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L. PAPARELLO

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CLOSURE FOR COLLAPSIBLE TUBES

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FIG. 1.

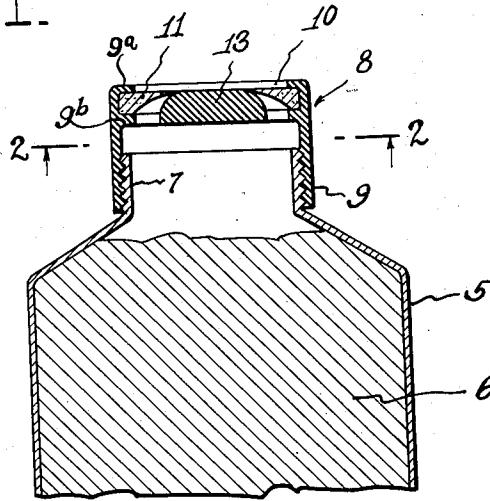


FIG. 2.

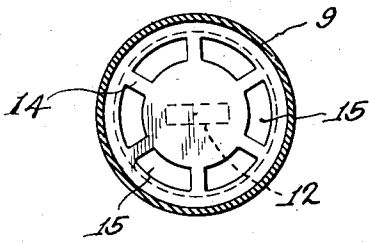


FIG. 3.

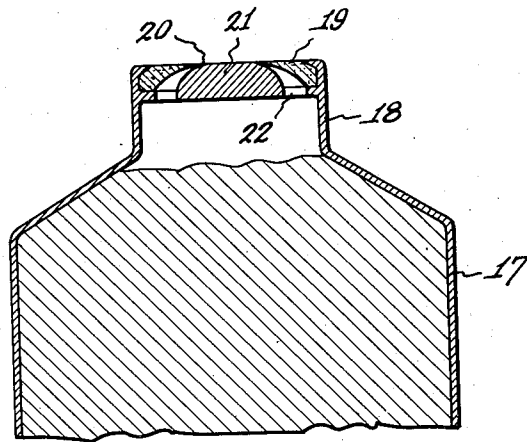
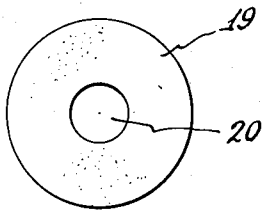


FIG. 4.



LOUIS PAPARELLO
INVENTOR

BY Victor J. Evans & Co.
ATTORNEY

UNITED STATES PATENT OFFICE

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CLOSURE FOR COLLAPSIBLE TUBES

Louis Paparello, Brooklyn, N. Y., assignor of
forty-five per cent to William F. Gilbert,
Brooklyn, N. Y.

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1 Claim. (Cl. 221—60)

This invention relates to closures for collapsible tubes.

One of the objects of the invention is the provision of a collapsible tube closure embodying a self-closing valve adapted to be opened by the pressure against it of material being extruded from the collapsible tube.

Other objects will be appreciated from a reading of the following specification.

The invention will be fully and comprehensively understood from a consideration of the following detailed description when read in connection with the accompanying drawing which forms part of the application, with the understanding, however, that the improvement is capable of extended application and is not confined to the exact showing of the drawing nor to the precise construction described and, therefore, such changes and modifications may be made therein as do not affect the spirit of the invention nor exceed the scope thereof as expressed in the appended claim.

In the drawing:

Fig. 1 is a fragmentary longitudinal section of a collapsible tube provided with a closure of my invention.

Fig. 2 is a section on line 2—2 of Fig. 1.

Fig. 3 is a section somewhat similar to Fig. 1 but showing a modified form of my invention; and

Fig. 4 is a plan view of the flexible disc employed in the construction of the form of the invention shown in Fig. 3.

Referring to the drawing for a more detailed description thereof, and at first to Figs. 1 and 2, numeral 5 indicates a collapsible tube containing a body of paste 6. The tube has a neck 7 threaded externally. A cap or closure 8 threadedly engages the neck of the tube and the same comprises a shell 9 having a top opening 10. A resilient transverse member 11 of rubber or other suitable material is held in the shell adjacent the top thereof between upper and lower annular internal flanges 9a and 9b, respectively, formed as part of said shell, and said member has a central opening 12

oblong in form, which is normally closed by means of a member or button 13, which is of smaller diameter than the interior of the mentioned shell and which is held to the shell by means of spaced radial members 14. The spaces between the radial members 14 are designated by the numeral 15 and through these spaces the paste passes. The paste, in the process of extrusion, after passing through the spaces 15, is forced against the rubber diaphragm 11, whereby the diaphragm yields and allows the paste to be extruded through the opening 12. The resiliency of the rubber diaphragm causes it to return to its position on the button-shaped member 13 when the extruding pressure on the tube is released.

Referring now to Figs. 3 and 4, the numeral 17 indicates a collapsible tube having a neck 18, in the top of which is held a resilient transverse rubber member or diaphragm 11, shown in Fig. 1, but having a circular central aperture 20 in lieu of the oblong aperture 12 shown in the diaphragm 11 in Fig. 1. The aperture 20 is normally closed due to the fact that the diaphragm rests on a button-shaped member 21 similar to the member 13 of Fig. 1. The button 21 is held in position by means of spaced radial arms 22 which are integral with the button and with the tube shell.

It will be appreciated from the foregoing description that I have provided constructions adapted to fulfill the objects of the invention.

What is claimed is:

Construction for collapsible tubes comprising a shell portion formed with upper and lower annular internal flanges, a yieldable rubber disk held peripherally between said flanges and having a central outlet orifice, a button having a substantially flat top on which said disk normally rests and by which said orifice is closed, and spaced radial arms joining said button with the lower of said flanges, said disk increasing in thickness from its center to its periphery.

LOUIS PAPARELLO.