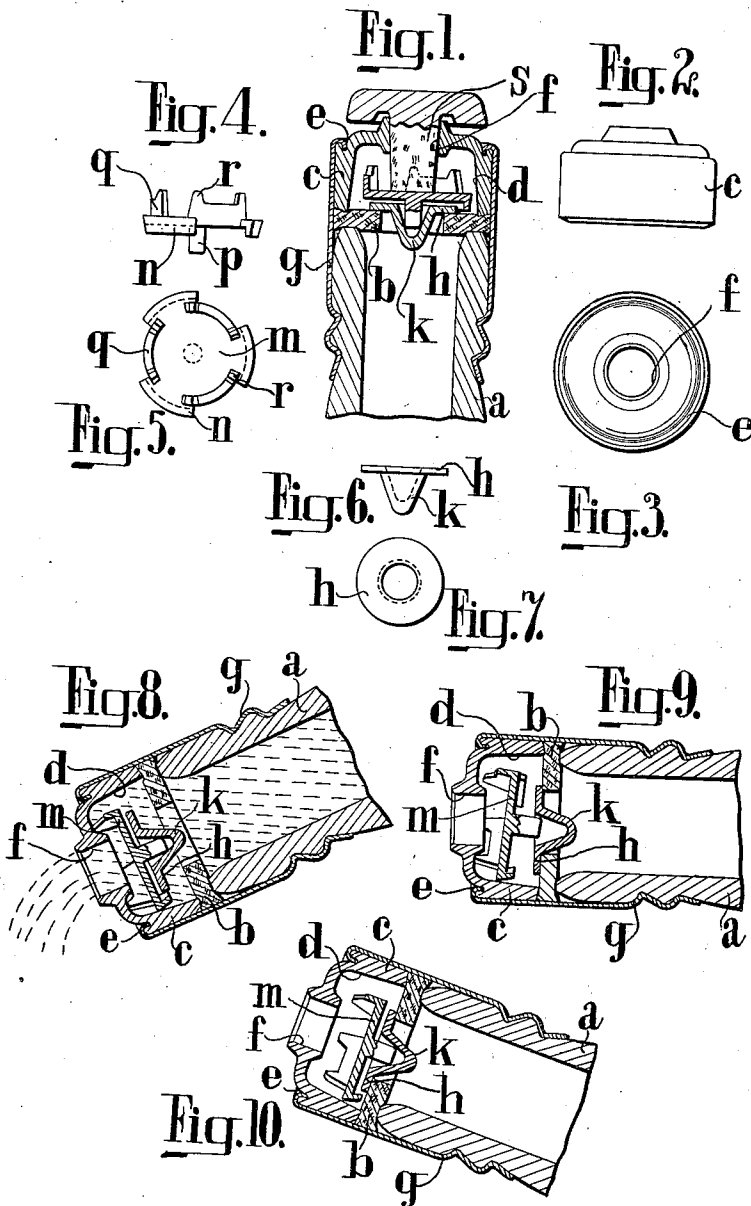


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 MEANS FOR STOPPERING BOTTLES.
 APPLICATION FILED DEC. 29, 1911.

1,087,349.

Patented Feb. 17, 1914.

2 SHEETS—SHEET 1.



Witnesses

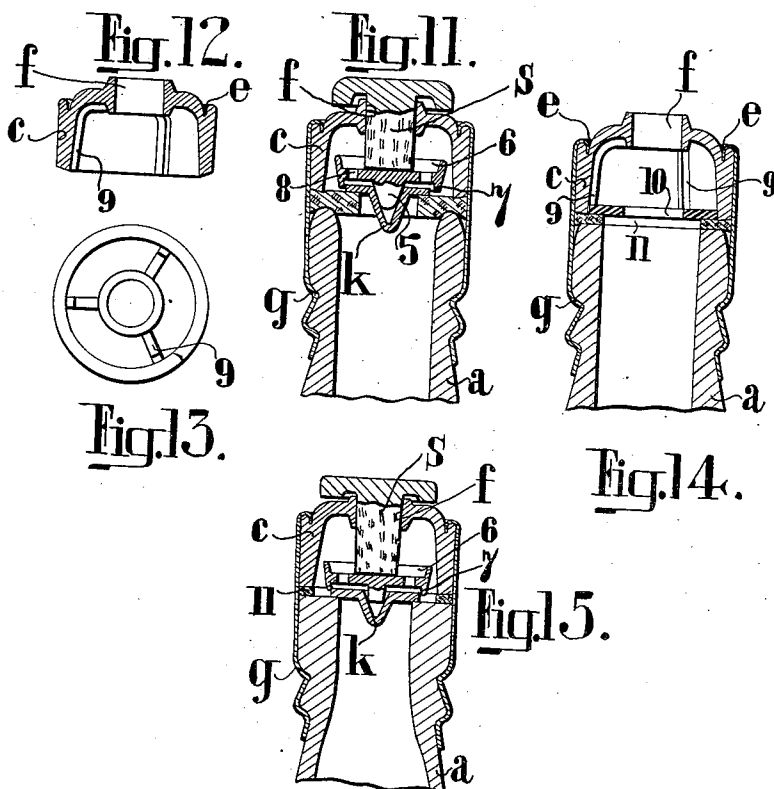
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UNITED STATES PATENT OFFICE.

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MEANS FOR STOPPERING BOTTLES.

1,087,349.

Specification of Letters Patent.

Patented Feb. 17, 1914.

Application filed December 29, 1911. Serial No. 668,455.

To all whom it may concern:

Be it known that I, HENRY CHARLES BRAUN, a subject of the King of England, residing at 236 Pentonville road, King's Cross, London, England, have invented certain new and useful Improvements in Means for Stoppering 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 appertains to make and use the same.

This invention relates to improvements in the stoppering of bottles and refers essentially to means of preventing or rendering difficult the fraudulent refilling of bottles, such as in the ordinary way contain whisky or other beverages or liquids.

The device is of the type of bottle stopper wherein a valve is raised by the liquid in the act of pouring out from the bottle, such valve in falling back on its seating closing an aperture against the return of the fluid and effectually preventing liquid entering the bottle from the outside, while the device remains intact on the neck of the bottle.

The present invention relates to an improved constructional form of closing devices of the above named type in which means are provided for rendering the valve portion of the device extremely sensitive so that it can be tilted into a position to open the pouring holes very easily when the bottle is tilted into a certain position, while at the same time the pouring aperture is immediately closed when the bottle is tipped back and again the device is so constructed that it is difficult to refill the bottle without removing the retaining metal capsule, which attaches the device to the neck of the bottle. And in order that this invention may be better understood I will now proceed to describe the same with reference to the drawings accompanying this specification which show various methods of carrying my said invention into effect.

Figure 1, is a vertical section of the stopper of the invention shown in application to the neck of a bottle, Fig. 2, is a view in elevation of the dome piece of the stopper,

Fig. 3, is a plan view thereof, Fig. 4, is a view in elevation of a disk forming part of the stopper, Fig. 5, is a plan view thereof, Fig. 6, is a view in elevation of the stopper valve, Fig. 7, is a plan view thereof, Figs. 8, 9, and 10, are central sectional views of the bottle stopper in application to a bottle neck hereinafter referred to, Fig. 11, is a similar view illustrating a further modified form of the invention, Figs. 12, and 13, are respectively a view in central section and plan of a modified form of dome-like cap, Fig. 14, is a view in central section of a modified form of bottle stopper in application to a bottle, and Fig. 15, is a view in central section illustrating a still further modified form of bottle stopper in application to a bottle.

Referring to Figs. 1 to 10 *a* is the top of the neck of the bottle, *b* is a valve seating of cork or other suitable material. *c* is a dome like chamber. The outer wall of the chamber is of about the same diameter as the top of the neck of the bottle and the inner wall *d* is slightly coned, with the apex toward the top of the bottle. The dome like piece *e* is provided with a recess *e* on the upper surface and has a pouring hole *f* at the top. *g* is a sleeve of hard metal which engages in the recess *e* and after the parts are in position as hereinafter explained the sleeve or capsule is spun on to the neck of the bottle, retaining the whole device in position. *h* is a valve of glass, porcelain or the like which is formed of a flange and a hollow conical piece *k* see Figs. 6 and 7. This coned valve fits with the point downward in the aperture within the seating *b*. *m* is a disk of porcelain or other suitable material which is provided on the under side at the edge with downward projections *n* which are adapted to come beyond the flange *h* of the conical valve. These outer portions *n* are slightly tapered toward the bottom of the bottle. *p* is a peg or projection at the middle of the underside of the disk *m* adapted to come within the conical portion *k* of the coned valve, in such a way that the flange *h* does not come in contact with the under portion of the disk *m*. Upon the upper face of the

disk *m* is an upwardly projecting wall *q* which is cut away at intervals, and provided with upward projections *r*. The disk *m* and associated parts are shown at Figs. 4 and 5.

5 *s* is a stopper of cork or any other suitable material which enters the hole and also presses upon the top of the disk *m* and keeps all the parts in position when the bottle is closed.

10 When the bottle has been filled with the liquid in the first instance it can be closed by means of the device with great expedition as it is simply necessary to take the sleeve which has been fixed in position on the

15 dome-like piece *c* and insert the other parts including the disk *m*, the coned valve *h—k* and the perforated washer or valve seating *b* which fits tightly within the sleeve and keeps the other parts in position, and place

20 the sleeve over the neck of the bottle until the top of the neck comes against the underside of the cork washer when the sleeve is spun into position over the neck by means of a suitable spinning machine, this holding

25 the entire device firmly in position, and that without the necessity of assembling a number of loose parts on the bottle. When it is desired to pour the liquid from the bottle it is simply necessary to withdraw the cork

30 or stopper *s* and then when the bottle is tilted as shown at Fig. 8 the disk *m* and the valve *h—k* drop downward and outwardly and the liquid is free to pass through the hole in the seating *b'*, through the space between the projections *n* and *q* and then out

35 through the pouring hole *f*. On the other hand when the bottle approaches the horizontal position the disk *m* which is resting on its edge tips over as the conical surfaces on the inside of the piece *c* and the outside of the projections *n* are oppositely directed. This causes the conical portion *k* to slip over the pin *p* until the flange *h* rests on the top of the cork washer *b*, see Fig. 9 thereby preventing the passage of liquid to or from the

40 bottle. This construction is particularly designed for excluding the possibility of refilling the bottle as the result of the pressure of liquid outside or above the valve would simply be to press the coned valve *h—k* more firmly upon its seating. It is also impossible to reach the coned valve *h—k* by means of a wire inserted through the pouring orifice, as the disk *a* and its parts prevent this effectually.

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It will be noticed from Fig. 10 that when a bottle is tilted beyond the horizontal position the disk *m* falls into its original position with the object and for the purpose before described.

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Referring to the modified form of the device shown at Fig. 11, here the construction is practically identical with that described with reference to Figs. 1 to 10, except that

in this case in place of the peg *p* I provide a conical projection 5 adapted to fit within the hollow cone *k*, and that the disk *m* is provided with a complete rim 6 at the upper edge and with a smaller rim 7 at the lower edge, the rims 6 and 7 being coned with the apex toward the bottom of the bottle as shown. Perforations 8 are also provided passing through the disk *m*. The action is similar to that described with regard to Figs. 1 to 10 except that the liquid passes through the apertures 8.

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Figs. 12 and 13 show a modified construction of the dome-like cap *c*. In this case the cap is provided with a number of rib portions 9. This allows extra freedom for the liquid to pass around the disk *m* through the spaces coming between the ribs.

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Referring to the form of the device shown at Fig. 14, in this case the construction is similar to that described with reference to Fig. 11, but the ribs 9 are in this case not brought down to the bottom of the dome shaped cap *c*. As will be seen from the figure these ribs 9 stop at some distance from the bottom so as to leave a channel around the bottom of the cap *c* in which is placed a perforated washer 10 preferably of porcelain or the like. 11 is a cork washer interposed between the bottom of the dome-shaped cap *c* and the top of the neck of the bottle.

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Referring to Fig. 15 in this case the top of the neck *a* forms a flat seating, upon which the flange of the valve *h—k* rests. 11 is a cork washer which is interposed between the bottom of the cap *c* and the top of the neck of the bottle. The remainder of the details of construction are the same.

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What I claim as my invention and desire to secure by Letters Patent of the United States of America is:—

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1. The combination with a bottle of a valve seating at the bottle neck top, a tiltable valve provided with a depending recessed portion accommodated by said valve seating, a generally dish-shaped tiltable disk surmounting said valve said disk being provided with a depending projection normally seated in the recessed portion of said valve, a dome piece mounted upon said valve seating and provided with a pouring aperture said dome being further provided interiorly with vertically disposed ribs and a sleeve spun over said dome piece and bottle neck for retaining the parts in position.

110 115 120

2. A device for stoppering bottles comprising the combination of a valve seating at the top of the bottle, a valve with a projecting portion adapted to project into the hole in the seating and provided on the other side with a cavity, a tiltable baffling disk above the valve provided with a projecting portion adapted to come within the

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cavity in the valve, a housing adapted to cover in the baffling disk and the valve and provided with a pouring aperture, means for enabling the liquid when the bottle is in
5 the tilted position to pass the valve and baffling disk and emerge through the pouring aperture, and a sleeve of hard metal spun over the housing and the neck of the bottle

for retaining the whole device in position substantially as described.

In testimony whereof, I affix my signature, in presence of two witnesses.

HENRY CHARLES BRAUN.

Witnesses:

C. P. LIDDON,
R. WILLIAMS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."