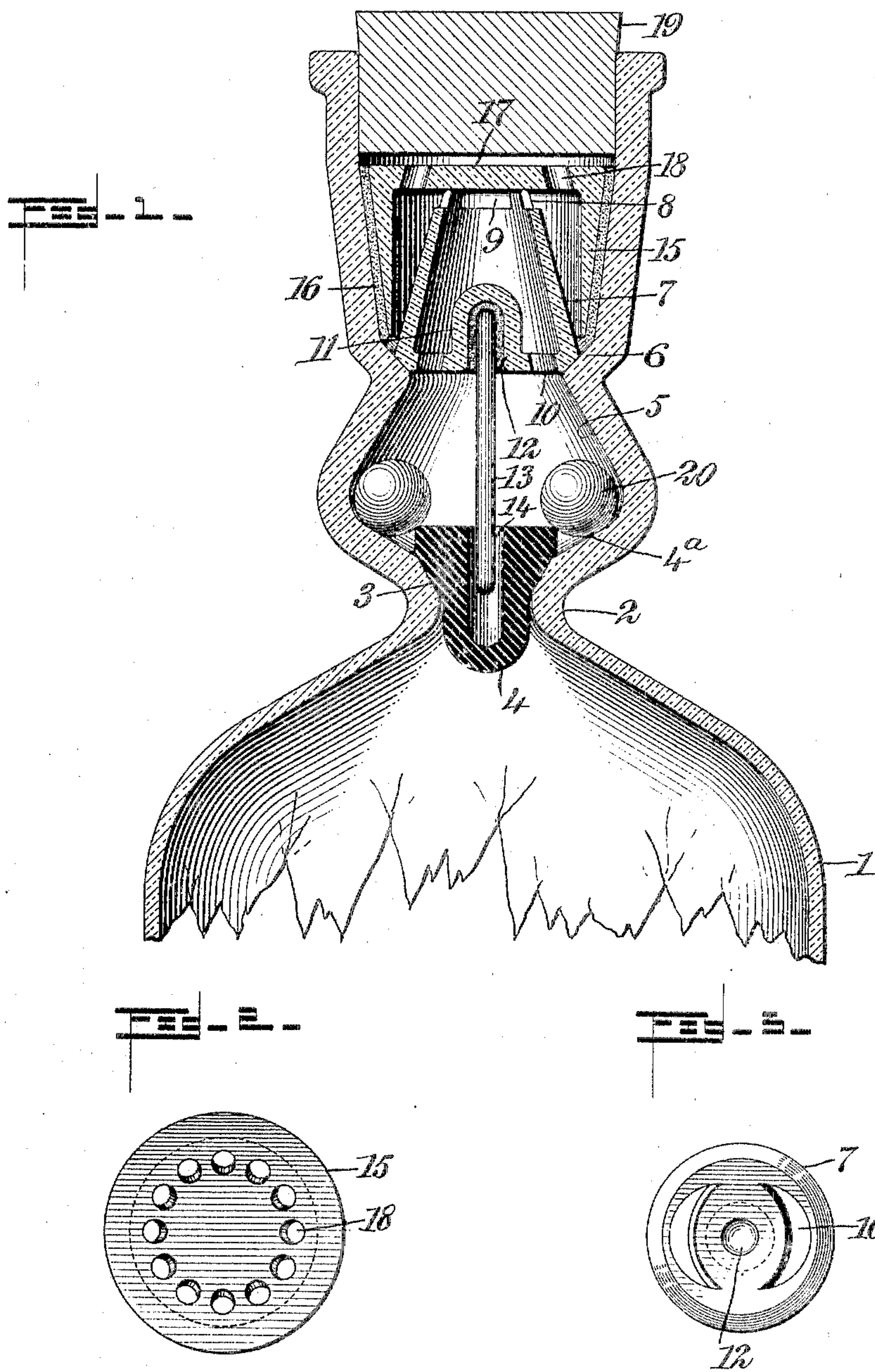


No. 793,994.

PATENTED JULY 4, 1905.

R. G. DAVIS.
BOTTLE.

APPLICATION FILED OCT. 1, 1904.



WITNESSES:

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ROBERT GOODE DAVIS, OF HOT SPRINGS, ARKANSAS.

BOTTLE.

SPECIFICATION forming part of Letters Patent No. 793,994, dated July 4, 1905.

Application filed October 1, 1904. Serial No. 226,787.

To all whom it may concern:

Be it known that I, ROBERT GOODE DAVIS, a citizen of the United States, and a resident of Hot Springs, in the county of Garland and State of Arkansas, have invented a new and Improved Bottle, of which the following is a full, clear, and exact description.

This invention relates to improvements in bottles of the non-refillable class, the object being to provide a bottle of this character that will be of simple construction, practical to manufacture, with the valve mechanism so arranged as to prevent refilling, but permitting the ready outflow of liquid.

I will describe a bottle embodying my invention and then point out the novel features in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a sectional elevation of a bottle embodying my invention. Fig. 2 is a top view of a protecting-cap member employed, and Fig. 3 is a bottom view of another cap member employed.

Referring to the drawings, 1 designates the body of the bottle, the neck portion of which adjacent to the body is contracted, as indicated at 2, to form at the interior surface a valve-seat 3 for a plug-valve 4, consisting of hard rubber or other suitable material. The wall of the neck above the valve-seat is inclined upward and outward as indicated at 4, and thence inclined upward and inward, as indicated at 5. From the upper end of the inclined portion 5 the wall is carried outward and upward, and as indicated at 6 forms an angular shoulder, and thence the neck is carried upward at a slight upward taper.

Resting on the shoulder 6 is a cap member 7, consisting of glass or other suitable material, this cap member being hollow and substantially in the form of a truncated cone with the smaller end upward, and extended upward from the upper end are fingers 8, the openings 9 between which form ports for the discharge of liquid.

The bottom wall of this cap member 7 is provided with discharge-ports 10, and extended upward from the bottom wall is an extension 11, having a downwardly-opening recess 12 for receiving and securing by cement the upper end of a valve-stem 13, the lower end of which extends loosely into a recess 14, formed in the valve 4. The other member 15 of the protecting-cap is substantially in the form of an inverted cup, the annular wall of which is tapered downward and inward to correspond to the adjacent wall of the bottle-neck, and within the space between the outer surface of this cap member and said wall of the neck is a cementing material 16. The top 17 of the member 15 is provided with ports 18, which are arranged at an upward and inward incline, and are outward of the ports 9. Above the cap members the cork 19 may be inserted. By the arrangement of the ports in the protecting-cap members it will be practically impossible to insert a wire or other instrument to engage with and hold the valve open for the purpose of refilling.

Arranged within the neck-chamber, between the protecting-cap and the valve 4, are spherical metal weights 20. The ports 10 in the cap member 7 are of crescent shape, as clearly indicated in Fig. 3. When the parts are assembled, the top wall of the cap member 15 will rest on the upper ends of the projections 8, and therefore by means of the cement 16 the two cap members will be held firmly in place. In assembling the parts after the first filling of the bottle, the valve will be dropped into the neck, then the balls will be dropped in, after which the cap-sections with the valve-stem will be secured in place, all as clearly indicated in Fig. 1.

In operation, to pour out liquid the bottle is to be tilted nearly to perpendicular. The balls will then run down the incline 5, and as there is a free movement of the valve 4 on the stem 13 the said valve will drop to open position, permitting the liquid to pass out around the valve and thence through the ports of the cap members. The refilling of the bottle when in upward position is ob-

viously impossible, because the valve 4 will move tightly into its seat. If a vacuum is attempted, the same thing will happen, because the valve will float in advance of any liquid that may pass into the neck. Should an attempt be made to refill the bottle by immersing it in liquid in a horizontal position or in a position slightly tilted from the horizontal, the weights 20 will run down the incline 5 and by engaging with the valve 4 force it into place, and this would also result were the bottle while immersed agitated to and fro.

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

1. A bottle having its neck portion contracted at the lower end to form a valve-seat, a valve for engaging said seat, the inner wall of the neck above the valve-seat being inclined upward and outward and then inward and upward, a hollow cap secured in the neck above said upward and inward inclined portion, the said cap having ports at its upper and lower ends, a stem extended from the cap and engaging loosely in the valve, balls arranged between the cap and valve, and a member above said cap provided with ports outward of the ports at the upper end of the cap.

2. A bottle having its neck portion contracted at its lower end providing an interior valve-seat, a plug-valve for engaging

therein, the interior of the neck above the valve-seat being inclined outward and upward and then inward and upward, a cap member of truncated form having its smaller end upward, said cap member having ports in its lower wall and ports at its upper end, another cap member of inverted-cup form surrounding the first-named member and having ports in its upper wall, the said cap members being secured in the neck above the upward and inward inclined portion of said neck, and a stem between the first-named cap member and said valve permitting the movement of the valve relatively to the protecting-cap.

3. A bottle having its neck portion contracted at its lower end forming a valve-seat, a valve for engaging therein, a protecting-cap secured in the neck and consisting of two members one surrounding the other, the inner member having ports in its lower end and ports at its upper end, the outer member having inclined ports in its top wall, and a weight arranged between the cap members and the valve.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ROBERT GOODE DAVIS.

Witnesses:

GEO. E. SCHNECK,
ALF. NEWHOUSE.