs 12 at its lower end is formed with an angular portion 12<sup>a</sup> adapted to engage in recesses 13 formed in the inner face of the cap 4. The lower portion of each of the recesses 11 is engaged so as to allow of the play of the free ends of the springs 12 when the cap 4 is forced over the neck 1 and until the recesses 13 receive the angular ends 12<sup>a</sup> of the springs 12.

In each of the constructions shown, the valves when the bottle is in an upright position remain against their seats, but when the bottle is tilted, the valves move slightly away from their seats so that the contents of the bottle can be discharged. If an attempt



is made to fill the bottle, whether it be in a vertical position or if it be tilted, the incoming fluid will engage the valves and shift them to their seats, consequently closing the bottle neck.

The caps are so secured in position to the bottle neck that it will necessitate the breaking thereof in case an attempt is made to remove them and a bottle with a broken cap or with the cap removed will indicate to the purchaser that the bottle has been tampered with.

What I claim is:—

1. A non-refillable bottle comprising the combination with the bottle neck having an exteriorly arranged laterally extending flange intermediate the ends thereof and further having the top edge constituting a valve seat, of a cap having a centrally disposed uninterrupted discharge passage, said cap surrounding that portion of the bottle neck above said flange having a solid portion constituting a valve stop, means engaging in the neck and the cap at a point above said flange for securing the latter to the former, and a flap valve arranged within the cap and adapted to engage said seat for closing the latter.

2. In a non-refillable bottle, the combination with the neck thereof provided with an exteriorly arranged laterally extending flange intermediate the ends thereof and further having a pair of recesses above said flange, the top edge of said neck constituting a valve seat, of a flap valve hinged to the upper edge of the neck and adapted to engage said seat, a cap surrounding said neck projecting above the same and provided with openings adapted to register with said recesses, said cap further having a closable discharge passage, and pins extending through the openings in the cap and engaging in the recesses of the neck for securing the former to the latter, said cap having

means for limiting the movement in one direction of the flap valve.

3. In a non-refillable bottle, the combination with the neck thereof provided with an exteriorly arranged laterally extending annular flange intermediate the ends thereof and further having a pair of recesses above the flange, the top edge of said neck constituting a valve seat, of a flap valve hinged to the upper edge of the neck, a cap surrounding said neck adapted to engage said seat projecting above the same and provided with openings adapted to register with said recesses, said cap further having a closable discharge passage, pins extending through the openings in the cap and engaging in the recesses of the neck for securing the former to the latter, said cap having means for limiting the movement in one direction of the flap valve, and a resilient packing interposed between said cap and said flange.

4. In a non-refillable bottle, the combination with a bottle neck provided with a pair of recesses and a flange below said recesses, of a cap having a hollow cylindrical lower portion surrounding and projecting above the bottle neck, said cylindrical portion having a pair of openings, said cap further provided with a tapering upper portion having a closable discharge passage of the same diameter throughout, a flap valve hinged to the upper edge of the neck and of a diameter as to close the mouth of the neck, and adhesive coated pins extending through the openings in the cap and engaging in the recesses of the neck for securing the cap to the neck.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

JAKOB MEYER.

Witnesses:

M. HIRN,  
J. MATHIS.