

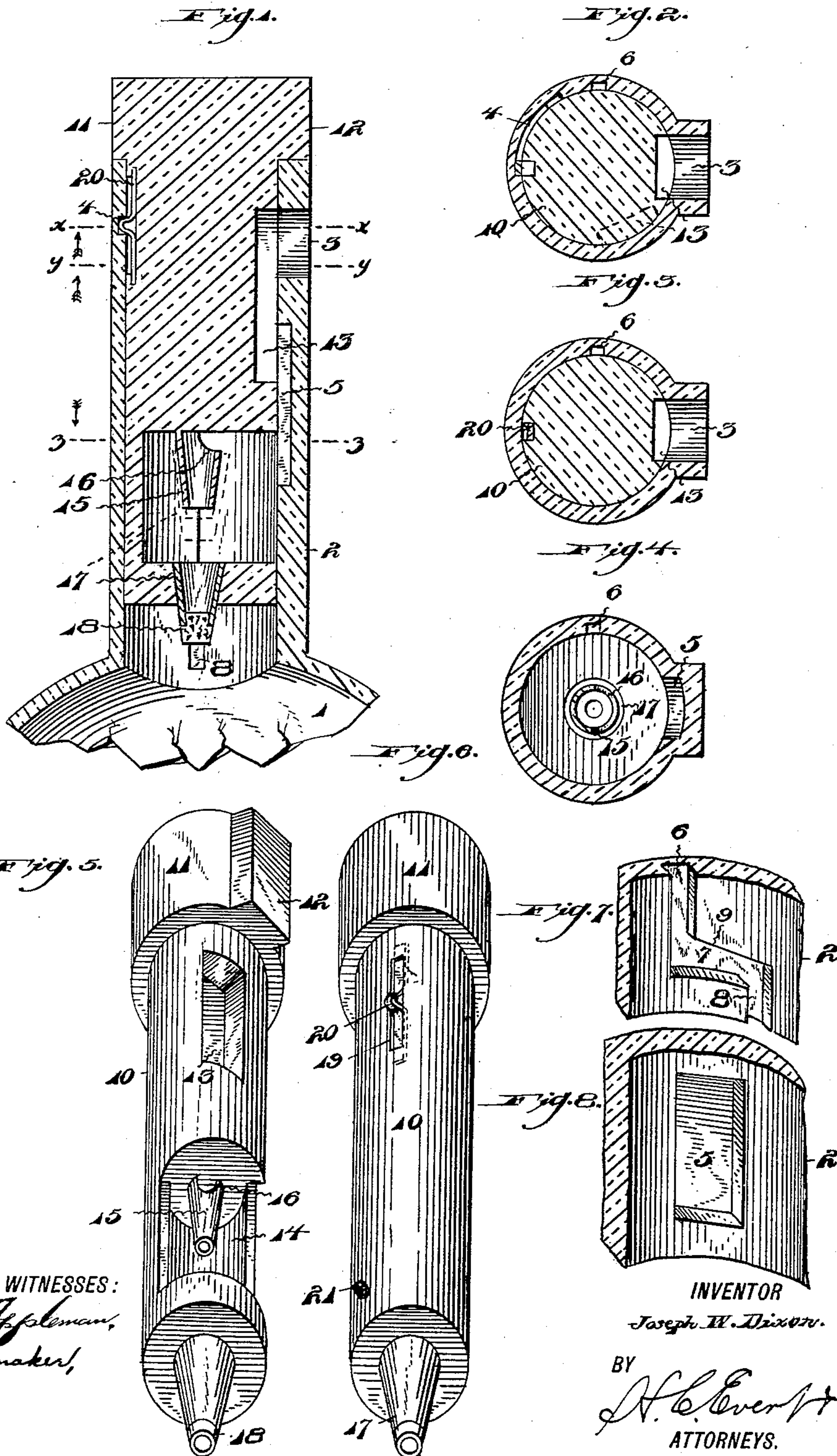
No. 625,545.

Patented May 23, 1899.

J. W. DIXON.
NON-REFILLABLE BOTTLE.

(Application filed Feb. 10, 1899.)

(No Model.)



UNITED STATES PATENT OFFICE.

JOSEPH W. DIXON, OF CONNELLSVILLE, PENNSYLVANIA.

NON-REFILLABLE BOTTLE.

SPECIFICATION forming part of Letters Patent No. 625,545, dated May 23, 1899.

Application filed February 10, 1899. Serial No. 705,195. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH W. DIXON, a citizen of the United States of America, residing at Connellsville, in the county of Fayette and State of Pennsylvania, have invented certain new and useful Improvements in Non-Refillable Bottles, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to certain new and useful improvements in non-refillable bottles.

The object of my invention is to construct a bottle of this class which after the contents thereof has been once used the same cannot be refilled.

Briefly described, my invention consists of a neck portion, a suitable groove adapted to receive the stopper, having a valve arranged therein, means connected to the stopper for securing the same to the neck portion, and a groove arranged in the side of the stopper to allow the contents of the bottle to flow therefrom and out through the apertures in the neck of the bottle.

My invention finally consists in the novel combination and arrangement of parts hereinafter more fully described, and particularly pointed out in the claims.

In describing the invention in detail reference is had to the accompanying drawings, forming a part of this specification, wherein like numerals of reference indicate corresponding parts throughout the several views thereof, and in which—

Figure 1 is a vertical sectional view of my improved bottle and stopper therefor, the body portion thereof broken away. Fig. 2 is a cross-sectional view on the line $x x$, Fig. 1. Fig. 3 is a cross-sectional view on the line $y y$, Fig. 1. Fig. 4 is a cross-sectional view on the line $z z$, Fig. 1. Fig. 5 is a perspective view of my improved stopper, showing one side thereof. Fig. 6 is a perspective view of my improved stopper, showing the opposite side thereof. Fig. 7 is a sectional view of a part of the lower portion of the neck of the bottle, showing a portion of the groove arranged on the inner face thereof. Fig. 8 is a sectional view of a portion of the neck of the bottle, showing the recess formed on the inner face thereof.

Referring to the drawings by reference-numerals, 1 indicates the body portion of a bottle, and 2 the neck thereof, which is formed integral therewith. The neck 2 is provided with an outlet 3 in the side thereof, and opposite the said aperture, on the inner face of the neck, is provided a horizontal groove 4. The neck is also provided on its inner face with an oblong recess 5, as well as a downwardly-extending groove 6, which connects with the horizontal groove 7, this groove connecting with the downwardly-extending groove 8. The upper wall 9 of the horizontal groove 7 is inclined, as shown, making the groove where it registers with the downwardly-extending groove 6 of greater width than where it registers with the downwardly-extending groove 8.

10 indicates my improved stopper, which is of cylindrical shape, constructed of any desirable material, and of the requisite length. This stopper 10 is provided with a cap 11 of greater circumference than the stopper. The cap 11 has formed integral therewith a lug or extension 12 to allow of the same being gripped easily with the fingers.

Formed in the stopper 10, as at 13, is an oblong recess, which is adapted to register with the opening 3, as well as the recess 8, formed on the inner face of the neck. The stopper 10 is cut away, as at 14, and the top of this cut-away portion 14 has suitably connected thereto a downwardly-extending hollow cone 15, the upper end thereof, as at 16, having a semicircular cut-away portion, as shown. This cone 15 is adapted to support and guide the hollow cone-shaped valve 17, and this valve 17 is plugged by means of a suitable stopper, as at 18. The valve 17 is adapted to seat itself in the bottom of the stopper or at the end of the cut-away portion, as shown. The stopper 10 is provided on one side with an elongated groove 19, which has suitably arranged therein a fastening-spring 20. Secured to the lower end of the stopper, on its periphery, is a plug 21, which operates in the groove 7 and seals the same when desired.

The operation of my improved non-refillable bottle is as follows: The stopper is forced into the neck of the bottle until the protruding ends of the spring secure the same in the groove 4. At the same time the plug 21 will

slide down the groove 6 until it rests against the lower side of the groove 7. Assuming that the stopper is in the position as shown in Fig. 1, the bottle is tilted, and the contents thereof will force the valve 17 upon the cone 15, the contents of the bottle passing around the valve up into the cut-away portion 14, from there into the recess 5, formed in the neck of the bottle, then into the recess 13, formed in the stopper, and then out through the aperture 3, formed in the neck of the bottle. By turning the stopper the recess 13 will be moved away from the recess 5, and the contents of the bottle cannot be removed.

15 If a person should desire to refill the bottle, the liquid entering the aperture 3, the recess 13, and then the recess 5 will flow into the cone-shaped extension through the circular cut-away portion and come into contact with the valve 17, thereby seating the same and preventing the liquid from entering the bottle.

20 The plug 21, when the stopper is in the position as shown in Fig. 1, will plug the groove 7 where it registers with the downwardly-extending groove 8.

It will be noted that various changes may be made in the details of construction without departing from the general spirit of my invention.

30 Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

35 1. In a non-refillable bottle, a neck portion provided with a horizontal groove on its inner face near the top of the neck and with a pair of vertical grooves arranged to register one with each end of the horizontal groove, said neck being further provided near its top with a side opening or outlet, combined with a

stopper having a cut-away portion at its lower end and further provided with a recess on its periphery adapted to register with the side opening or outlet in the neck, a valve arranged in the lower end of said stopper, a hollow cone arranged in the cut-away portion of the stopper, and a plug carried by said stopper and adapted to close the horizontal groove in the bottle-neck, substantially as described.

2. In a non-refillable bottle a neck portion, said neck portion provided with a horizontal groove on its inner face near its upper end and an outlet arranged in the side of the said neck, said neck provided on its inner face with a downwardly-extending groove which registers with the horizontal groove, the horizontal groove registering with the downwardly-extending groove, in combination with a stopper, said stopper provided with a cut-away portion at its lower end, said stopper also provided with a recess on its periphery, a valve seated in the said stopper and operating in the said cut-away portion, a downwardly-extending cone arranged in the said cut-away portion adapted to support and guide the said valve, said cone provided with a cut-away portion on its upper end to allow the entrance of the liquid thereto for reseating the said valve, and means secured to the periphery of the said stopper operating in the lower horizontal groove for plugging or sealing the same, substantially as set forth.

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

JOSEPH W. DIXON.

Witnesses:

JOHN NOLAND,
E. W. ARTHUR.