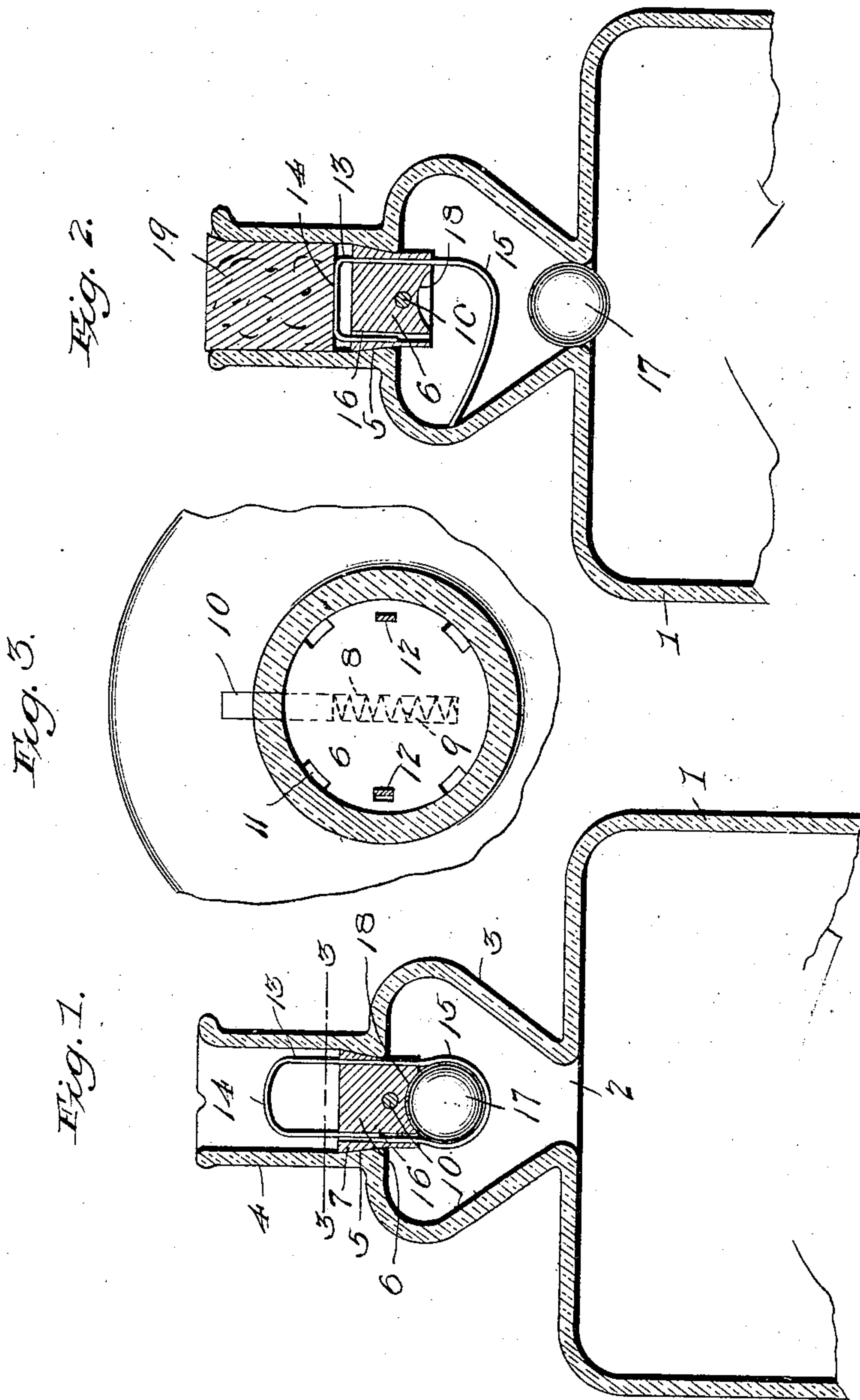


No. 869,810.

PATENTED OCT. 29, 1907.

E. L. SOUTHWICK.
NON-REFILLABLE BOTTLE.
APPLICATION FILED FEB. 21, 1907.



Inventor

Edward L. Southwick

Witnesses

J. L. K. K. K.
H. G. Keithley.

By

Geo. S. Vashon

Attorney

UNITED STATES PATENT OFFICE.

EDWARD L. SOUTHWICK, OF MAPLETON, MINNESOTA.

NON-REFILLABLE BOTTLE.

No. 869,810.

Specification of Letters Patent.

Patented Oct. 29, 1907.

Application filed February 21, 1907. Serial No. 358,638.

To all whom it may concern:

Be it known that I, EDWARD L. SOUTHWICK, a citizen of the United States, residing at Mapleton, in the county of Blue Earth and State of Minnesota, have invented new and useful Improvements in Non-Refillable Bottles, of which the following is a specification.

This invention relates to non-refillable bottles, and the object of the same is to provide easily operated means for closing the neck of a bottle after the latter has been filled with the desired contents, and which will permit the ready dispensing of the said contents but obstruct refilling of the bottle with a substitute liquid and thus protect a manufacturer or vender of a certain liquid from the disadvantages that would result in replacing the original contents of the bottle with a spurious imitation.

A further object of the invention is to positively preclude the employment of any other closure than that designed for use in connection with the bottle, whereby any fraudulent intention will be defeated.

In the drawing, Figure 1 is a transverse vertical section through the upper portion of the body and neck of a bottle showing the latter partially sealed. Fig. 2 is a view similar to Fig. 1 showing the body and neck fully sealed and the improved closure arranged for dispensing the contents after the usual sealing cork is removed. Fig. 3 is a horizontal section on the line 3—3, Fig. 1.

Similar characters refer to like parts throughout the several views.

The numeral 1 designates a bottle body having an opening 2 at the center of the top thereof communicating with a chamber 3 which is substantially of inverted conical form and from the top of which an ordinary cylindrical neck 4 projects upwardly, the base of the neck having an internal converging seat 5 formed therein.

The improved stopper consists of a plug 6 of vitreous or other hard material which is slightly flared at its upper portion as at 7 to snugly fit in the seat 5, the plug having a diametrically disposed socket 8 formed therein as shown by dotted lines in Fig. 3 to receive a spring 9 bearing against a locking pin 10 which is normally pressed inwardly into the plug when the latter is inserted through the neck 4 and engages the inner portion of the top wall of the chamber 3 when the plug is fully seated and thus prevents withdrawal of the said plug. In the periphery of the plug at regular intervals outflow grooves 11 are formed and provide means of communication between the chamber 3 and the neck 4. At diametrically opposite points at a short distance inwardly from the periphery, the plug 6 has angular openings 12 extending therethrough in which a resilient metal band 13 is movably held, the band being primarily arranged in the plug as shown by Fig. 1 and

having an upper projecting loop 14 and a lower holding loop 15. The two ends of this band are normally held in one of the openings 12 as at 16 and the lower holding loop engages a ball valve 17 which is held snugly against the bottom of the plug 6, the said bottom of the plug having a concave seat 18 formed therein to assist in holding the ball in place when the plug is applied. It will be understood that the plug 6 is applied in the bottle before the liquid has been poured into the latter and to complete the closure of the bottle an ordinary cork or stopper 19 is inserted in the neck 4 and as such cork or stopper is pressed downwardly it engages the upper loop 14 and causes the band to move downwardly through the plug 6, the one end of the band becoming liberated and releasing the ball valve 17. The lower free end or extremity of the band flies over and engages the wall of the chamber 3 as shown by Fig. 2 and the ball valve 17 falls or rolls into the lower reduced portion of the chamber 3 and closes the opening 2. The band always remains in the position shown by Fig. 2 and after it has served to retain the ball valve in connection with the plug until the said cork or stopper is inserted, it does not interfere in the least with the operation of the closure and particularly the plug 6.

In dispensing the contents of the bottle the cork or stopper 19 is removed and the bottle body is canted so that the ball valve 17 rolls into the chamber 3 and clears the opening 2 permitting the liquid contents of the bottle to pass into said chamber and escape through the grooves 11 and pass out through the neck 4. After the bottle is placed in upright position the ball valve returns to its seat or closes the opening 2 and owing to the tight construction of the stopper and the resistance set up against the removal of the same by the locking pin 10 it will be impossible to insert any implement into the chamber 3 for the purpose of holding the ball valve away from its seat if attempts are made to substitute a liquid other than that designed to be dispensed from the bottle.

The band 13 may be of any suitable material adapted for the purpose and the ball valve 17 like the stopper 6 will be preferably formed of material that will not affect the contents of the bottle. It will be understood that changes in the proportions, dimensions and minor details may be made and substituted for those shown without departing from the spirit of the invention.

What I claim is:

1. A bottle stopper provided with peripheral ducts and with a spring-pressed locking pin, a resilient band combined with the stopper, and a ball held assembled with the stopper by the band.

2. A bottle stopper provided at its periphery with ducts, a transversely disposed locking pin carried by the stopper, a ball, and a resilient retaining member carried by the stopper and engaging the ball.

3. A bottle stopper having its lower end provided with a seat and its periphery provided with ducts, in combination with a resilient band, a ball held in the seat by the band.
- 5 4. A bottle having a straight and a laterally enlarged neck member, a stopper depressed within the straight member, a spring-pressed locking pin carried by the stopper, a ball, and a resilient band carried by the stopper and retaining the ball and operating upon depression to
- 10 release the ball.
5. The combination with a bottle having an inverted substantially conical shaped chamber on the top thereof over the outlet opening, and a neck rising from said chamber, of a plug mounted in the neck and upper portion of

the chamber and carrying a locking pin, the plug having 15 peripheral grooves and also openings therethrough, a ball valve, a carrying band movably mounted in the plug and normally holding the ball valve against the bottom of the plug, and a stopper removably mounted in the neck and operating when pressed into the latter to release a portion 20 of the band and the ball valve.

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

EDWARD L. SOUTHWICK.

Witnesses:

THEODORE HOVERSON,
H. E. GATES.