

S. O. MARTIN.
NON-REFILLABLE BOTTLE.
APPLICATION FILED JULY 9, 1908.

951,957.

Patented Mar. 15, 1910.

2 SHEETS—SHEET 1.

Fig. 1.

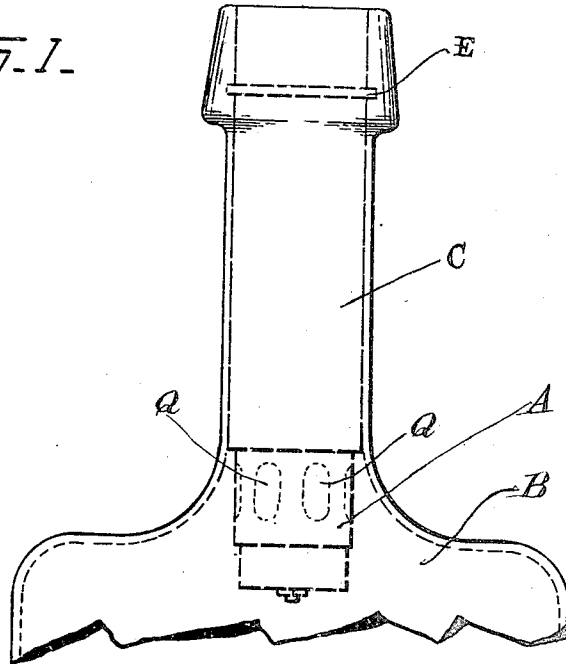


Fig. 2.

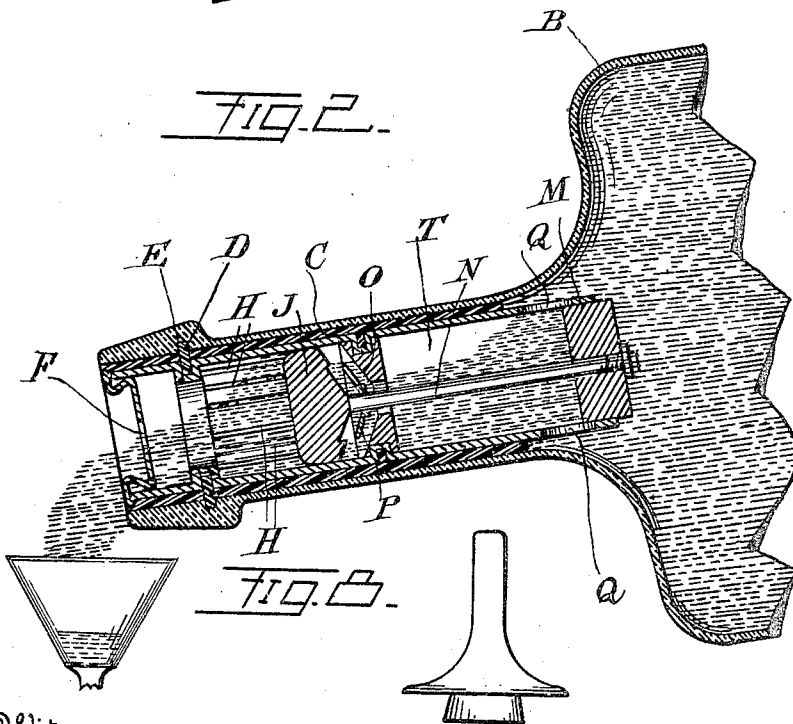


Fig. 3.

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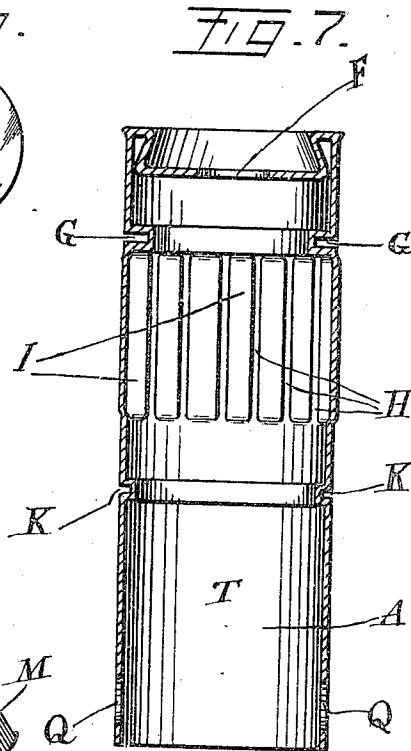
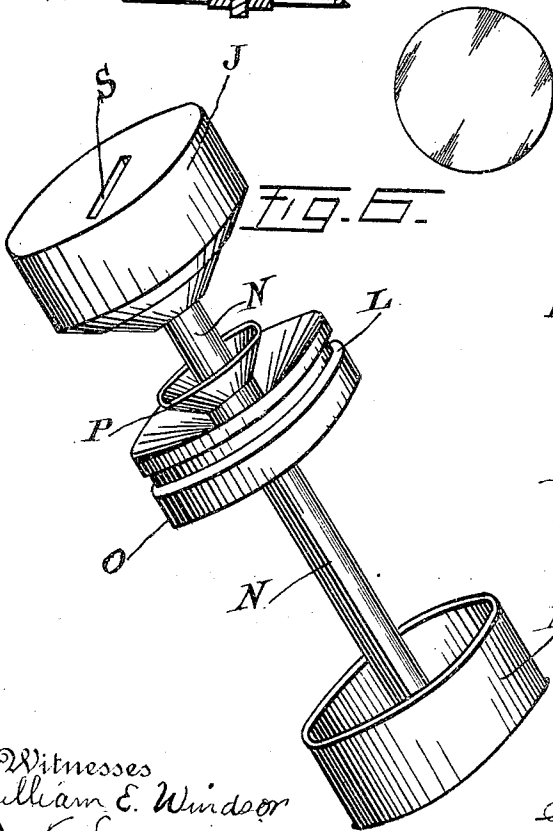
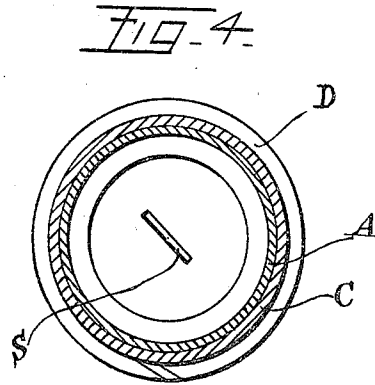
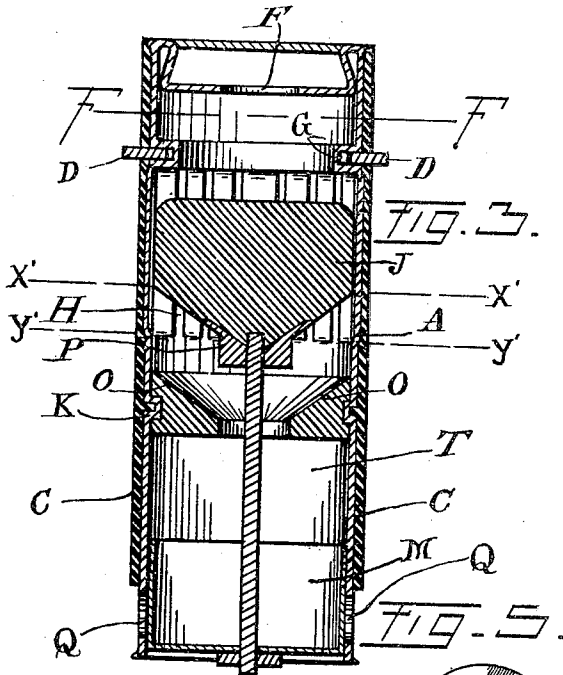
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2 SHEETS—SHEET 2.



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NON-REFILLABLE BOTTLE.

951,957.

Specification of Letters Patent.

Patented Mar. 15, 1910.

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To all whom it may concern:

Be it known that I, SAMUEL OLIVER MARTIN, a citizen of the United States, residing at 4423 West Twenty-seventh avenue, in the city and county of Denver, State of Colorado, have invented a new and useful Non-Refillable Bottle, of which the following is a specification.

In the bottling of certain valuable liquids, the manufacturers have felt the need of preventing, after the sale thereof, a fraudulent refilling of the empty bottles with liquids of inferior quality which are designed to imitate the original article. To prevent this fraud upon the public and upon the manufacturer, a bottle with the following described device has been invented.

A device is solidly and firmly fixed in the neck of the bottle and contains reciprocating valves opening and closing two or more compartments; an independent sliding valve, operating on the connecting rod, effectually prevents a refilling of the bottle. I attain these objects by the mechanism illustrated in the accompanying drawing in which—

Figure 1 represents a side view of the bottle and the device in place therein. Fig. 2 represents a cross-section of the bottle and the device in place. Fig. 3 is an enlarged cross-section of the device with a smaller primary chamber "T" between the two operating valves. Fig. 4 represents a horizontal cross-section upon the line "F—F" shown in Fig. 3. Fig. 5 is a disk cork. Fig. 6 is a perspective view of the operating valves. Fig. 7 is a vertical cross-section of the case "A" which is slipped into the neck of the bottle. Fig. 8 represents a small nozzle to be placed in the top of the bottle.

Similar letters refer to similar parts throughout the several views.

The case "A" made of some rigid material is slipped into the neck of the bottle and surrounded by a thin layer of cork "C," or by any other material adapted to filling the intervening space between the case "A" and glass neck of the bottle. As this case is being slipped into the neck of the bottle, a circular spring "D" fitting in the groove "G" is compressed and expands when it reaches the groove "E" in the glass. This circular spring "D" is a C shaped ring of metal which is compressed by decreasing its circumference and expands by increasing its circumference. This device forms a key, holding the case "A" firmly in the bottle

when it reaches its proper position; the suitable filling material is then placed between the case and the neck of the bottle above the spring "D." The case "A" is cylindrical in form, having an opening shown on Fig. 7 by the letter "F" through which the liquid is poured out. This case has a groove marked "G" in which the circular spring fits. The case has inwardly projecting ridges "H" parallel to the neck of the bottle and corresponding grooves "I" between said ridges. These ridges "H" form the working surface upon which the upper end of the valve "J" works. The metal case "A" has an inwardly projecting ridge "K" upon which the groove "L" is fitted, and thereby the valve-seat "O" is firmly and stationarily fastened to the case "A."

The valve "M" is connected to the valve "J" by the cylindrical rod marked "N." This rod works freely in the valve-seat "O" which is securely fastened in the case "A." The valve "P" works freely and independently upon the rod "N." Several elliptical holes are shown and marked "Q" which are designed to permit the liquid from the bottle to enter the primary chamber "T." The valve "J—M" is so placed in the case that the end "J" works on the ridges "H" and the end "M" works in the case "A" so that in one position the holes "Q" are open and at the same time the head of the valve "J" rests firmly against the valve-seat "O" and in the opposite position when the part of the valve "J" is clear from the valve-seat "O"; the valve "M" closes the openings "Q" in the primary chamber. The length of the connecting rod "N" is so adjusted that the holes "Q" in the case "A" are closed by the valve "M" before that part of the valve "J" shown by the line "X'—X'" in Fig. 3 crosses the line "Y'—Y'" of the case "A." The valve "P" works upon the connecting rod "N" so that when the bottle is in a vertical or nearly vertical position it will rest against the valve-seat "O" and close the opening between the valve-seat "O" and the connecting rod "N"; and when the bottle is placed in an inverted position the valve "P" will rest against the head of the valve "J" and allow the liquid in the primary chamber "T" between the valve-seat "O" and the end of the valve marked "M" to flow freely through the valve-seat "O." The head of the valve marked "J" has a slot "S" designed to re-

ceive a screw-driver by means of which, in case the valve mechanism should become clogged, it can be revolved and thus loosened.

5 The method of operation is as follows: As the bottle containing the liquid is inverted, the liquid runs through the opening "Q" into the primary chamber "T" in the case marked "A," and thereafter when the
10 bottle is inverted the valve "M" by its own weight closes the openings "Q" and then the valve "J" opens, allowing the liquid to flow through the opening in valve-seat "O" past the valve "P" and into the secondary cham-
15 bers or grooves marked "I"; and no more liquid can be poured until the bottle is again placed in an upright position and the chamber "T" refilled as above described.

Having thus described my invention, I
20 claim:

1. A non-refillable bottle comprising in combination a locking means for fastening the rigid outer case in the neck of the bottle, a filling for the space between the operating
25 mechanism and the neck of the bottle, an operating mechanism comprising a rigid outer case with openings at both ends and a fixed intermediate valve-seat dividing the case into two compartments, of which the
30 secondary compartment has inwardly projecting ridges parallel to the neck of the bottle, two connected reciprocating valves so adjusted that one end of the primary com-
35 partment is always closed, and an independent sliding valve placed between the two reciprocating valves.

2. A non-refillable bottle comprising in combination a rigid outer case, having open-
40 ings at both ends thereof, an intermediate valve-seat dividing the case into two com- partments, inwardly projecting ridges

parallel to the neck of the bottle and forming the working surface for one valve, two connected reciprocating valves so adjusted that one end of the primary compartment is
45 always closed, an independent sliding valve placed between the reciprocating valves.

3. A non-refillable bottle comprising, in combination, a rigid outer case with open-
50 ings at one end, and grooves at the other between which are inwardly projecting ridges, a locking means in one groove fastening the rigid outer case in the neck of the bottle and the other groove forming a ridge
55 securing the fixed intermediate valve-seat within the rigid outer case; a filling for the space between the rigid outer case and the neck of the bottle; two connected reciprocating valves, a fixed intermediate valve-seat, and an independent sliding valve.
60

4. A non-refillable bottle comprising, in combination, a rigid outer case, a fixed valve-seat dividing the case into two com-
65 partments, of which the secondary compartment has inwardly projecting ridges and alternating grooves parallel to the neck of the bottle, and the primary compartment has lateral openings; two connected reciprocating valves adjusted so that one end
70 of the primary compartment is always closed, a filling for the space between the outer case and the neck of the bottle, an independent sliding valve placed between the connected valves, a locking means with-
75 out the case fastening the case in the bottle neck, and means integral with the case securing the valve-seat therein.

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Witnesses:

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