V. B. HENRY.

DROPPING STOPPER FOR MEDICINE BOTTLES.

APPLICATION FILED MAY 26, 1916.

1,313,987. Patented Aug. 26, 1919.

Fig. 1.

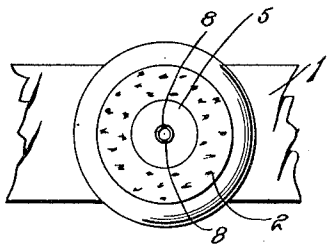


Fig. 2.

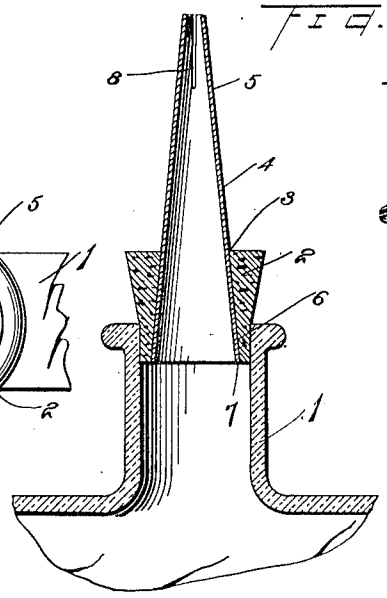


Fig. 3.



Fig. 4.

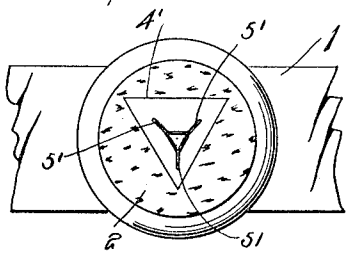


Fig. 5.

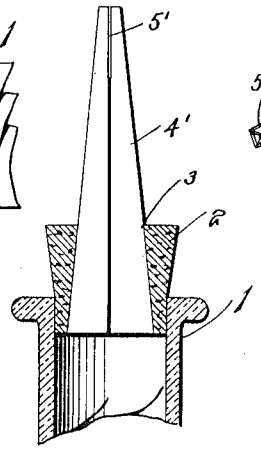
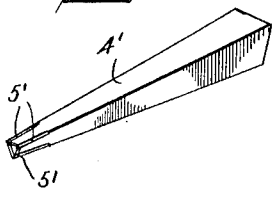


Fig. 6.



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UNITED STATES PATENT OFFICE.

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DROPPING-STOPPER FOR MEDICINE-BOTTLES.

1,313,987. Specification of Letters Patent. Patented Aug. 26, 1919.

Application filed May 26, 1916. Serial No. 100,110.

To all whom it may concern:

Be it known that I, VIRGINIA B. HENRY, a citizen of the United States, residing at Montgomery, in the county of Montgomery and State of Alabama, have invented certain new and useful Improvements in Dropping-Stoppers for Medicine-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 dropping stoppers or tubes for medicine bottles.

The object of this invention is to provide a dropping tube which may be permanently secured in an ordinary bottle stopper and consists of a metal tube being so constructed at one end that the dropping of the medicine may be regulated as to the size of the drops and stopped at the will of the user.

A further object of this invention is to provide a dropping tube which has a compressible discharge end wherein the flow of the medicine may be controlled and stopped at the will of the user without reverting the bottle back to its normal position.

A further object of this invention is to provide a dropping tube of this character which will be a simple, practical and comparatively inexpensive structure and which may be easily inserted through an ordinary bottle cork when in use.

With these and other objects in view the invention consists in the construction and novel combination and arrangement of parts hereinafter described, illustrated in the accompanying drawings and pointed out in the claims hereto appended.

In the drawings:

Figure 1 is a top plan view of my improved stopper made in accordance with my invention,

Fig. 2 is a vertical sectional view showing the same applied to a bottle stopper in a bottle,

Fig. 3 is a perspective view of the improved dropping tube,

Fig. 4 is a top plan view of the modified form of my invention,

Fig. 5 is a vertical sectional view of the same, and

Fig. 6 is a perspective view of a modified form of the dropping tube.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

Referring particularly to the drawings, the numeral 1 designates the neck of a bottle, having the usual cork or stopper 2 inserted therein. The stopper or cork may be of any suitable material such as cork, rubber or the like and has a tapering opening 3 therein for the passage of my improved dropping tube 4.

The dropping tube 4 is formed of metal or any other suitable material such as aluminum or the like, and as shown in my preferred form is conical in shape presenting the enlarged end 5 and the compressible lower end 6.

The tube 4 is inserted in the tapered opening 3 of the stopper and its enlarged end remains flush with the inner face of the cork as at 7 to permit the ready and easy flow of the contents of the bottle into the tube.

The outer compressible end 6 of the dropper tube extends beyond the outer face of the stopper or cork and is provided at diametrically opposite points with slots 8 which permit the compressing of the discharge end of the tube for closing the passage of the tube and regulate the flow of the medicine through the tube and also governing the size of the drops to eliminate the fear of taking an overdose of medicine when in use. The slots 8 also provide means for admitting air to the outer reduced end portion of the tube, the material between these slots forming, in effect, liquid retaining fingers which serve to prevent the liquid from pouring from the tube in a continuous stream, the slots permitting air to flow into the tube so as to cause the liquid to flow therefrom in well defined globules or drops. As the air will flow through the slots 8 for the full length thereof, the liquid contained within the outer reduced end of the tube between the outer end thereof and the inner ends of slots 8 will be separated from the column of liquid in the body of the tube, each of these portions thus separated from the column of liquid constituting a drop. In this manner, the slots 8 serve to cause the liquid to drop from the tube in drops of predetermined and uniform size thus insuring accuracy in measuring the medicine or other liquid to be used.

Referring to Figs. 3, 4, and 5, wherein I show the modified form of my dropping tube the operation of the same is identical with the preferred form only the difference in configuration is changed. The tube here shown 4' is substantially triangular shaped in cross section and is inserted in the cork in the usual manner, and the sides of the tube being embedded in the cork preventing any fear of rotation or movement of the same.

The outer compressible end of the tube 4' is provided with slots 5' which permits the compressing of the same for closing the end of the tube to regulate the size of the drops and the flow of the medicine through the tube from the bottle.

In use: the tube is first inserted through the ordinary cork of a bottle and has its inner end flush with the inner face of the cork to permit the ready flowing of the contents of the bottle into the tube, the bottle is then tilted or inverted and the user's hand being on the compressible end of the tube merely has to apply pressure thereupon for closing the passage to regulate the size of the drops or entirely stop the flow of the same.

It being understood that various changes may be made in the details of construction without departing from the spirit and scope of the invention as defined in the appended claims.

What is claimed is:

1. A medicine dropper comprising a tube open at both ends and provided adjacent its outlet end with openings for permitting entry of air into the interior of the tube above the outlet end thereof for causing separation from a column of liquid contained therein of portions of said column to form drops of predetermined size.

2. A medicine dropper comprising a tapering tube provided at its smaller end with openings to permit entry of air into the tube at points above the end thereof so as to separate from a column of liquid within the tube portions thereof to form drops of predetermined size.

3. A medicine dropper comprising a tapering tube provided with longitudinally disposed slots extending from its smaller end to form spaced retaining fingers for supporting the lower portion of a column of liquid within the tube, the slots serving to permit entry of air into the tube above the smaller end thereof so as to cause separation of the lower portion of a column of liquid within the tube so as to form drops of predetermined size.

4. A medicine dropper comprising a tapering tube of resilient material provided with longitudinally disposed slots extending from the smaller end thereof so as to form readily flexible retaining fingers for supporting the lower portion of a column of liquid within the tube, the slots serving to permit entry of air into the tube for separating the lower portion of liquid from the column to form drops of predetermined size, said fingers being readily compressible so as to stop flow of liquid from the tube when desired.

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

MRS. VIRGINIA B. HENRY.

Witnesses:
I. L. HAY,
R. D. RICHARDS.