

No. 670,220.

Patented Mar. 19, 1901.

F. C. J. BOSCH, SR.
NON-REFILLABLE BOTTLE.

(Application filed Jan. 11, 1901.)

(No Model.)

Fig. 1.

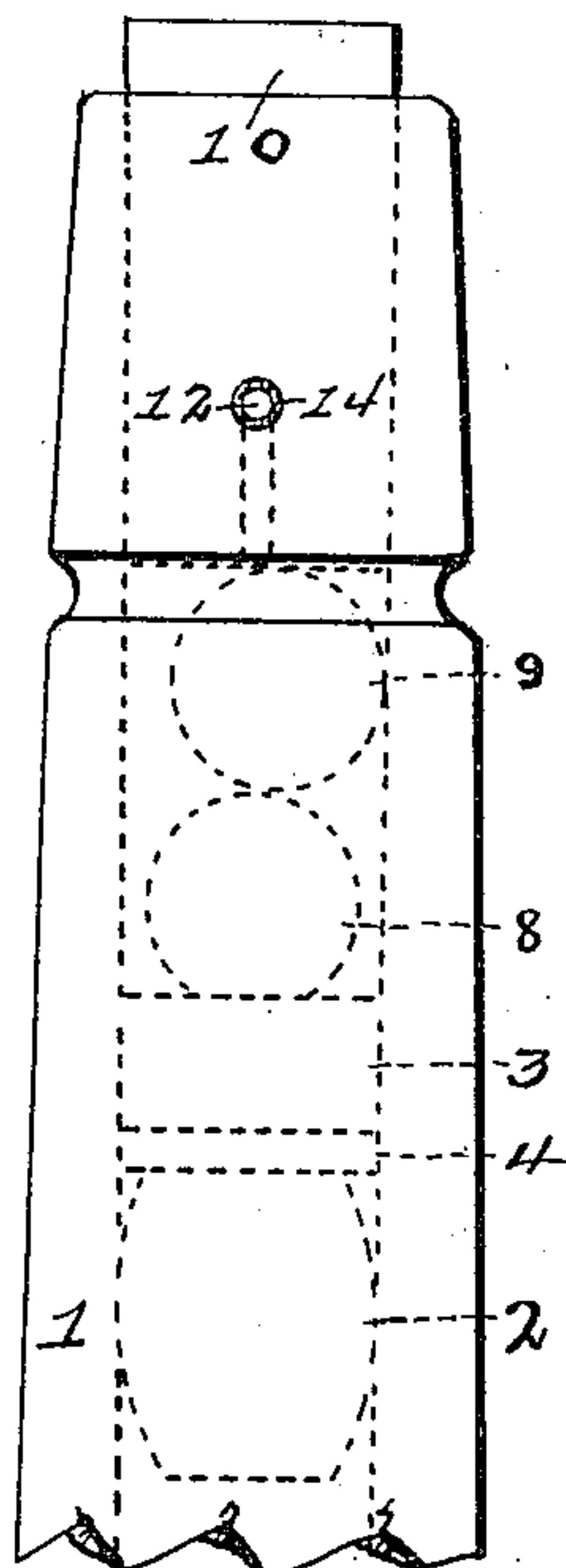


Fig. 2.

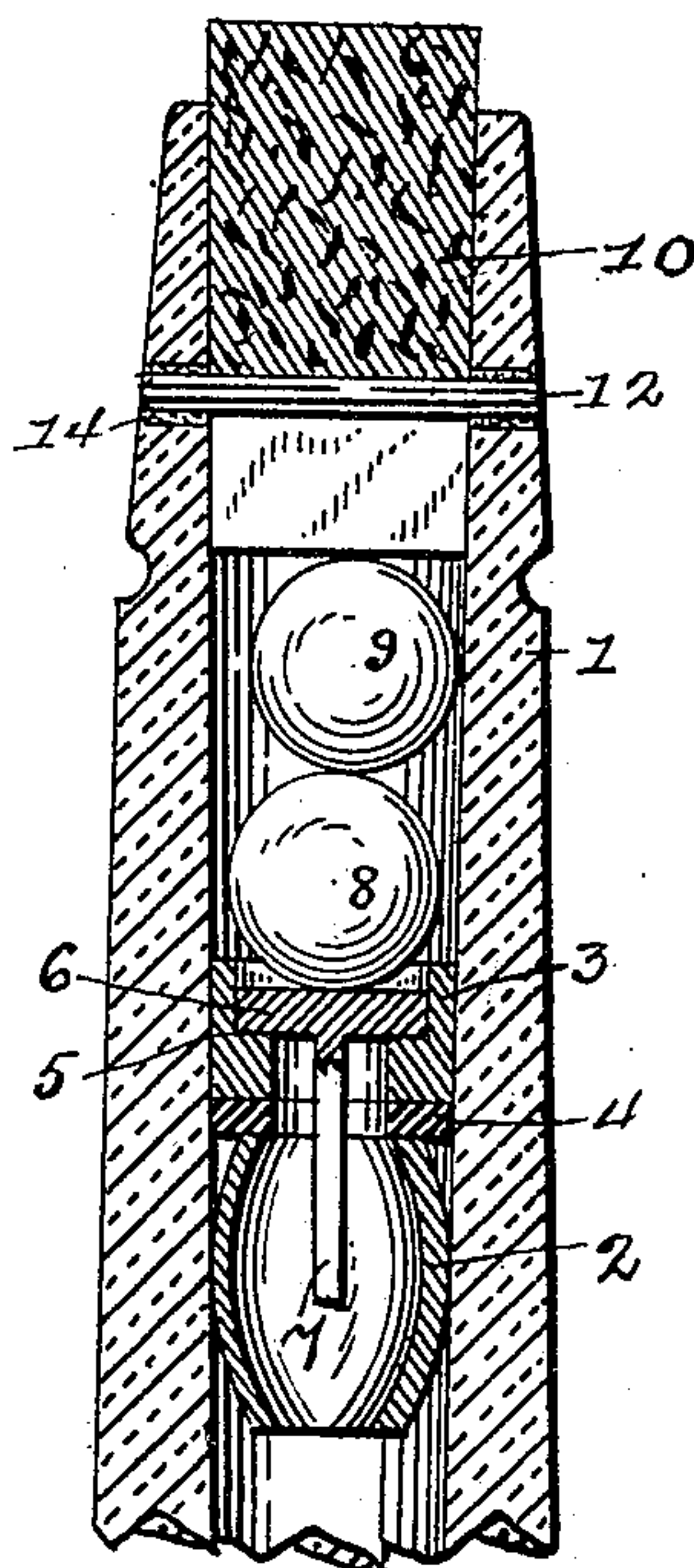


Fig. 3.

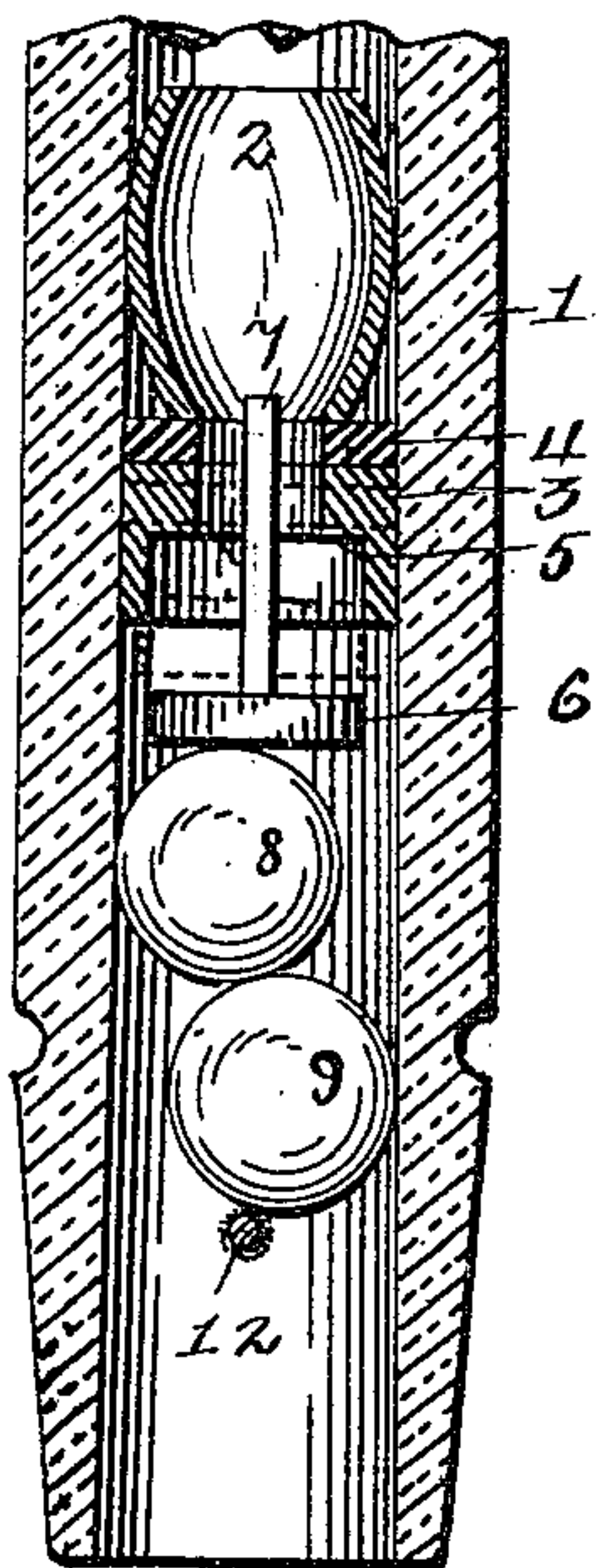


Fig. 4.

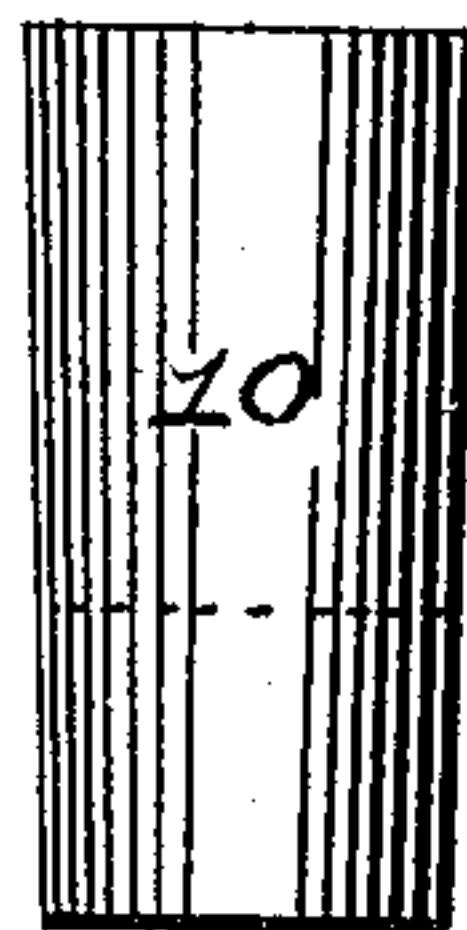
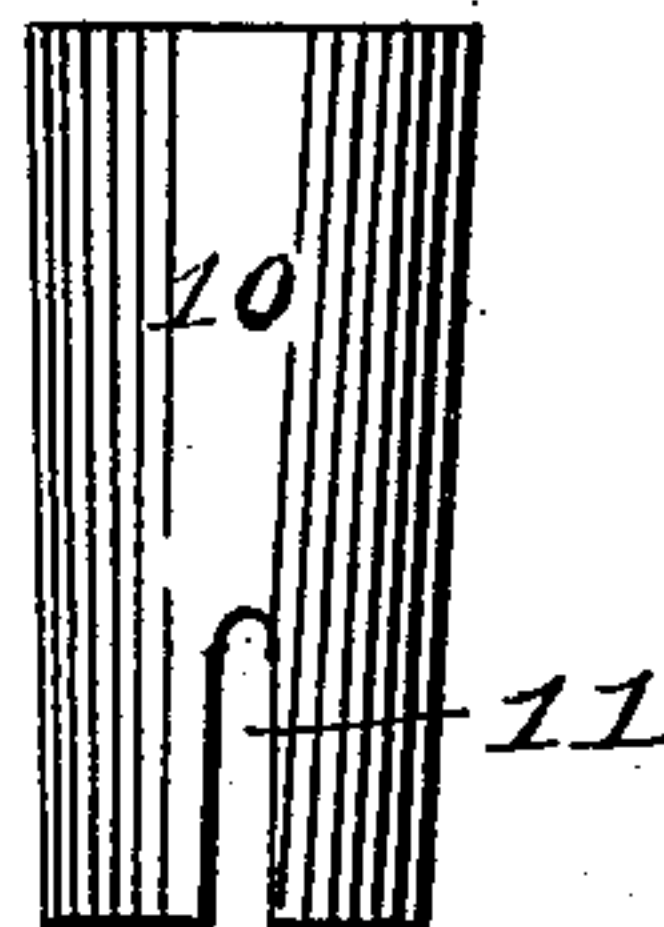


Fig. 5.



Witnesses:

C. L. Reese
E. E. Potter

Inventor

F. C. J. Bosch, Sr.,

By

H. E. Everitt

Att'y

UNITED STATES PATENT OFFICE.

FREDRICK C. J. BOSCH, SR., OF PITTSBURG, PENNSYLVANIA.

NON-REFILLABLE BOTTLE.

SPECIFICATION forming part of Letters Patent No. 670,220, dated March 19, 1901.

Application filed January 11, 1901. Serial No. 42,863. (No model.)

To all whom it may concern:

Be it known that I, FREDRICK C. J. BOSCH, Sr., a citizen of the United States of America, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Non-Refillable Bottles, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to certain new and useful improvements in non-refillable bottles, the object of the invention being to provide new and effective means to prevent the refilling of a bottle and the disposing of the
15 same and its contents under the representation of the original filling.

Briefly described, the invention comprises an annular valve-seat secured within the bottle-neck, a movable valve-collar adapted to
20 seat upon the annular valve-seat, a valve within the collar, and a pair of spherical weights adapted to rest upon the valve, together with the ordinary stopper and means to limit the insertion of the latter into the bottle-neck.
25

In describing the invention in detail reference is had to the accompanying drawings, forming a part of this specification, and wherein like numerals of reference indicate
30 corresponding parts throughout the several views, in which—

Figure 1 is a side elevation of the bottle-neck, showing my improved valve mechanism therein in dotted lines. Fig. 2 is a vertical sectional view of the bottle-neck. Fig. 3 is a like view of the neck inverted. Figs. 4 and 5 are detail side elevations of the bottle-stopper.
35

To put my invention into practice, I arrange within the bottle-neck 1, near the lower end thereof, a valve-seat comprising a sleeve 2, the ends of which are contracted or of less diameter than the sleeve at its central cross-section line, so that only the central portion
40 of the periphery of the said sleeve will engage with the walls of the bottle-neck, the sleeve being substantially barrel-shaped in form. This sleeve is constructed in this form so as to permit the forcing of the same downwardly
50 into position in the neck of the bottle, which may be much more easily accomplished than if the entire outer surface of the sleeve con-

tacted with the bottle-neck. Upon the top of said sleeve I mount a valve-collar 3, having secured to its underneath face a flexible washer or gasket 4 for contact with the top
55 of the sleeve 2. The valve-collar is provided with an interior valve-seat 5 to receive a valve 6, having a stem 7 extending downwardly through the valve-collar, the washer
60 or gasket 4, and into the barrel-shaped sleeve 2. When the bottle is in an upright position, the valve or valve-head 6 is held upon its seat 5 by means of a pair of spherical weights 8 9, disposed in the bottle-neck one
65 on top of the other, these spherical weights being of less diameter than the diameter of the opening in the bottle-neck, so as to give the desired movement. The bottle is sealed for shipment by means of the ordinary stop-
70 per 10, which may be provided in its lower end with a slot 11 to receive a pin 12, extending transversely through the bottle-neck near its upper end, the openings in the bottle-neck through which this pin passes being
75 preferably sealed with some plastic material, as at 14, so as to make the same air-tight.

When the stopper 10 is inserted in the neck of the bottle, the engagement of this stopper with the pin 12 prevents further downward
80 movement of the stopper, and consequently prevents the forcing downwardly thereby of the valve mechanism arranged within the bottle-neck. The barrel-shaped sleeve 2 is preferably constructed of some material which
85 will permit of its compression to be forced downwardly into the neck of the bottle, the exact position being determined by the size of the ball-weights used and the size of the other parts. Should the sleeve 2 not be forced
90 downwardly a sufficient distance to prevent the insertion of the stopper 10, the latter upon its engagement with the upper ball-weight 9 will force the said ball, the weight 8, and the parts 2, 3, and 4 downwardly until the
95 pin 12 reaches the end of the slot 11 of the stopper.

To remove the contents, the stopper 10 is withdrawn and the bottle tilted, which will permit the ball-weights 9 8 to move toward
100 the mouth of the bottle, the same being arrested in their movement by the pin 12. This also permits the valve-collar 3 to oscillate within the bottle-neck and the valve-head 6

and its stem to oscillate within the valve-collar, so as to unseat the valve-head 6 from the seat of the valve-collar and permit the liquid to flow out around the valve-head and out of the mouth of the bottle. If desired, the valve-collar may be made rigid within the neck of the bottle, though I prefer to permit this valve-collar to oscillate slightly, with perhaps not as free a movement as is given to the valve-head 6, as will be evident, as the pressure of the liquid is against the valve-head 6, so as to force the same outwardly away from the valve-seat 5. The restoring of the bottle to its upright position causes all parts of the valve to seat upon the barrel-shaped sleeve, sealing the inlet to the bottle and preventing any liquid from being introduced into the same.

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

In combination with a bottle-neck having a tapering bore, a barrel-shaped sleeve fitted within said bore, a valve-collar fitted within the bore and carrying a washer to engage the upper end of the sleeve, an interior valve-seat formed in said valve-collar, a valve-head adapted to rest normally on said seat and provided with a stem projecting downwardly into the sleeve, a pair of spherical weights disposed one above the other in the bore of the bottle with the lowermost weight resting on the valve-head, and means extending transversely through the neck of the bottle for retaining the parts within said neck, substantially as described.

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

FREDRICK C. J. BOSCH, SR.

Witnesses:

JOHN NOLAND,
E. E. POTTER.