(No Model.)

C. P. BEHRENS.

BOTTLE.

No. 571,505. Patented Nov. 17, 1896.

FIG. 1.

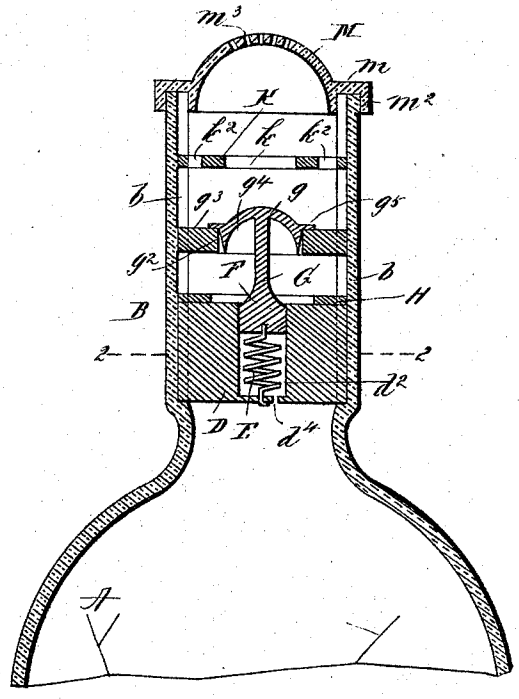
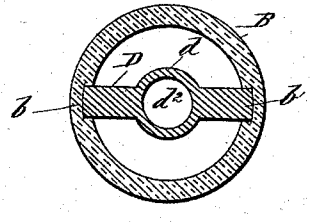


FIG. 2.



WITNESS:

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BOTTLE.

SPECIFICATION forming part of Letters Patent No. 571,505, dated November 17, 1896.

Application filed April 10, 1896. Serial No. 586,935. (No model.)

To all whom it may concern:

Be it known that I, CHARLES PAUL BEHRENS, a citizen of the United States, and a resident of Lindenhurst, in the county of Suffolk and State of New York, have invented certain new and useful Improvements in Bottles, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof, in which similar letters of reference indicate corresponding parts.

This invention relates to vessels, jugs, jars, and similar vessels, and the object thereof is to provide a vessel of this class with a neck attachment which is so constructed and arranged that when the vessel has been filled and the attachment applied the vessel may be emptied of its contents, but cannot be refilled or reused.

The invention is fully disclosed in the following specification, of which the accompanying drawings form a part, and wherein I have shown my improvement applied to a bottle, and in which—

Figure 1 is a central vertical section of the upper part of a bottle and the neck thereof, showing my invention, and Fig. 2 a transverse section on the line 2 2 of Fig. 1.

In the practice of my invention I provide a bottle or other vessel A, having a neck B, and in the inner walls of said neck and on the opposite sides thereof are formed vertical grooves b, and mounted in said vertical grooves and placed therein at the bottom thereof is a cross-plate D, provided with a central enlarged portion d, in which is formed a vertical chamber or recess d^2, which is circular in cross-section and at the bottom of which is secured a spiral spring E, the upper end of which is secured to a plug F, which is adapted to fit within said vertical chamber or recess d^2, and said plug F is provided with a vertical rod or shank G, at the upper end of which is a valve g, which is adapted to close a central circular port or opening g^2, formed in a partition disk or plate g^3, which is secured in the neck at a predetermined distance above the vertical plate D.

Just above the vertical plate D is placed or secured a ring or annular plate H, and at a predetermined point above the partition-plate g^3 is another disk or plate K, provided with a central opening or passage k and with side ports or passages k^3, and secured to the upper end of the neck B is a cap or cover M, having an outwardly-directed annular flange m, which is provided with a depending annular rim m^2, which incloses the upper end of the neck. The central portion of the cap or cover M is preferably hollow and semispherical or conical in form, the convex portion thereof being directed outwardly and perforated, as shown at m^3, and the said cap or cover is secured to the neck of the bottle in any desired manner and by any preferred means, the only object in this connection being to secure said cap or cover in position in such manner that it cannot be removed without breaking off the neck of the bottle or destroying said cap or cover.

The valve g is preferably semispherical in form and the under side thereof is provided with a chamber or cavity g^4, and formed thereon is an annular rim or flange g^5, which is adapted to rest on the partition disk or plate g^3; and the parts D, g^3, and K may be composed of any desired material, care being taken to select material that will not corrode or be affected by the action of fluids or gases thereon, and this is also true of the ring or annular plate H and the cap or cover M, and the plug F and the valve G should also be of similar material, and the cavity or chamber d^2 in the vertical plate D is preferably provided at the bottom thereof with a small port or opening d^4.

The operation will be readily understood from the foregoing description when taken in connection with the accompanying drawings and the following statement thereof.

In this class of devices the bottle or vessel must first be filled before the neck attachment is applied, and the bottle or vessel A having been filled with the desired contents, the parts D, H, g^3, g and K are placed in position and secured therein in any desired manner, after which the cap or cover D is secured to the neck of the bottle, as hereinbefore described.

When it is desired to empty the bottle or discharge a portion of its contents, it is only necessary to tilt the same, when the contents will flow out around the vertical plate D, through

the ring or annular plate H, and through the central port or passage in the partition-plate g^3, and out through the passages or openings in the plate K and the perforations in the cap or cover M. In this operation the valve g is forced from its seat by the pressure of the liquids within the bottle, the force of the spring E being just sufficient to retain said valve upon its seat when the parts are in their normal position and when the bottle is upright, and the cavity or chamber g^4 in the bottom of the valve assists in the operation of the fluids to produce this result. This operation may be continued or repeated until the bottle is entirely emptied, and if an attempt be made to refill the same by pouring liquids through the neck the valve will at once be reseated and no liquids can enter the bottle; and if at any time any liquid enters the circular chamber or recess d^2 the same will flow back into the bottle through the perforation or opening d^4.

This device is simple in operation and construction and is well adapted to accomplish the result for which it is intended; and it is evident that changes in the form, construction, combination, and arrangement of the various parts of the neck attachment may be made without departing from the spirit of my invention or sacrificing its advantages.

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

1. A bottle or other vessel, provided with a neck in the bottom of which is secured a vertical plate, having a central vertical chamber formed therein, which is open at the top, a movable plug mounted in said chamber and secured to the bottom thereof, by means of a spring, said plug being provided with a shaft or rod, to the upper end of which is secured a valve, which is adapted to close a central port or opening through a disk or plate which is secured in the neck above said vertical plate, substantially as shown and described.

2. A bottle or other vessel, provided with a neck in the bottom of which is secured a vertical plate, having a central vertical chamber formed therein, which is open at the top, a movable plug mounted in said chamber and secured to the bottom thereof, by means of a spring, said plug being provided with a shaft or rod, to the upper end of which is secured a valve, which is adapted to close a central port or opening through a disk or plate which is secured in the neck above said vertical plate, and said neck being also provided with a perforated disk or plate above said valve, and a perforated cap or cover which is secured thereto, substantially as shown and described.

3. A bottle or other vessel, provided with a neck in the bottom of which is secured a vertical plate, having a central vertical chamber formed therein, which is open at the top, a movable plug mounted in said chamber and secured to the bottom thereof, by means of a spring, said plug being provided with a shaft or rod, to the upper end of which is secured a valve, which is adapted to close a central port or opening through a disk or plate which is secured in the neck above said vertical plate, and said neck being also provided with a perforated disk or plate above said valve, and a perforated cap or cover which is secured thereto, and the central vertical chamber in the vertical plate being provided with a perforation or opening in the bottom thereof, substantially as shown and described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of the subscribing witnesses, this 7th day of April, 1896.

CHARLES PAUL BEHRENS.

Witnesses:
GEO. ZOELLNER,
ROBERT HAHN.