

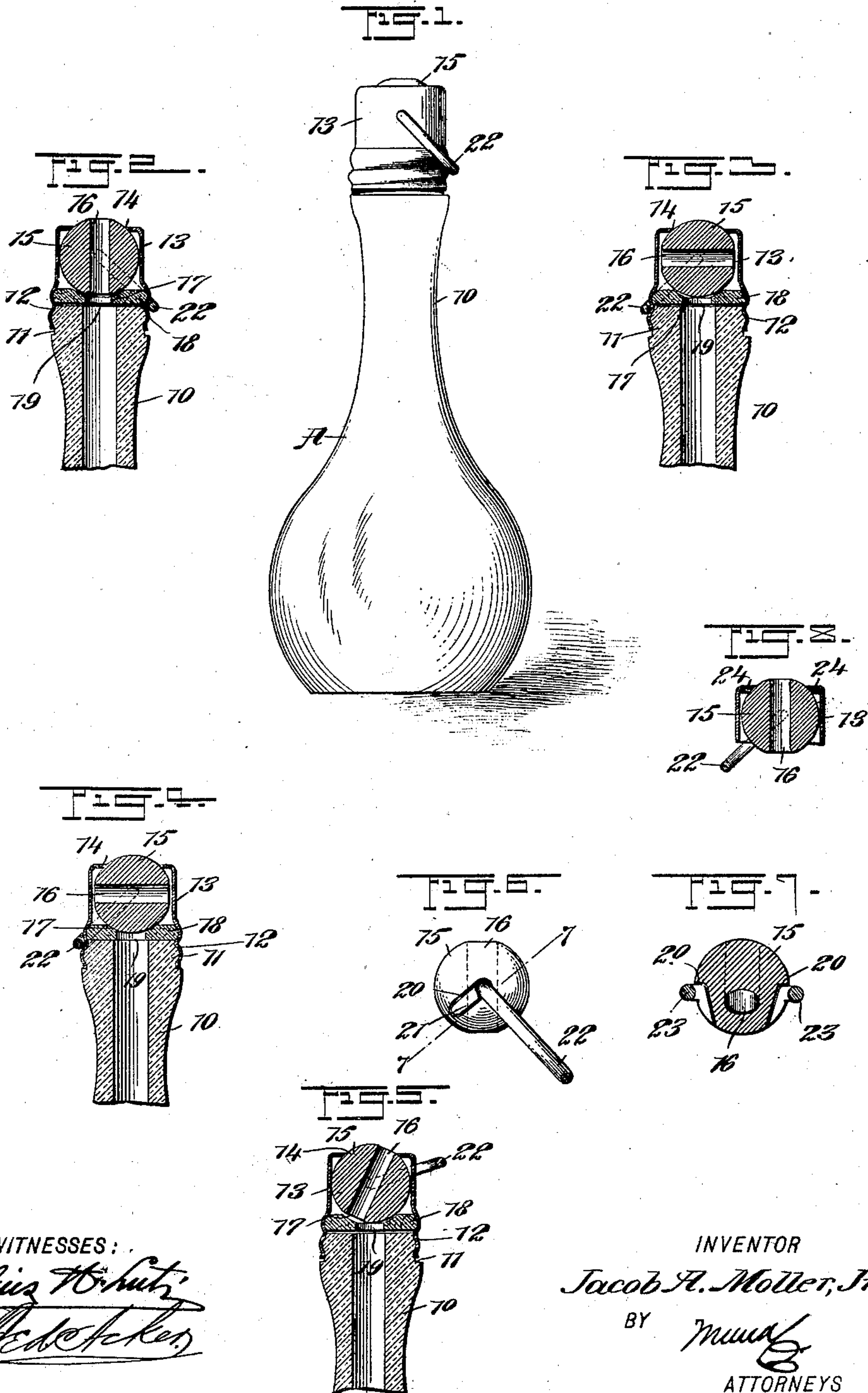
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Patented Jan. 28, 1902.

J. A. MOLLER, JR.
STOPPER FOR BOTTLES.

(Application filed Apr. 17, 1901.)

(No Model.)



WITNESSES:

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STOPPER FOR BOTTLES.

SPECIFICATION forming part of Letters Patent No. 692,058, dated January 28, 1902.

Application filed April 17, 1901. Serial No. 56,221. (No model.)

To all whom it may concern:

Be it known that I, JACOB ADOLF MOLLER, Jr., a citizen of the United States, and a resident of the city of New York, borough of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Stoppers for Bottles, of which the following is a full, clear, and exact description.

10 The purpose of the invention is to provide a ball or rotary spherical stopper for the mouth of a bottle, particularly such bottles as are used for sauce, cologne, and like liquids, and to provide a means whereby the
15 stopper may be made to close the mouth of the bottle in a liquid-tight manner or may be quickly brought into position to discharge the liquid contents of the bottle either from
20 the bottle or at a point at either side of the center.

A further purpose of the invention is to so construct a stopper of the character described that it will be simple and economic, easily applied, and quickly and conveniently operated
25 and so that the stopper may be operated by means of an attached and exteriorly-extending bail.

30 The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of a bottle and the improved stopper applied. Fig. 2 is a vertical section through the neck of the bottle
40 and the stopper, the stopper being in open position. Fig. 3 is a view similar to that shown in Fig. 2, except that the stopper is in closed position, but not in liquid-tight engagement with the bottle. Fig. 4 is a view similar to
45 that shown in Fig. 3, the stopper being closed and in liquid-tight connection with the bottle. Fig. 5 is a vertical section through the bottle and stopper, the stopper being shown open with its outlet at one side of the center
50 of the bottle-mouth. Fig. 6 is a side elevation of the spherical stopper removed from the bottle and the bail for the stopper, illus-

trating the manner in which the bail is attached to the stopper. Fig. 7 is a section taken on the line 7 7 of Fig. 6; and Fig. 8 is
55 a vertical section through the stopper, its bail, and a portion of the cap or ferrule, illustrating the application of an upper washer to the stopper.

A represents the body of a bottle, the neck
60 of which is provided with an exterior thread 11 at its mouth. This exterior thread 11 is adapted to receive the lower threaded portion 12 of a cap or ferrule 13, which is preferably made of sheet metal, and in the
65 upper portion of the cap or ferrule a circular opening 14 is produced. Through this opening 14 a portion of a spherical or ball stopper 15 extends, the said ball stopper being located within the cap or ferrule. This ball or
70 spherical stopper is provided with a bore or opening 16, which extends through from one side to the other, and the lower portion of the said ball or spherical stopper rests in a concavity 17 made in the upper face of a washer
75 18 around a central opening 19 produced in said washer. The washer 18 is located in the lower portion of the cap or ferrule and rests upon the upper edge of the mouth of the bottle-neck.
80

The spherical or ball stopper 15 is provided at opposite sides with inclined or diagonal recesses 20. (Shown best in Figs. 6 and 7.) These recesses 20 in the spherical ball or stopper are adapted to receive the foot-sections 21 of a
85 bail 22, as is also shown in Figs. 6 and 7. The foot-sections 21 of the bail are at an angle to its body portion and are formed opposite each other between the sides of the bail, being connected with the extremities of the said sides
90 of the bail by horizontal sections 23. These horizontal sections 23 connecting the body of the bail with the foot-sections 21 pass through openings made in opposite sides of the ferrule or cap 13, so that the body of the bail is en-
95 tirely outside of the cap or ferrule, and the bail is of such dimensions that in its manipulation it may freely pass over the top of the ferrule-cap.

In assembling the parts of the stopper the
100 ball or sphere 15 is placed in the ferrule with one portion extending through the opening 14 at the top of the cap or ferrule. Next the foot-sections of the bail 22 are passed through

the openings in the sides of the cap or ferrule, and the said foot-sections of the ferrule then readily find a seat in the recesses 20 of the sphere or ball 15. Thus it will be observed that the ball stopper may be turned in the ferrule or cap by the movement of the bail at the exterior of the attachment. When the bail 22 is carried downward at one side of the cap or ferrule, as is shown in Figs. 1 and 2, the opening or bore 16 in the ball or sphere 15 will be brought to a vertical position and in registry with the interior of the neck 10 of the bottle and the opening 19 in the washer 18, thus permitting the contents of the bottle to be delivered in suitable quantities; but before the ball or sphere 15 is turned the cap or ferrule 13 is unscrewed to such an extent as to relieve the ball or sphere from pressure against the washer 18. To close the stopper, the bail 22 is carried to the opposite side of the ferrule or cap, as is shown in Figs. 3 and 4, thus bringing the bore 16 to a horizontal position within the ferrule or cap, and a plain surface of the ball or sphere is presented at the upper opening 14 in the ferrule or cap. By screwing the ferrule or cap down to an engagement with the shoulder on the exterior of the bottle-neck formed by the exterior thread 11, as shown in Fig. 4, the ball or sphere is brought in binding engagement with the washer 18 and is prevented from being accidentally turned.

In Fig. 5 I have illustrated a position of the ball or spherical stopper in which the opening or bore 16 therein is diagonally located, so that the outlet end of the bore or opening is adjacent to a wall of the upper opening 14 in the cap or ferrule 13, and it will be readily understood that the inclination of the bore or opening 16 in the spherical or ball stopper may be in direction of the right or left hand side of the cap or ferrule. It will also be observed by reference to Fig. 5 that when the bore or opening 16 in the ball or spherical stopper is brought to its inclined position the bail 22 will occupy a position at an acute angle to the cap or ferrule 13 and will constitute a guide for the forefinger, the thumb of the same hand being brought in engagement with the neck of the bottle at the opposite side, so that the contents of the bottle may be thrown at an angle to the neck of the bottle, and, if desired, the stopper may be quickly brought to a position to discharge the contents in line with the neck of the bottle.

Sometimes it is desirable that the cap or ferrule 13 shall be made of a very light metal—thin silver, for example—and that the upper portion of said cap or ferrule shall be embossed or otherwise ornamented. In such an event a cork washer 24 is located below the top of the cap or ferrule and in engagement with the upper portion of the ball or sphere within the cap or ferrule, as shown in Fig. 8, so that when the cap or ferrule is screwed fully upon the neck of the bottle the upper washer 24 will have a firm bearing against

the ball or sphere 15, which could not happen were the upper face of the cap or ferrule around the ball or sphere irregular; but when the upper face of the cap or ferrule 13 is plain, as is shown in Figs. 2 and 3, when the cap or ferrule is screwed down on the neck of the bottle the edge of the upper face of the cap or ferrule at the opening 14 will be brought in close and continuous engagement with the ball or sphere. The upper washer is shown in position in Fig. 8.

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

1. A bottle-stopper, consisting of a cap or ferrule having an opening in its top, an apertured ball or sphere held to turn in said cap or ferrule, the said ball being provided with inclined recesses in opposite side faces, and a bail extending through openings in the sides of the cap or ferrule and provided with feet arranged at an angle to the side members, the said feet being adapted to enter the recesses in the ball or sphere as set forth.

2. A bottle-stopper, consisting of a cap or ferrule having an opening in its upper face, said cap or ferrule being arranged for adjustable connection with the neck of a bottle, an apertured ball or sphere held to turn in the cap or ferrule, a surface of the said ball or sphere extending through the opening at the upper portion of the cap or ferrule, the said ball or sphere being provided with inclined recesses in opposite side faces, and a bail comprising a body-section, foot-sections extending at an angle to the body-section and adapted to engage the recesses in the ball or sphere, and horizontal sections connecting the foot-sections with the body-section and passing through openings in the sides of the ferrule or cap, substantially as specified.

3. In a bottle-stopper, a cap or ferrule adapted for adjustable connection with the neck of a bottle, the said cap or ferrule having an opening in its top, an apertured ball or sphere held to turn in said cap or ferrule, and having inclined recesses in opposite side faces, a washer located in the cap or ferrule and adapted to be pressed on by said ball or sphere, and a bail extending through openings in the sides of the cap or ferrule and having feet arranged at an angle to the side members of the bail, and adapted to engage said recesses in the ball or sphere, as set forth.

4. In a bottle-stopper, a cap or ferrule arranged to screw on the neck of a bottle and having an opening in its top, a washer located at the upper portion of said cap or ferrule and provided with an opening therein, a washer located in the lower part of the cap or ferrule and adapted to rest on the upper edge of the mouth of the bottle-neck, the said washer having a central opening, a ball or sphere held to turn in said cap or ferrule and provided with an opening or bore extending through the same, the said ball or sphere being adapted to press on both of the said wash-

ers when the cap or ferrule is screwed down on the neck of the bottle and to extend through the opening in the cap or ferrule, and means connected with the ball or sphere for turning the same, substantially as described.

5 5. In bottle-stoppers, a cap or ferrule having an opening in its upper face, a washer located at the upper portion of said cap or ferrule and provided with an opening therein,
10 a ball or sphere located within the cap or ferrule and held to turn therein, the said ball or sphere being provided with an opening extending through from side to side, the said ball or sphere being likewise provided with
15 diagonal recesses in opposite side faces and the ball or sphere being so placed in the cap

or ferrule that one portion of the ball or sphere will engage with the washer and will extend out through the opening in said cap or ferrule, and a bail which is passed through the said cap or ferrule, the bail being provided with a foot at an angle to each side member, which feet are arranged to enter the recesses in the ball or sphere, as set forth.

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

JACOB ADOLF MOLLER, JR.

Witnesses:

AUGUST REYMERT,
B. CASPERSON.