C. McKEEVER.

BOTTLE.

APPLICATION FILED APR. 19, 1912.

1,044,219. Patented Nov. 12, 1912.

Fig. 1

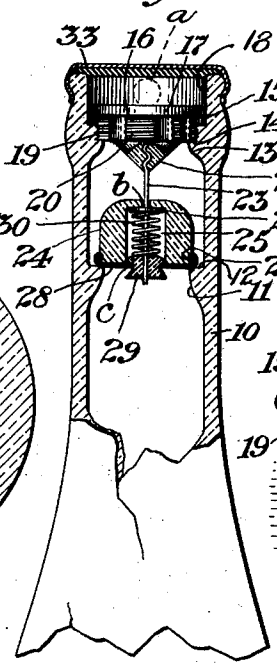
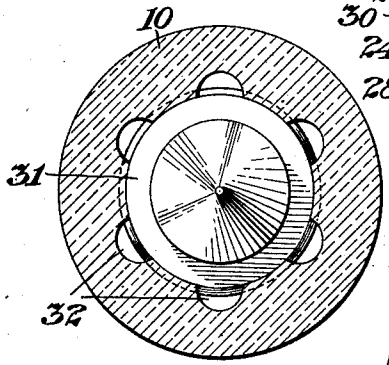


Fig. 8



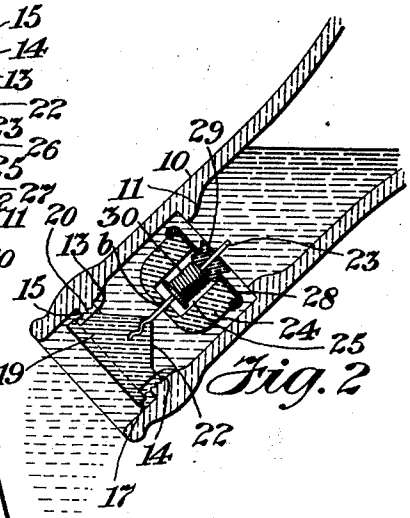


Fig. 2

Fig. 3

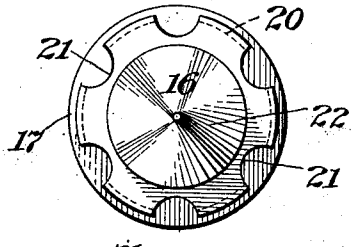


Fig. 4

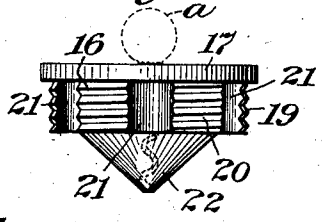


Fig. 5

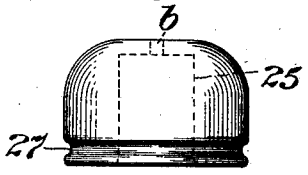


Fig. 6

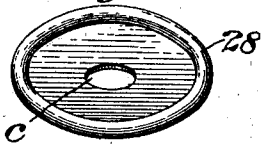


Fig. 7

Witnesses;

Chas. L. Clagett

A. Harold Serrell

Inventor,

Charles McKeever

By Harold Serrell

his Attorney.

UNITED STATES PATENT OFFICE.

CHARLES McKEEVER, OF JERSEY CITY, NEW JERSEY.

BOTTLE.

1,044,219. Specification of Letters Patent. Patented Nov. 12, 1912.

Application filed April 19, 1912. Serial No. 691,841.

To all whom it may concern:

Be it known that I, CHARLES McKEEVER, a citizen of the United States, residing at Jersey City, in the county of Hudson and State of New Jersey, have invented an Improvement in Bottles, of which the following is a specification.

My present invention relates to bottles and more particularly to stoppers for the same, so that in the use of my improved stopper, a bottle is made non-refillable.

The object of my invention is the provision of a bottle stopper of inexpensive construction and ready application to the neck of a bottle; and in carrying out the same, I preferably employ a stopper secured in the neck of a bottle, between which parts, recesses are provided for the discharge of the contents of the bottle;—a stem secured to and depending from the stopper, a valve movable on said stem and adapted to seat against the valve seat provided in the neck of the bottle, and means for normally maintaining the said valve against its seat,—all of which will be hereinafter more particularly described.

In the drawing, Figure 1 is a central longitudinal cross section of the neck of a bottle fitted with my improved stopper. Fig. 2 is a similar view showing the parts partially inverted. Fig. 3 is an inverted plan of the stopper. Fig. 4 is an elevation of the stopper. Fig. 5 is an elevation of the valve member. Fig. 6 is a perspective view of the washer associated with the valve member. Fig. 7 is an elevation of a button employed in connection with the valve, and Fig. 8 is a sectional elevation showing a modification wherein the recesses employed between the stopper and the neck of the bottle are located in the neck of the bottle instead of in the stopper, as shown in the other figures of the drawings.

In the drawing, 10 indicates the neck of a bottle which interiorly in a suitable position is provided with a rib 11, the upper part of which forms a square shoulder with the neck of the bottle, thereby providing for the valve seat. Interiorly and adjacent to its mouth, the neck of the bottle is also provided with a rib 13, having shoulders 14 and 15 and that portion of the rib between these shoulders is screw-threaded, as plainly indicated in the drawing.

I prefer to employ the stopper shown in Figs. 3 and 4. This stopper is indicated at 16 and is provided with the flange 17 and the body portion 19 of reduced diameter, and in the peripheral surface of this body portion of the stopper at suitably spaced intervals, I provide recesses 21, which as illustrated, are semi-circular in configuration, although manifestly they may be of any desired shape. Those portions of the peripheral surface of the body of the stopper between the recesses 21 are screw-threaded as indicated at 20 and the stopper is adapted to pass into the mouth of the bottle and the screw-threaded portions of the body of the stopper to engage the screw threads between the shoulders 14, 15 and the rib 13, the stopper being turned down tight against the shoulder 14, in which position the inner face of the flange 17 is spaced from the shoulder 15 and as shown in Figs. 1 and 2, the diameter of the flange 17 is appreciably less than that of the mouth 18 of the bottle, so that passageways are provided through the recesses and around the flange 17 for the discharge of the contents of the bottle.

It will be understood that the stopper 16 may be secured in its proper position in the neck of the bottle by any suitable cement, and in order to turn the stopper down to position, I may provide the same with a temporary head, comprising a ball *a*, which after the stopper is turned to position, may be broken off or otherwise removed.

The body portion of the stopper preferably terminates in a conical end or projection indicated at 22, secured in which is a rod stem or pin 23 which as will be understood, projects downwardly into the neck of the bottle when the parts are in position.

24 designates the valve member which centrally on one end is provided with a circular recess 25. The rod or stem 23 passes through an aperture *b* provided therefor in the valve 24 and extends into and through the recesses 25 therein. Secured on the rod 23 within this recess 25, is a stop 26 which when the parts are in their normal position, bears against the base of the recess. Exteriorly and adjacent to the opposite end of the valve, the same is provided with a recess 27 adapted to receive the rim of a washer 28. Centrally the washer 28 is provided with an aperture *c* into which a button 29 is passed and secured. Extending centrally through this button 29 there is a bore *d*, to receive the end of the rod or stem 23.

Within the recess 25 in the valve body

surrounding the stem 23 therein, and extending between the stop 26 and the inner face of the button 29, is a spring 30, the action of which normally tends to maintain the valve in such a position that the washer 28 is in close contact with the shoulder 12 which forms the valve seat therefor.

As indicated in Fig. 8, it will be apparent that instead of employing the recesses 21 in the body portion of the stopper, the body of the stopper may be made with a continuous peripheral surface as shown at 31 and recesses 32 be provided in the neck of the bottle for the discharge of the contents thereof.

Now as will be apparent, in the normal upright position of the bottle, the hereinbefore described stopper and associated parts assume the position shown in Fig. 1, whereas when the bottle is inverted to discharge the contents, the parts assume the positions shown in Fig. 2, the weight of the valve, as well as the pressure of the liquid in the bottle against the same, overcoming the spring 30 so that the valve leaves its seat and permits the liquid to flow around the same and out through the recesses 21. It will also be apparent that the spring 30 may be made sufficiently strong to require the bottle to be overturned to a predetermined angle before the valve will open; this of course depending also upon the amount of the liquid contained in the bottle. It will also be apparent that after the bottle has been filled and the stopper and associated parts fitted to position, I may employ any suitable and well-known cap as indicated at 33, to close the mouth of the bottle.

I claim as my invention:

1. In a non-refillable bottle, a stopper adapted to be secured in the neck of a bottle, there being provided longitudinal recesses between a portion of the stopper and the adjacent surface of the neck of the bottle, a stem secured to the said stopper, a valve body having a recess therein, a washer having a central opening therein secured to the said valve body, a seat against which the washer is adapted to bear, a button secured in the opening in the washer, and a spring in the recess in the valve body for normally maintaining the same in position within the washer against its seat.

2. In a non-refillable bottle, a stopper comprising a flange and a body portion of reduced diameter, in the peripheral surface of which there is provided a plurality of recesses, a stem secured to the said stopper, a valve body having a recess therein, a washer having a central opening therein secured to the said valve body, a seat against which the washer is adapted to bear, a button secured in the opening in the washer, and a spring in the recess in the valve body for normally maintaining the same in position within the washer against its seat.

Signed by me this 22nd day of March, 1912.

CHARLES McKEEVER.

Witnesses:
H. SERRELL,
GEO. T. PINCKNEY.