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F. GILL

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CLOSURE MEANS FOR COLLAPSIBLE TUBES

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FIG. 1

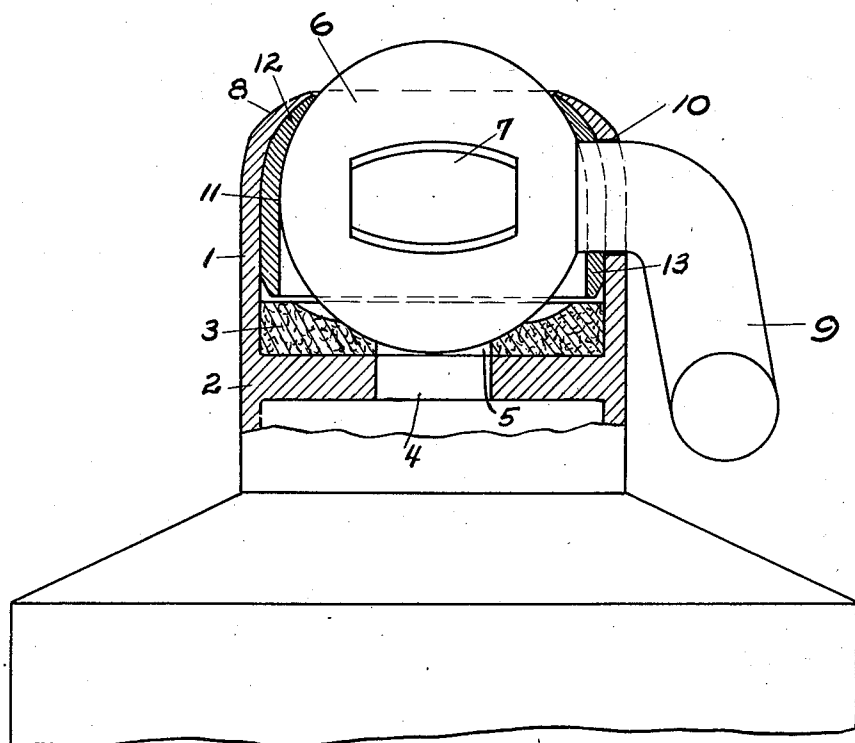
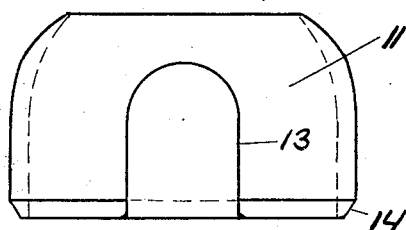


FIG. 2



Inventor:
F. Gill,
By E. F. Kenderoth atty

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CLOSURE MEANS FOR COLLAPSIBLE TUBES

Folke Gill, Stockholm, Sweden, assignor to
Aktiebolaget Observator, Stockholm, Sweden,
a corporation of Sweden

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2 Claims. (Cl. 221-60)

The present invention relates to closure means for collapsible tubes of the kind comprising a valve body which is rotatably mounted in the tube neck.

Valve bodies of this character have, for hygienic reasons, heretofore been made of a chemically inactive material, such as "Bakelite." However, when the tube is closed, i. e. when the valve body occupies a position in which the outlet end of the passage provided therethrough is covered by the neck wall, the pasty material which is present in said passage and which at a previous opening of the closure has been subjected to the action of the atmosphere may attack the metal of the tube neck with the formation of dark-colored products. These dark-colored products may mostly be of a harmless nature but nevertheless it makes a bad impression if when extruding paste from the tube said paste is at first discolored.

This drawback is eliminated and other advantages are obtained according to the present invention by arranging in the metallic tube neck a sleeve member of a stiff and chemically inactive material, such as Bakelite, which sleeve member surrounds the valve body and prevents the pasty material from contacting the metal of the tube neck and also strengthens the neck.

The invention is illustrated in one embodiment in the accompanying drawing, wherein:

Fig. 1 shows a vertical section through the tube neck on an enlarged scale.

Fig. 2 is a side view of the sleeve member.

The cylindrical tube neck 1 is provided with a bottom 2. A packing disc 3 of cork or other elastic material is placed on this bottom. The neck bottom and the packing disc are provided with the usual registering apertures 4 and 5, respectively. A valve ball 6 having a passage 7 therethrough is rotatably mounted in the tube neck. This ball is provided with an angular arm 9 extending through a bore 10 which is made in the neck wall immediately below the mouth of the neck. According to the present invention a sleeve member of a stiff and chemically inactive material, such as Bakelite, is arranged in the tube neck between the wall thereof and the valve ball. In the embodiment shown this sleeve member is in the form of a thin-walled cylinder 11 having an inturned upper edge 12 which may be bevelled off as shown in order to provide a relatively smooth surface. The sleeve 11 has a slot 13 for the arm 9, and its length is preferably so chosen that after turning down the edge 8 of the tube neck for holding the valve ball 6 the lower edge of the sleeve does not contact the packing disc 3, the sleeve on the contrary being supported by the ball. The lower end of the sleeve 11 may be somewhat bevelled off, as shown at 14, in order to facilitate the insertion of the sleeve into the tube neck. The rigid sleeve 11 provides a

reinforcement of the tube neck. This is an important feature in connection with soft metal tubes, such as lead and aluminium tubes, since the neck 1 may be made very thin and metal thus saved.

In the manufacture the tube with its neck 1 and neckbottom 2 are first pressed in one operation from a rondle. Then the packing disc 3 and the ball valve 6 are inserted into the neck, the arm 9 being passed through the bore 10 in the neck wall. Thereafter the rigid sleeve 11 is so inserted between the neck wall and the ball 6 that the arm 9 enters into the slot 13. Finally the upper edge 8 of the neck is turned down and the valve ball 6 urged against the packing disc 3 with a suitable pressure.

The rigid sleeve is preferably made of Bakelite, as aforesaid. Other suitable materials may be used, however, such as other artificial resins and also chemically inactive metals. Instead of being ball-shaped the valve body may also have any other suitable shape. For instance, it may be shaped as a drum.

It is understood that my invention is not limited to the specific embodiment shown and that several deviations may be made therefrom without departing from the spirit and scope of the appended claims.

What I claim and desire to secure by Letters Patent is:

1. In a collapsible soft metal tube, a container portion and a neck portion having an upper inturned edge, an apertured division wall between said container portion and said neck portion, a valve body rotatably mounted in said neck portion between said division wall and said inturned upper edge, and a rigid sleeve member made of an inert material positioned between said neck portion and said valve body, said sleeve member serving to stiffen the neck portion.

2. In a collapsible soft metal tube, a container portion and a neck portion having an upper inturned edge, an apertured division wall between said container portion and said neck portion, an apertured packing disk on said division wall in said neck portion, the aperture of said disk being substantially aligned with the aperture of said wall, a valve body rotatably mounted in said neck portion between said disk and said inturned upper edge, and a rigid sleeve member positioned between said neck portion and said valve body, the upper edge of said sleeve member being inturned in correspondence with the upper inturned edge of said neck portion, whereby said sleeve member is retained between said neck portion and said valve body, and said sleeve member being shorter than the distance between said disk and the upper inturned edge of said neck portion, whereby the lower edge of the sleeve member is retained out of contact with said disk.

FOLKE GILL.