No. 817,038. PATENTED APR. 3, 1906.

H. O. BRAWNER.

BOTTLE STOPPER.

APPLICATION FILED DEC. 20, 1905.

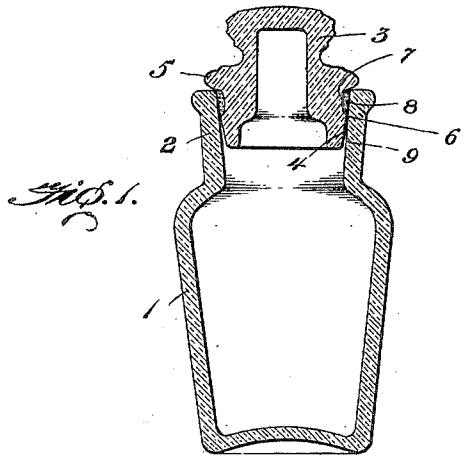

Fig. 1.

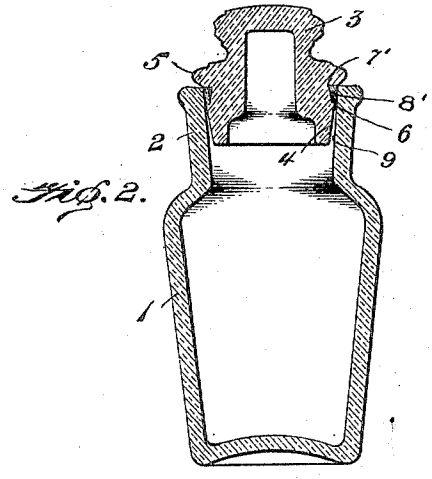

Fig. 2.

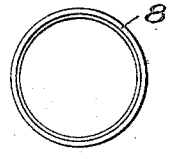

Fig. 3.

Witnesses

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UNITED STATES PATENT OFFICE.

HARRY O. BRAWNER, OF BALTIMORE, MARYLAND.

BOTTLE-STOPPER.

No. 817,038. Specification of Letters Patent. Patented April 3, 1906.

Application filed December 20, 1905. Serial No. 292,581.

To all whom it may concern:

Be it known that I, HARRY O. BRAWNER, a citizen of the United States, and a resident of Baltimore, county of Baltimore, and State of Maryland, have invented certain new and useful Improvements in Bottle-Stoppers, of which the following is a specification.

My invention relates to improvements in bottle-stoppers; and my object is to provide a bottle-stopper designed to take the place of the ordinary ground-glass stopper, whereby the expense of manufacture is greatly reduced.

In the manufacture of the ordinary ground-glass stopper the cost of the single step in the process of manufacture of grinding the stopper to make a proper tight fit of the stopper in the bottle-mouth, as well as to provide the required finish, varies from a minimum of one dollar and twenty cents per gross for smallest-size bottles to two dollars and fifty cents per gross for the largest sizes. This comparatively great cost for this step in the process of manufacture is almost entirely eliminated by my improved stopper, for the cost of the manufacture in respect to the application of means for making a tight fit of the stopper is reduced to ten cents per gross for all sizes of bottles.

With the object above stated in view my invention consists in the novel construction of bottle-stopper and details thereof, as hereinafter described, with reference to the accompanying drawings, and more particularly pointed out in the claims hereunto appended.

In the drawings, Figure 1 is a central longitudinal section of a bottle, showing my improved stopper applied thereto. Fig. 2 is a similar view of a modified form, and Fig. 3 is a plan view of the yielding gasket or packing-ring.

Referring to the drawings, in which the same reference characters relate to the same or corresponding parts in all the views, the bottle 1 is preferably provided with a tapering neck 2, whose internal surface is downwardly tapered—*i. e.*, with the larger end at the top—to which is fitted a stopper 3, having a nipple 4, flanked by a rim 5, which seats upon the top of the bottle-mouth. The nipple 4 is preferably tapered slightly for a short distance below the rim 5 to the point 6, corresponding to the taper of the mouth, in which tapered portion of the said nipple is formed a groove 7, containing a yielding gasket or packing-ring 8, preferably of cork, sprung or otherwise suitably fitted into place. The lower edge of the gasket is flush with the surface of the nipple, while the upper portion is of slightly greater taper than the nipple, so that when the stopper is seated the wall of the bottle-mouth coacting with the tapered gasket will compress the latter and insure a tight joint. That portion of the nipple below the gasket is of slightly-greater taper than the upper portion, thereby forming a free space 9 at this point, so that the nipple is out of contact from the point 6 to its end, thus facilitating the insertion and removal of the stopper.

I have found that the frictional contact between the very limited area of the bottle stopper and neck, as described, is sufficient to insure the requisite seal against the escape of the contents of the bottle and that such construction not only enables the consumer to dispense with the expensive ground-glass stopper, but the dispensing with the necessity of the tight fit throughout the greater portion, if not all, of the length of a ground-glass stopper facilitates the application of the stopper to and its removal from the bottle.

Instead of using a gasket or packing-ring of the uniform thickness in cross-section I may employ a tapered ring or gasket 8′ in a tapered groove 7′, as shown in Fig. 2, so proportioned as to maintain the flush lower joint between the ring and nipple and the desired taper to the body of the ring.

I claim as my invention—

1. The combination with a bottle having a neck whose internal surface is downwardly tapered, of a stopper having a rim adapted to seat upon the mouth of said neck, a nipple having a slightly-tapered upper portion, corresponding to the taper of the neck and provided with a groove therein, and a yielding gasket or ring seated in said groove with its lower edge flush with the surface of the nipple and its upper portion of slightly-greater taper than the taper of the bottle-neck, substantially as described.

2. The combination with a bottle having a neck whose internal surface is downwardly tapered, of a stopper having a rim adapted to seat upon the mouth of said neck, a nipple having a slightly-tapered upper portion, corresponding to the taper of the neck and provided with a groove therein, and a yielding gasket or ring seated in said groove with its lower edge flush with the surface of the nipple and its upper portion of slightly-greater

taper than the taper of the bottle-neck, the lower portion of the nipple being of slightly-greater taper than the taper of the interior surface of the bottle-neck, thereby forming a free space between the nipple below the gasket or ring and the bottle-neck, substantially as described.

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

HARRY O. BRAWNER.

Witnesses:

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