

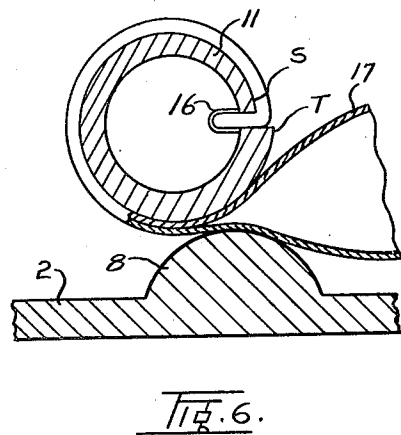
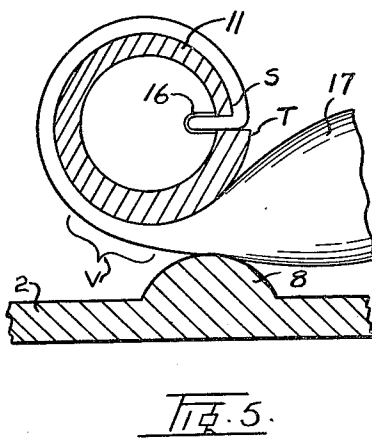
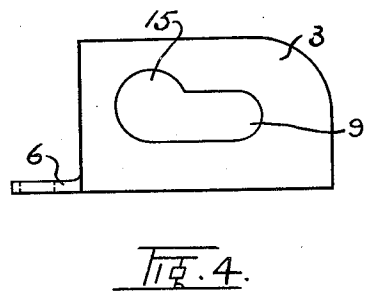
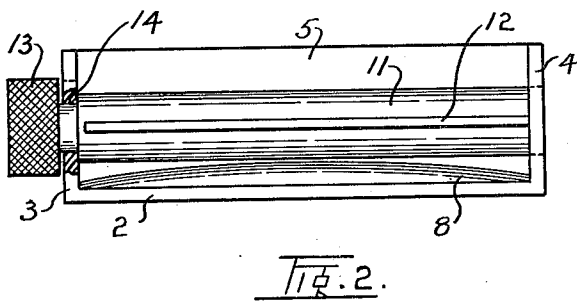
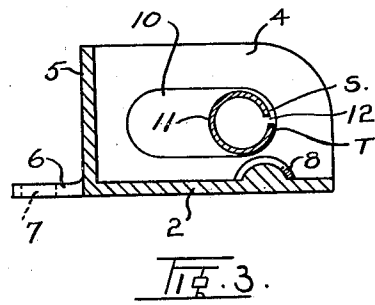
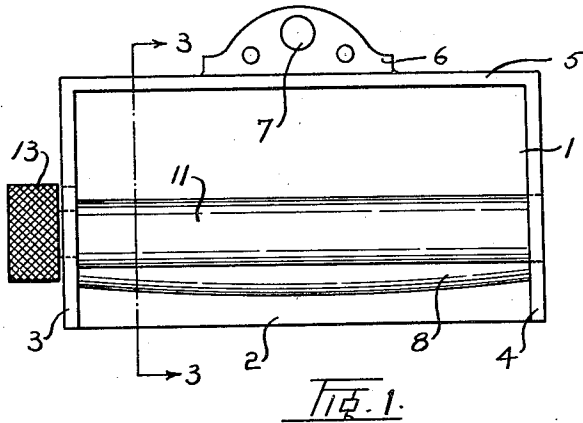
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2,213,679

PASTE DISPENSER

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PASTE DISPENSER

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5 Claims. (Cl. 221—60)

My invention relates to improvements in paste dispensers, the objects of which are to provide means which will hold a collapsible tube containing paste and extrude its contents progressively from the base of the tube.

It is well known that devices have been contemplated whereby the tube was drawn between two rollers to squeeze the tube, but in such devices there has always been a tendency to drag the metal of the tube at the side creases, adjacent the ends of the rollers, and to burst the tube. It is amongst the objects of the present invention to overcome this defect. A further object is to provide a dispenser consisting of two parts only which can be made of plastic or by a die casting process.

The invention consists of a substantially box-like structure fitted with a removable roller and having a roller coating member which is so shaped as to prevent the tube passing thereover from being entirely flattened throughout the width of said tube, as will be more fully described in the following specification and shown in the accompanying drawing, in which:

Fig. 1 is a plan view of the invention.

Fig. 2 is a front elevational view.

Fig. 3 is a transverse sectional view taken on the line 3—3 of Figure 1.

Fig. 4 is an elevation of the end at the left of Figure 1 with the roller removed.

Fig. 5 is an enlarged sectional diagram showing the squeezing action upon the tube towards the ends of the winding roller.

Fig. 6 is an enlarged sectional diagram showing the squeezing action upon the tube at the centre of the winding roller.

In the drawing like characters of reference indicate corresponding parts in each figure.

The numeral 1 indicates a boxlike structure forming the body, which has a bottom wall 2, side walls 3 and 4, a rear wall 5 and a rear extension 6 which is provided with one or more apertures 7 and serves as a means for securing the device to a wall or other surface.

Extending transversely of the bottom wall 2 and adjacent its front edge is a rib or roller coating member 8 which is substantially semi-circular in cross section and diminishing in cross section towards each end as shown in Figures 2 and 3. For the purposes of economical construction the rib 8 is formed as above described and is integral with the body 1, it will, however, be obvious that a freely rotating roller of like contour may be substituted if desired.

The side walls 3 and 4 are provided with hori-

zontal openings 9 and 10 respectively which form end bearings for a roller generally indicated by the numeral 11. The roller 11 is tubular in form and has a longitudinal slot 12. The cross section of the roller is in the form of a volute having a minor radius at one side of the slot 12 and its major radius at the other as at S and T in Figures 3, 5 and 6. The roller 11 is provided at one end with a knurled knob 13 and is reduced adjacent thereto to provide a groove 14 which engages both sides of the wall 3 to prevent endwise movement of the roller 11 in the body 1. The opening 9 is of a width equal to the roller at the base of the groove 14 and is provided with an enlargement 15 at its rear end which enables the free end of the roller to pass through and into the opening 10 where it is normally journaled. The difference between the radii S and T is about equal to that of two thicknesses of collapsible tube, so that when the clip 16 of a tube 17 is slid into the tubular roller 11 and the roller turned to wind the tube thereupon the periphery of the tube wall which is lying on the roller to one side of the slot will be flush with the surface of the roller on the opposite side of said slot as shown in Figures 5 and 6.

In operating the device, the roller 11 is partly withdrawn from the body 1 by first moving said roller to the rear of the openings 9 and 10 and allowing the slotted portion of the roller to slide through the enlarged portion 15 of the opening 9. When the roller is sufficiently withdrawn the folded end of a collapsible tube is slid into the slot 12 of the roller while the roller is pushed back into position with its free end journaled in the opening 10. The knurled knob 13 is then pushed downwardly until the lower marginal edge of the opening 9 is seated in the groove 14, which will enable the tubular roller 11 to be moved to the forward end of the openings 9 and 10. On removing the closure from the collapsible tube and turning the knurled knob 13 in a clockwise direction, the tube will be collapsed from its sealed end and will commence to wind upon the roller in the form of a volute. The space between the centre of the roller 11 and the rib 8 will be considerably less than the space between each end of the roller and opposite ends of said rib, so that the pressure exerted upon the longitudinal centre of the collapsible tube due to the turning of the knob towards said rib will completely collapse the tube along that line, whereas the space at the rib ends being greater the pressure at the sides of the tube will be correspondingly less and will not cause the walls of the tube

to be flattened out into intimate contact with each other. As any portion of the length of the tube passes between the roller and the rib the hitherto uncreased side edges of the tube will be progressively drawn closer to each other as shown at V, see Figure 5, finally being fully collapsed by the pull on the tube exerting a pressure which is exerted directly towards the axis of the roller. It will thus be seen that a moiety only of the collapsing effort is produced between the roller and the rib and that the collapsing effort at the sides of the tube is progressively effected while the longitudinal pull on the face of the tube in contact with the rollers and the face remote from the roller is equal. By virtue of this equalized pulling effort longitudinally of the tube there is no creasing of the tube walls at the edges of the tube and there is no danger of the tube being burst by unequal longitudinal pulling strains.

To remove a fully collapsed tube it suffices to move the roller to the rear of the openings 9 and 10, lift the knurled knob 13 the depth of the groove 14 and slide the roller 11 out of the body 1, when the finished tube may be lifted out and disposed of.

What I claim as my invention is:

1. A device for dispensing paste from collapsible tubes comprising a body supporting a roller and a roller coating member mounted parallel thereto, said roller having a longitudinal slot adapted to engage the folded end of a tube, said roller coating member having a longitudinally curved face opposing the roller, the central portion of said curved face being closer to the roller than the ends of said face.

2. A device for dispensing paste from collapsible tubes comprising a body supporting a roller and a roller coating member mounted parallel thereto, said roller having a longitudinal slot for the reception of the folded end of a tube and said roller being adapted to have the tube

rolled upon it, said coating member having end portions, and a medial portion less in length than the length of the slot, said medial portion being in close proximity to the periphery of the roller and said end portions remote from said periphery.

3. A device for dispensing paste from collapsible tubes comprising a body supporting a roller and a roller coating member mounted parallel thereto, said roller being adapted to engage the tube and to have said tube rolled upon it as the roller is rotated, said roller coating member having a surface opposing the centre of said roller whereby the tube in passing between the roller and the coating member surface has its side walls pressed substantially into contact with each other at a point intermediate the width of the tube only.

4. A device for dispensing paste from collapsible tubes comprising a body having side walls, a tubular roller removably mounted between said side walls, said roller having a longitudinal slot adapted to engage the clipped end of a collapsible tube and a roller coating member carried by the body in a position parallel to the roller, said roller having a greater radius on one side of the slot than that on the opposite side of said slot.

5. A device for dispensing paste from collapsible tubes comprising a body having side walls, a tubular roller removably mounted between said side walls, said roller having a longitudinal slot adapted to engage the clipped end of a collapsible tube and a roller coating member carried by the body in a position parallel to the roller, said roller having a greater radius on one side of the slot than that on the opposite side of said slot, the difference in radii of the roller on opposite sides of the slot being substantially equal to twice the thickness of the wall of the collapsible tube.

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