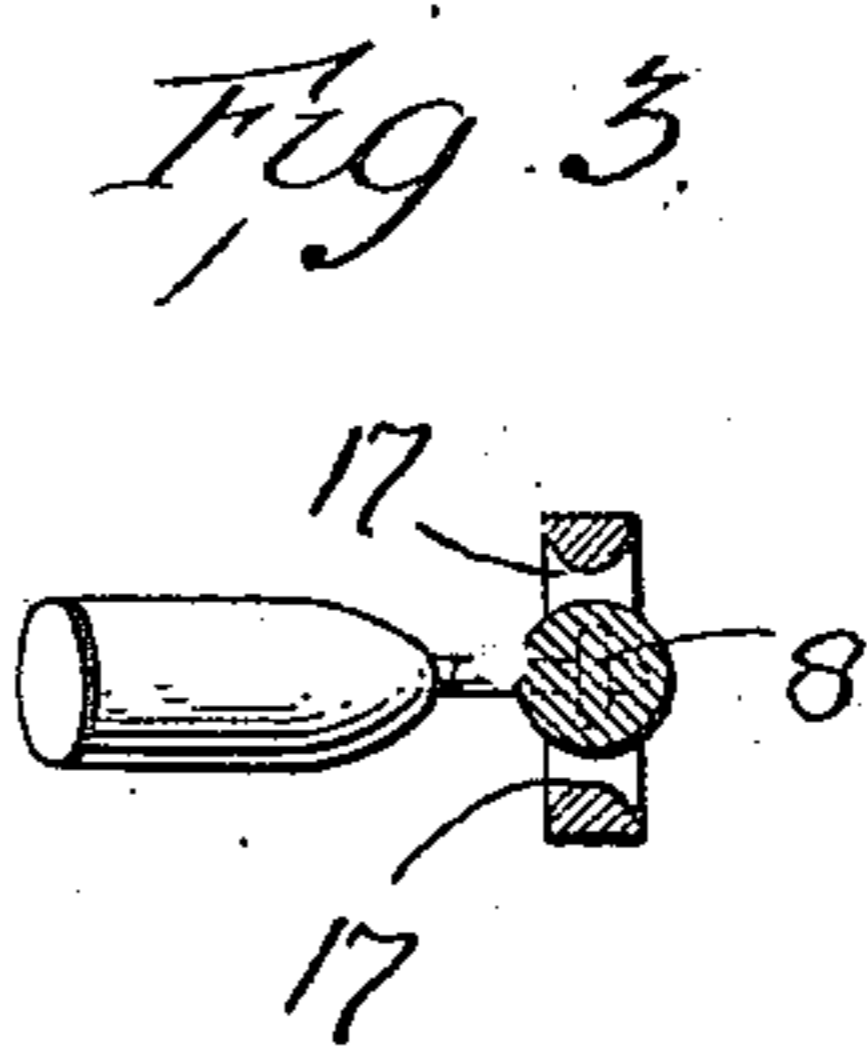
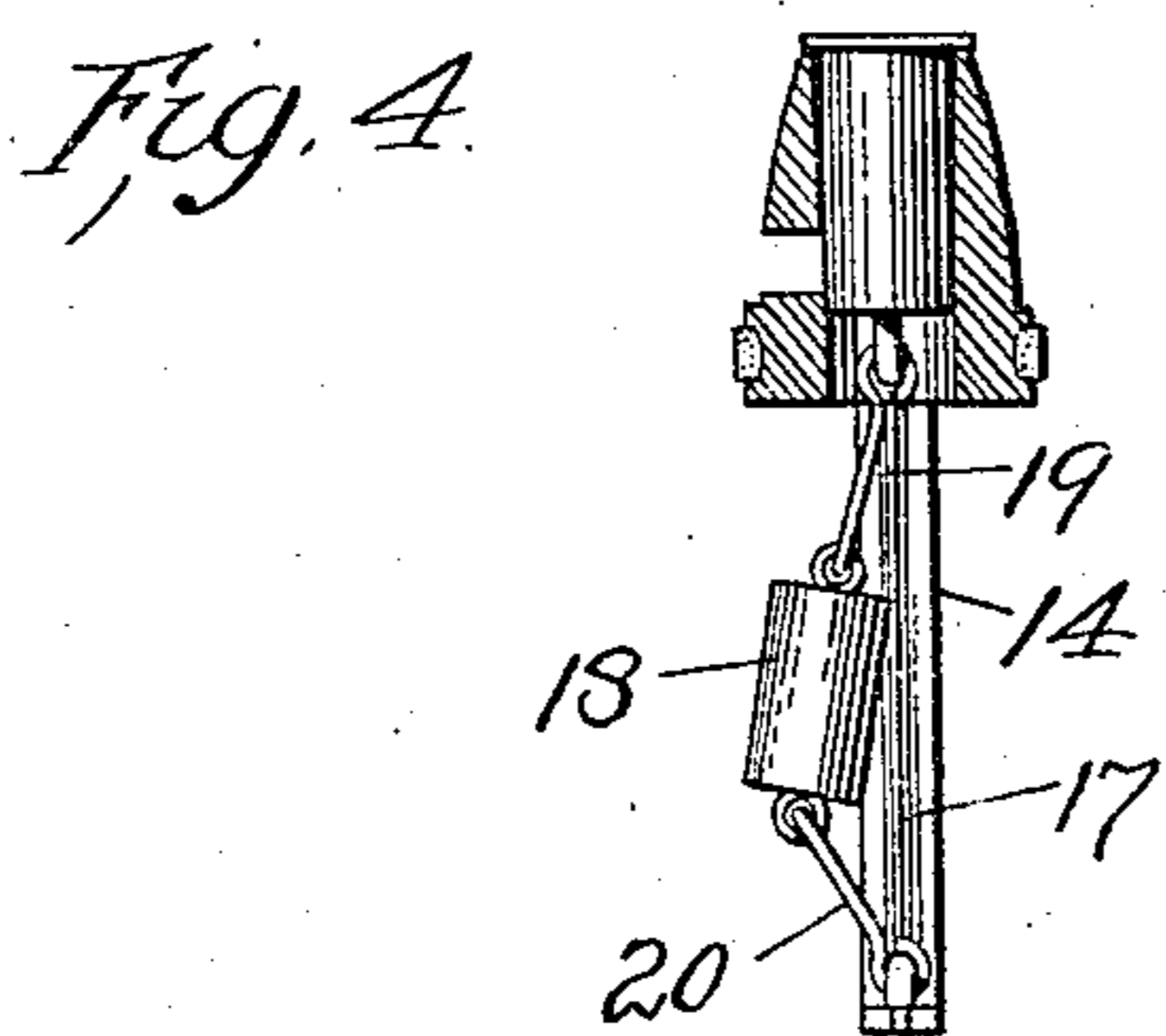
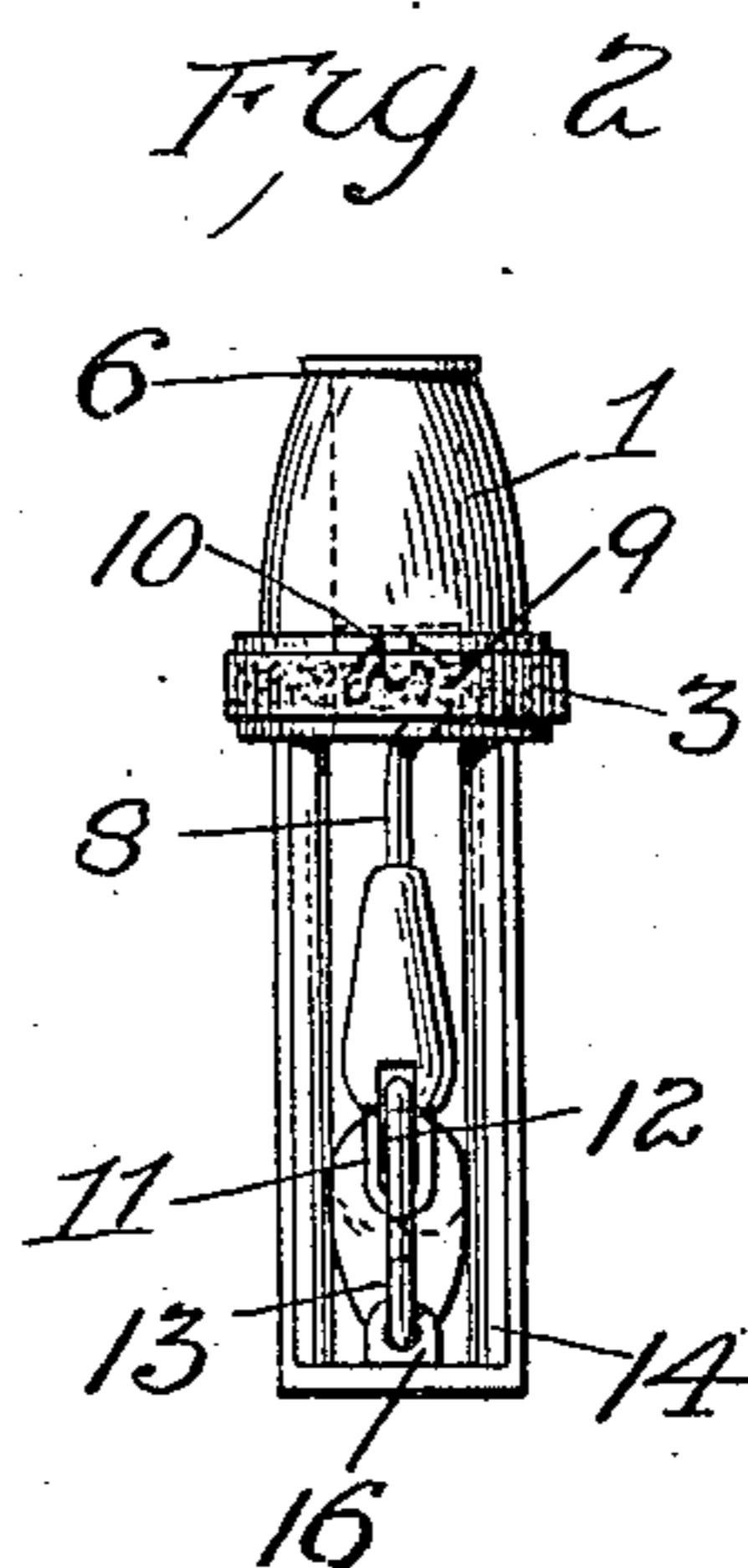
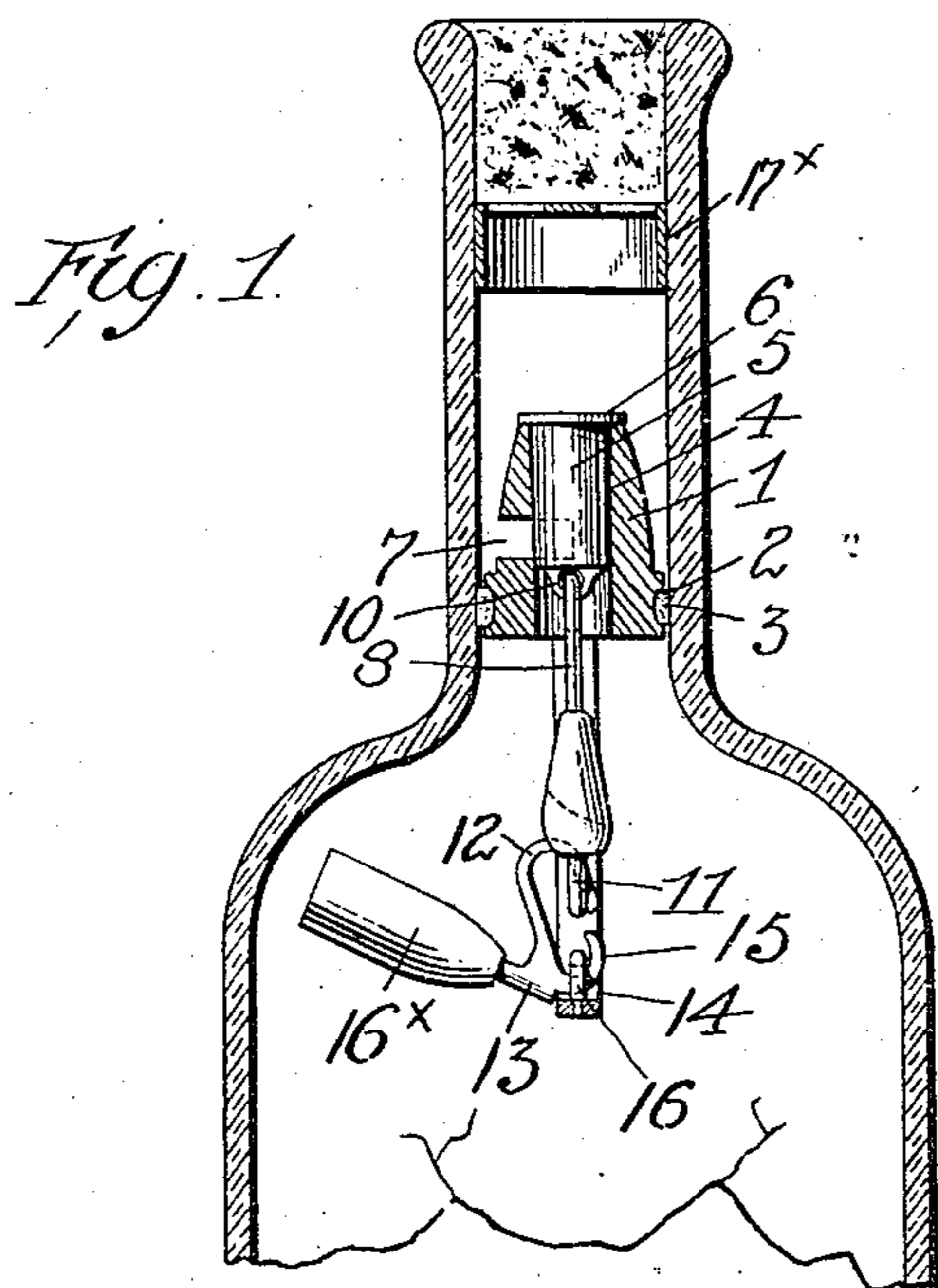


No. 848,529.

PATENTED MAR. 26, 1907.

J. H. BARNES.
NON-REFILLABLE BOTTLE.
APPLICATION FILED JULY 6, 1906.



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UNITED STATES PATENT OFFICE.

JAMES HENRY BARNES, OF BALTIMORE, MARYLAND.

NON-REFILLABLE BOTTLE.

No. 848,529.

Specification of Letters Patent.

Patented March 26, 1907.

Application filed July 6, 1906. Serial No. 325,002.

To all whom it may concern:

Be it known that I, JAMES HENRY BARNES, a citizen of the United States, residing at Baltimore, Maryland, have invented certain new and useful Improvements in Non-Refillable Bottles, of which the following is a specification.

My invention relates to non-refillable bottles; and my object is to provide means of simple construction which will be positive in operation and which will prevent the refilling of bottles which are either filled under pressure or by a process of soaking and no matter in what position the bottle is placed during the attempt to refill.

The invention consists in the features and combination and arrangement of parts hereinafter described, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 represents a sectional view of a part of a bottle with my invention in place. Fig. 2 is a view of the invention detached from the bottle looking at the device a quarter-turned from Fig. 1. Fig. 3 is a detail view, partly in section; and Fig. 4 is a view similar to Fig. 1 of a modification.

In carrying out my invention I provide a head 1, formed of glass or other suitable material and adapted in diameter to fit within the bottle-neck. The head is provided with an annular groove 2 to receive cement 3, which when the head is forced down to the desired point in the bottle-neck will securely cement the head to the bottle-neck.

The head is perforated axially, as at 4, and in this perforation the valve 5 operates. The body of the valve is slightly tapered downwardly, and it is provided with a flange 6, which finds a seat on the upper edge of the head. A lateral opening 7 is formed in the head above the cement, said opening communicating with the axial perforation. When the valve is seated, the tapered body extends across the opening 7 and fits closely within the lower portion of the axial perforation, so as to prevent the inflow of fluid from the bottle-neck into the body of the bottle. When, however, the valve is slightly raised from the position shown in Fig. 1, the tapered formation of the valve-body will provide an opening between itself and the inner wall of a head for the passage of the liquid, and a further opening effect will

result when the valve-body reaches such a position that its lower end is above the lower wall of the opening 7.

I provide means for controlling the position of the valve, so as to hold it closed and prevent refilling. These means consist of a link 8, having its upper hooked end 9, dotted lines, Fig. 2, engaging the eye 10, extending down from the end of the valve-body. This link is enlarged at its lower end to form a weight, and it is provided with an extension 11, forming an elongated eye or slot which is engaged by the hooked end 12 of a bell-crank lever 13, which is pivotally secured to a frame 14, depending from the head 1. The pivotal connection between the bell-crank and the frame is formed by a hook 15 on the bell-crank engaging an eye 16 on the lower portion of the frame. The bell-crank is weighted at 16^x.

As shown in Fig. 3, the inner sides of the bars of the frame 14 are rounded or beveled at 17, so as to prevent the lodgment of the weighted link 8 thereon. When it is attempted to refill the bottle, the pressure of inflowing liquid, together with the action of the weighted levers, will cause the closing of the valve across the opening 7. It will be noticed that the connection between the bell-crank lever and the weighted link is a loose one, so that the weighted link is free to move in all directions, and thus if the bottle is turned in such a position that the maximum effect of the weighted bell-crank lever will not be secured the weighted link will then be in such a position as to effect the closing of the valve by itself, and for this purpose the inner sides of the frame-bars, as above described, are beveled, so as to present sloping edges, down which the weighted link will slide, even should the bottle be turned to such a position that the weighted link and the frame-bars lie in the same vertical plane. It will be noticed also that the bell-crank lever is loosely pivoted, so that it may have movement in a direction across the plane of its pivotal connection, and it will be impossible to get the parts in such position that the weighted bell-crank lever will be maintained in a plane directly at right angles to the plane of the frame-bars.

The parts of the device may be quickly assembled, and they may be readily detached from each other. The elongated opening in

the weighted link will permit the ready detachment of the hooked end of the bell-crank lever.

I do not limit myself to any particular material of which the parts are formed. I show in Fig. 1 a thimble 17^x at the upper part of the bottle-neck, upon which the ordinary cork rests. This thimble is perforated, and it acts as a guard to the main part of the device.

The head 1 is tapered upwardly, and any wire or instrument which may be inserted will be deflected away from the valve toward the bottle-neck.

In Fig. 4 I show a modification of the appliance in which instead of using a weighted link and a weighted bell-crank lever I employ a weight 18, adapted to roll off of the frame-bars 14, said weight being connected by a loosely-pivoted link 19 to a valve-body and by a second link 20 to a supporting-frame. The action of this device is substantially similar to that of the device shown in Fig. 1, the weights serving to draw the valve to its seat when an attempt is made to refill the bottle.

I claim as my invention—

1. In combination, the head having an opening therethrough, a valve for closing the said opening, a weight, a frame having side bars beveled on the inner side to prevent lodgment of the weight and means connect-

ing the weight with the valve and with the frame loosely, substantially as described.

2. In combination, a head tapered upwardly and having an axial opening and a lateral opening communicating therewith, a tapered valve in said axial opening, adapted to close the lateral opening, a frame depending from the head, a weight adapted to move laterally of the said frame, a loose connection between the weight and the valve, and a loose connection between the weight and the frame, substantially as described.

3. In combination, the head having an opening, a valve, a weighted link connected with the valve, a frame depending from the head and a weighted bell-crank pivoted to the frame and connected to the weighted link, substantially as described.

4. In combination, a head having a perforation, a valve to close the same, a frame, a weighted link pivotally connected to the valve and having an elongated opening, a bell-crank detachably and pivotally connected with the frame and having a hooked end passing through the elongated opening in the weighted link, substantially as described.

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

JAMES HENRY BARNES.

Witnesses:

HENRY E. COOPER,
EDWARD N. SARTON.