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COLLAPSIBLE TUBE DISPENSER

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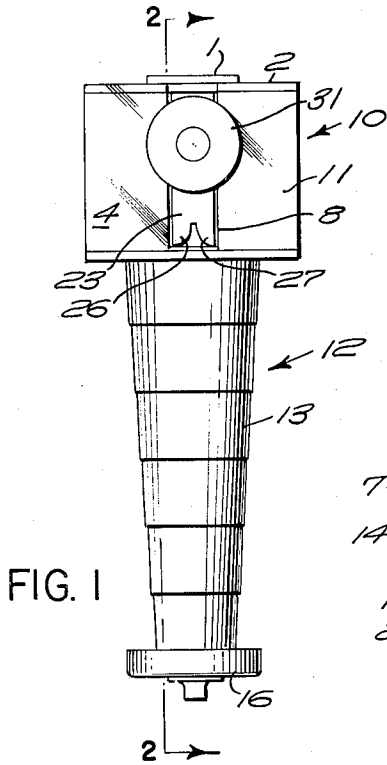


FIG. 1

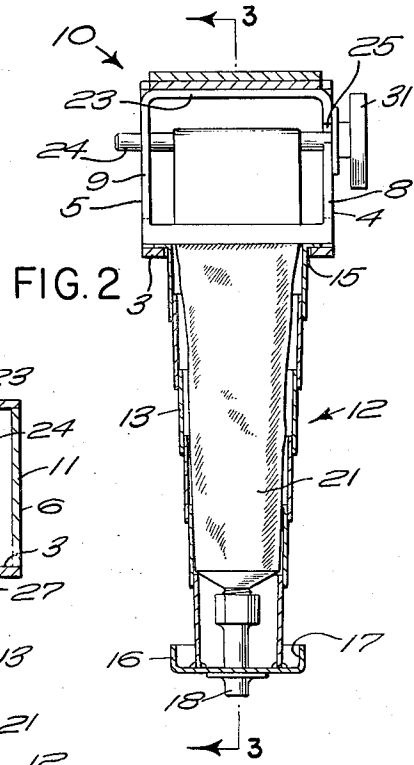


FIG. 2

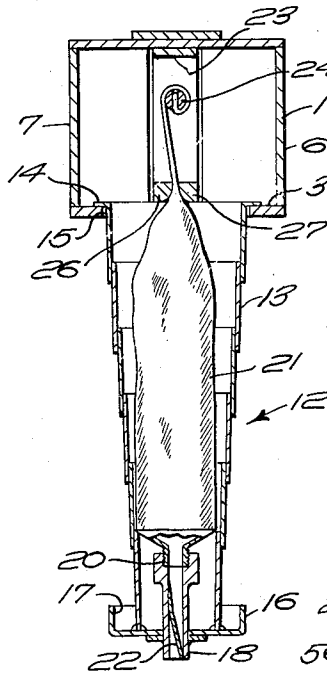


FIG. 3

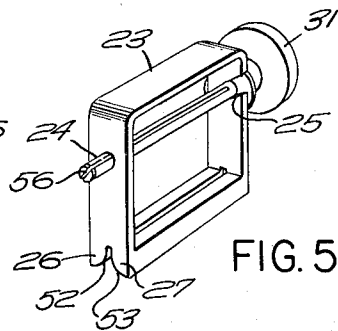


FIG. 5

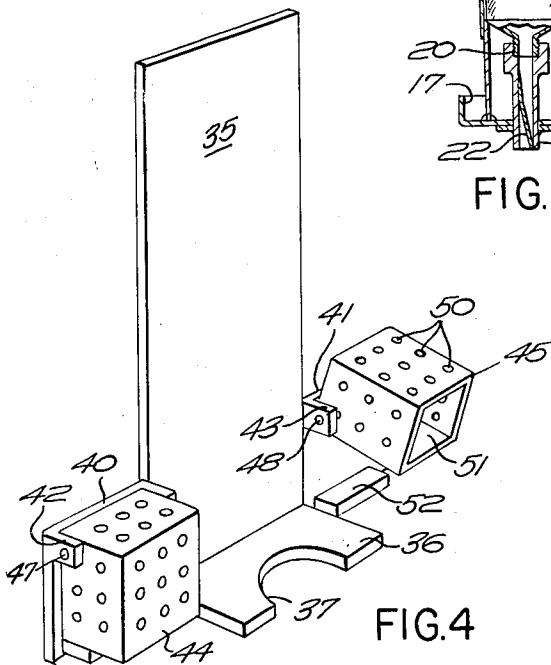


FIG. 4

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COLLAPSIBLE TUBE DISPENSER

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4 Claims. (Cl. 222-97)

The invention relates to paste dispensers especially adapted for dispensing dental, shaving or facial creams without soiling the hands of the user and has for the primary object the provision of an efficient, durable and inexpensive device of this character which will support and protect from foreign matter a collapsible tube or container and its contents and has a simple manually actuated means to compress the tube and the cover protecting the tube when expelling the contents thereof in amounts as desired.

Another object of this invention is to provide a combined tooth brush holder and tooth paste tube dispenser in which the tooth brushes are protected from foreign matter while being exposed to drying to prevent souring of the tooth brush.

Another object of the invention is to provide a utility collapsible tube dispenser attractive in appearance, mechanically intriguing in operation and economical in use.

With these and other objects in view, this invention consists in certain novel features of construction, combination and arrangement of parts to be hereinafter more fully described and claimed.

Like reference numerals refer to like parts in the accompanying drawings, in which:

Figure 1 is a front elevational view, illustrating a dispenser in accordance with my invention.

Figure 2 is a longitudinal view partly in section taken along line 2-2 of Figure 1 showing the mechanical arrangement of the parts comprising the collapsible tube dispenser.

Figure 3 is a longitudinal sectional view similar to Figure 2 taken along line 3-3 of Figure 1.

Figure 4 is a perspective view, showing an attachment for the device illustrated in Figure 1, comprising the tooth brush holder.

Figure 5 is a perspective view of the wind up shaft and squeeze bars.

Referring in detail to the drawings, reference character 10 indicates the attractive collapsible tube dispenser consisting of a housing 11 which may be secured to a wall, medicine cabinet or bath room fixture. Housing 11 comprises a base 3 having an aperture 15 centrally located therein and four side walls 4, 5, 6 and 7. Side walls 4 and 5 are provided with slots 8 and 9. A removable cover 2 provided with a reinforced piece 1 integrally connected thereto rests on the four side walls 4, 5, 6 and 7.

An endwise contractable casing, generally indicated by reference character 12, comprises a cylindrical wall 13 composed of a series of telescopic sections. The uppermost section of the cylindrical wall 13 is formed into an outwardly projecting collar 14 which is larger in diameter than aperture 15 so that the cylindrical wall 13 may pass through aperture 15 and hang from base 3 as by gravity and thereby be removable from housing 11 for reasons presently to be described.

The lowermost section of wall 13 is secured to a cup 16 having an inside diameter 17 of a size to fit over the

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largest of the telescopic sections. Cup 16 is provided with a nozzle 18 secured therein and having a threaded area 20 adapted to accommodate the threaded portion of the discharge neck 19 of a collapsible tube 21. A wiper 22 is yieldingly mounted in nozzle 18.

A U-shaped member 23 is secured to or may be formed integral with cover 2 at the base of the U. The legs of the U are accommodated in slots 8 and 9 and are provided with bearings which accommodate a wind up shaft 24. One of the bearings 25 is C-shaped or opened on one side near the top to permit shaft 24 to be slipped into position.

Two squeeze bars 26 and 27 are secured to or formed integral with the legs of the U at their base. The squeeze bars 26 and 27 have convex surfaces 52 and 53 contoured to accommodate the collapsible tube and force the paste from the discharge end of the tube.

It is contemplated that the present invention may be made of molded plastic or it may be made of fabricated metal. The skill of the calling will determine the means of uniting the several parts.

Wind up shaft 24 is provided with a slot 56 across its full length which is adapted to accommodate the closed end of a collapsible tube.

In operation, the device will be described, starting with the insertion of a full collapsible tube of paste. Collapsible tube dispenser 10 will be in three separate and distinct parts. Cover 2 and cylindrical wall 13 will be separated from housing 11. Cylindrical wall 13 will be telescopically collapsed with the sections resting in cup 16. The cap will be removed from the full tube of paste. The screw threads for the cap on the neck of the full tube of paste will be caused to engage threaded area 20 of nozzle 18. The telescopic sections will be extended and passed through aperture 15 of housing 11 with collar 14 resting against base 3. The sealed end of collapsible tube 21 will be passed between squeeze bars 26 and 27 and be caused to wedge in the slot 56 of wind up shaft 24. Cover 2 will be put in place over housing 11. As handle 31 on shaft 24 is turned, winding collapsible tube 21 around shaft 24, squeeze bars 26 and 27 will force the paste out of collapsible tube 21 into nozzle 16, past wiper 22 onto a brush or the like. When handle 31 is no longer turned, wiper 22 will spring back to the position shown in Figure 3 severing the stream of paste and allowing the amount measured by the turning of handle 31 to drop onto the brush. As handle 31 is turned wrapping tube 21 around itself cup 16 is drawn toward housing 11 causing the telescopic sections of cylindrical wall 13 to telescope, until all the paste in collapsible tube 21 is extruded.

Upon exhaustion of tube 21, cover 2 is lifted thereby raising U-shaped member 24 high enough to permit collapsible tube 21 to be severed at a point below squeeze bars 26, 27 by means of a scissors or a knife. Handle 31 is revolved a few turns permitting the wrapped around portion of tube 21 on shaft 24 to be drawn through the slot in said shaft after shaft 24 is lifted out of engagement with its bearings. The process is then repeated as previously described after the exhausted tube 21 is unscrewed from threads 20 and discarded.

Figure 4 depicts an adjunct to Figure 1. It comprises a back board 35 to which housing 11 may be secured. In which event back board 35 may be secured to a bath room wall, medicine cabinet or bath room fixture. Back board 35 is provided with a right angle base 36 having circular cut out 37 adapted to accommodate cup 16 when a fresh tube of paste is inserted in collapsible tube dispenser 10. On either side of back board 35, two brackets 40 and 41 are integrally formed with sets of ears 42 and 43. Two containers 44 and 45 are pivotally mounted in sets of ears 42 and 43 respectively by means of shafts

47 and 48. Containers 44 and 45 are provided with circulating air holes 50. The bottom of containers 44 and 45 are missing (as at 51) leaving a five sided cube with an open bottom. Ledges 52 are integrally formed with brackets 40 and 41.

In operation, tooth brushes with the bottom row of bristles resting on ledges 52 will be retained in place by means of containers 44 and 45 with the handles of the tooth brushes projecting through open bottom 51.

Having shown and described a preferred embodiment of the present invention, by way of example, but realizing that structural changes could be made and other examples given without departing from either the spirit or scope of this invention.

What I claim is:

1. A paste dispenser comprising a housing, a circular contractable casing of telescopic sections secured on one end to said housing, a dispensing head provided with a nozzle secured to the other end of said contractable casing, a wiper yieldingly mounted in said nozzle, a threaded area in said nozzle adapted to receive the threaded neck of a collapsible tube with the tube arranged in an inverted position within said contractable casing, slots in said housing, a U-shaped bracket secured in said slots by means of its base being secured to said housing, a pair of bearings in said U-shaped bracket, one bearing being C-shaped, a shaft provided with a slot and a knob fixed thereto, rotatably mounted in said pair of bearings, a pair of squeeze bars mounted in said U-shaped bracket and arranged to receive the tube therebetween, the end of said tube secured in said slot whereby said tube may be wound around said shaft, expelling the contents of said tube through said nozzle and retracting said cup and contractable casing.

2. A paste dispenser for a collapsible tube comprising a housing, a contractable casing for the collapsible tube secured to said housing, a dispensing head secured to said contractable casing and provided with a tubular outlet member having a wiper yieldingly mounted therein and arranged for connection with the outlet of said collapsible tube containing material to be dispensed and rotatable means within said housing arranged for connection with the tube to be collapsed for simultaneously collapsing said portion of the tube and retracting said tube within said contractable casing and contracting said contractable casing when manually operated, a back board to which said housing is secured, and having a right angle base provided with a circular cut adapted to engage said dispensing head at the start of the retracting of said tube, two brackets and two ledges integrally formed with said back board, a set of ears integrally formed in each of said brackets, two containers having

circulating air holes and open bottoms, pivotally mounted in said set of ears, and tooth brushes resting on said ledges and held in position by said containers, the tooth brush handles passing through said open bottoms.

3. A paste dispenser for a collapsible tube consisting of a housing, a circular contractable casing comprising a plurality of telescopic sections, the end section on one end being fixed to said housing, a tubular outlet member having a wiper yieldingly mounted therein being fixed to the opposite end section of said contractable casing, rotatable means mounted in said housing, a collapsible tube having one end secured to said rotatable means and the other end secured to said tubular outlet member whereby rotation of said rotatable means simultaneously collapses said tube while retracting said telescopic sections as the collapsed portion of the tube is wound around said rotatable means and the contents of the collapsible tube is dispensed through said tubular outlet member past said wiper.

4. A paste dispenser comprising a housing, a circular contractable casing comprising a plurality of telescopic sections, the end section on one end secured to said housing, a dispensing head provided with a nozzle secured to the end section on the opposite end, a U-shaped bracket having a set of bearings fixed in said housing, a shaft provided with a slot, a knob secured to one end of said shaft, said shaft rotatably mounted in said bearings, a set of squeeze bars mounted in said U-shaped bracket, a threaded area in said nozzle, a tube of paste secured on one end in said threaded area and projecting through said contractable casing, the other end of said tube passing between said squeeze bars and secured in said slot, rotation of said knob rotating said shaft to force the paste in said tube through said squeeze bars to dispense through said nozzle as the tube is wound around said shaft contracting said contractable casing.

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