(No Model.)

C. B. SCHOENMEHL.

BOTTLE STOPPER.

No. 527,161. Patented Oct. 9, 1894.

Fig. 1.

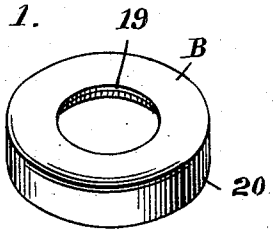


Fig. 2

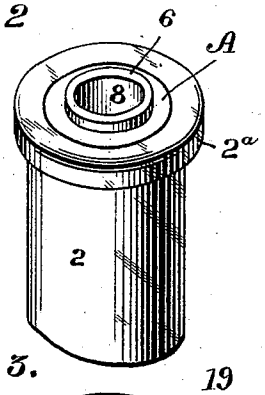


Fig. 3.

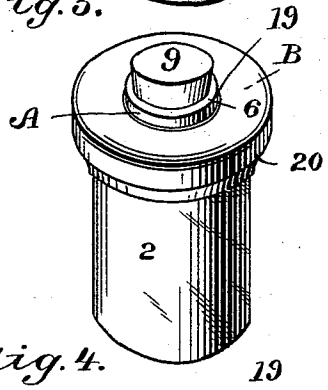


Fig. 4.

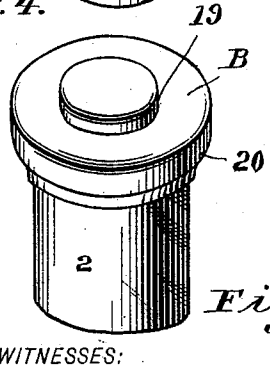


Fig. 5.

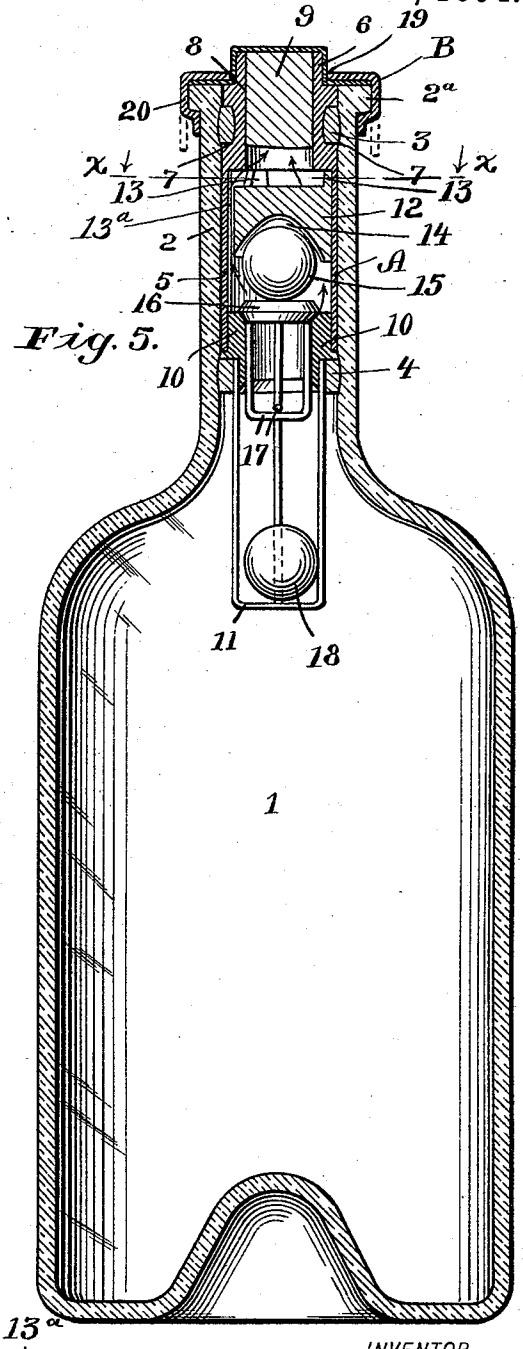
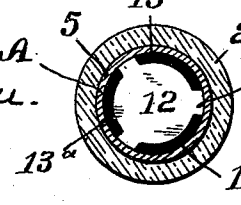


Fig. 6.



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UNITED STATES PATENT OFFICE.

CHARLES B. SCHOENMEHL, OF WATERBURY, CONNECTICUT, ASSIGNOR OF THREE-FOURTHS TO VICTORY L. SAWYER, OF SAME PLACE.

BOTTLE-STOPPER.

SPECIFICATION forming part of Letters Patent No. 527,161, dated October 9, 1894.

Application filed January 6, 1894. Serial No. 495,955. (No model.)

To all whom it may concern:

Be it known that I, CHARLES B. SCHOENMEHL, a citizen of the United States, and a resident of Waterbury, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Bottle-Stoppers, of which the following is a specification.

My invention relates to stoppers for bottles, and particularly to the class of stoppers which are employed to prevent the refilling of bottles which have once been filled.

It further relates to a suitable sealing device by means of which said stopper is retained in the neck of the bottle.

It is the object in my present invention to provide a stopper which will be cheap, durable and readily seated within the neck of a bottle; also to produce a stopper which does not necessitate the destruction of the bottle in order to remove the stopper, and further to provide for said stopper a seal through which the contents of the bottle may be emptied without disturbing or breaking the seal, and at the same time not allowing the removal of the stopper.

In order that those skilled in the art to which this invention appertains may fully understand its construction and method of operation, I will describe the same in detail, reference being had to the accompanying drawings which form a part of this specification, and in which—

Figure 1, shows a perspective view of the seal. Fig. 2, is a perspective view of the neck of a bottle and having my novel stopper placed therein. Fig. 3, is a view similar to Fig. 2 showing the seal upon the top of the bottle neck, and a cork placed within the stopper. Fig. 4, is a perspective view similar to Fig. 3, the only difference being that in Fig. 4 I have illustrated a covering upon the cork which may be of tin-foil, paper or the like. Fig. 5, is a central section of a bottle having my improved stopper placed therein, a cork within the stopper, a seal placed upon the stopper, and upon the neck of the bottle. Fig. 6 is a cross section on line x—x of Fig. 5, showing the block in plan.

Upon the accompanying drawings the same numerals and letters of reference denote like parts upon the several figures.

This invention is designed to be used in connection with any ordinary bottle which has a neck of sufficient length, and a rim around its top, and does not necessarily require any special formation. In this invention it will be noticed that the stopper is forced into the neck of the bottle and so held by friction, after which the seal may be placed upon it. The stopper can only be withdrawn after said seal has been broken and removed.

1 indicates a bottle which may be of any suitable formation, and 2 denotes the neck thereof, and 2^a the rim upon the neck; A, the stopper as a whole, which is provided both upon its upper and lower periphery with a suitable cork or packing 3 and 4 respectively. This packing serves to make the stopper perfectly tight within the neck, both at its upper and lower extremity, the lower one serving to prevent the liquid from leaking out of the bottle, and the top one serving to prevent the drippings from soaking back into the neck at such times when a portion of the contents may be poured from the bottle, and the bottle again set upon its end.

The stopper A is simply constructed, and consists first of a body portion 5 having a reduced top 6, and an external annular groove 7 near its top. This annular groove is for the purpose of retaining the cork 3, and serves to make the stopper fit perfectly tight at the top of the neck. The outlet 8 in the upper end of the body 5 is somewhat smaller in circumference than that of the main portion, as will clearly be seen with reference to Fig. 5 of the drawings. The outlet is for the passage of fluid from the bottle and in shipment would be closed with a cock 9. To the lower extremity of this body is suitably attached a seat 10 to which I attach a loop 11. Around said seat and loop is placed the cork packing 4 which serves to form a tight fit between the neck of the bottle and the lower extremity of the stopper.

Within the cylindrical body 5 I place a block 12 having lugs 13 upon its sides and extending upwardly from the main portion thereof. These lugs upon the sides serve to en-

gage the interior of the cylindrical body, thus retaining the block firmly in its proper position therein. Further, by reason of these lugs extended from the block, there are formed between said block and body fluid-passages 13^a, for the purpose of allowing the free passage of the fluid from the valve out through the outlet 8. (See arrows.) Within the block 12 is a seat 14 for the purpose of retaining the ball 15 upon the valve 16. At such times when the bottle stands in a vertical position, and when said bottle is inverted, turned bottom-side up, said ball will fall into the seat 14, allowing the valve 16 to drop away from its seat, thus permitting the free passage of the fluid from the bottle out through the passages 13^a.

The valve 16 is provided with guides 17, formed preferably of two pieces of U-shaped wire, the ends of which are secured within the valve. A valve constructed in this manner allows the free flow of the fluid from the bottle and practically unobstructed. The valve further operates quickly and more readily than a great many others which have been made, and is particularly practicable in stoppers of this class. In this device I have also shown a ball 18, which is similar to the one I have shown in another application filed October 27, 1893, Serial No. 489,264, and is for the purpose of and serves to insure against the operation of the valve in case the latter should refuse to open and operate. In this construction of stopper I have shown the loops 11, which retain the ball, as attached to the stopper and independent of the bottle neck which is in every way practical and allows the free insertion and extraction of the stopper.

As before stated this stopper is capable of being drawn out of the neck of the bottle at will by the removal of the seal, and as designed is intended to be drawn out only by the bottler, or the manufacturer whose goods the bottle may contain. In order to accomplish this result I have provided the novel means of attaching a seal B over a portion of the end of the stopper, and also over the end of the neck of the bottle.

The seal B is formed of a single piece of sheet metal of any suitable thickness, but preferably about one-sixteenth of an inch; and is formed with a central opening 19 and an annular downward projecting flange 20, which may be of any suitable length, but necessarily of a length sufficient to be turned under the rim 2^a of the neck of the bottle, as shown in Fig. 5. The manner of attaching this seal will best be understood with reference to Figs. 1, 2 and 3 of the drawings; Fig. 1 showing the seal B. Fig. 2, shows the bottle neck, its rim, and the stopper within said neck. The seal as illustrated in Fig. 1, would be placed upon the neck and stopper, as shown in Fig. 2. The opening 19 of said seal is of a diameter about equal to the outside diameter of the reduced top 6 of the stopper, so as to allow the extension of said stopper to freely extend through said seal B, as shown. After the seal has been placed upon the bottle and stopper, it would be turned under the before mentioned rim 2^a by means of a suitable tool. This operation will securely attach the seal to the neck of the bottle, at the same time prevent the stopper from being drawn from the bottle.

In connection with this stopper and seal, I use a suitable corking for the bottle which may be attached to the extension in any desired manner. In the accompanying drawings however, I have shown simply a cork 9 which is forced into the outlet 8 and retains the liquid within the bottle until used. If desired, in connection with this device the bottler may use a covering for the stopper and extension, as shown in Figs. 4 and 5, which would be made of any suitable flexible material, such for instance as tin-foil, sheepskin or the like and might contain the bottler's special trade-mark or design.

It is of course understood that bottlers placing bottles of this class upon the market expect them to be returned for refilling. To do this with this particular bottle it would simply be necessary to destroy and detach the seal, thus allowing the stopper to be withdrawn, after which the bottle could be again filled, the old stopper placed back into the bottle and a new seal for the stopper placed thereon.

Having thus described my invention, I claim—

1. In a bottle stopper of the class described, the combination with a cylindrical body provided with valve mechanism to prevent the refilling of a bottle, of an extension as shown formed integral with said body and whose outer diameter above the top of the bottle is less than that of the lower portion thereof, a flat shoulder formed upon the body flush with the top of the bottle neck, a thin metallic seal having a flat top, an opening therethrough and a downwardly projecting flange to be turned in under the rim of the neck of the bottle.

2. The combination in a bottle-stopper, of the class described, of a cylindrical body having a reduced top and an opening therethrough, a thin metallic seal having an opening in its center adapted to fit around the extension and to be turned under the rim of the neck of a bottle, packing rings around the upper and lower portion of the body, a pair of loops 11 attached to the body and independent of the bottle for the purpose of retaining a ball.

3. In a bottle-stopper of the class described, the combination with a cylindrical body having a reduced central opening in the top thereof, of a block within said body provided with lugs upon its sides forming fluid-passages between the block and body, a ball and valve arranged below the block and within the body, the U-shaped wire guides attached to the valve to permit of its free operation.

4. In a bottle-stopper, the combination with

a seal of the class described, of a cylindrical body adapted to fit within the neck of a bottle and having a reduced end projecting up above the top of the bottle and through the seal, packing rings around the top and bottom of the body, a pair of loops attached to the lower end of the body, a block having fluid passages between it and the body, a ball and valve to allow the fluid to pass in one direction, the whole arranged for the purposes described.

Signed at Waterbury, in the county of New Haven and State of Connecticut, this 4th day of January, A. D. 1894.

CHARLES B. SCHOENMEHL.

Witnesses:
V. L. SAWYER,
G. S. HASTINGS, Jr.