W. B. POWELL.

NON-REFILLABLE BOTTLE.

APPLICATION FILED AUG. 18, 1909.

973,970.

Patented Oct. 25, 1910.

Fig. 2.

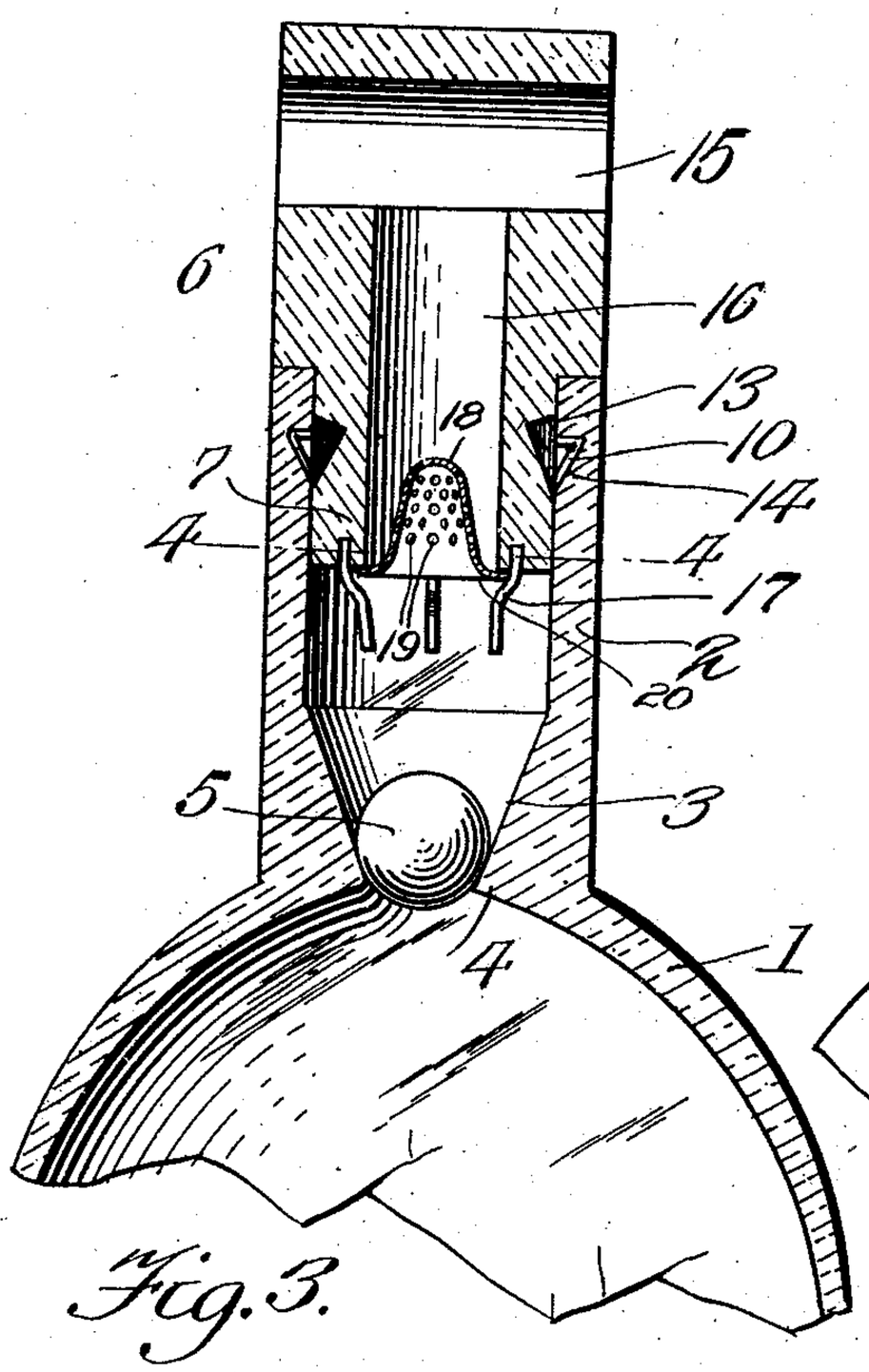

Fig. 1.

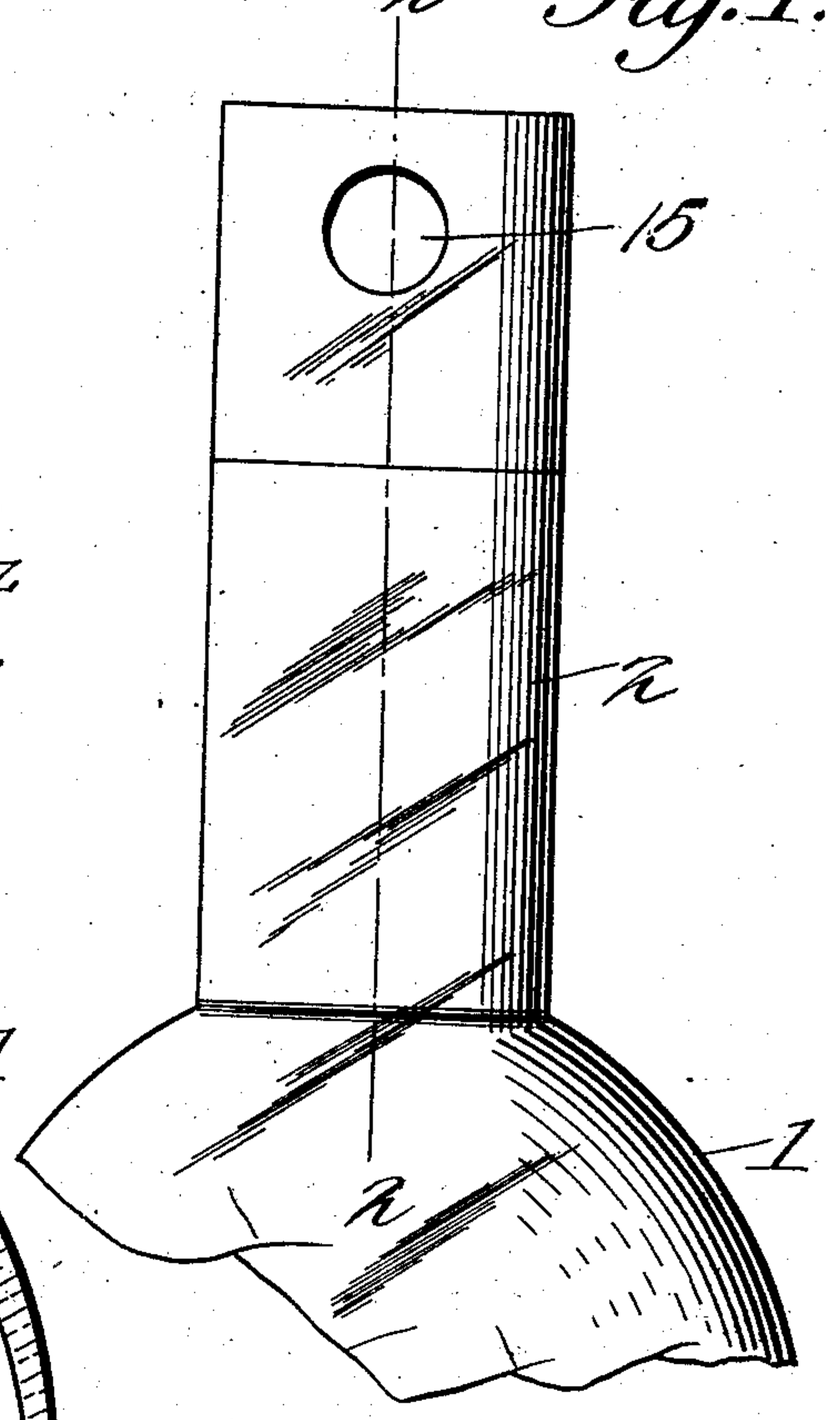

Fig. 3.

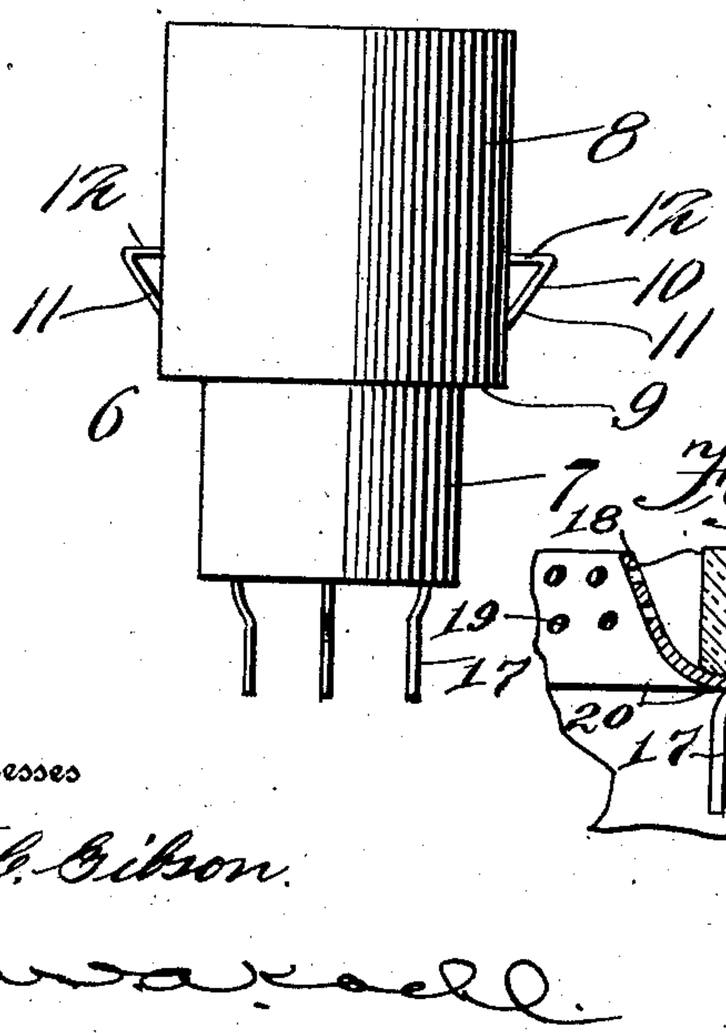

Fig. 4.

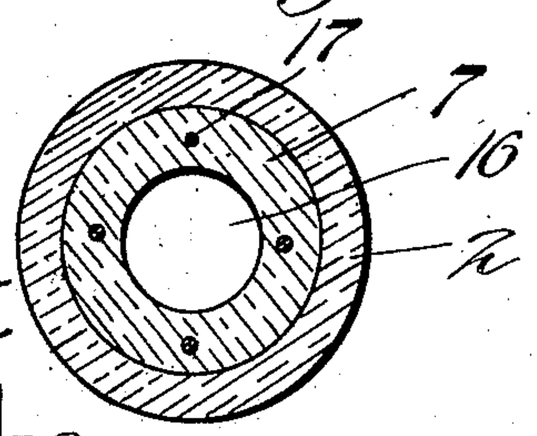

Fig. 5.

Witnesses

F. C. Gibson.

Jno. A. Powell.

Inventor

Ward B. Powell,

By Victor J. Evans

Attorney

UNITED STATES PATENT OFFICE.

WARD B. POWELL, OF CHANT, OKLAHOMA, ASSIGNOR OF ONE-HALF TO W. W. WINGO, OF HARTFORD, ARKANSAS.

NON-REFILLABLE BOTTLE.

973,970. Specification of Letters Patent. **Patented Oct. 25, 1910.**

Application filed August 18, 1909. Serial No. 513,492.

To all whom it may concern:

Be it known that I, WARD B. POWELL, a citizen of the United States, residing at Chant, in the county of Haskell and State of Oklahoma, have invented new and useful Improvements in Non-Refillable Bottles, of which the following is a specification.

This invention relates to non-refillable bottles, and has for an object to provide a bottle of this character which may be manufactured at a relatively low figure and which may be applied to the ordinary form of bottle without materially changing the same.

A further object of this invention is to provide a top or mouth piece which may be automatically locked to the neck of a bottle and which will be so constructed to prevent the insertion of instruments within the neck of the bottle for the purpose of displacing the valve.

Other objects and advantages will be apparent as the nature of the invention is better set forth, and it will be understood that certain changes within the scope of the claim may be resorted to without departing from the spirit of the invention.

In the drawing, forming a portion of this specification and in which like numerals of reference indicate similar parts in the several views, Figure 1 is a side view of a portion of a bottle showing the application of the present invention thereto, Fig. 2 is a vertical sectional view taken on the line 2—2 of Fig. 1, Fig. 3 is a detail side view of the top or mouth piece, Fig. 4 is a transverse sectional view on the line 4—4 of Fig. 2. Fig. 5 is a detail section taken through a portion of the plug showing the manner in which the legs are engaged with the guard.

Referring now more particularly to the drawing, there is shown a bottle 1 provided with the usual neck 2. The neck 2 has formed therein at its lower end a conical valve chamber 3 formed by enlarging a portion of the neck and which thus forms a seat 4 for a spherical valve 5, preferably formed from glass, cork or other light material that will float upon the surface of a liquid.

A top or mouth piece 6 is employed and consists of a reduced cylindrical stem 7 and an upper enlarged cylindrical portion 8 which portion 8 provides a shoulder 9, as shown. The stem 7 is of a size to fit within the interior of the neck 2 and is provided with a plurality of flexible springs 10 which are preferably of V-form and consist of inclined leg portions 11 and inwardly directed fingers 12. The fingers 12 are horizontally disposed and are movable in passages 13 formed in said top or mouth piece. Upon inserting the top or mouth piece in the neck of the bottle it will be seen that the springs will move in an inward direction and into the recesses formed in the portion 7 of the top or mouth piece, whereupon, said springs will move in an outward direction into said recesses to hold said top or mouth piece against displacement. The top or mouth piece is provided with a horizontally disposed discharge passage 15 which communicates with a vertically disposed passage 16 which latter passage opens into the valve chamber 3. Beneath the passage 16 and embedded in the portion 7 of the top or mouth piece is shown a plurality of depending legs or guards 17 disposed in spaced relation to each other and serve to hold the spherical valve 5 away from the passage 16 to permit the discharge of liquid from the bottle.

In an attempt to fill the bottle when the same is in an inverted or partly inverted position it will be understood that the liquid will carry the spherical valve 5 against the seat 4 from the neck 2 of the bottle to effectively prevent the entrance of liquid as is obvious. A guard 18 is mounted in the passage 16, and as shown the said guard is of thimble form and has its side walls spaced from the walls of the passage 16. The thimble is closed at its upper end but has its side walls perforated as shown at 19 to provide for the discharge of liquid from the bottle as will be readily understood. The guard 18 is provided at its lower edge with a horizontally disposed annular flange 20 which may be cemented or otherwise securely held to the stem 7. The construction of the guard is such as will effectively prevent the entrance of wires or tools into the valve chamber 3 so that it is absolutely impossible to tamper with the valve 5 or to move it away from its seat. The depending legs 17 beneath the plug are bent into engagement with the flange of the perforated guard to assist in holding the said guard against displacement.

I claim:—

In a non-refillable bottle, a bottle having its neck provided with a substantially in-

verted conical passage whose reduced end is formed to provide a valve seat, a spherical valve movable in the neck and adapted to normally rest upon the said seat, a plug disposed in the neck of the bottle and having its lower end disposed above the said conical seat to provide for movement of the valve longitudinally of the neck, said plug having a passage therein and disposed in line with the longitudinal axis of the neck, said plug having a second passage formed therein and disposed transversely of the first named passage and communicating therewith, a substantially conical guard extending into the first named passage of the plug, said guard being formed of sheet material and formed with an annular flange which is seated against the inner face of the said plug, said guard having its walls formed with a plurality of perforations whereby communication between the body of the bottle and the said plug can be had when the valve is moved from its seat, and a series of fingers extending from the inner face of the plug, said fingers being arranged annularly of the guard and having offset portions bent into engagement with the flange of the guard, said fingers being provided to limit the outward movement of the valve to prevent its closing the said first named passage formed in the neck.

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

WARD B. POWELL.

Witnesses:
LEE MILLER,
FRANK KAHABKA.