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COLLAPSIBLE TUBE CLOSURE

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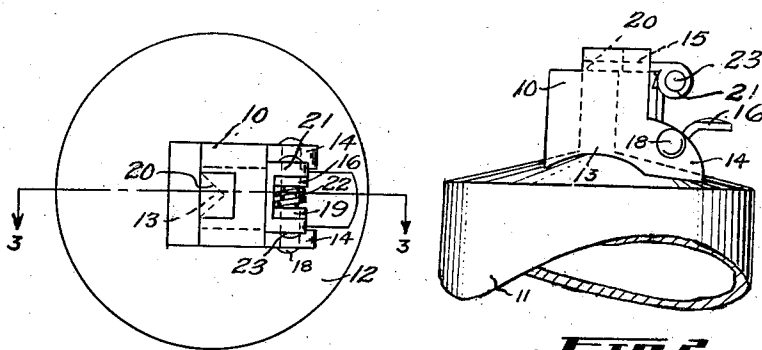


Fig. 1.

Fig. 2.

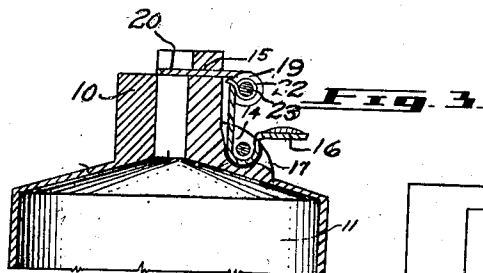
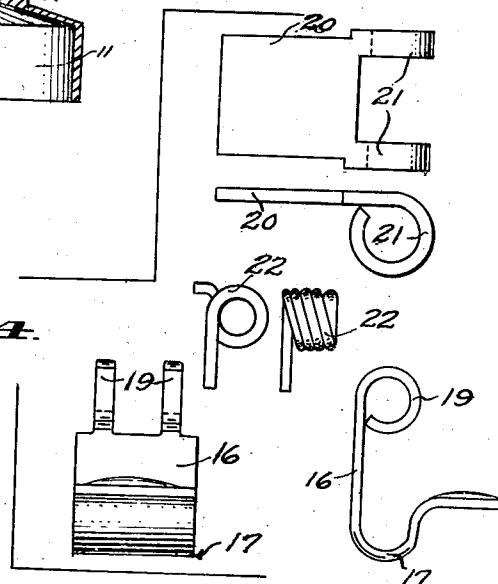


Fig. 3.

Fig. 4.



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COLLAPSIBLE TUBE CLOSURE

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1 Claim. (Cl. 222—511)

This invention relates to closure members for containers and more particularly to a valve closure member for tube containers of the type which contain tooth paste, cream and similar paste like materials.

The principal object of this invention is the provision of an automatic closure which functions immediately when the desired amount of paste has been ejected from the tube; other objects complementary to the primary object are, to prevent waste and the accumulation of hardened paste about the mouth of the tube, to increase the efficiency of tubes in that the cap is not removable and therefore cannot become lost or separated from the tube, to provide ribbons of paste of different sizes depending entirely on the desires of the user and his consequent manipulation of the valve lever and to generally improve the art of closure members.

Other more specific objects are to provide a valve actuating mechanism which is not unwieldy or bulky, that is to say that does not protrude beyond the walls of the tube which is of primary consideration for packing and shipping and also to provide a durable and efficient device which will instantly cut off the flow of paste when sufficient paste has been ejected from the tube.

With these and other objects in view which may appear as the description proceeds, the invention resides in the novel construction, combination and arrangement of cooperating parts as hereinafter more specifically set forth, claimed and shown in the accompanying drawing forming part of this application and in which:

Fig. 1 is a top plan view of paste tube illustrating my improved closure member.

Fig. 2 is an elevational view thereof.

Fig. 3 is a sectional view along the line 3—3 of Fig. 1, and

Fig. 4 is a composite view of the principal valve members.

Referring more in detail to the drawing in which similar reference characters designate corresponding parts throughout the several views it will be seen the invention consists of a neck portion 10, which is secured to or formed integral with the paste tube 11, according to the dictates of manufacturing methods. The neck portion 10, is larger than the usual type of threaded nipple for paste tubes but nevertheless is considerably smaller than the area covered by the top 12, of the paste tube. The neck portion 10, is provided with the usual discharge opening 13, through which the contents of the tube are

ejected by pressure against the side walls of the tube. In the drawing I have illustrated a triangular discharge opening 13, for a purpose to be hereinafter explained in detail, however, it should be understood that the opening may be rectangular, round or any other desired shape.

At one side of the neck portion 10, flanges 14, are disposed, the said flanges are either secured to or formed integral with the top 12, of the paste tube at the jointure of the neck portion 10, with the top 12. Above the flanges a channel 15, is formed through the upper end of the body portion in which the valve slides for the purpose of opening or closing the opening 13.

The valve mechanism consists of an actuating lever 16, which is bent at 17, around a pintle 18, disposed between the aforementioned flanges 14. As clearly shown in Fig. 3, the lever 16, has loose bearing engagement with the base of the neck to permit the lever to freely pivot about the pintle pin. The upper part of the lever 16, extends above the pintle 18, and is terminally provided with two spaced apart eyes 19.

The valve proper designated at 20, is slidably located in the channel 15, and extends outward so that the depending eyes 21, lie beside and outwardly of the eyes 19, of the actuating lever 16.

A coil spring 22, is disposed between the eyes 19, and a pin 23, located through the assembly so that the coil spring actuating lever and valve are operatively secured together. One end of the coil spring engages the valve and the opposite end engages the actuating lever and operates to normally urge the valve closed.

To operate the device requires the usual pressure against the side walls of the tube at the same time the user presses downward with the thumb on the actuating lever 16, which is caused to revolve around the pintle 18, thereby drawing the valve 20, through the channel 15, and permitting the contents of the tube to flow outward onto a tooth brush or other suitable article. When the required amount of paste has been ejected the thumb is removed from the lever 16, and the valve is automatically returned to its original position thus cutting off the ejected paste from its source.

It is believed that the construction and advantages of the structure shown may be apparent from the foregoing paragraphs taken in conjunction with the accompanying drawing without further detailed description.

While the preferred embodiment of the invention has been disclosed it is understood that

minor changes in the details of construction, combination and arrangement of co-operating parts may be resorted to within the scope of what is claimed without departing from the spirit of the invention.

I claim:

A closure for paste tubes comprising a container having a reduced neck provided with a discharge opening therethrough, a slide valve mounted in a channel extending transversely through the upper end of the neck and intersecting the discharge opening through the neck, a pintle pin mounted at the base of the neck below the outer end of said slide valve, an operat-

ing lever pivotally connected at one end to the outer end of said slide valve and extending downwardly along the side of the neck and beneath said pintle pin with its free end bent upwardly 5 and outwardly to form a finger piece adjacent the base of the neck, the bend of said lever having loose bearing engagement with the base of the neck to cause said lever to pivot about said pintle pin when the finger piece is depressed to 10 move said slide in a horizontal plane, and a coil spring mounted on the pivot connection between said lever and said slide valve adapted to normally urge said valve to a closed position.

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