

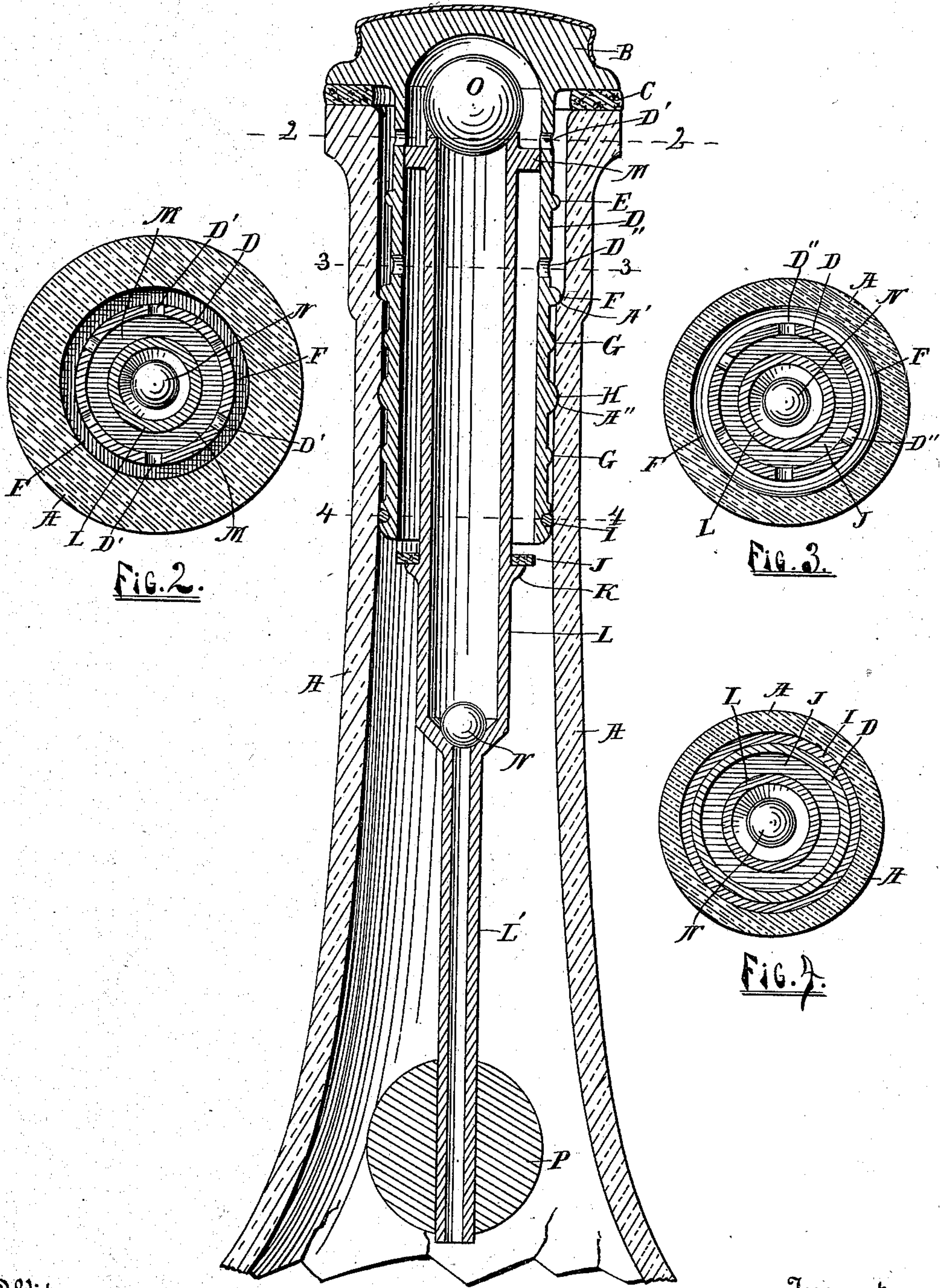
No. 723,018.

PATENTED MAR. 17, 1903.

C. H. PELTON.
NON-REFILLABLE BOTTLE.

APPLICATION FILED JULY 1, 1901. RENEWED JULY 28, 1902.

NO MODEL.



Witnesses
Palmer A. Jones
Lewis E. Flanders

Fig. 1.

By

Inventor
Charles H. Pelton
Luther V. Moulton
Attorney

UNITED STATES PATENT OFFICE.

CHARLES H. PELTON, OF GRAND RAPIDS, MICHIGAN.

NON-REFILLABLE BOTTLE.

SPECIFICATION forming part of Letters Patent No. 723,018, dated March 17, 1903.

Application filed July 1, 1901. Renewed July 28, 1902. Serial No. 117,349. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. PELTON, a citizen of the United States, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in Non-Refillable Bottles; and I do hereby 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 relates to improvements in non-refillable bottles; and its object is to provide the same with certain new and useful features hereinafter fully described, and particularly pointed out in the claims, reference being had to the accompanying drawings, in which—

Figure 1 is an axial longitudinal section of a device embodying my invention; Fig. 2, a transverse section of the same on the line 2 2 of Fig. 1; Fig. 3, the same on the line 3 3 of Fig. 1; Fig. 4, the same on the line 4 4 of Fig. 1.

Like letters refer to like parts in all of the figures.

A represents the neck of a bottle, terminating in a flat annular surface at the upper end and provided with an annular inwardly-projecting shoulder A' and an annular recess A'', suitably located in the interior of the neck of the bottle, as shown.

B is a suitable cap having a flat surface at the under side opposite the end of the bottle, between which cap and bottle is an annular packing-ring C, of cork or other suitable material.

D is an outer tube attached to the cap B and closed at the upper end and preferably integral with the cap. This tube extends downward within the neck of the bottle a suitable distance, and near the middle of the tube is an outwardly-projecting flange F, which engages the shoulder A' to support the tube in place and prevent it from moving farther downward. From this flange upward the opening in the neck of the bottle is much larger than the tube, leaving a clear space all around the tube.

Near the upper part of the tube D are a series of openings D', and just above the flange F are another series of openings D''. Midway between these two series of openings is a bead E, surrounding the tube and partially

closing the space between the tube and the bottle. The opening of the bottle is smaller below the shoulder A' than above the same, and the lower end of the tube nearly fills the same. A packing-ring I surrounds the lower end of the tube D and closes the space between the same and the bottle. Between this packing and the flange F the tube is provided with a circumferential bead H, which engages the groove A'' and securely retains the tube in place. Other beads G G are also provided which frictionally engage the interior of the bottle-neck and aid in securing the tube in place.

L is an air-tube in the axis of the outer tube and open at both ends. It is also reduced in diameter throughout, the lower part L' being much smaller than the upper part and extending considerably below the lower end of the tube D. The upper part, however, is small enough to leave a considerable space between the outside of the tube L and the inside of the tube D.

Surrounding the upper end of the tube L is a flange M, which engages the interior of the tube D and supports the tube L and also closes off the space between these tubes. A ball-valve O closes the upper end of the tube L, and a second and smaller ball-valve N closes the upper end of the reduced portion L' of the tube. A ring J, of cork or other suitable material, surrounds the tube L and is supported in place by a flange K on the tube and is normally located a short distance from the end of the tube D.

P is a ball detachably attached to the lower end of the tube L'. This ball is preferably of wood or some material that will expand when immersed in liquid and when inserted is made to closely fit the neck of the bottle. The tube D is also made of like material, so that it will expand and at its lower end fit tightly in place in the neck of the bottle, as shown.

The operation of my device is as follows: When filled with liquid and the parts placed in position, as shown, the ring C effectually seals the bottle, and when this ring is removed and the bottle turned down on its side the contents will flow out through the openings D'' and between the bottle at one side and the tube D and cap B at the other side. In the meantime the ball-valves O and N will open and permit air to enter through the up-

per openings D' and the tube L L'. Should any liquid enter the upper end of the tube L, its interior is large enough to permit the air to pass freely, and the reduced end L' is so small that the air escaping therefrom will prevent liquid from entering the lower end of the same. Should any liquid flow over the outside of the tube D, the bead E will prevent its flowing into the openings D'. This bead forms an obstruction which stops the flow of the liquid over the surface of the tube. The liquid will then follow the bead to the lower side of the tube and there leave the bead. After the bottle is empty should any attempt be made to withdraw the tube D it would break at the openings D', or if successfully withdrawn the ball P would come off and remain in the bottle, and thus expose the fact of the removal. If an air-pump is applied to refill the bottle, the ring J will rise and close the tube D, and thus prevent any liquid from entering the bottle.

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

1. In combination, a bottle, an outer tube closed at the upper end and secured within the neck of the bottle, and having near the upper end less diameter than the opening in the neck of the bottle, an air-tube in the axis of the outer tube, a flange surrounding the air-tube and connecting the same to the outer tube, and lateral openings in the outer tube and located at the respective sides of the flange, substantially as described.

2. In combination, a bottle, an outer tube, closed at the upper end, and secured within the neck of the bottle, and having near the upper end less diameter than the interior of the neck of the bottle, an air-tube in the axis of the outer tube and having a reduced lower end, a flange connecting the air-tube and the outer tube, and openings in the outer tube at each side of the flange, substantially as described.

3. In combination, a bottle having a groove in the interior of the neck, an outer tube closed at the upper end and having a bead engaging the groove, and being near the upper end of less diameter than the interior of the neck of the bottle, and secured in place, an air-tube in the axis of the outer tube, a flange connecting the air-tube and the outer tube, and openings in the outer tube at each side of the flange, substantially as described.

4. In combination, a bottle, a tube closed at the upper end, a cap attached to the tube and overhanging the end of the bottle, a ring-packing between the cap and bottle, said tube also secured within the neck of the bottle, and of less diameter than the opening in the bottle near the upper end, an air-tube in the axis of the outer tube, a flange connecting the air-tube and the outer tube, and openings in the outer tube at each side of the flange, substantially as described.

5. In combination, a bottle having a neck-

opening enlarged at the upper end, a tube secured within the neck-opening, and closed at the top, an air-tube in the axis of the outer tube, a flange connecting the air-tube and the outer tube, openings in the outer tube at each side of the flange, a bead on the outside of the outer tube and between said openings, and a reduced lower end to the air-tube, substantially as described.

6. In combination, a bottle having an inwardly-projecting shoulder in the opening of the neck, a tube secured in the neck of the bottle and having a flange engaging the shoulder, a cap on the tube, and overhanging the end of the bottle, an air-tube in the axis of the outer tube, a flange connecting the air-tube and the outer tube, and openings in the outer tube at each side of the flange, substantially as described.

7. In combination, a bottle, a tube closed at the top, and secured in the neck of the bottle, lateral openings in the tube, an air-tube in the axis of the outer tube, and extending below the same, a valve to close the air-tube, and a movable ring on the air-tube to close the lower end of the outer tube, substantially as described.

8. In combination, a bottle having in the neck an internal shoulder and an internal groove, a tube closed at the top and having a cap overhanging the end of the bottle, a flange and a bead on the tube to engage the shoulder and groove in the neck of the bottle, an air-tube in the axis of the outer tube, a flange connecting the air-tube and the outer tube, and openings in the outer tube at each side of the flange, substantially as described.

9. In combination, a bottle having a shoulder and groove in the opening of the neck, a cap, an annular packing between the cap and end of the bottle, a tube within the neck, a flange and bead on the tube to engage the shoulder and groove, packing, and beads, surrounding the lower end of the tube, an air-tube in the axis of the outer tube, a flange surrounding the air-tube and engaging the outer tube, openings in the outer tube at each side of the flange, and a reduced lower end on the air-tube, substantially as described.

10. In combination, a bottle, a tube closed at the upper end and secured within the neck of the bottle and being near the upper end of less diameter than the opening in the neck of the bottle, an air-tube in the axis of the outer tube and having a reduced lower end, a flange on the air-tube and engaging the interior of the outer tube, openings in the outer tube at each side of the flange, a ball-valve to close the upper end of the air-tube, and a ball-valve to close the reduced lower end of the air-tube, substantially as described.

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

CHARLES H. PELTON.

Witnesses:

LUTHER V. MOULTON,
SARAH R. VAN HORN.