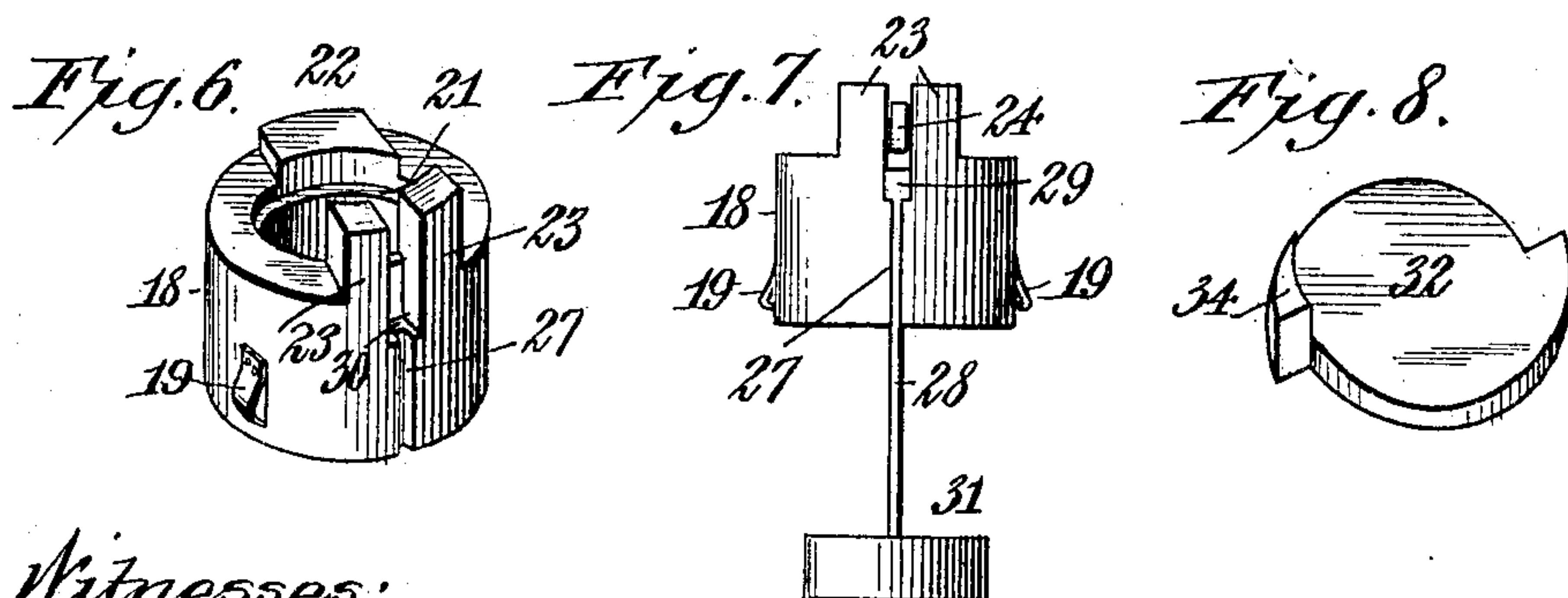
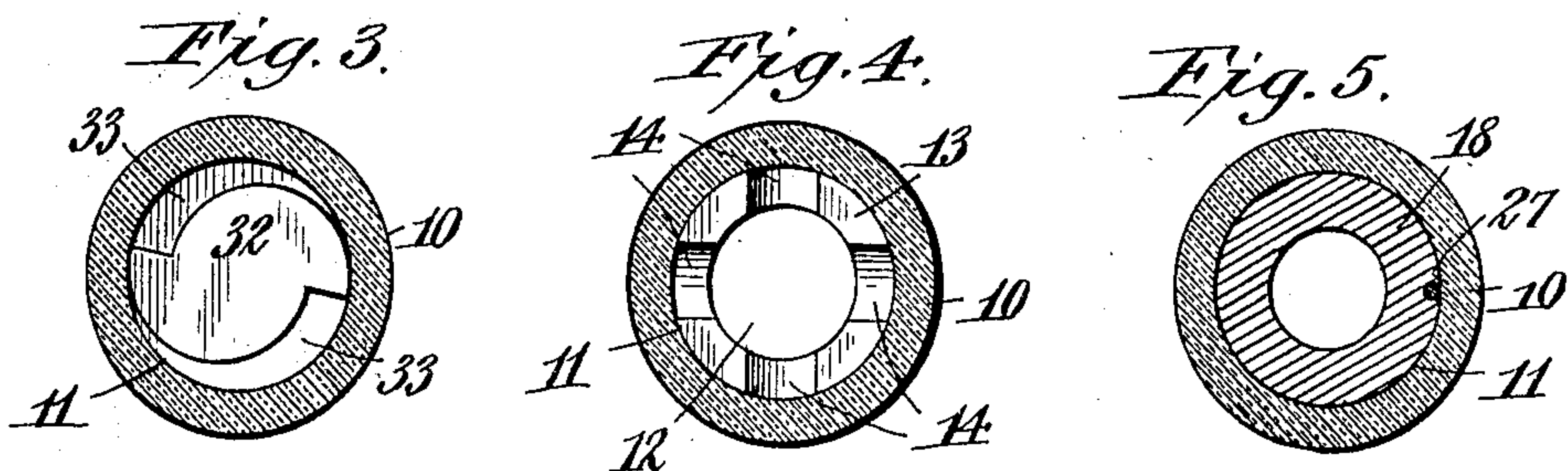
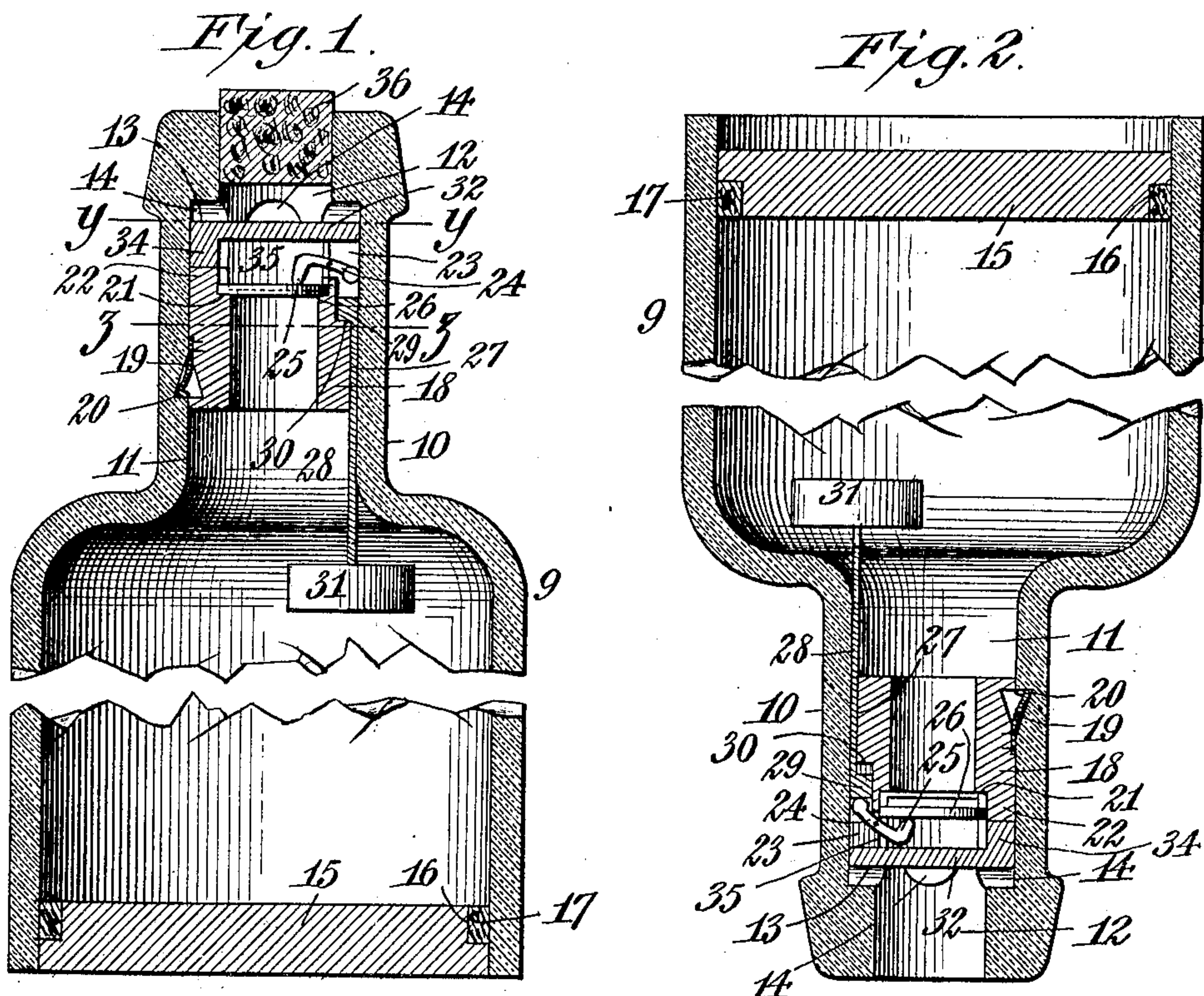


No. 885,425.

PATENTED APR. 21, 1908.

A. BENNETT.
NON-REFILLABLE BOTTLE.
APPLICATION FILED OCT. 18, 1907.



Witnesses:

Harry D. Rapp

Christ Feinle.

Alexander Bennett, Inventor.

By Emil Neubert,

Attorney.

UNITED STATES PATENT OFFICE.

ALEXANDER BENNETT, OF BUFFALO, NEW YORK.

NON-REFILLABLE BOTTLE.

No. 885,425.

Specification of Letters Patent.

Patented April 21, 1908.

Application filed October 18, 1907. Serial No. 398,062.

To all whom it may concern:

Be it known that I, ALEXANDER BENNETT, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, 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 it has for its object the production of a bottle of this type provided with valve-mechanism so arranged that the valve remains closed irrespective of the position that the bottle may be placed in and cannot be opened until the contents of the bottle is subjected to pressure; it also has for its object the construction of valve-mechanism in which the valve thereof is held to its seat by gravity when the bottle is in upright position, and wherein the adjuncts thereto serve to hold said valve against its seat when the bottle is inverted.

Other objects are, to provide a depressible bottom and equip the same with packing to prevent leakage of the contents of the bottle between the wall thereof and said bottom; to provide a simple and inexpensive bottle of this character wherein the valve-mechanism is inserted through the bottom of the bottle; and to otherwise improve on devices of this type.

With these objects in view, the invention consists in a bottle having valve-mechanism in the neck thereof in which the valve proper is retained against its seat until subjected to pressure from within the bottle, and in the provision of a movable bottom adapted to be forced into the body of the bottle as the contents thereof is emptied through the valve-contained neck of said bottle.

It also consists of a weight acting to retain the valve in closed position when the bottle is inverted so that said valve cannot be opened until the contents of the bottle is subjected to sufficient pressure to overcome the force of said weight, and in the construction, combination and arrangement of parts to be hereinafter described and particularly pointed out in the appended claims.

In the drawings, like numerals of reference refer to like parts in the several figures.

Figure 1 is a broken central vertical section of a bottle embodying my invention; the same being shown in upright position. Fig. 2 is a similar view, the bottle being inverted. Fig. 3 is a cross-section taken on line $y-y$, Fig. 1 looking down. Fig. 4 is a cross-section

taken on line $y-y$, Fig. 1, looking up. Fig. 5 is a cross-section taken on line $z-z$, Fig. 1. Fig. 6 is a perspective view of the valve-retaining sleeve. Fig. 7 is a side elevation of the valve-retaining sleeve and its attached parts. Fig. 8 is a detached perspective view of the guard located above the valve.

The reference numeral 9 designates the bottle, and 10 the neck thereof having its bore 11 reduced at its upper end, as at 12, to form a shoulder 13 provided with notches 14. The body of the bottle is open at its lower end and has a depressible bottom 15 held therein; the edge of said bottom being rabbeted, as at 16, to receive a packing-ring 17 adapted to prevent leakage of liquid between the edge of the bottom and the wall of the bottle.

18 designates a sleeve which is inserted into the neck of the bottle from the bottom of the latter, and it is held in position by spring-retainers 19 adapted to spring into the notches 20 formed in the neck of the bottle so that the sleeve cannot be withdrawn. Said sleeve is internally shouldered, as at 21, to form a valve-seat, and at its upper edge it has a lug 22 and a pair of lugs 23 at a point diametrically opposite lug 22. Lugs 23 are somewhat longer than the lug 22, and between them is pivoted a dog 24 having a toe or depending inner end 25. Retained within said sleeve so as to normally seat itself against the valve-seat 21 is a valve which acts to close the upper end of the bore of said sleeve. The latter is provided with a longitudinal groove 27 enlarged at its upper end to separate the lugs 23; the outer end of the dog 24 extending into the enlarged upper end of said groove.

The sleeve 18 and the valve 26 may be made of glass or any other suitable material, while the dog 24 is preferably made of aluminum or some other suitable non-corrosive metal.

Guided for movement in the groove 27 is a rod 28 which has a head or enlargement 29 at its upper end fitting into the enlarged upper end of said groove. Said enlarged upper end of the groove is somewhat deeper than the remaining portion thereof so as to form a shoulder 30, and the head 29 of the rod 28 is of a corresponding size so that said shoulder forms a stop for said head and acts as a support for said rod. The latter is provided at its lower end with a weight 31 to cause said

rod to move toward the outer end of the dog 24 and engage the same when the bottle is inverted, so as to press the inner end of said dog against the valve to hold the same in closed position.

With a view of preventing the insertion of a tool through the upper end of the bottle-neck to lift the valve 25 or otherwise tamper therewith, I provide a guard 32, said guard having portions of its side cut-away to form liquid-passages 33; it being flat and bearing against the upper ends of lugs 23 on the valve-retaining sleeve and having a depending lug 34 which bears against lug 22 of said sleeve. In this manner a liquid-passage 35 is formed between the upper edge of the valve-retaining sleeve and said guard; said passage being in communication with the reduced bore 12 at the upper end of the bottle-neck through the medium of the passages 33 and the notches 14 formed in the shoulder 13 of said bottle-neck. The upper end of the latter may be closed by means of a common cork 36. Owing to the bore of the bottle-neck being reduced at its upper end, withdrawal of the valve-mechanism and supporting parts through said end is impossible, and owing to the spring-retainers 19 engaging the notches 20 in the wall of said neck, such parts cannot be withdrawn through the body of the bottle.

The bottle must be filled before the bottom is placed into the body of the same; said bottom being entered into the body so as to be flush with the lower edge of the side walls thereof, thus avoiding all projecting points which might be taken hold of to remove the bottom from the body of the bottle. When the bottle is in upright position, as shown in Fig. 1, the valve is held in closed position and effectively prevents the filling of the bottle through the neck thereof. When inverting the bottle, the weight 31 causes the rod 28 to which it is attached, to actuate the dog 24 and hold the same against the valve so as to retain the latter against its seat and prevent the discharge of liquid from the bottle. This prevents the refilling of the bottle under pressure when inverted, and in order to discharge the contents of the bottle, it will be necessary to depress the bottom, as shown in Fig. 2, so as to subject the contents of the bottle to sufficient pressure to overcome the counteracting force of the weight 28, whereupon the valve will open in the manner shown in said Fig. 2.

It is apparent from the foregoing that any portion of the contents may be discharged at a time; and owing to the fact that the bottom cannot be removed without breaking the bottle, the latter cannot be used after once being emptied.

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

1. A non-refillable bottle having a depressible bottom, a valve in the neck of said bottle

held in closed position when the bottle is in upright position, a weight in the body of the bottle, and mechanism between said weight and said valve to cause the latter to be held in closed position when the bottle is inverted, said valve being opened only by forcing said bottom into the body of the bottle and subjecting the contents to pressure.

2. In a non-refillable bottle, the combination of a sleeve in the neck thereof provided with a valve-seat, a valve closing inward against said seat, weight-controlled mechanism for holding said valve in closed position when the bottle is inverted, and means for subjecting the contents of the bottle to pressure so as to counteract the force of said weight-controlled means.

3. In a non-refillable bottle, the combination of a sleeve held in the neck thereof and having a valve-seat at its upper end and lugs projecting from the upper edge of said sleeve, a guard supported on said lugs, a valve seated against said valve-seat, a pivoted dog between said valve and said guard, a weighted rod movable lengthwise of the bottle-neck and acting against said dog to cause the latter to hold said valve in closed position when the bottle is inverted, and a depressible bottom adapted to be forced into the bottle to subject the contents thereof to pressure and cause the opening of said valve against the force of said weighted-rod.

4. In a non-refillable bottle, the combination of a sleeve held in the neck thereof and having a valve-seat at its upper end, a lug projecting from the upper edge of said sleeve and a pair of lugs projecting from said edge at a point diametrically opposite said first-mentioned lug, a dog pivotally held between said pair of lugs, a weighted-rod slidable longitudinally between said sleeve and the wall of the bottle neck and adapted to actuate said dog, a guard supported on the lugs of said sleeve, and a depressible bottom adapted to be forced into the body of the bottle to subject the contents thereof to pressure for the purpose of opening the valve.

5. In a non-refillable bottle, the combination of a sleeve held in the neck thereof and having a valve-seat at its upper end and a longitudinal groove, a valve held against said valve-seat, a guard above said valve, a pivoted dog between said guard and valve, a weighted-rod movable in the longitudinal groove of said sleeve and adapted to actuate said dog when the bottle is inverted so as to cause said dog to retain said valve against its seat, and a depressible bottom adapted to be forced into the body of the bottle when inverted to subject the contents thereof to pressure and cause the valve to be opened against the force of said weighted-rod.

6. A non-refillable bottle comprising a body having a depressible bottom and a neck having its bore reduced at its upper end to

provide an internal shoulder having notches, a sleeve within the neck of said bottle, an inwardly-closing valve within said sleeve, a guard between the notched shoulder of the bottle-neck and said sleeve, and means to hold said valve in closed position when the bottle is inverted.

7. The combination with a bottle having a depressible bottom, a sleeve held in the neck thereof and provided with a valve-seat at its upper end, a lug at its upper edge, a pair of lugs at said edge opposite the first-mentioned lug and somewhat longer than the latter and a longitudinal groove on its outer surface having an enlarged upper end, a valve held against said valve-seat, a dog pivoted between said pair of lugs, a weighted rod held

in said groove and having a head fitting the enlarged upper end of said groove, said rod being adapted to actuate said dog when the bottle is inverted so as to retain said valve in closed position and a guard bearing against said pair of lugs and having a depending lug bearing against the first-mentioned lug on said sleeve, said guard having its sides cut away to form liquid-passages between it and the wall of the bottle-neck.

In testimony whereof, I have affixed my signature in the presence of two subscribing witnesses.

ALEXANDER BENNETT.

Witnesses:

ELLA C. PLUECKHAHN,
CHRIST FEINLE.