

Oct. 25, 1966

C. C. THOMPSON
TUBE SQUEEZER DISPENSER

3,281,016

Filed March 18, 1965

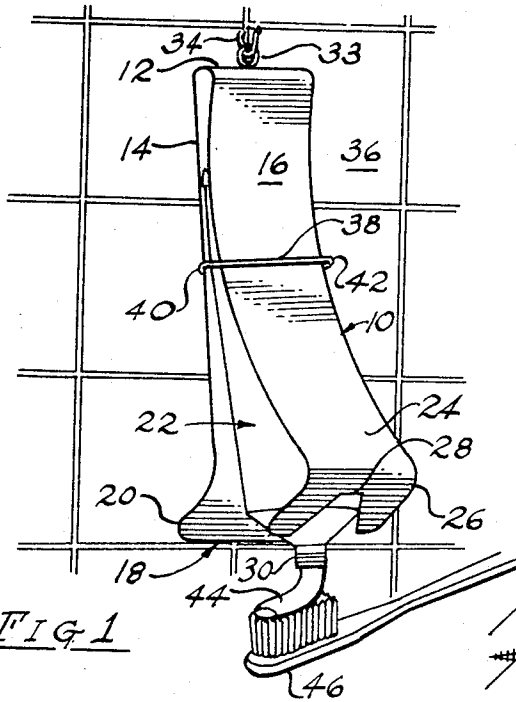


FIG. 1

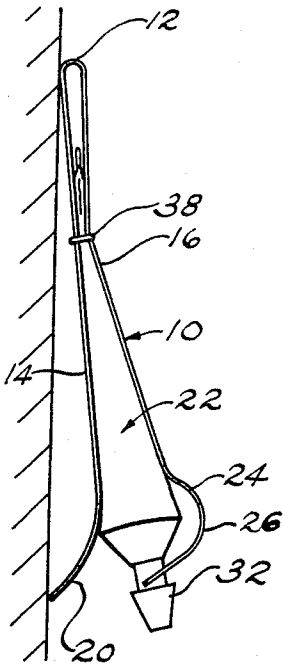


FIG. 2

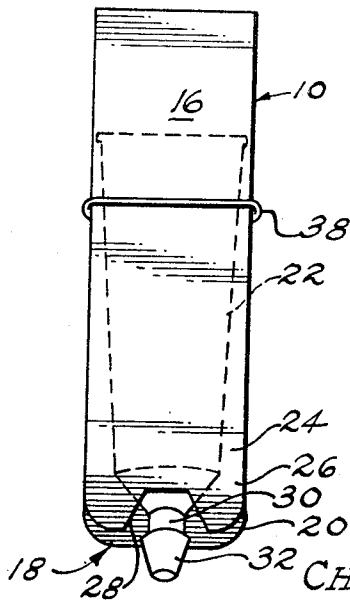


FIG. 3

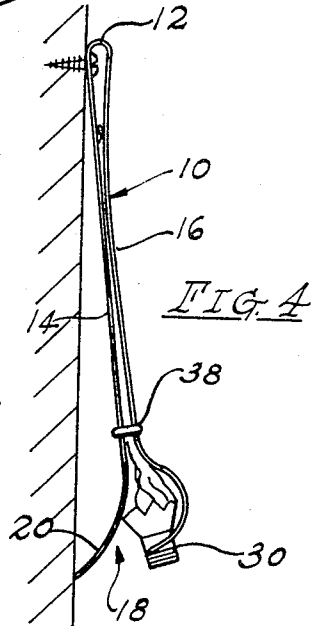


FIG. 4

INVENTOR
CHARLES C. THOMPSON

BY *Patrick J. Henry*
ATTORNEY

1

3,281,016

TUBE SQUEEZER DISPENSER

Charles C. Thompson, % University of Chattanooga, Dept. of Economics and Business Administration, Chattanooga, Tenn.

Filed Mar. 18, 1965, Ser. No. 440,880

2 Claims. (Cl. 222-103)

This invention relates to a tube squeezer dispenser and especially to a device of this sort which includes a pair of opposing faces receiving a collapsible tube, such as a toothpaste tube or shaving cream tube, in between and having means for forcing the faces together to selectively dispense the substance from the end of the tube.

Tube squeezers are well known in the art and comprise many forms of devices for receiving a collapsible tube of toothpaste or shaving cream or other substance and supporting it for selective dispensing as by winding the tube around a winding member or squeezing the tube between a pair of rollers. Some of these devices are very satisfactory but they are more expensive than the present device to manufacture and require more attention for cleaning and the like. A primary advantage of the present invention resides in the simplicity of construction and in the very low cost of production which makes it possible even to produce this device and give it away as a premium attached to a box of toothpaste or shaving cream.

Generally described, without restriction on the scope of my invention as defined in the appended claims, one form of the device is manufactured from one continuous length of bendable metal such as copper, brass or aluminum which is bent upon itself along a bottom, smooth curve to form to approximately equal length plates having opposed faces extending divergence from the bottom curved portion. One of these plates is a back plate and has a backwardly bent lip at the lower end where the outlet of the tube would be located and the other would be considered the front plate which is normally exposed to the front of the device and it has an inwardly bent and curved tube nozzle receiving member which is slotted to fit around the usual cylindrical and threaded outlet of a collapsible tube. A pressure and retaining member which may be manufactured from a continuous length of bent wire is fitted about both of the opposed plates and when the tube is substantially full and new this member is located near the top and may be moved gradually down to push the diverging plates together in increments as the substance is removed gradually to collapse the entire tube toward the bottom until the tube plates have been brought substantially parallel and the tube is collapsed and exhausted therebetween. The cap of the tube is exposed and may be removed and replaced easily and the present device may either be hung from a convenient hanger or may be attached to the wall at the top or supported in some other manner.

A primary object of the present invention is to provide a collapsible tube squeezer which is easily manufactured from inexpensive materials and at very low cost.

Another object of this invention is to provide a collapsible tube squeezer which may be made from one continuous length of bendable material, or molded from one piece of bendable plastic, whereby the device simply comprises a pair of diverging and flexible plates which may be pushed together about a collapsible tube by means of a simple wire pressure member.

Another object of this invention resides in the particular construction of the device wherein the lower end includes a tube nozzle member which fits over the nozzle and outlet of the tube and exposes the cap for removal and replacement.

Other and further objects and advantages of my invention will become apparent upon reading the following

2

specification taken in conjunction with the accompanying drawings, in which:

FIG. 1 is a perspective view of one form of the present invention having a conventional view toothpaste tube therein and illustrating the dispensing to a toothbrush.

FIG. 2 is a side elevation view of the device in FIG. 1 as supported on a wall surface with the closure thereon.

FIG. 3 is a front elevation view of the device shown in FIG. 2.

FIG. 4 is a side elevation view of the device shown in FIG. 2 and similar thereto except that the tube is almost completely collapsed and the cap is off.

Referring initially to FIG. 1 and the device shown therein which in assembled condition is designated generally and overall by reference numeral 10, this form of the present invention is constructed either from one continuous length of substantially flat, elongated metal plate or plastic material which has been bent upon itself to form a smooth curved bottom edge 12 having the back plate 14 and the front plate 16 extending therefrom and plates 14, 16 diverge from edge 12 to the lower outlet end which is designated generally as 18. Both plates 14, 16 are substantially flat except that they are adapted to be squeezed together and brought into more parallel relationship and therefore are flexibly arranged according to the bottom edge 12. Each plate is substantially flat except for the curvature that has been placed therein and back plate 14 includes an inwardly turned lip portion 20 at the outlet end 18 which would extend from the typical tube 22 supported on the device 10.

Plate 16 is curved inwardly from the edge 12 and with the lower end 24 thereof extending outwardly away from plate 14 until it reaches the outlet portion 18 proximity at which point the plate 16 is bent inwardly to form a tube retaining portion 26 having a notched portion 28 therein which fits about the conventional threaded outlet or nozzle 30 of the conventional tube 22. Normally, a cap or closure member 32 screw-threaded closes the outlet 30.

In the present embodiment, the upper 12 of the present device 10 is provided with a hanger in the form of an eyelet 33 which may be hung on a hook 34 adjacent the tile portion 36 of the bathroom or which may be permanently fastened to the wall 36 if desired.

Tube 22 is placed between plates 14, 16 and held therein by means of a retaining pressure member 38 which in the present embodiment is constructed from an elongated, continuous piece of small wire constructed from stainless steel or any other material and which is bent to form a loop having ends 40, 42 and when the member 38 is in place after fitting about and on the plates 14, 16 by insertion over the edge 12, it is slid until enough pressure is exerted between the plates 14, 16 and on the tube 22 to hold the retaining member 38 in place and to hold the tube 22 in place between the plates 14, 16. This exerts a certain amount of pressure on the tube and the contents and depending upon how much the member 38 is pulled and forced downwardly, a slight amount of pressure would be inside the tube so that when the cap 32 is removed a small amount of the contents 44, which in the present embodiment is toothpaste that is being dispensed to a toothbrush 46, would automatically flow onto the brush 46.

As seen in FIG. 4, as the contents 44 is gradually removed from the tube 22, the wire retaining member 38 is gradually moved down the device 10 forcing the plates 14, 16 closer together at the diverging portions gradually bringing the plates into closer parallel relationship about the collapsible tube 22 until the member 38 reaches an almost bottom position which is approaching in FIG. 4 until it reaches the portion 26 on member 16 at which time it is prevented from further movement and at this

time the tube 22 is substantially depleted and needs to be replaced.

It should be noted, that the inwardly curved portion 20 allows the back plate 14 to rest against the wall 36 if it is desired to dispense without removing the device 10 from its hanger 34, in the manner which will be apparent from a consideration of FIGS. 2 and 4 as well as FIG. 1. It should also be noted that the notched portion 28 fits over the lower end of the tube 22 and around the nozzle 30 and holds the tube properly in place but at the same time allows free access for the removal and replacement of the cap 32.

While I have shown and described a particular embodiment of my device, together with a suggested mode of operation and expected result therefrom, this is by way of illustration only and does not constitute the only expression of my invention or the expected operation, since various alterations, changes, deviations, eliminations, substitutions, ramifications, elucidations, revisions and departures may be made from a particular form of the invention illustrated herein without departing from the scope of my invention as defined in the appended claims.

I claim:

1. In a tube dispensing collapsing device for dispensing from a collapsible tube containing a substance,
 - (a) a pair of elongated tube disposing plate members formed from a continuous piece of material connected at one end, and said members extending substantially co-extensively from said connected end and diverging therefrom,
 - (b) each of said plate members being substantially flat and having a space therebetween to receive a collapsible tube therein,
 - (c) the end of one of said plates remote from the said connected end having an inwardly curved portion thereon,
 - (d) the end of said other plate remotely located from said connection end having a curved end thereon and a notched portion therein which fits about the outlet portion of a conventional collapsible tube,
 - (e) and a tube retaining and pressure member mounted on and about said plate members and being movable relative thereto and being smaller than the distance around said plates with a tube therebetween whereby said member is moved on said plates the contents of said tube is forced from the outlet.
 - (f) said retaining and pressure member being a continuous wire member formed as a continuous loop with curved portions on each end and said member

is large enough to be placed over one end of said device near the intersection of the two plates but small enough to be unable to fit over the plates when pushed apart by the contents of the tubes therebetween.

2. In a tube dispensing collapsing device for dispensing from a collapsible tube containing a substance,
 - (a) a pair of elongated tube dispensing plate members formed from a continuous piece of material connected for movement at one end, and said members extending substantially co-extensively from said connected end and diverging therefrom,
 - (b) each of said plate members being substantially flat and having a space therebetween to receive a collapsible tube therein,
 - (c) the end of one of said plates remote from the said connected end being a tube outlet end,
 - (d) and a tube retaining and pressure member mounted on and about said plate members and being movable relative thereto and being smaller than the distance around said plates with a tube therebetween whereby said member is moved on said plates the contents of said tube is forced from the outlet,
 - (e) one of said plates being designated as the back plate when the device normally is supported with respect to a wall surface and said backplate having an inwardly turned lower edge adjacent where the outlet of the tube is normally positioned and said edge extending toward the wall, and said other plate having an inwardly curved lower edge extending in the same direction and having a notched portion therein which normally is positioned about the outer portion of the tube,
 - (f) said retaining and pressure member being a continuous wire member formed as a continuous loop with curved portions on each end and said member is large enough to be placed over one end of said device near the intersection of the two plates but small enough to be unable to fit over the plates when pushed apart by the contents of the tubes therebetween.

References Cited by the Examiner

UNITED STATES PATENTS

2,291,282	7/1942	Hollenbeck	-----	222—103 X
2,689,066	9/1954	Budnick	-----	222—103

ROBERT B. REEVES, *Primary Examiner.*

HADD S. LANE, *Examiner.*