

No. 782,477.

PATENTED FEB. 14, 1905.

O. YATES.

NON-REFILLABLE BOTTLE.

APPLICATION FILED SEPT. 16, 1904.

Fig. 1.

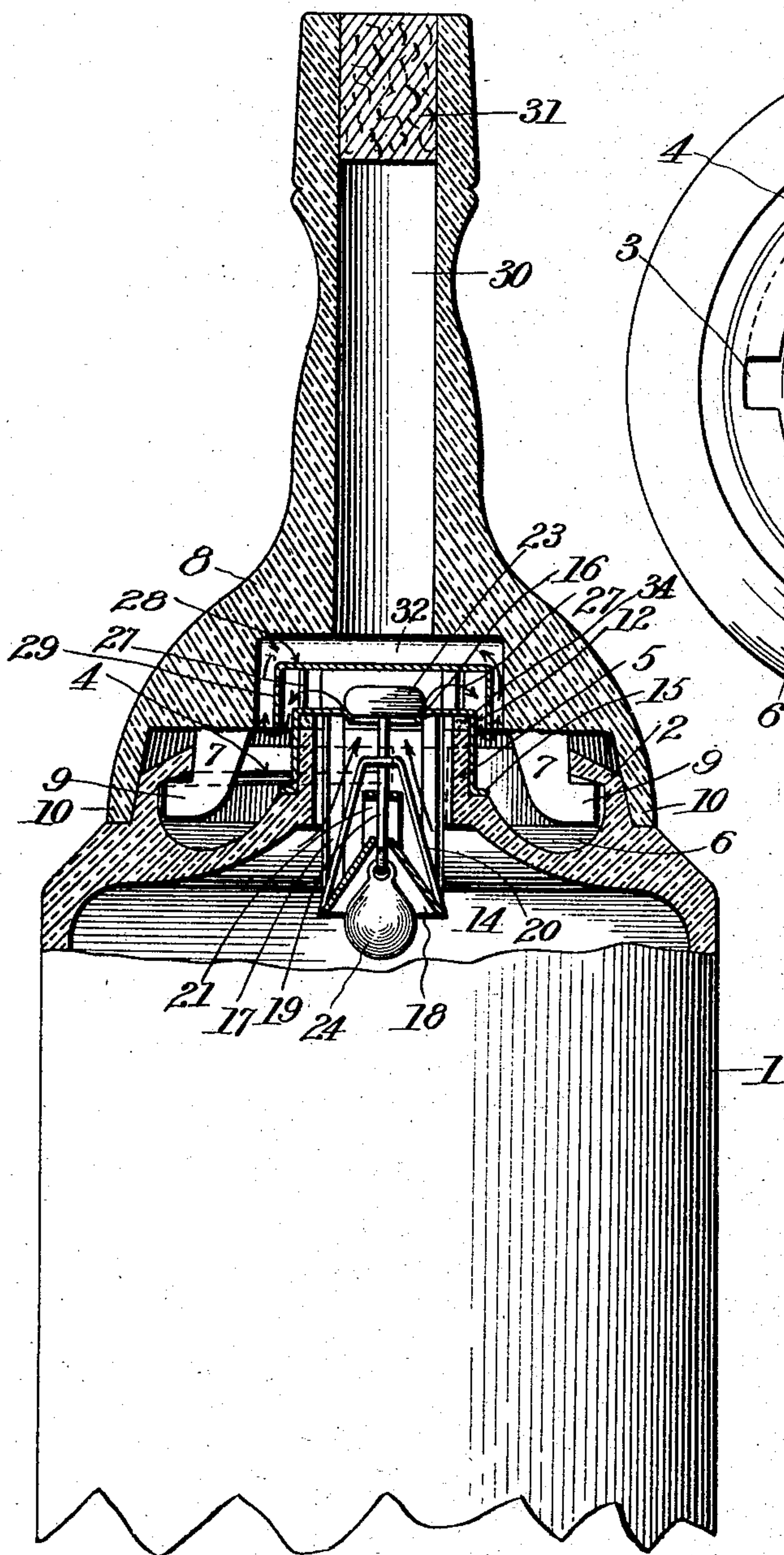


Fig. 2.

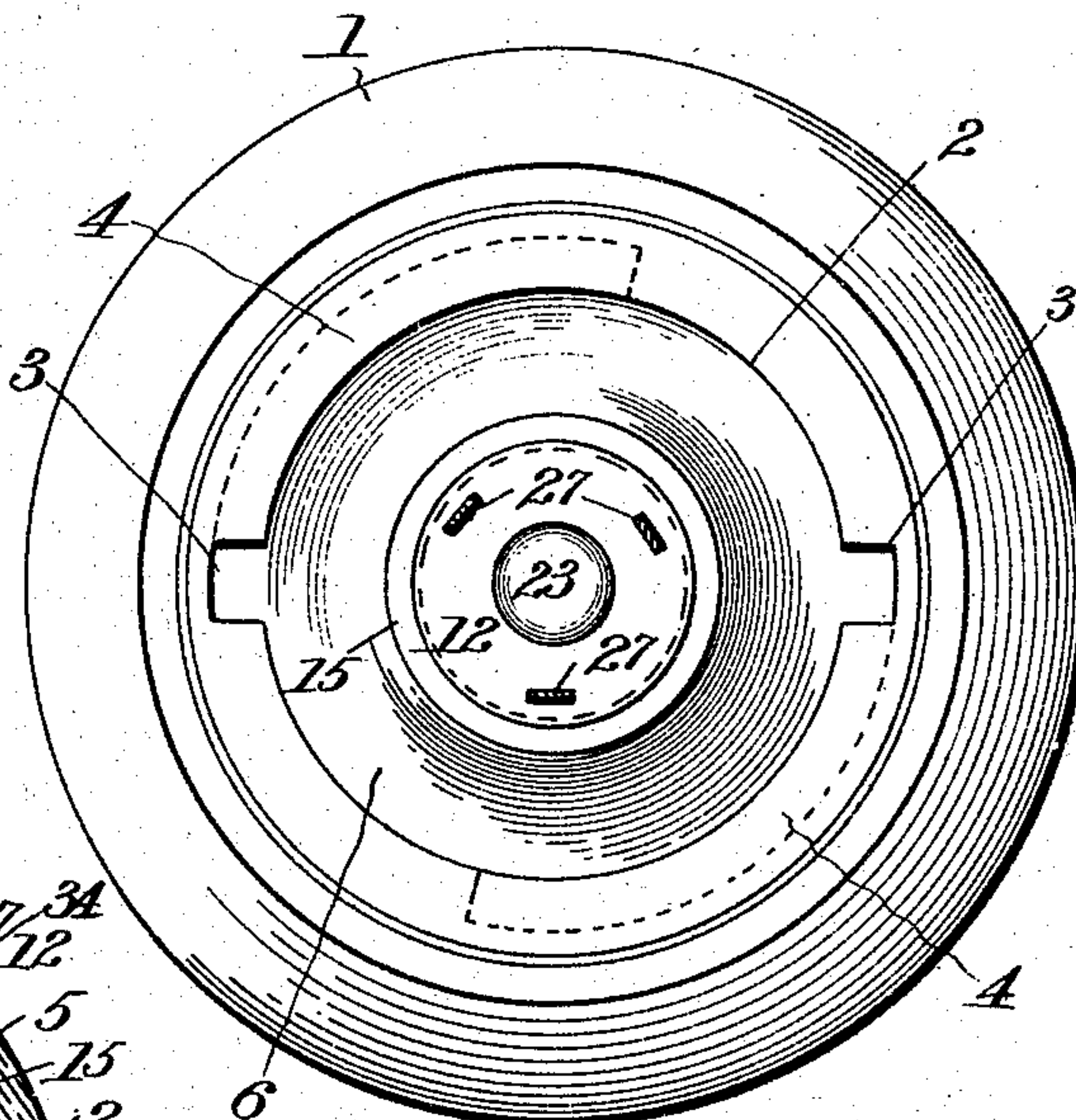


Fig. 3.

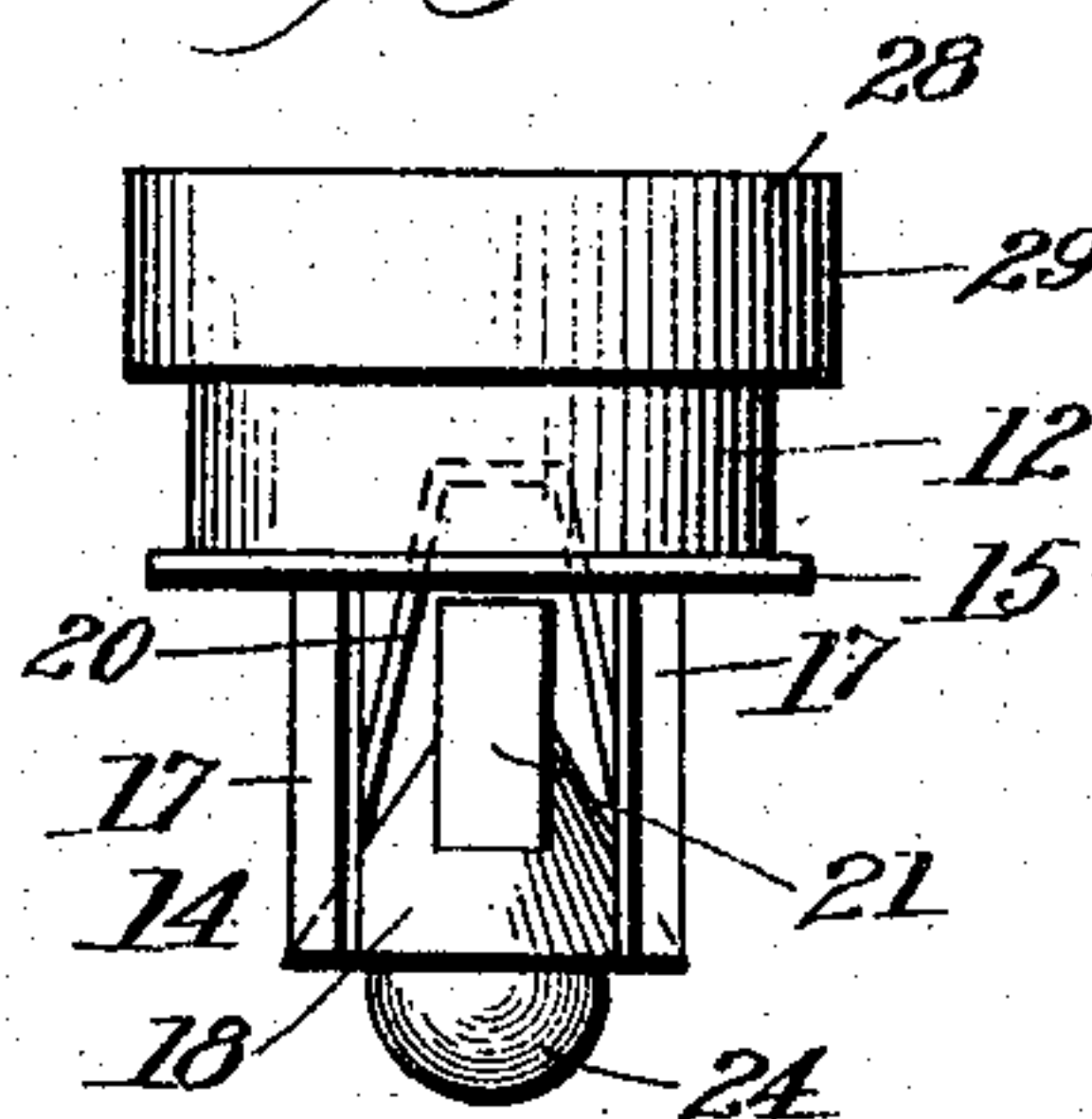
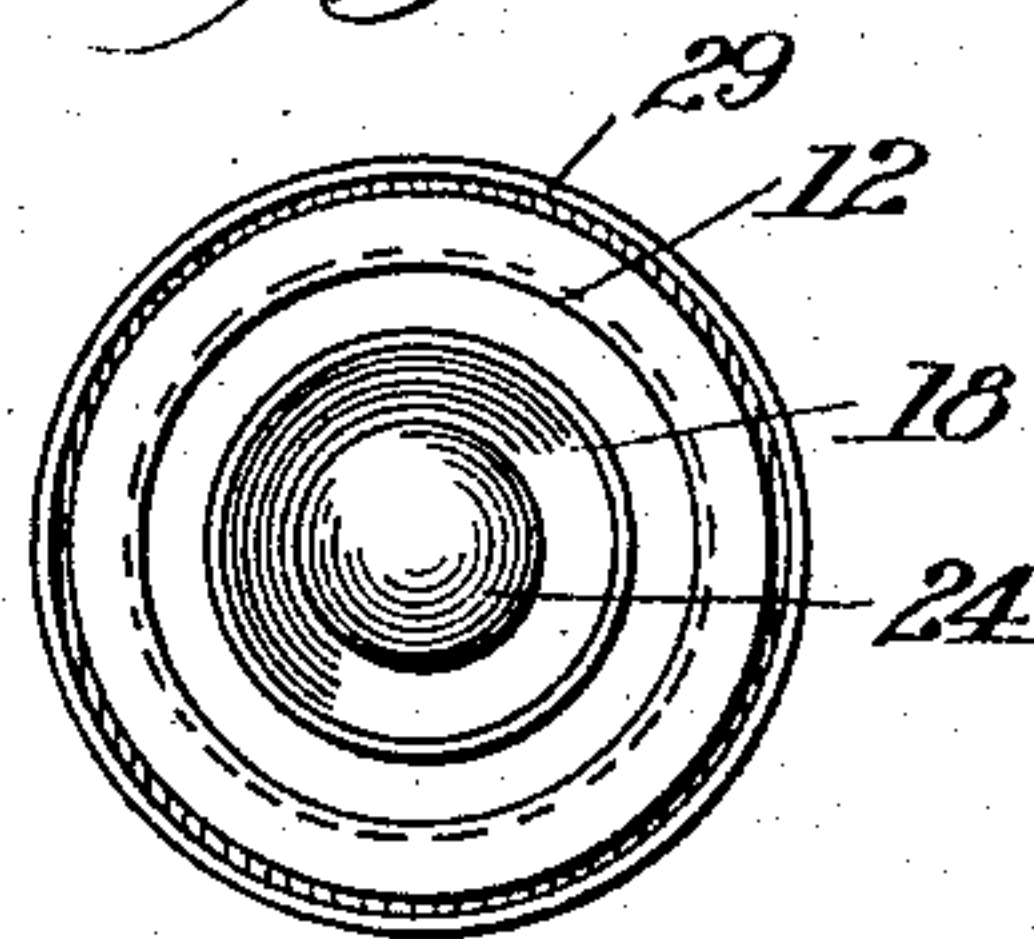


Fig. 4.



Witnesses

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UNITED STATES PATENT OFFICE.

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NON-REFILLABLE BOTTLE.

SPECIFICATION forming part of Letters Patent No. 782,477, dated February 14, 1905.

Application filed September 15, 1904. Serial No. 224,610.

To all whom it may concern:

Be it known that I, ODAVILLE YATES, a citizen of the United States, residing at Portland, in the county of Multnomah and State of Oregon, have invented certain new and useful Improvements in Non-Refillable Bottles; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to non-refillable bottles, and has for its object to provide an improved and inexpensive bottle of this character the detailed construction, merits, and advantages of which will be more fully set forth in the following description, reference being had to the accompanying drawings, in which—

Figure 1 is a vertical section of the neck and valve-chamber of my improved bottle. Fig. 2 is a plan view of the bottle with the valve mechanism mounted therein and with the detachable neck and the guard for the valve mechanism removed. Fig. 3 is a side elevation of the valve mechanism, and Fig. 4 is an inverted plan view of Fig. 3.

Making renewed reference to the drawings, wherein similar characters of notation indicate corresponding parts appearing in the several illustrations, and reference being had thereto, 1 designates the body of the bottle, which at its upper end is formed with an integral upstanding and inwardly-directed flange 2, the edges of which are provided with diametrically-disposed recesses 3 3, from the under face of which extend inclined circumferential segments 4, which preferably extend about one-fourth way around the flange, as indicated in dotted lines, Fig. 2. Disposed concentrically to the flange 2 and near the center of the bottle is another vertical flange 5, upon which the valve-casing is hung and between which and the flange 2 is an annular chamber 6, which provides a space for lugs 7 of the separate neck 8. These lugs have a nose 9, that engages with the inclined face 4 of the segmental flange, so that when the noses of the lugs are passed through the recesses 3 of the flange and the neck 8 given a quarter-turn the upper edge of the nose wedges

upon the inclined face 4 of the flange 2 to bring the overlapping edge 10 of the neck into intimate contact with the top of the body of the bottle, thus producing a tight joint which may be hermetically sealed by introducing cement into the annular channel 6 before the neck is applied.

The valve mechanism comprises a casing 12, which fits upon the flange 5 and from which depends the valve-controlling means 14. This casing is flanged at its lower end, as at 15, and is formed at its top with a valve-seat 16. Depending from the top of the casing are suitable stays or supports 17, to the lower end of which is secured cone 18, the apex of which is provided with an aperture through which the valve-stem 19 plays.

20 and 21 indicate guides for the valve-stem 19 and consists of U-shaped straps with their ends secured to the cone and their heels arranged in different vertical planes, so that the valve-stem, which plays through the apertures in the heels, will be engaged at different points in its length. The upper end of the valve-stem is provided with a valve 23 of such shape as to snugly engage the seat 16 and close the port in the casing, and the lower end of this valve-stem is jointedly connected with a weight 24, which is confined within the cone 18, and which by virtue of its spheroidal shape will when the bottle is tilted to a horizontal position contact with the walls of the cone to hold the valve seated and prevent the discharge of the liquid, it being necessary to entirely invert the bottle to dispense the contents thereof. From the upper side of the top of the valve-casing 12 extend arms 27, to which is secured a guard 28 that covers the valve and the top of the valve-casing and preferably has a downwardly-directed flange 29, that terminates slightly below the top of the valve-casing, thereby providing a circuitous passage for the fluid as it is discharged from the bottle. The bore 30 of the neck may be closed at its upper end by the usual cork 31, while its lower end communicates with an annular chamber 32, in which the guard 28 is disposed with its sides and top separated from the walls of the chamber, so that a space for the fluid is provided around and above the

guard. A suitable washer 34 may be fitted between the upper edge of the flange 5 and the top of the valve-casing, so as to provide a tight joint between these parts.

5 When the bottle has been filled with liquid, the valve-casing with the valve mechanism is fitted over the flange 5, and while no means is shown in the drawings for holding it in this position any suitable construction may be employed, but it is preferable to have the valve-
10 casing frictionally engage the upstanding flange, but suitable tacks or screws may be inserted through the flange 15 of the casing. Cement is now inserted within the annular
15 space 6 and the neck applied and given a quarter-turn to bind it in place. The cement when hard will hermetically seal the parts, but not entirely close the space between the valve-casing and the edge of the flange 2.
20 When the bottle is in an upright position, it will be seen that the weight 24 will hold the valve seated and close the port, so that liquid cannot then be introduced into the bottle and the valve cannot be tampered with by
25 an instrument inserted through the bore of the neck, inasmuch as the guard offers an obstruction thereto. Neither will the valve be opened when the bottle is disposed horizontally, as before explained, since the weight
30 will swing into engagement with the sides of the cone and hold the valve tight against the seat. However, when the bottle is inverted the weight will release the valve from its seat and the liquid will flow into the opening
35 surrounded by the flange 5, in which stays 17 and guides 20 and 21 are disposed, and will pass through the port above the valve-casing, then around the lower edge of the flange 29 of the guard 28, and into the annular chamber
40 32, where it will freely flow through the bore of the neck.

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

45 1. A non-refillable bottle comprising a body portion and a neck therefor, the neck having a chambered lower end and overlapping edges engaging the top of the body portion, the body portion having an upstanding flange 5,
50 a valve mechanism hung upon said flange and depending within the body portion, and a guard carried by the valve mechanism and

disposed within the chamber of the neck, substantially as specified.

2. A non-refillable bottle comprising a body 55 portion having an upstanding flange 5 and an inwardly-directed outer flange with an annular channel between said flanges, a neck having a chamber at its lower end and an overlapping edge for the outer and the last-men- 60 tioned flange and also provided with depending lugs adapted to engage beneath the inwardly-directed flange to hold the neck on the body portion, a valve-operating mechanism 65 mounted on the first-mentioned flange 5 and depending within the body portion, a valve disposed within the chamber of the neck, and a guard secured to the valve-operating mechanism and disposed above the valve, substan- 70 tially as specified.

3. In a bottle of the class described, the combination of a body portion having an upstanding and inwardly-directed annular flange provided with diametrically-disposed recesses and also provided with inclined faces beneath 75 the flange, a neck having an extension adapted to overlap the flange and also provided with depending lugs engaged with the inclined faces of the flange to hold the neck in intimate contact with the top of the body por- 80 tion, and a valve mechanism mounted in the body portion, substantially as specified.

4. A non-refillable bottle comprising a body portion having a valve-casing provided with a seat, a valve mounted above the seat and hav- 85 ing a valve-stem depending below the casing, a weight on the lower end of the valve-stem, a cone depending from the valve-casing and surrounding the weight to limit the up-and-down movement of the valve, guides secured 90 to said cone and pierced by the valve-stem, and a guard secured to the valve-casing above the valve and having an annular flange surrounding the upper end of the casing, in combination with a neck having an annular 95 chamber in which the guard is disposed and also having means for clamping it to the body of the bottle, substantially as specified.

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

ODAVILLE YATES.

Witnesses:

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