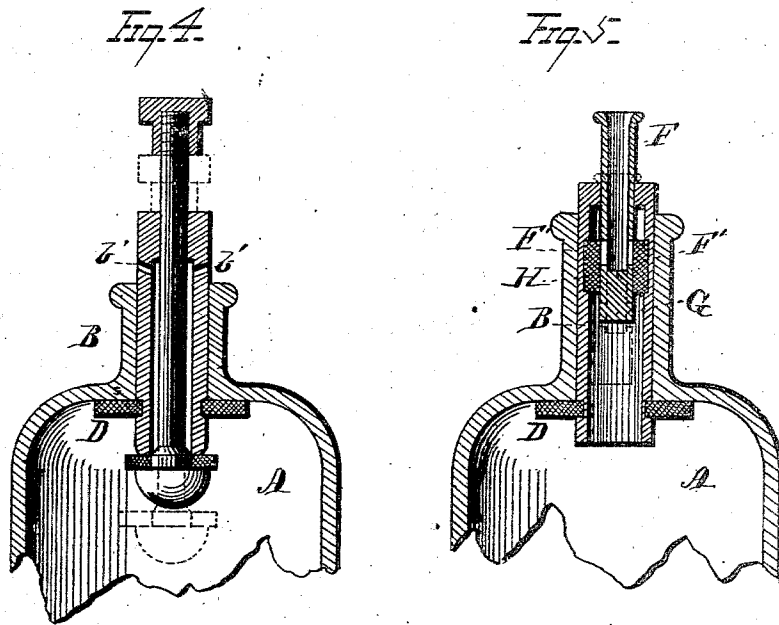
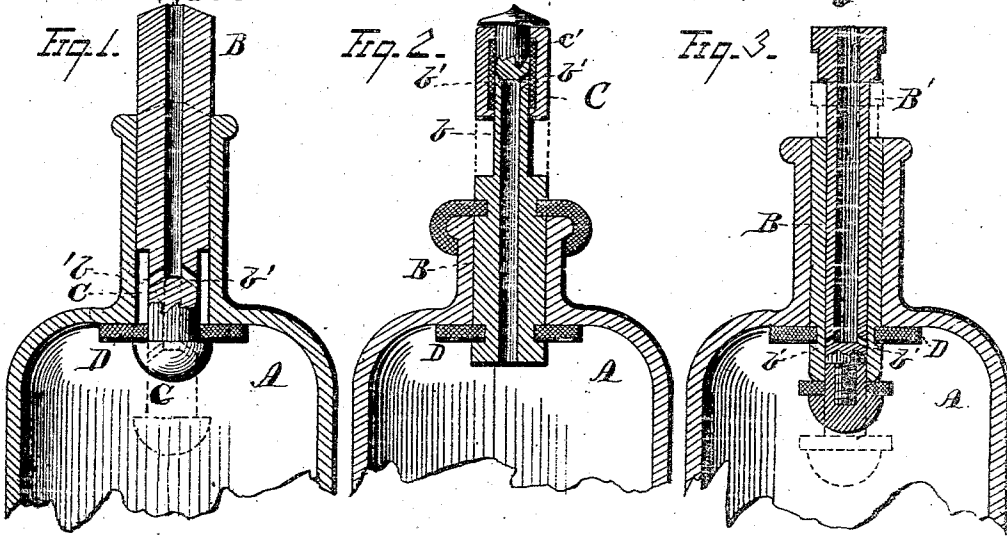


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Stopper and Discharge for Bottles.

No. 159,200.

Patented Jan. 26, 1875.



WITNESSES  
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# UNITED STATES PATENT OFFICE.

FREDERICK BARON MICHELL, OF TRURO, ENGLAND.

## IMPROVEMENT IN STOPPERS AND DISCHARGES FOR BOTTLES.

Specification forming part of Letters Patent No. 159,200, dated January 26, 1875; application filed December 17, 1874.

*To all whom it may concern:*

Be it known that I, FREDERICK BARON MICHELL, of Truro, in the county of Cornwall and Kingdom of England, have invented certain new and useful Improvements in Stoppers and Discharges for Bottles; 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 pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to a combined bottle cork or stopper and discharge, intended especially for employment with gaseous liquids, such as champagnes, soda-water, &c.

In the drawings, Figure 1 is a longitudinal section of my invention; and Figs. 2, 3, 4, and 5 are longitudinal sections of modifications of the same.

My invention consists in the following parts and combinations, as hereinafter specified and claimed, wherein A is a bottle or package containing gaseous liquid. B is that portion of my device which serves as the cork proper, through the axis or center of which is made the opening *b*. This opening extends from the exterior of the bottle through the entire length of the part B, and opens by one, two, or more mouths, *b' b'*, through the part C, which extends below the neck into the interior of the bottle A. D is a stationary washer, gasket, or packing, made of rubber or any suitable elastic material, which is made to embrace the portion C, and to slide upon the same sufficiently tight to prevent the escape of gas between it and the portion which it embraces. *e* is a shoulder or button to prevent the washer D from slipping off from the part C.

The operation is as follows: The portion B serves as the cork or stopper, the top portion projecting a suitable distance beyond the mouth of the bottle A. While the liquid is to be retained in the bottle the stopper and washer are in the position as shown in the solid lines of Fig. 1, and in this position the gas forces the stationary washer D against the neck or body of the bottle in such a manner as to obviously prevent any escape of gas or liquid. When it is desired to draw the contents of the bottle, the projecting portion of the part B is

pressed into the bottle, and, by this operation, the outlets *b' b'* are brought below the stationary gasket D into the interior of the bottle, as shown in the dotted lines in Fig. 1. In the meanwhile the pressure of the gas upon the stationary gasket D retains said gasket in its proper position against the neck or body of the bottle, and if it is desired that only a portion of the contents of the bottle be drawn, the pressure of the gas will assist to return the stopper to its original position, as heretofore described, when the pressure upon the outside portion of the part B is relieved.

It will thus be seen that any desired quantity may be drawn without injury or detriment to what may remain.

In the modification of my invention, as shown in Fig. 2, the cork or stopper B is provided with two stationary gaskets, one of which embraces the cork upon the inside of the bottle, and upon which the internal pressure of the gas is exerted to keep the same in proper position; and the second gasket upon the rim or mouth of the bottle, and covering the same, helps, also, in an obvious manner, to retain the cork B in a stationary position in the neck of the bottle A. Through the cork B the opening *b* is made, which extends from the interior portion up through its entire length, and opens through the vents *b' b'* in the portion C. Upon the part C slides the collar *c'*, the interior of which is suitably packed to prevent the escape of gas. This collar, while the liquid is being retained in the bottle, is made to cover and occlude the vents *b' b'*, and when the liquid is desired to be drawn this collar is pushed down upon the part C in such a manner as to open the vents *b' b'*, and allow the escape of the liquid through the opening *b*.

This modification is adapted more especially to champagnes, and it will obviously appear that a portion only of the contents of the bottle may be drawn without exposure or injury to what may remain.

A button or shoulder is provided upon the part C to prevent the escape of the collar *c'*.

Another modification of my invention is shown in Fig. 3, wherein the cork B is a hollow cylinder provided with a stationary gasket, which is placed below the neck and upon the interior of the bottle A, the pressure of the

gas upon which assists in retaining the cork B stationary within the neck of the bottle. Through the cylinder B moves another cylinder, B'. The cylinder B' is provided upon either end with shoulders or buttons, in such a manner as to provide a limited movement within the cylinder or cork B. An opening, *b*, is made in the interior of the cylinder B', extending from its exterior portion down nearly through its entire length, where it opens upon the outside of the cylinder B, through one, two, or more vents, *b' b'*, upon the interior of the bottle. Below the vents *b' b'* a suitable washer or packing may be placed upon the cylinder B', which shall impinge against the lower portion of the cylinder B when the pressure of the gas is exerted upon the lower portion of the cylinder B', to prevent the escape of the gas or liquid, in an obvious manner.

The operation of this modification is similar to those heretofore described, and is as follows: Before the liquid is removed the pressure of the gas assists to retain the parts, as shown in the solid lines in Fig. 3. To draw off the contained liquid the upper and projecting portion of the cylinder B' is pressed downward, by which operation the vents *b' b'* are opened within the interior of the bottle, through which the liquid escapes into the opening *b*.

It is obvious that, when pressure is relieved upon the outer portion of the cylinder B', the internal pressure of the gas will return the parts to their original position, and close the bottle tightly, as before.

The modification as shown in Fig. 4 represents the cork B as a hollow cylinder, through which operates the plunger, upon either end of which is placed a shoulder or button, which admits only of a limited movement of the plunger within the cylinder B. The cork or cylinder B is provided with a stationary gasket on that portion below the neck of the bottle A, and upon its exterior portion escape the vents *b' b'*, which connect with the interior portion of the caliber of the cylinder B, which caliber is made sufficiently large from the point of junction with the vents *b' b'* and the interior of the bottle A, to admit of the escape of the contained fluid around the plunger.

The operation of this modification is as follows: While the liquid is retained the parts are held in position by the internal pressure of the gas, as shown in the solid lines in Fig. 4. By pressure upon the outside portion of the plunger the lower collar is removed from the cylinder B, and the contained liquid escapes through the cylinder B, around the plunger, and out through the vents *b' b'*.

Another modification, as shown in Fig. 5, represents the cork B as a hollow cylinder, provided with a stationary gasket upon that portion which extends below the neck into the interior of the bottle, the upward pressure of the gas upon which serves to retain the part B in its proper position. Within the interior of the cylinder B operates a plunger, F, made hollow from its outer portion down near to its end, which is provided with a shouldered head, G. *F' F'* are vents or openings through the lower portion of the plunger F. H is a packing upon the interior of the cylinder B, into which tightly fits the head G of the plunger F.

The operation of this modification is as follows: While the liquid is retained in the bottle the pressure of the gas operates to hold the parts, as shown in the solid lines in Fig. 5. When it is desired to draw off the contained liquid downward pressure is exerted upon the plunger F, by which operation its head G is disengaged from its packing within the cylinder B, and its vents *f' f'* are brought below the packing H, and thus exposed to the interior of the bottle, and in this position the contained liquid escapes up through the cylinder B, and out of the hollow plunger F, through its vents *f' f'*. When the pressure is relieved the action of the gas will assist to return the parts to their original position, and close the bottle.

The cork or stopper proper B is not made to fit tightly in the neck of the bottle or vessel, and, were it not for the upward pressure of the gas upon the stationary washer or gasket D, and the discharge device, the entire corking and discharge device would drop down into the bottle.

What I claim as my invention is—

In combination with the cork or stopper, having the discharge, as herein described, the stationary gasket D, through which the cork passes, whereby the gas from the contained liquid of the bottle, by its upward pressure upon said stationary gasket D and discharge device, serves to close and keep closed the vessel or bottle A, substantially as and for the purposes herein described.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 23d day of November, 1874.

FREDERICK BARON MICHELL. [L. s.]

Witnesses:

JAMES EDGCOME RICHARDS,  
HENRY JOHN JENNINGS.