No. 746,313. PATENTED DEC. 8, 1903.

H. ENGEL.

NON-REFILLABLE BOTTLE.

APPLICATION FILED MAR. 20, 1903.

NO MODEL.

Fig. 1

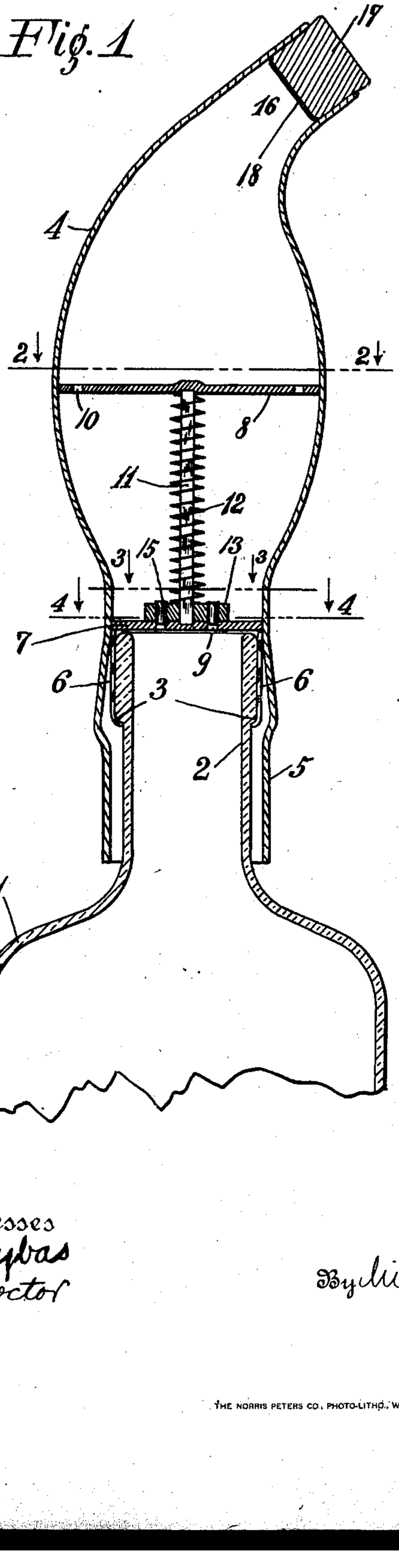


Fig. 2

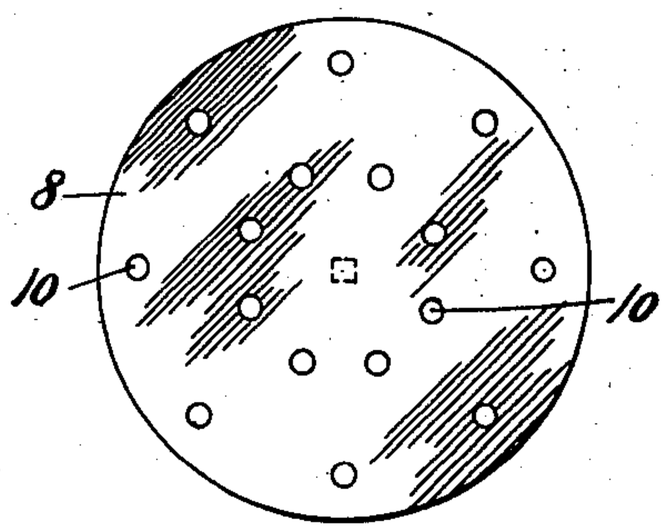


Fig. 3

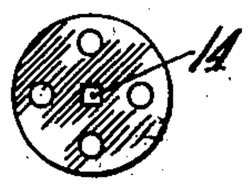
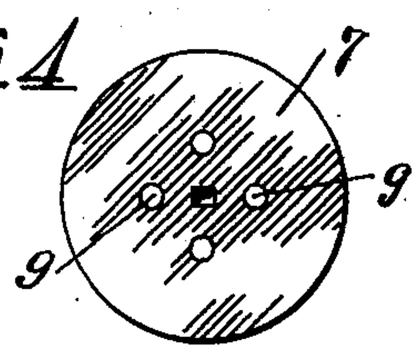


Fig. 4



Witnesses
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J. W. Hoctor

Henry Engel
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By his Attorney, J. R. Littell

No. 746,313. Patented December 8, 1903.

UNITED STATES PATENT OFFICE.

HENRY ENGEL, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF TO MORRIS BROWN, OF NEW YORK, N. Y.

NON-REFILLABLE BOTTLE.

SPECIFICATION forming part of Letters Patent No. 746,313, dated December 8, 1903.

Application filed March 20, 1903. Serial No. 148,657. (No model.)

To all whom it may concern:

Be it known that I, HENRY ENGEL, a subject of the Emperor of Austria-Hungary, and a resident of New York, in the county and State of New York, have invented certain new and useful Improvements in Non-Refillable Bottles, of which the following is a specification.

The object of my invention is to provide a device which may be applied to the neck of an ordinary bottle and when so applied cannot be removed without either destroying the device or the bottle and to place in said device means whereby liquid may be withdrawn from the bottle, but cannot be injected into the same, so that all fraudulent refilling of a bottle is prevented and those who purchase a liquid of a special brand put up in a bottle provided with my improvements may know that the contents of said bottle are genuine. This object I accomplish by means of a cap which is secured to the bottle-neck by springs or other suitable means which prevent its removal, and in this cap is placed a valve which prevents the refilling of the bottle.

For a more detailed description of one embodiment of my invention reference is to be had to the accompanying drawings, forming a part hereof, in which—

Figure 1 is a longitudinal section of my improved cap when applied to the neck of a bottle. Figs. 2, 3, and 4 are detailed views of disks immediately below the lines 2 2, 3 3, and 4 4, respectively.

Corresponding parts in all the figures are denoted by the same reference characters.

The bottle 1, to which my improvement may be applied, may be of any suitable shape and size and is provided with a neck 2, which is notched at its upper end to form the mouth of the bottle and to form shoulders 3. The cap 4 is provided with a cylindrical lower portion 5, which fits over the bottle-neck 2 and is provided with spring-fingers 6, soldered or otherwise secured thereto, which engage the shoulders 3 and prevent removal of the cap after it has been placed in position. While I have shown this cap as held by springs, it is obvious that it may be held in any suitable way, such as by having its lower end crimped under the shoulder 3, if such a construction is found desirable. The cap 5 may be of any suitable shape or outline and is provided with two diaphragms 7 and 8, which are preferably made parallel to each other, and the lower one is placed immediately above the bottle-neck. The said diaphragms 7 and 8 are provided with perforations 9 and 10, which are out of alinement with each other and are made as small as possible to prevent the insertion of any instrument into the bottle-neck or valve mechanism, whereby the valve may be kept from its seat. The said diaphragms are connected by means of a centrally-located square rod 11, on which is placed a spring 12, the upper end of which rests against the lower surface of the diaphragm 8 and the lower end of which rests on the upper surface of a disk 13, which has an angular bore 14, through which the rod 11 passes and prevents the said disk 13 from having any angular movement. The disk 13 is provided with perforations in which are inserted rubber plugs 15, which register with the openings 9 and completely close the same whenever the spring 12 holds the disk 13 to its seat.

The upper end of the cap 4 may be made in any suitable way and given any shape that is desired, although it is preferably made with a cylindrical opening 16, in which may be inserted a stopper 17, which is preferably covered at its lower end with tin-foil 18.

The cap 4 may be made of any suitable material, although I preferably construct it of aluminium, and the disk 13 is preferably made of lead, so that it will have considerable weight in proportion to its size, although other suitable material may be employed.

The operation and advantages of my invention will be readily understood. The liquid is first inserted into the bottle 1, and when said bottle is filled the cap is placed over the neck thereof until the springs 6 engage the shoulder 3 and fix the cap to the bottle. When the contents of the bottle are withdrawn, the bottle is inverted, and the pressure on the liquid against the rubber plug 15 and the weight of the valve 13 are sufficient to overcome the resistance of the spring 12 and place the valve on its seat,

thereby permitting the liquid to pass out through the passages 9 and from thence through the passages 10 and out through the opening 16. When no more liquid is to be poured from the bottle, it is restored to its upright position, and the valve 13 will then assume its proper position on the diaphragm 7 and close the opening 9, thereby preventing any liquid from entering the bottle. To further protect the contents of the bottle from atmospheric influence, the cork 17 is inserted in the opening 16 of the cap.

I do not desire to be understood as limiting myself to the details of construction and arrangement as herein described and illustrated, as it is manifest that variations and modifications may be made in the features of construction and arrangement in the adaptation of the device to various conditions of use without departing from the spirit and scope of my invention and improvements. I therefore reserve the right to all such variation and modification as properly fall within the scope of my invention and the terms of the following claims.

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

1. In a non-refillable bottle or similar article, a bottle-neck, a cap secured thereto, diaphragms in said cap connected by a square rod, and a spring on said rod, a non-rotatable valve on said rod which is pressed to its seat by means of the said spring.

2. In a non-refillable bottle, a flange on said neck, a bottle-cap fitting over said neck and provided with spring-fingers to engage the said flange whereby said cap is held in place, diaphragms in said cap above said neck, and a reciprocatably mounted non-rotatable valve for permitting the flow of liquid in one direction only, said valve comprising in its construction a disk with rubber inserted therein.

In testimony whereof I have signed my name in the presence of the subscribing witnesses.

HENRY ENGEL.

Witnesses:
J. CLARK PYBAS,
J. M. HOCTOR.