No. 864,563. PATENTED AUG. 27, 1907.

O. C. ROEDLER.

BOTTLE.

APPLICATION FILED FEB. 26, 1907.

FIG. 1.

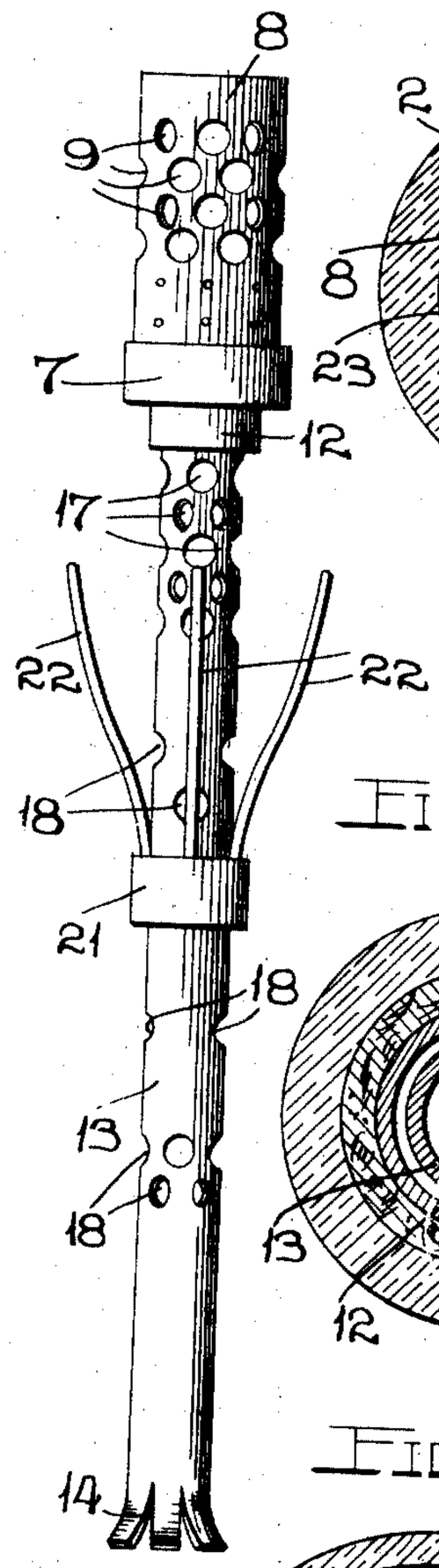


FIG. 3.

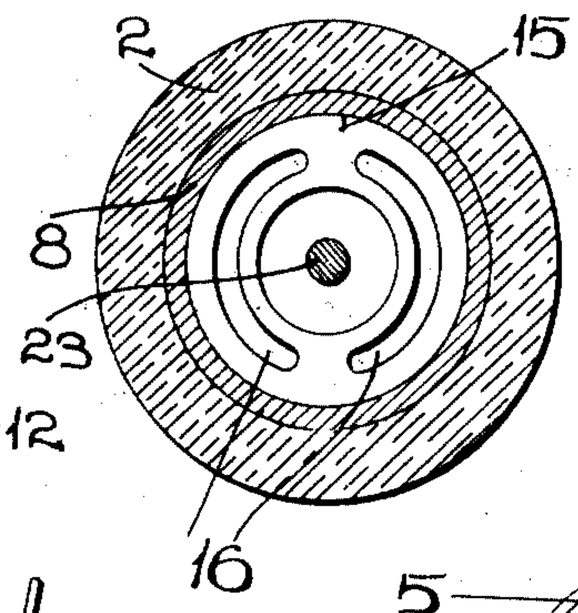


FIG. 4.

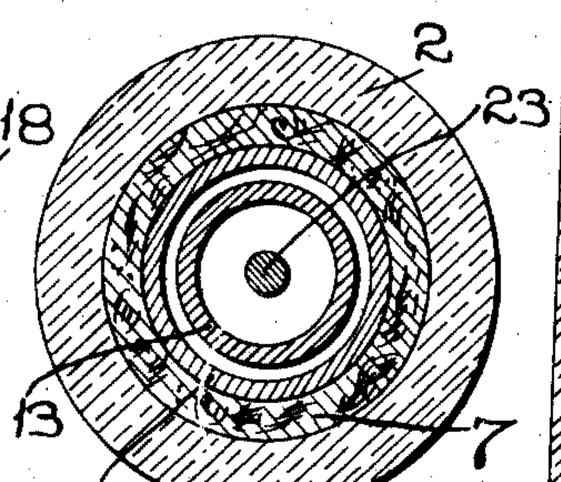


FIG. 5.

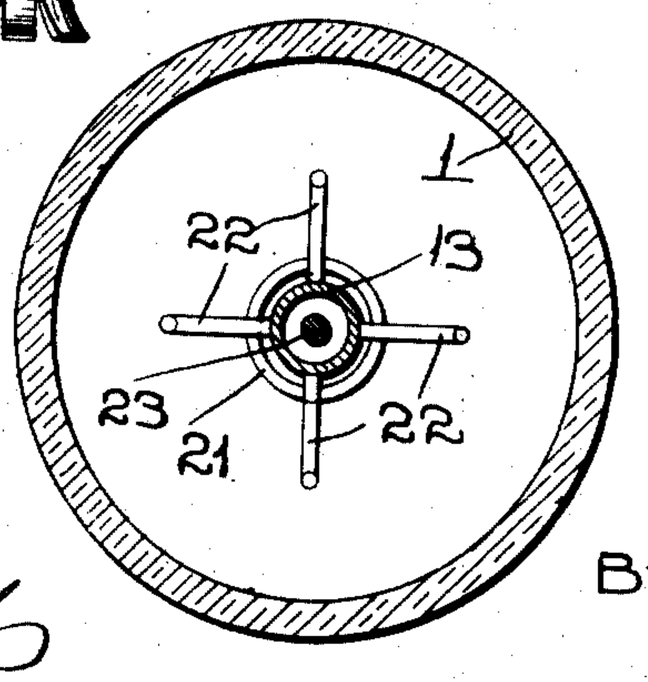
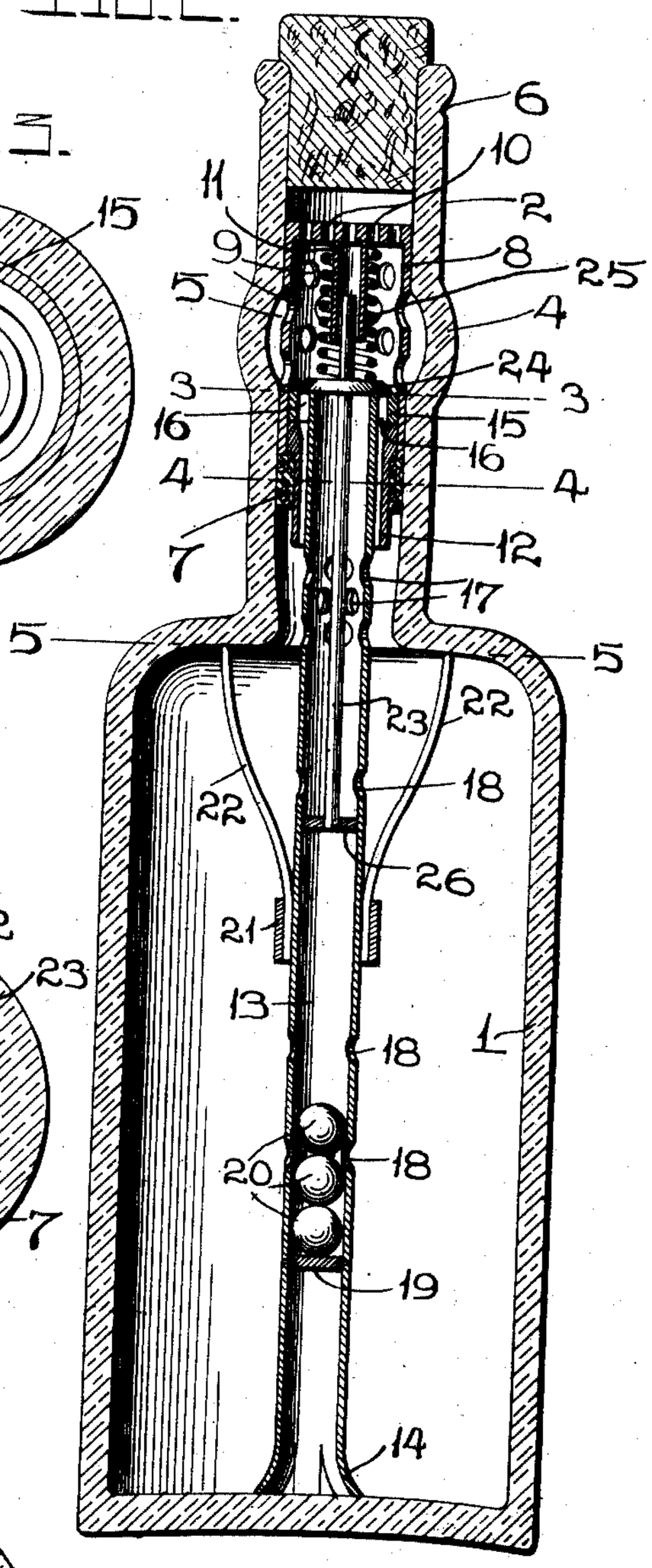


FIG. 2.



ATTEST.

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BOTTLE.

No. 864,563. Specification of Letters Patent. Patented Aug. 27, 1907.

Application filed February 26, 1907. Serial No. 359,527.

To all whom it may concern:

Be it known that I, OLIVER C. ROEDLER, a citizen of the United States, and a resident of Cairo, Illinois, have invented certain new and useful Improvements in Bottles, of which the following is a specification, containing a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates generally to improvements in bottles, and more particularly to an attachment to be inserted in a bottle to render the same non-refillable.

My invention consists of a perforated tube which is vertically disposed in the center of the bottle, means whereby said tube is held against removal from the bottle, a cap within the neck of the bottle around the upper end of the tube, a valve operating in said cap, and means for unseating said valve when the liquid is poured from the bottle.

To the above purposes, my invention consists in certain novel features of construction and arrangement of parts, which will be hereinafter more fully set forth, pointed out in the claims, and illustrated in the accompanying drawings, in which:—

Figure 1 is an elevation of my improved attachment as it appears when ready to be placed in a bottle; Fig. 2 is a vertical section taken through the center of the bottle, and showing the attachment positioned therein; Fig. 3 is a horizontal section taken on the line 3—3 of Fig. 2; Fig. 4 is a horizontal section taken on the line 4—4 of Fig. 2; Fig. 5 is a horizontal section taken on the line 5—5 of Fig. 2.

Referring by numerals to the accompanying drawings:—1 designates the body of the bottle, and 2 the neck, the wall of the neck at the center curving outwardly, as designated by 4 to form an annular chamber 5 on the interior of said neck. The upper end of the neck is preferably beaded, as designated by 6, in order to receive a stopper of the cap variety.

Positioned within the neck of the bottle a short distance below the annular chamber 5 is a ring 7, of cork, or analogous material, and fitting snugly within the neck, immediately above said ring, and extending above the annular chamber 5, is a cylindrical cap 8, which is provided with a series of perforations 9, which communicate with the chamber 5, and formed in the top of the cap is a series of perforations 10. Formed integral with the top of this cap 8, and extending downwardly from the center thereof is a small tube 11, and fixed in the lower end of the cap and extending downwardly through the ring 7 is a short tube 12.

13 designates a tube, the lower end of which is open and being spread, as designated by 14, and said lower end rests upon the bottom of the bottle, and the upper end of said tube terminating at a point just above the top of the tube 12, and being provided with an integral flange 15 which rests upon the top of said tube 12, and said flange 15 being provided with a plurality of slots 16. The tube 13 is provided with a plurality of perforations 17 a short distance below the lower end of the tube 12, and arranged at various intervals throughout the length of the tube are perforations 18. Fixed within the tube a short distance above the lower end thereof is a disk 19, and normally supported thereby is a plurality of spherical weights 20. Located on the tube 13 is a collar 21 which clamps the lower ends of a plurality of compound curved springs 22, the upper ends of which bear against the shoulder formed between the body and the neck of the bottle, thus providing means for maintaining the tube 13 within the bottle and preventing its removal.

23 designates a valve rod, which is vertically arranged in the upper end of the tube 13, and fixed on said rod is a disk valve 24, which normally rests on top of the flange 15 and covers the openings 16 therethrough. The upper end of the rod 23 extends into the lower end of the tube 11, and arranged on said tube and interposed between the valve 24 and the top of the cylindrical cap 8 is an expansive coil spring 25. The lower end of the rod 23, which terminates a short distance below the apertures 17 is provided with a disk 26, which is arranged to slide freely in the tube 13.

All of the parts of my improved attachment are preferably constructed of metal which will not rust or corrode as a result of contact or immersion in liquid.

When my invention is in use, the attachment constructed as herein described is inserted in the bottle and when properly positioned, the springs 22 will engage against the shoulder at the upper end of the body of the bottle, thus preventing the removal of the attachment, and said bottle is now sealed with either a cork, or with a stopper of the cap variety.

When the bottle is standing in an upright position, the spherical weights 20 rest upon the disk 19, and the expansive action of the coil spring 25 maintains the disk valve 24 on top of the flange 15, thus closing the openings therethrough.

When it is desired to remove the contents of the bottle, or a portion thereof, the cork or stopper is removed from the mouth of the bottle, and said bottle is shifted into such a position as that its mouth occupies a position beneath the bottom of the bottle, which action causes the spherical weights 20 to travel through the tube until they strike the disk 26, and overcoming the resistance offered by the expansive spring 25 force the rod 23 and disk 24 carried thereby through the neck of the bottle, which action uncovers the openings 16, and the liquid within the bottle is now free to pass through the perforations 17 and 18 in the tube 13, and discharge from thence into the cylindrical cap 8, and from thence through the perforations in the top thereof, and out through the mouth of the bottle. To fill the space created by the withdrawal of the contents of the bottle,

air enters through the uppermost ones of the apertures in the top of the cylindrical cap 8, and passes from thence through the apertures 9 in said cap, into the chamber 5, and from thence through the openings 16, and finally passes into the bottle through the lower end of the tube 12.

An attachment of my improved construction is simple, inexpensive, automatic in operation, can be easily and quickly placed in position, and when so placed cannot be removed without breaking the bottle, and thus provides means whereby a bottle of ordinary form is made non-refillable.

I claim:—

1. The combination with a bottle, within the neck of which is formed an annular chamber, of a perforated tube vertically disposed in the center of the body of the bottle and extending upwardly into the neck thereof, spring arms arranged on the perforated tube for engaging the shoulder between the body and neck of the bottle, a perforated cap arranged in the neck of the bottle adjacent the annular chamber therein, a spring actuated valve arranged for operation in the perforated cap and normally closing the upper end of the perforated tube, and a movable weight arranged within the tube for unseating the valve when the bottle is held in a horizontal position.

2. The combination with a bottle, in the neck of which is formed an annular chamber, of a perforated tube vertically arranged in the body of the bottle and extending into the neck thereof, spring arms arranged on the perforated tube for engaging the shoulder between the body and neck of the bottle, a perforated cap arranged in the neck of the bottle adjacent the annular chamber therein, a valve within the perforated cap for normally closing the upper end of the perforated tube, a rod secured to the valve and extending downward through the perforated tube, and a weight arranged to move in the perforated tube for engaging the lower end of the rod to unseat the valve when the bottle is moved into horizontal position.

In testimony whereof, I have signed my name to this specification, in presence of two subscribing witnesses.

OLIVER C. ROEDLER.

Witnesses:
A. A. COMINGS,
M. MALUCHE.