E. J. BROSNAN.

BOTTLE STOPPER AND DROPPER.

APPLICATION FILED JULY 5, 1916.

1,204,125. Patented Nov. 7, 1916.

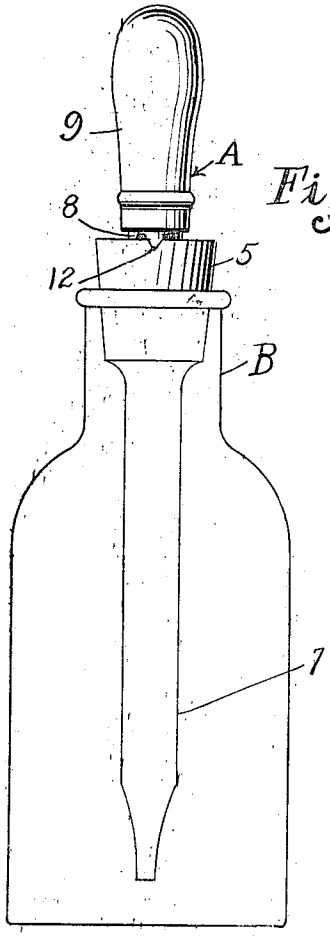


Fig. 1.

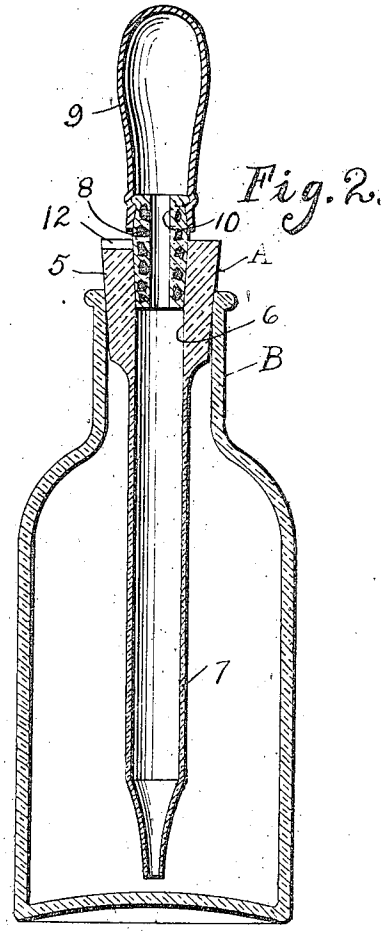


Fig. 2.

Fig. 3.

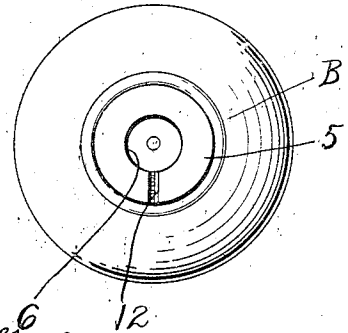
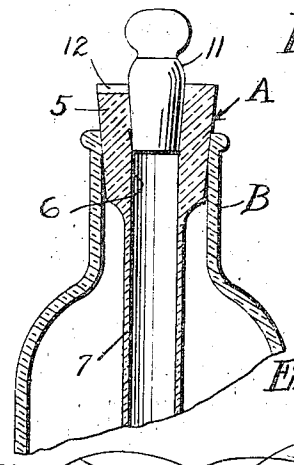


Fig. 4.



Witnesses
Arthur K. Moore
C. C. Chandlee.

Inventor
E. J. Brosnan

By Chandlee & Chandlee

Attorneys

UNITED STATES PATENT OFFICE

EDWARD J. BROSNAN, OF TROY, NEW YORK.

BOTTLE-STOPPER AND DROPPER.

1,204,125. Specification of Letters Patent. Patented Nov. 7, 1916.

Application filed July 5, 1916. Serial No. 107,598.

To all whom it may concern:

Be it known that I, EDWARD J. BROSNAN, a citizen of the United States, residing at Troy, in the county of Rensselaer, State of New York, have invented certain new and useful Improvements in Bottle-Stoppers and Droppers; 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 bottle closures, and is directed more particularly to a dropping stopper of improved and novel construction.

An object of the present invention resides in the provision of a bottle closure embodying novel means by which a quantity of liquid may be withdrawn from the bottle and discharged drop by drop.

A further object of the invention is to provide a bottle closure of the above nature in connection with which a collapsible bulb may be employed for drawing the liquid into the dropping tube and manipulated to discharge the same.

With the above and other objects of similar nature in view the invention consists in the construction, combination and arrangement of parts set forth in and falling within the scope of the appended claim.

In the drawing:—Figure 1 is a side elevation of the improved closure applied to a bottle: Fig. 2 is a vertical sectional view therethrough: Fig. 3 is a top plan view with the plug and bulb removed, and Fig. 4 is a fragmental sectional view with the plug and bulb removed and a closure substituted therefor.

Referring now more particularly to the drawing, the invention is designated generally at A and is illustrated as associated with the neck B of a bottle of conventional type.

Specifically the closure A comprises a stopper 5 preferably of glass ground to fit snugly in the bottle neck B. The stopper 5 is provided with a central passage 6 extending longitudinally therethrough from end to end and carried by the stopper is a dropping tube 7 adapted when not in use to extend within the bottle. This tube is preferably blown or otherwise formed in conjunction with the stopper 5 and is arranged to communicate with one end of the passage 6.

Removably engaged in the other end of the passage 6 and fitted snugly therein is a plug 8 the upper end of which extends a short distance beyond the stopper and has engaged thereon a collapsible bulb 9 similar to those found in medicine droppers or the like. Communication between the dropping tube 7 and bulb 9 is established by providing in the plug 8 an aperture 10. Thus when the bulb is collapsed and then released, a portion of the contents of the bottle will be withdrawn into the tube 7 and may be discharged therefrom drop by drop or otherwise by compressing the bulb, it being of course understood that the device has in the meantime been removed from the bottle neck.

If the bulb should at any time become unserviceable or should it not be desirable to employ the same in connection with a bottle containing a liquid which might have a detrimental effect upon the rubber from which it is formed, the same may be entirely dispensed with by removing the plug 8 from the stopper, and a closure such as shown at 11 in Fig. 4 substituted to prevent evaporation of the bottle's contents. However even should the bulb 9 be dispensed with, the device may still be employed as a dropper by merely removing the closure 11, and, with the finger closing the entrance to the passage 6, withdrawing the stopper from the bottle neck. It is of course understood that by excluding the air from the passage 6, the liquid contained in the tube will remain therein until air is admitted to displace the liquid. This is effected by merely relieving the pressure upon the finger positioned over the passage 6, the air entering said passage and forcing the liquid outwardly through the tube 7 either drop by drop or otherwise as desired.

To assist in producing an even or constant inflow of air into the passage 6, the stopper 5 is provided in its top face with a transverse groove 12 the inner end of which communicates with the passage. Thus when pressure upon the finger is relieved a constant supply of air will be admitted through said groove to the passage, thereby permitting the discharge of liquid from the tube to be more readily controlled.

What is claimed is:—

The combination with a bottle-stopper having a passage therethrough, and a drop-

ping tube forming a continuation of the stopper and communicating with one end of the passage, of an apertured plug inserted in the other end of the passage, and a collapsible bulb carried by the plug, said plug and bulb being removable from the passage for the substitution of a closure therefor.

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

EDWARD J. BROSNAN.

Witnesses:
G. W. JEWETT,
THOS. H. BURNS.