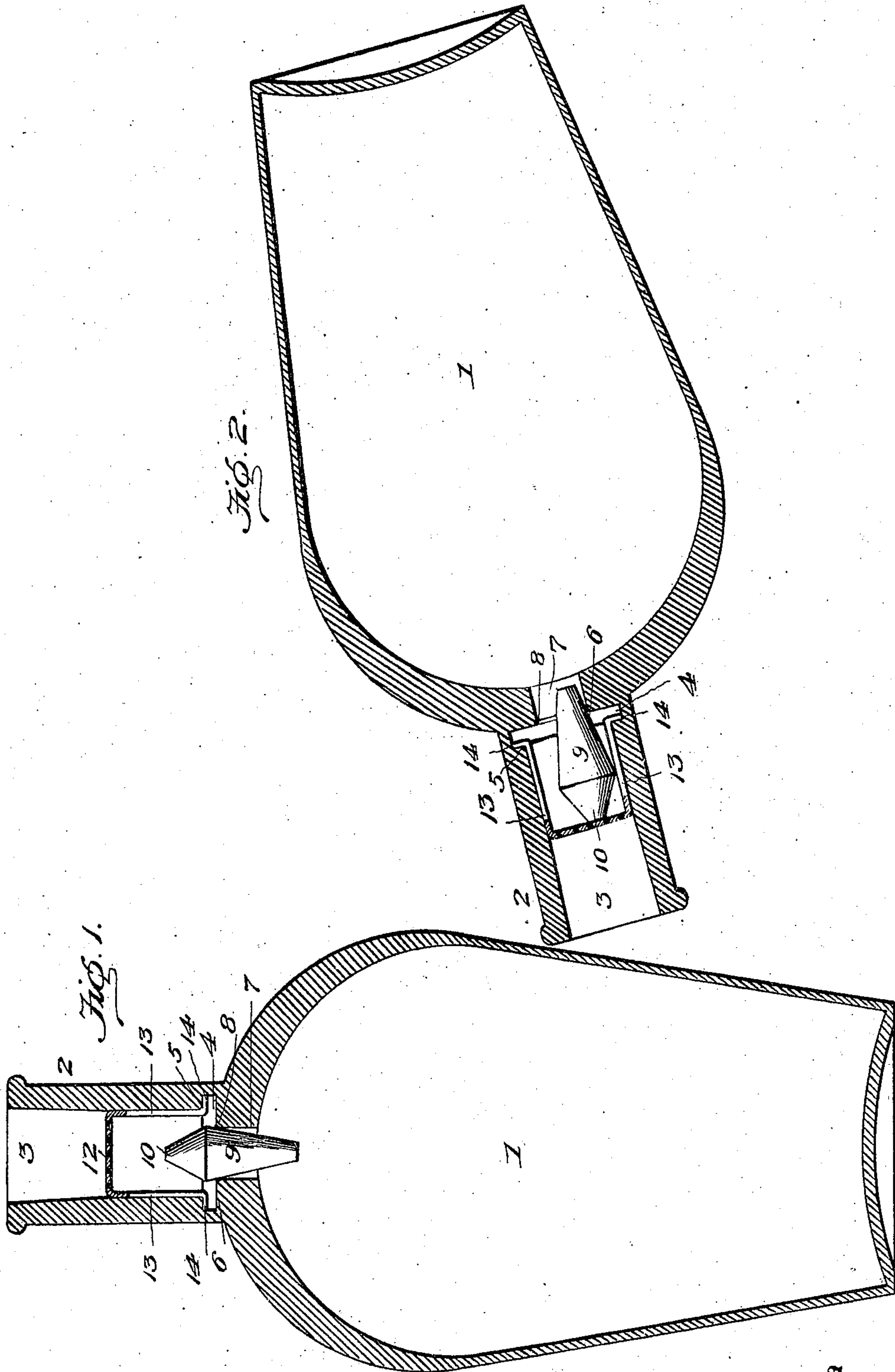


(No Model.)

H. HAYES.  
NON-REFILLABLE BOTTLE.

No. 594,011.

Patented Nov. 23, 1897.



Witnesses

*Wm. C. Ashice*  
*J. D. Smith*

Inventor  
*Harry Hayes*  
By *H. B. Willson*  
Attorney



# UNITED STATES PATENT OFFICE.

HARRY HAYES, OF OGDEN, UTAH.

## NON-REFILLABLE BOTTLE.

SPECIFICATION forming part of Letters Patent No. 594,011, dated November 23, 1897.

Application filed February 10, 1897. Serial No. 622,845. (No model.)

*To all whom it may concern:*

Be it known that I, HARRY HAYES, a citizen of the United States, residing at Ogden, in the county of Weber and State of Utah, have invented certain new and useful Improvements in Non-Refillable Bottles; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has relation to non-refillable bottles; and the object is to provide a bottle of this class that may be filled in the usual manner at the factory, so that the liquid may be freely drawn out as desired, and when the bottle is once emptied it will be found absolutely impossible to refill it.

To these ends the novelty consists in the construction, combination, and arrangement of the same; as will be hereinafter more fully described, and particularly pointed out in the claim.

In the accompanying drawings the same reference-characters indicate the same parts of the invention.

Figure 1 is a vertical section of my non-refillable bottle, and Fig. 2 is a similar view of the bottle inverted.

1 represents a bottle which may be formed of any size, shape, and material.

2 represents the neck, the mouth 3 of which is cylindrical, and at the lower end is an internal annular groove 4, provided with plane parallel shoulders 5 and 6. A passage 7 forms a communication between the cylindrical mouth 3 and the body of the bottle. The inner edge of the shoulder 6 is formed with a conical valve-seat 8, which receives the conical valve 9, the upper end of which terminates in a tapering head 10.

12 represents a perforated diaphragm which snugly fits the mouth 3, and it is formed with two or more depending integral spring-arms 13, the lower ends of which terminate in a lateral tooth 14.

The operation is as follows: The bottle is filled in the usual manner, and the valve 9 is then dropped in the mouth, where it rests on

the valve-seat 8. The spring-arms 13 of the perforated diaphragm 12 are then compressed and inserted in the mouth 3 and the diaphragm forced down until the teeth on the lower ends of the arms spring outwardly into the annular groove 4. This securely locks the diaphragm in place in the mouth of the bottle and protects the valve. When the bottle is tilted or inverted, as shown in Fig. 2, the valve falls from its seat and rests against the diaphragm, with its stem still remaining in the passage 7, thus allowing the liquid to run out freely through the perforated diaphragm and out the mouth of the bottle. When the bottle is restored to its upright position, the valve falls back into its seat and seals the passage 7, and while in this position it is of course impossible to refill or add to the contents of the bottle.

Although I have specifically described the construction and relative arrangement of the several elements of my invention, I do not desire to be confined to the same, as such changes or modifications may be made as clearly fall within the scope of my invention without departing from the spirit thereof.

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

A bottle provided with a plain neck and cylindrical mouth, a conical valve-seat below the neck, in the body of the bottle, a valve of double frusto-conical form in the seat, and a guard above the valve in the neck of the bottle, said guard consisting of a perforated diaphragm 12, and depending spring-arms 13, with laterally-extending terminals fitting in the groove 4, at the junction of the neck and body of the bottle, substantially as described.

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

HARRY HAYES.

Witnesses:

JOHN R. ARNOLD,

JOHN C. HAMM.