

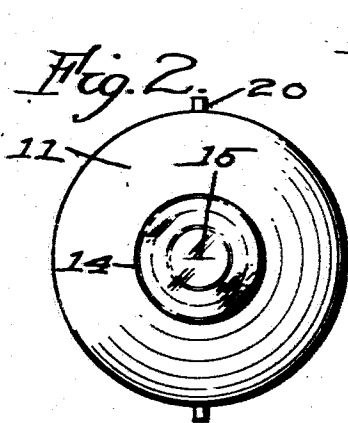
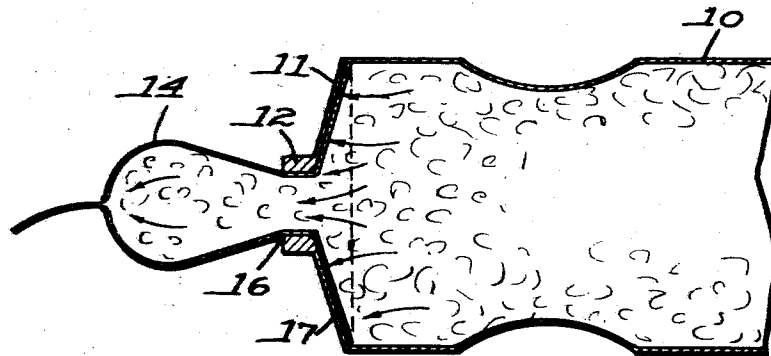
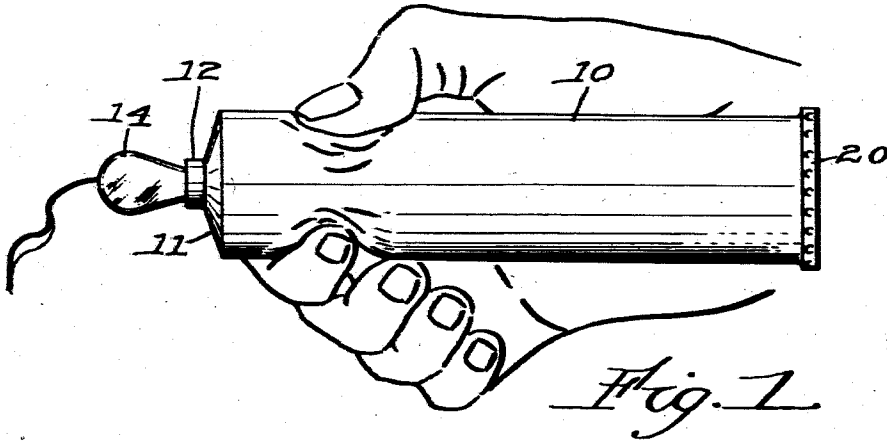
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DISCHARGE NIPPLE FOR COLLAPSIBLE TUBES

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UNITED STATES PATENT OFFICE.

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DISCHARGE NIPPLE FOR COLLAPSIBLE TUBES.

Application filed August 21, 1925. Serial No. 51,694.

This invention relates to a device through which the contents of a collapsible tube can be discharged.

The principal objects of the invention are to provide a discharge valve for this purpose so arranged that the paste in the tube will not dry on the surfaces thereof and consequently it will always be ready for use; to provide this in the form of a rubber nipple having a surrounding flange adapted to be held on the inside of the top of the usual metallic collapsible tube in such a way that the pressure of the contents of the tube on the flange will assist in holding it in place; and to provide a construction which will eliminate the screw threads and screw cap now employed with advantageous results over that and at a reduced expense.

Other objects and advantages of the invention will appear hereinafter.

Reference is to be had to the accompanying drawings, in which

Fig. 1 is a side view of a collapsible metallic tube provided with a preferred embodiment of this invention and shown in the act of discharging a ribbon of paste;

Fig. 2 is a plan of the same on enlarged scale; and

Fig. 3 is an enlarged longitudinal central sectional view.

I apply the invention to an ordinary flexible metallic tube 10 adapted to contain tooth paste, shaving cream, or any other article in paste form and designed to discharge it by squeezing of the collapsible tube. This is made in the ordinary form except that the outlet end, while provided with the usual end piece 11 of circular form and somewhat heavier construction than the side walls of the tube, has a nozzle 12 of comparatively simple form. It is perfectly cylindrical in shape and without any screw threads or other projections, either inside or outside, resulting in a saving of metal.

The particular feature of this is a rounded rubber nipple 14 having a slit 15 preferably in the end thereof. This slit is merely a cut clear through the rubber but no material is removed. The nipple has a contracted neck 16 fitting in the nozzle 12 and it has an integral annular flange 17 adapted to fit against the inner surface of the top 11 of the tube. I place this in position and

secure the flange 17 to the wall 11 by any desired means, but as a matter of fact, as will appear, it is not really necessary to do that. This is done mostly for additional safety. After the parts are in position the tube is filled from the bottom and closed along the lower end 20 in the usual way.

Now in the use of the device the tube is operated in the usual way to exert pressure on the paste within. This pressure results in forcing the paste out through the valve or slit 15 in the form of a thin ribbon of a width corresponding to the length of this slit. Experience has shown that immediately after the pressure is removed the valve or slit entirely closes. The extra paste can be wiped off and there will be no paste left in sight. The slit closes automatically and tightly, its two cut surfaces come firmly into contact with each other and there are no surfaces between which, or on which, the paste can harden enough to prevent opening immediately upon the exertion of pressure in the manner above described. Thus, after leaving it for days or weeks at a time it is found to be in perfect working order all the time.

The reason for stating that it was not absolutely necessary to secure the flange 17 to the inside of the top 11 is that when pressure is exerted, it acts against this flange 17 throughout the surface and holds it firmly against the inner side of this top which is usually indented with lettering. The pressure itself holds the flange in position so that there is no danger of the nipple being forced out of position by the pressure of the paste inside.

This constitutes a very neat and sanitary arrangement. There is no metallic cover to be lost, and no danger of the opening getting filled with the paste and hardening so as to prevent immediate operation upon the exertion of pressure on the paste in the tube. There is no danger of forcing the nipple out of position and the expense is reduced instead of being increased.

Although I have illustrated and described only a single embodiment of this invention, I am aware of the fact that modifications can be made therein by any person skilled in the art without departing from the scope of the invention as expressed in the claim. Therefore, I do not wish to be limited to

all the details of construction herein shown and described but what I do claim is:—

The combination with a collapsible metallic paste tube having a conical top formed of more rigid metal and an opening through the center of the top, of a rubber nipple having a neck fitting in said opening, an enlargement outside the opening provided with a valve slit for the discharge of the

paste, and an integral thin conical flange inside the tube bearing against and covering the inner conical surface of said top extending to the inner side walls, and adapted to be pressed against the whole area of said top by paste to hold it in position.

In testimony whereof I have hereunto affixed my signature.

MAX FALK.