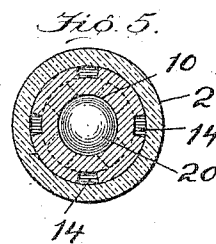
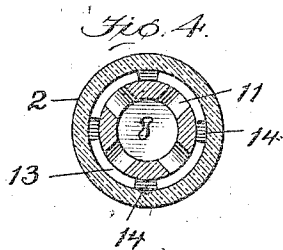
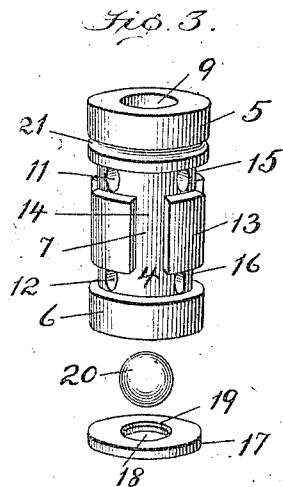
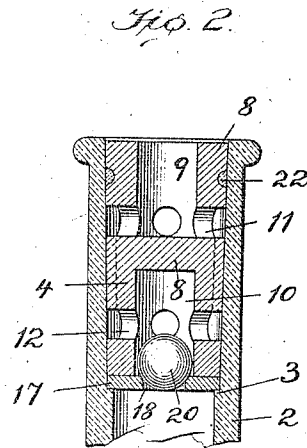
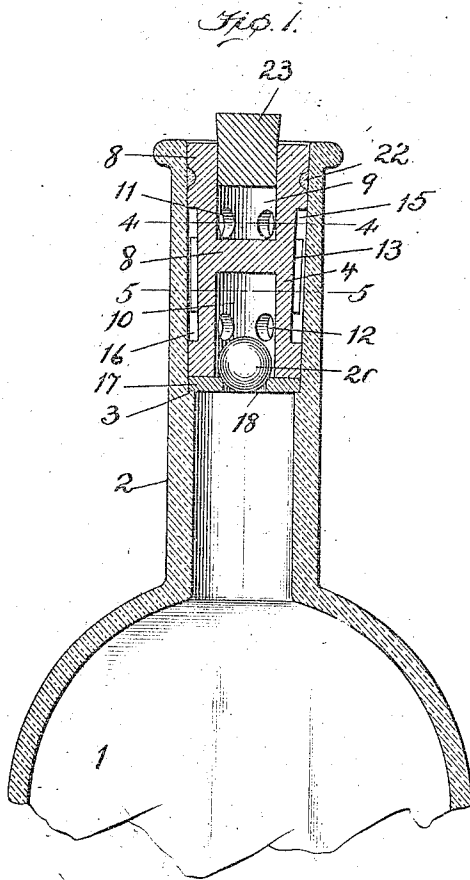


1,049,316.

Patented Dec. 31, 1912.



Witnesses
Edwin L. Bradford
St. Ferd. Vogt.

Inventor
John P. Presser
Mann & Co.
Attorneys

UNITED STATES PATENT OFFICE.

JOHN P. PRESSER, OF HAMILTON, MARYLAND, ASSIGNOR OF ONE-HALF TO HENRY G. VON HEINE, OF BALTIMORE, MARYLAND.

BOTTLE-CLOSURE.

1,049,316.

Specification of Letters Patent.

Patented Dec. 31, 1912.

Application filed August 22, 1912. Serial No. 716,466.

To all whom it may concern:

Be it known that I, JOHN P. PRESSER, a citizen of the United States, residing at Hamilton, in the county of Baltimore and State of Maryland, have invented certain new and useful Improvements in Bottle-Closures, of which the following is a specification.

This invention relates to improvements in bottle closures and has for its object to provide an improved device to be seated and secured in the neck of a bottle which will permit the ready escape of liquid therefrom but which will effectually prevent the flow of liquid into the bottle to such extent as to render the latter operation commercially impracticable.

With the above object in view the invention is illustrated in the accompanying drawing, wherein,—

Figure 1 is a vertical sectional view through the upper portion of a bottle and the neck and also through the improved closure device therein. Fig. 2, is a vertical sectional view through the neck and closure the section however being taken in a different vertical plane from that shown in Fig. 1. Fig. 3 is a perspective view of the detached closure parts. Fig. 4, is a horizontal sectional view of the same,—the section being taken on the line 4—4 of Fig. 1, and Fig. 5, is a cross-sectional view of the same taken on the line 5—5 of Fig. 1.

The present invention is particularly an improvement on the closure shown in the U. S. Patent 1,006,874 granted to me October 24th, 1911.

Referring to the drawing by numerals, 1, designates the body of a bottle; 2, the neck thereof and, 3, a shoulder on the interior of the neck for a purpose presently to be explained.

The closure may be formed of any suitable material such as porcelain, glass or other substance that will not be affected by contact with liquid and which will not taint or injuriously alter the liquid passing there-through.

The closure has the form of a stopper in that it has a body, 4, with a circular head, 5, at the upper end; a circular head, 6, at the lower end of slightly smaller diameter than the head at the upper end and an intermediate body portion, 7, between said upper and lower heads. The upper and lower

heads snugly fit the interior of the bottle neck which latter is tapered to correspond to the diameters of the heads and thus a tight joint is produced between the heads and neck wall to prevent the escape of liquid. From the foregoing explanation it will be obvious that each head is tapered slightly and is larger around its upper edge than around its lower edge.

A partition, 8, extends across the interior of the stopper between the upper and lower heads and forms an upper stopper chamber, 9, and a lower valve chamber, 10. The stopper chamber extends from the upper side of the partition to the upper edge of the upper head and the valve chamber extends from the lower side of the partition to the lower edge of the lower head and is of a uniform diameter from its upper to its lower edge.

A plurality of ports or passages, 11, extend laterally through the body between the upper head, 5, and the partition, 8, and a plurality of ports or passages, 12, extend laterally through the body between the lower head, 6, and the partition. Between the upper and lower sets of ports, 11, and, 12, the intermediate body portions, 7, is provided with a plurality of separate and independent lugs, 13. These lugs are spaced from each other in a longitudinal direction whereby to form vertical or longitudinal passages, 14, between the two heads, and the upper ends of the lugs are spaced from the upper head to form an upper circumferential passage, 15, while between the lower ends and the lower head a circumferential passage, 16, is formed. These circumferential passages, 15, and, 16, are therefore connected by the vertical or longitudinal passages, 14, so that communication between the lower ports, 12, and the upper ports, 11, may be established around the said lugs, 13.

A valve-seat disk, 17, is provided in the neck and is seated on the annular shoulder, 3, and said disk has a central port, 18, with a beveled upper edge, 19, which is smaller than the lower end of the longitudinal valve chamber, 10, and which communicates with the latter. By means of the valve-seat disk a ball valve, 20, may be retained in the valve chamber to effect a closure between the latter and the bottle neck.

The upper circular head, 5, is preferably provided with an annular groove, 21, in

which a filling of cement, 22, may be placed to secure the stopper in the neck. A cork stopper, 23, may be utilized to effect a closure of the mouth of the neck until the contents of the bottle is consumed.

In the operation it will be seen that when the bottle is tilted to effect a discharge of liquid, the ball will unseat from valve seat, 19, which will admit the liquid to the valve chamber. From said chamber the liquid will then flow out through ports 12, to circumferential passage, 16; then through longitudinal passages, 14, between the lugs, 13, to circumferential passages, 15; then through ports, 11, to stopper chamber, 9, and discharge. A reversal of the bottle will obviously cause ball-valve, 20, to close the passage, 18, and thus shut off inward flow of liquid.

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

The combination with a bottle neck, of a closure in said neck comprising a body having an upper stopper chamber and a lower

chamber on the interior thereof and on the exterior said body being provided with a circumferential passage which has position about the upper stopper chamber and another circumferential passage which has position about the lower chamber said two circumferential passages being spaced apart and connected by exterior vertical passages, and the closure having side ports which establish communication between the upper stopper chamber and the upper exterior circumferential passage of the body and lower side ports which establish communication between the lower interior chamber and the lower exterior circumferential passage said upper and lower ports being out of register with the said exterior vertical passages, and a valve in the lower chamber below said lower circumferential passage.

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

JOHN P. PRESSER.

Witnesses:

CHARLES B. MANN, Jr.,
G. FERD. VOGT.