

No. 726,039.

PATENTED APR. 21, 1903.

J. F. FITZSIMMONS.
STOPPER AND FITTING FOR BOTTLES.

APPLICATION FILED JULY 14, 1902.

NO MODEL.

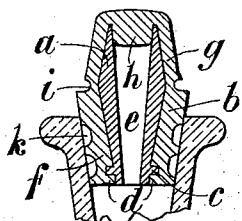


Fig. 1.

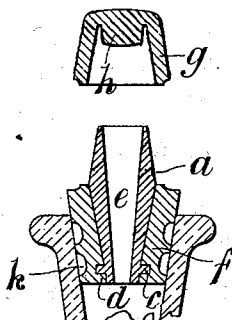


Fig. 2.

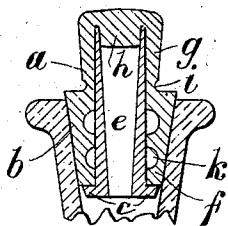


Fig. 3.

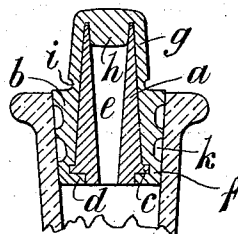


Fig. 4.

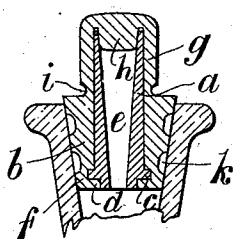


Fig. 5.

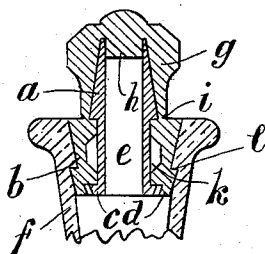


Fig. 6

Witnesses.
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UNITED STATES PATENT OFFICE.

JOHN FRANKLIN FITZSIMMONS, OF HILLSDALE, MICHIGAN, ASSIGNOR OF
ONE-HALF TO P. & J. ARNOLD, OF LONDON, ENGLAND.

STOPPER AND FITTING FOR BOTTLES.

SPECIFICATION forming part of Letters Patent No. 726,039, dated April 21, 1903.

Application filed July 14, 1902. Serial No. 115,510. (No model.)

To all whom it may concern:

Be it known that I, JOHN FRANKLIN FITZSIMMONS, a citizen of the United States, residing at Hillsdale, in the county of Hillsdale and State of Michigan, have invented certain new and useful Improvements in Connection with Stoppers and Fittings for Bottles, (for which I have made application for Letters Patent in Great Britain, No. 2,662, dated the 1st day of February, 1902,) of which the following is a specification.

This invention relates to improvements in connection with stoppers and fittings for bottles for containing ink and for other purposes, the object being to provide a stopper which shall have in connection with it a pouring-out device such as will enable the liquid to be readily and safely poured from the vessel when a portion of the stopper has been removed and such portion that has been removed being suitable for a covering or close-fitting cap for protecting the open mouth of the pouring-out portion of my device.

In the accompanying drawings, Figure 1 is a sectional elevation of one form of the improved stopper intact; Fig. 2, a similar view of the same stopper, but with the upper portion of the cap removed; and Figs. 3 to 6 are sectional elevations illustrating various modifications of the invention.

In carrying my invention into effect in one convenient manner in making a combination stopper and pouring-out plug for use in connection with ink and other liquid containing bottles, as illustrated in Figs. 1 and 2, I make my stopper of two portions *a b*, one fitting within the other, the interior portion or thimble *a* being suitable as a pouring-out funnel or plug-like attachment, while the containing or outer portion *b* serves as a plug or stopper for filling the neck or mouth of the bottle.

I make the interior portion or pouring-out device or thimble *a* of xylonite, porcelain, wood, or other suitable material, the upper end being preferably of taper form and having its extreme end of thin or small dimensions. The lower portion I make, preferably, circular, with an end flange or collar *c* for abutting against the recess or end *d* of the carrying plug or stopper *b*. Through the center of

the pouring-out funnel or plug portion *a* I form a tapered hole or holes *e*, the inner diameter within the interior of the bottle-neck being smaller than the outer or external pouring-out end of the hole or holes, as shown, thus allowing of the passage of air and preventing the entire bore from being filled with the outflowing liquid.

The external carrying plug or stopper portion *b* of my combination device I make of india-rubber or like suitable material, with the lower end *f* tapered or of a form to suit the interior of the neck of the bottle, while the upper or outer projecting portion *g* above the portion *f* I make with its end solid and with a projecting internal central piece *h*, which fits within the outer portion of the pouring-out funnel *a*. At the lower end of the projecting portion of the plug immediately adjacent to the upper portion of the conical stopper I make a ring-like recess or undercut *i* to serve as a guide for the insertion of a knife or other cutting device for enabling the outer projecting portion *g* to be cut off, as shown in Fig. 2, when liquid is to be first withdrawn from the bottle or vessel. When such upper portion is thus removed from the lower plug portion, I utilize it as a loose cap for closing or covering the open mouth of the projecting pouring-out device *a*, and thus to protect the contents of the bottle when not in use.

I prefer to form the interior of my plug with its upper portion *g* tapered to suit the configuration of the outer end of the pouring-out funnel *a*, while the lower portion *f* of the plug, which enters within the neck of the bottle, I make with recesses or grooves *k*, which can be either in the exterior, as shown in Figs. 1, 2, 4, and 5, or in the interior, as shown in Figs. 3 and 6, of the body of the lower portion of the plug, so that when the material is compressed there is provided sufficient space for such material to be compressed within, thus permitting the stopper to automatically accommodate itself to the size of the bottle-neck to which it is to be introduced. The interior of the plug, which projects beyond the recesses or grooves within the plug, I make to fit or bind upon the stem-like portion *a* of the pouring-out funnel, while the lower or end

flange or collar *c* is also pressed upon by the rubber or like elastic material when the stopper is pressed within the neck of the bottle. It is preferred to form a shoulder or ledge *l* around the tapering portion of the plug or stopper *b* to engage with a corresponding shoulder or ledge within the neck of the bottle or vessel when it can be so constructed. The shoulder or ledge *l* should be made with its lower face or edge parallel with the bottom of the plug to render the corking more secure.

I do not limit the application of my invention to any particular shape of external cap which is formed upon the stem-like portion of the stopper nor to the shape and configuration of the internal funnel carried by such stopper; but I modify the form of the pouring-out funnel and the method of securing it within the interior of the stopper portion to suit the size and form of the stopper and the materials from which it is to be made and the purposes for which such is required. For instance, the interior funnel *a* may be parallel or of a uniform diameter or tapered throughout its length on its exterior, as shown in Figs. 3 and 5, and in Fig. 4, respectively, and in Fig. 3 the collar or flange *c* is at the end of the thimble or funnel and projects under the lower face of the portion *f* of the plug.

Fig. 6 illustrates a further modification and the preferred form of construction for the stoppers and fitters. The thimble or funnel has the collar or flange *c* at its lower end to enter a recess in the lower end of the portion *f* of the plug, and the body of the thimble is formed with a lower portion having a recess around its exterior and an upper portion having a tapered exterior. The plug has its lower portion inwardly projected to enter the recess in the body of the funnel or thimble and provided with a circumferential groove or recess *k* on its interior, and the exterior of the portion *f* of the plug has a shoulder or ledge *l* to engage a corresponding shoulder or ledge in the mouth of the neck of the bottle. The removable cap of the plug has at the juncture thereof with the lower portion or body of the plug a slight incut *i* to indicate the point of severance of the cap or cover from the portion of the plug which remains in the mouth of the bottle.

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

1. An improved stopper for bottles or vessels intended to contain liquids required to be poured therefrom in small quantities, comprising in combination an elastic stopper for insertion in the bottle-neck and a thimble or funnel of comparatively hard material having its pouring end completely inclosed within the stopper, substantially as and for the purposes described.

2. An improved stopper for bottles or vessels intended to contain liquids required to be poured therefrom in small quantities, com-

prising in combination an elastic stopper for insertion in the bottle-neck and a thimble or funnel of comparatively hard material having its pouring end completely inclosed within the stopper, the bore of which thimble is of increasing taper from the inner to the outer end, substantially as and for the purposes described.

3. An improved stopper for bottles or vessels intended to contain liquids required to be poured therefrom in small quantities, comprising in combination an elastic stopper for insertion in the bottle-neck, an internal thimble or funnel of comparatively hard material, completely inclosed within the stopper, the upper part of which may be severed and removed to expose the end of the funnel and replaced to form a convenient cap, substantially as described.

4. An improved stopper for bottles or vessels intended to contain liquids required to be poured therefrom in small quantities, comprising in combination an elastic stopper for insertion in the bottle-neck, an internal thimble or funnel of comparatively hard material completely inclosed within the stopper the stopper having notches or grooves in its upper part to facilitate the severance or removal of such upper part to expose the end of the funnel and replaced to form a convenient cap, substantially as described.

5. An improved stopper for bottles or vessels intended to contain liquids required to be poured therefrom in small quantities, comprising in combination an elastic stopper for insertion in the bottle-neck, an internal thimble or funnel of hard material completely inclosed within the stopper, a plug or projection on the upper interior portion of the stopper fitting within the funnel and notches or grooves in the upper part of the stopper to facilitate the severance and removal of the upper part to expose the end of the funnel and form a loose cap therefor, substantially as described.

6. An improved stopper for bottles or vessels intended to contain liquids required to be poured therefrom in small quantities, comprising in combination an elastic stopper for insertion in the bottle-neck, an internal thimble or funnel of hard material completely inclosed within the stopper, a flange or flanges on the funnel engaging with recesses in the stopper, a plug or projection on the upper interior portion of the stopper fitting within the funnel and notches or grooves in the upper part of the stopper to facilitate the severance and removal of the upper part to expose the end of the funnel and form a loose cap therefor substantially as described.

7. An improved stopper for bottles or vessels intended to contain liquids required to be poured therefrom in small quantities, comprising in combination an elastic stopper for insertion in the bottle-neck, an internal thimble or funnel of hard material inclosed within the stopper and formed with a bore of out-

wardly-increasing diameter, a flange on the funnel engaging with the recess in the stopper, and notches or grooves in the upper portion of the stopper to facilitate severance and removal of the upper part, substantially as and for the purposes described.

8. An improved stopper for bottles or vessels intended to contain liquids required to be poured therefrom in small quantities, comprising in combination an elastic stopper for insertion within the bottle-neck, an internal lining of hard material the interior of which is bored with an outwardly-increasing taper the exterior being of similar or reverse taper, a flange on the lower end of the funnel, an internal plug on the upper portion of the stopper fitting the funnel and notches or grooves in the upper portion of the stopper to facilitate the severance and removal of the upper portion, substantially as and for the purposes described.

9. An improved stopper for bottles or vessels intended to contain liquids required to be poured therefrom in small quantities, comprising in combination an elastic stopper, an internal lining or funnel of hard material completely inclosed in the stopper, grooves

or notches in the upper part of the stopper to facilitate removal of the upper part, and means for allowing the stopper to be inserted in varying-sized bottle-necks, consisting of grooves or recesses in the lower part of the stopper, substantially as described.

10. An improved stopper for bottles or vessels, comprising in combination an elastic stopper, an internal funnel of hard material completely inclosed in the stopper and a groove or notch in the upper part of the stopper to facilitate the removal of the upper part, recesses or grooves in the lower part of the stopper to provide space for the elastic material to be compressed within and to automatically accommodate itself to bottle-necks of varying sizes, and a groove or grooves around the lower part of the stopper to engage with a projection or projections within the bottle-necks to render the corking more secure, substantially as described.

In witness whereof I have hereunto set my hand in presence of two witnesses.

JOHN FRANKLIN FITZSIMMONS.

Witnesses:

THOMAS A. BANNING,
OSCAR W. BOND.