

(No Model.)

C. B. SCHOENMEHL. BOTTLE STOPPER.

No. 524,096.

Patented Aug. 7, 1894.

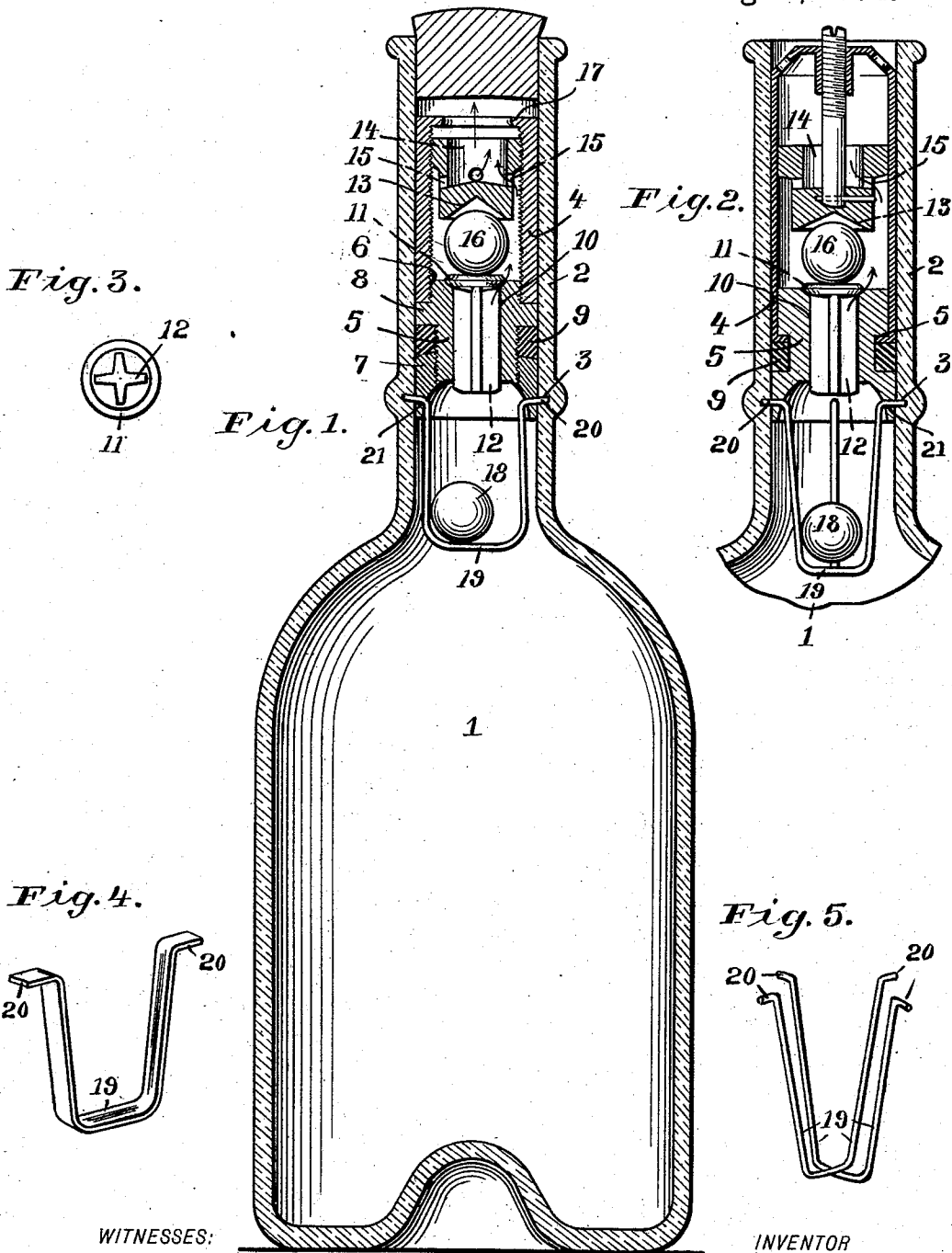


Fig. 3.

Fig. 2.

Fig. 1.

Fig. 4.

Fig. 5.

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THREE-FOURTHS TO VICTORY L. SAWYER, OF SAME PLACE.

BOTTLE-STOPPER.

SPECIFICATION forming part of Letters Patent No. 524,096, dated August 7, 1894.

Application filed October 27, 1893. Serial No. 489,264. (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.

This invention relates to bottle stoppers and more particularly to the class of stoppers which are employed to prevent the refilling of a bottle, which has once been used. I am aware that various devices have been employed for this purpose but most of these are all more or less unreliable and uncertain in their operation. It has therefore been the aim in my present invention to produce a bottle stopper which is compact, reliable, may be cheaply constructed, and cannot be refilled.

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, is a central vertical section of a bottle showing my improved stopper in the neck thereof, said stopper being also in section. Fig. 2, shows a sectional view similar to Fig. 1, illustrating a slight modification of the stopper, the bottle being broken away. Fig. 3, shows an inverted bottom plan view of the valve detached. Fig. 4, is a perspective view of one of the loops which I employ to retain the stopper, and ball, within the neck of the bottle. Fig. 5, is a perspective view of a pair of loops which are employed for the same purpose of retaining the stopper and ball within the neck of the bottle.

The same numerals denote like parts in all the figures of the drawings.

1, denotes a bottle, 2 the neck thereof, and 3 an annular recess within the neck, 4 denotes a cylindrical shell, having an outside diameter equal to that of the inside diameter of the neck of the bottle, in Fig. 1, I have shown this shell having screw threads upon its inner surface, and it is thereby attached to a lower portion 5. This section 5 is pro-

vided with screw threads 6 by means of which I attach a ring 7 having a suitable screw threaded surface to correspond with, and engage the threads 6 of the section 5, this ring is practically a part of the section 5, but it is preferably made in two parts for convenience of assembling.

It will be seen that between the shoulder 8 of the section and the before mentioned ring, is placed a suitable washer 9, which may be of cork or any suitable packing material, which will form a tight fit of the stopper within the bottle, and thus insure the non-leakage of the contents of the bottle. The section 5 is provided with a round central opening 10 in which is placed a valve 11, this valve serves to close the opening into the bottle at such time when the bottle is setting upright. Said valve 11 is provided with vertical ribs 12 for the purpose of properly retaining the valve upon its seat, and allowing a strictly vertical movement of said valve in its opening.

In the upper portion of the shell 4 is placed an adjustable V 13 having a hole 14 in the center and top thereof, also a number of smaller holes 15 at a right angle thereto, allowing an unobstructed passage from the exterior of the bottle to the interior of the before mentioned shell 4. Upon the top of the valve 11 and between it and the adjustable V, I place a gravity ball 16, this ball is to insure the closing of the valve at all times except when the bottle is turned bottom up for the purpose of emptying.

The V 13 is made adjustable in any suitable way, for instance it may be screw threaded upon its periphery, and may be run up or down by means of a few turns, or it may have a post provided with screw threads to engage the shell as shown in Fig. 2. In practice I find it advantageous to make this adjustable so that the V may be run down tightly upon the ball, thereby forcing the valve down snugly upon its seat, this does away with the necessity of providing corks for the bottles during transportation, since it practically affords a seal for the bottle and prevents leakage.

It will be seen that the outward movement

of the V is limited by an ear 17 upon the end of the shell. In practice I find that the best results of operation are gotten with approximately the adjustments of the V as shown in the drawings.

I find in practice that where bottles of this class are filled and allowed to remain undisturbed for any length of time the valve is liable to become gummed or sticky and thus prevent the immediate operation of the valve when it is desired to relieve the bottle of its contents. Therefore I have provided a ball 18 below said valve and which I preferably retain in the neck of the bottle by a suitable loop 19, this loop 19 serves the double purpose of supporting the ball 18 and retaining the stopper within the bottle, as clearly appears in the drawings. As will be seen the loop is provided with outward projections 20 at a right angle to the vertical portion thereof, and are designed to loosely pass through holes or slots 21 in the lower portion of the section 5, and engage the annular recess 3 of the neck of the bottle. In Fig. 1 I have shown a single loop and two holes for this purpose, while in Fig. 2 I have shown a pair of loops and four holes, the operation is identical in both forms however and each form is equally practical. When the bottle is tipped up the ball will drop and strike the valve upon its end and insure the immediate operation of the valve in case it may be slightly stuck.

It will be readily seen that the attachment of the stopper to a bottle is quite simple, the operator having simply to force the stopper into the neck until the projections 20 drop into the recess 3 at which time the stopper becomes fixed within the neck of the bottle, and it is impossible to remove the same without injuring the stopper or bottle.

In this invention I do not wish to limit myself to the exact construction shown since it can be altered without departing from the spirit of my invention. This is particularly true of the manner of adjusting the V within the shell.

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

1. The combination with a bottle, and bottle stopper to prevent the refilling of said bottle, of a valve seated within the stopper, and provided with a ball below said valve to in-

sure the opening of the valve and to allow the discharge of the fluid from the bottle. 55

2. The combination with a bottle, and bottle stopper to prevent the refilling of a bottle, of an adjustable ball seat within the shell of the stopper, a ball adapted to play within said seat, a valve upon which said ball rests, a ball 18 below the valve and loop attached to the bottle to support the ball 18, the whole arranged as described and for the purpose specified. 60

3. In a bottle stopper of the character described the combination with the neck of a bottle, of a cylindrical shell open at its top, a V adjustably mounted within the upper portion of said shell, a ball adapted to play beneath said V, a valve below said ball, a section 5 having an external annular recess therein and provided with a packing ring, loops attached to said section 5 having outward projections passing through the section and into a recess of the bottle, said loops serving to retain said ball and stopper within the neck of the bottle. 65

4. In a bottle stopper of the character described, the combination with a bottle neck, of a cylindrical shell open at its top a section 5 attached to the lower extremity of the shell and provided with a packing ring around its periphery, the valve and valve seat within said section, balls above and below the valve to insure its operation, the adjustable V above the balls and adapted to be run down upon one of said balls and close the valve down, substantially as shown and for the purpose specified. 70

5. The combination in a bottle stopper, of a shell provided with internal screw threads, a V within the shell and having screw threads to engage the threads of the shell, liquid passages through said V, a ball and valve arranged below the V, means as shown for attaching the shell to the neck of the bottle, a ball below the valve to insure its opening when the bottle be inverted. 75

Signed at Bridgeport, in the county of Fairfield and State of Connecticut, this 24th day of October, A. D. 1893. 80

CHARLES B. SCHOENMEHL.

Witnesses:

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