

E. E. ALLEN.
BOTTLE STOPPER.
APPLICATION FILED JULY 2, 1910.

1,041,561.

Patented Oct. 15, 1912.

FIG. 1

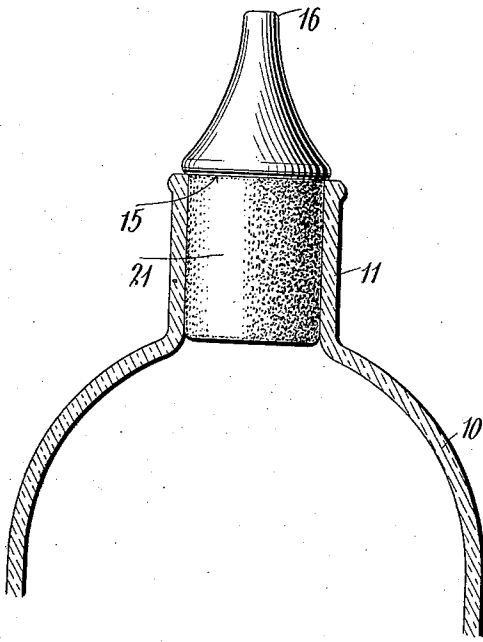


FIG. 2

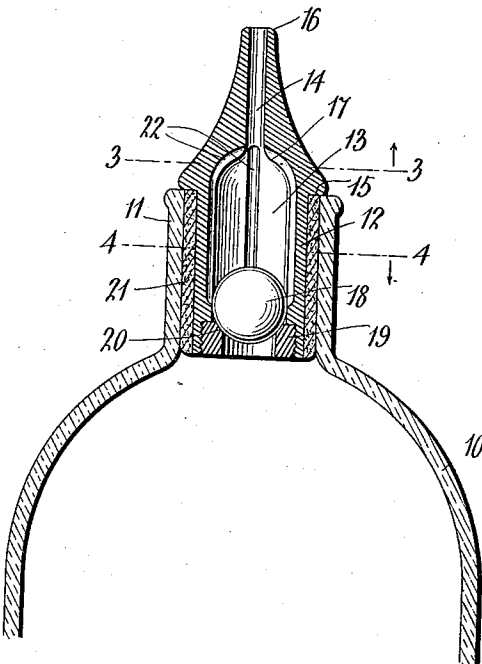


FIG. 3

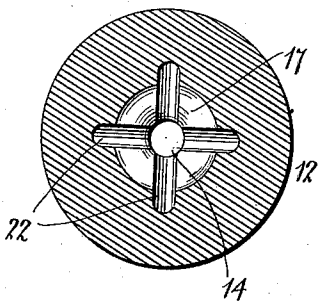
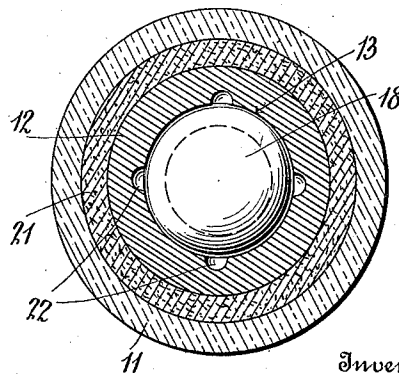


FIG. 4



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ERNEST E. ALLEN, OF PORTLAND, OREGON.

BOTTLE-STOPPER.

1,041,561.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ERNEST E. ALLEN, a citizen of the United States, residing at Portland, in the county of Multnomah, State of Oregon, have invented certain new and useful Improvements in Bottle-Stoppers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to bottle stoppers.

The object of the invention resides in the construction of a stopper adapted for use with bottles in which it is necessary to dispense the contents thereof in small quantities and at frequent intervals and consists specifically of a structure which will permit the contents of the bottle to be dispensed when the latter is tilted or inverted and which will at the same time automatically close access to the interior of the bottle when the latter is placed in its normal or upright position.

With the above and other objects in view the invention consists in the details of construction and in the combination and arrangement of parts as will be hereinafter more fully described and particularly pointed out in the appended claim.

In describing the invention in detail reference will be had to the accompanying drawings wherein like characters of reference denote corresponding parts in the several views; and in which,

Figure 1 is a view in elevation of the upper end of a bottle provided with a stopper constructed in accordance with the invention, the bottle being shown in section; Fig. 2, a view similar to Fig. 1 with the stopper also shown in section; Fig. 3, a section on the line 3—3 of Fig. 2; and, Fig. 4 a section on the line 4—4 of Fig. 2.

Referring to the drawings, 10 indicates the upper end of a bottle provided with the usual neck 11 in which the improved stopper is adapted to be inserted. Said stopper is formed of a tubular member 12, the bore 13 of which is reduced at its upper end to form a discharge mouth 14. The tubular member 12 is enlarged intermediate its end to form an annular shoulder 15, said enlarged portion tapering upwardly from said shoulder and forming the reduced upper end 16 of the stopper. The reduced diameter of the discharge mouth 14, as will be

apparent, forms a shoulder 17 upon which is adapted to rest a ball valve 18 which is mounted in the bore 13 of the tubular member 12, said ball being seated upon the shoulder when the bottle 10 is inverted and the contents thereof being dispensed. A threaded ring 19 is screwed into the lower end of the bore 13 and has its upper edge concaved as at 20 to form a seat for the valve 18 when the bottle 10 is disposed in upright position, said valve 18 completely closing access to the interior of the bottle when seated upon the ring 19. By this construction it will be apparent that the threaded ring 19 may be constructed of a material different from the tapered member, such different material being adapted to cooperate with the valve 18 to form a more efficient closure. It will also be apparent that when the ring 19 becomes worn, by repeated engagement with the valve 18, it may be readily removed and replaced by another without in any way rendering it necessary to dispense with the other portions of the stopper. A layer of cork 21 surrounds the tubular member 12 and has its upper end abutting the shoulder 15; said layer enabling the stopper to be inserted in the neck of the bottle in an efficient manner.

In order that the contents of the bottle 10 may pass by the valve 18 and through the discharge mouth 14 when the bottle is inverted there is provided in the wall of the bore 13 a plurality of longitudinal grooves 22 which extend at their upper end through the shoulder 17 so as to form a by-pass for the passage of the liquid in the bottle around the valve 18 into the discharge mouth 14.

From the foregoing construction it will be apparent that a simple and inexpensive stopper is produced adapted for use with bottles from which hair tonic, condiments and the like are dispensed and which will efficiently protect the contents within the bottle when the latter is not in use.

What is claimed is:

The combination in a bottle stopper of a tubular member having a head formed upon one end thereof and tapered toward its upper terminal, said head producing a resultant shoulder, a flexible sleeve bearing against the underside of the shoulder and surrounding the tubular member, said sleeve being less in width than the width of the shoulder whereby when the sleeve is inserted in a neck of a bottle, the shoulder will con-

tact with the mouth thereof, the said tubular member having a longitudinal bore curved at its upper end and terminating in a reduced portion extending through the head, 5 an internal flange formed adjacent the opposite end of the body portion producing a resultant shoulder, a ring threaded within the body portion for contact with the shoulder, said ring being formed to produce a 10 valve seat, a ball valve slidable within the bore for engagement with the valve seat and curved end of the bore to which it conforms, and grooves formed within the body portion of the stopper and extending from the upper side of the internal flange within 15 the reduced portion of the bore whereby when the valve engages the seat, the interior of the bottle will be hermetically sealed, and when the valve engages the curved portion of the 20 bore, the contents of the bottle will be permitted to pass out through the grooves and reduced portion of the said bore.

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

ERNEST E. ALLEN.

Witnesses:

W. B. SCOTT,
ALEX. GILBERT.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."