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1,650,967

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CLOSURE FOR COLLAPSIBLE TUBES

Original Filed July 15, 1926

FIG. 1

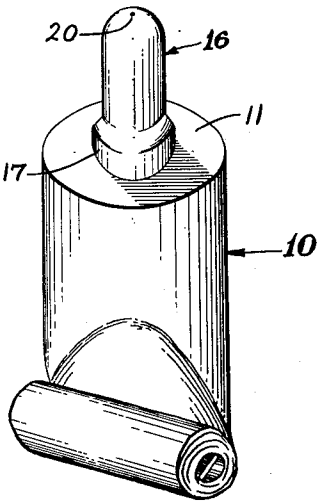


FIG. 2

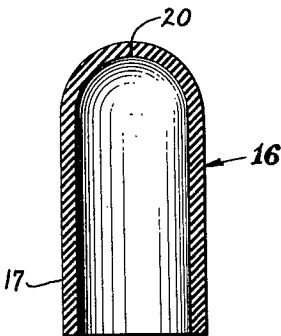


FIG. 3

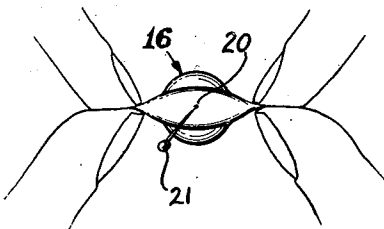
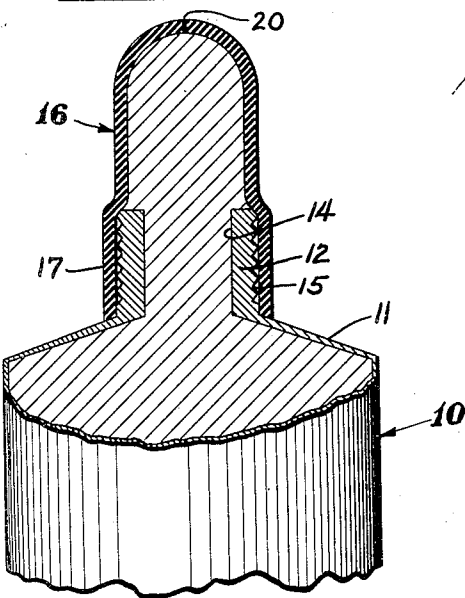


FIG. 4



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CLOSURE FOR COLLAPSIBLE TUBES.

Original application filed July 15, 1926, Serial No. 122,565. Divided and this application filed June 8, 1927. Serial No. 197,363.

This invention relates to closures for collapsible tubes.

The general object of the invention is to provide a valved closure for collapsible tubes wherein means is provided for assuring that the valve will remain closed when pressure is removed from the tube.

Other objects of the invention will be apparent from the following description taken in connection with the accompanying drawings, wherein:

Fig. 1 is a perspective view of a collapsible tube having my dispensing cap thereon;

Fig. 2 is a central sectional view through the cap shown in Fig. 1;

Fig. 3 is an enlarged plan view looking at the end of the closure and showing the manner of puncturing the closure, and

Fig. 4 is a sectional view through the closure in position.

This application is a division of my prior application Serial Number 122,565, filed July 15, 1926.

Referring to the drawing by reference characters, I have indicated a collapsible tube generally at 10. This tube may contain dentifrice, paste, or other material and the body of the tube is preferably flexible while the end portion 11 is more or less stiff. This end portion 11 is provided with a threaded neck 12 which has a dispensing aperture 14 therein.

The neck 12 is shown as threaded as at 15 although it will be understood that means other than the threads may be used for securing the closure indicated generally at 16 on the neck.

This closure 16 as shown is preferably made of rubber which is shown as of uniform thickness and is provided with a skirt portion 17 which engages the threads 15.

The closure is provided with a dispensing hole 20. This hole 20 is made while the end of the cap is stretched or put under tension as shown in Fig. 3, by means of a pointed instrument shown at 21. After piercing the implement 21 is removed and when the pressure is released the hole 20 at once becomes closed.

When the closure is arranged on the neck 12 of the tube and sufficient pressure is applied the closure will stretch so that the contents of the tube will be dispensed. When

pressure is removed the hole 20 automatically closes.

It will be understood that the hole 20 may be made after the closure is in place and tension may be applied as shown in Fig. 3. If desired tension may be applied by squeezing the tube 10 to thereby place tension on the closure 16 and the closure may be pierced while it is under this tension due to pressure on the tube 10.

Having thus described my invention, what I claim is:

1. In dispensing, the combination of a collapsible tube having a discharge neck and a resilient closure for said neck and forming both a sealed tube closure and holder, said closure having a wall continuous normally in the absence of pressure, said wall having an aperture therethrough produced by piercing the closure while the material of the wall is under tension, whereby the natural contractive effort of the resilient closure is utilized to effectually seal said aperture and whereby when material is discharged therethrough and the expelling pressure is released, the contractive action in closing the aperture becomes effective to cut off the material.

2. In paste dispensing, the combination with a collapsible paste tube having a discharge neck, of an elastic rubber nipple engaged over said neck and forming both a sealed tube closure and paste holder, said nipple having a highly elastic thin wall of substantially the same thickness throughout and continuous and imperforate normally in the absence of pressure, said wall having a point of cleavage therethrough produced by a fine perforation formed therein while the material of the wall is stretched in an attenuated condition, whereby the natural contractive effort of the rubber is utilized to effectually seal said perforation and whereby when paste is discharged therethrough and the expelling pressure is released, the contractive action in closing the perforation becomes effective to cut off the paste and to squeeze the residual paste out of the closing opening.

In testimony whereof, I hereunto affix my signature.

ARTHUR E. SMITH.