April 21, 1936. A. SACKS 2,037,824

SUPPORTING AND DISPENSING DEVICE FOR FLEXIBLE TUBES

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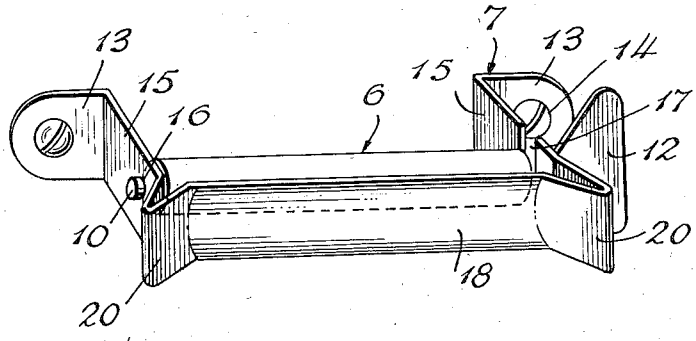


Fig. 1.

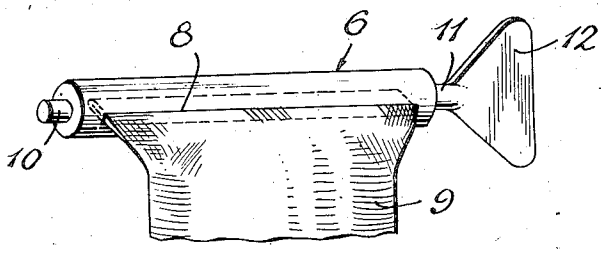


Fig. 2.

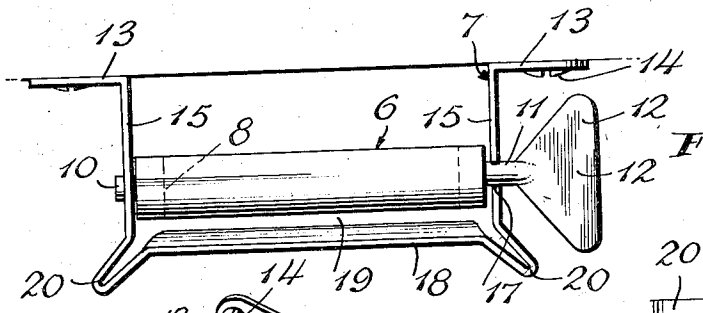


Fig. 3.

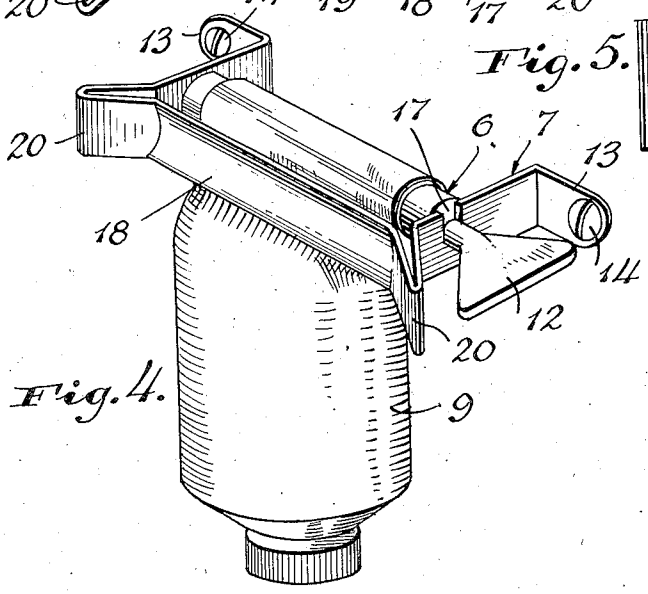


Fig. 4.

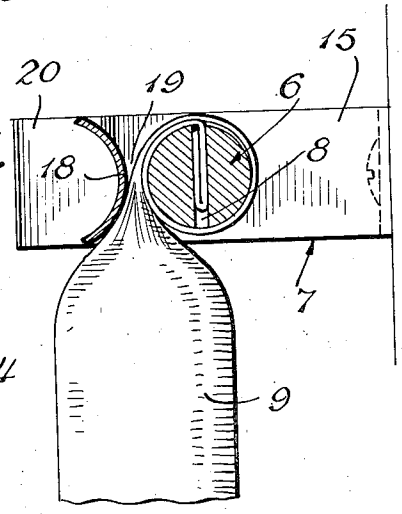


Fig. 5.

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SUPPORTING AND DISPENSING DEVICE FOR FLEXIBLE TUBES

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4 Claims. (Cl. 221—60)

This invention relates to improvements in holders for flexible tubes, such as used for containing tooth paste and like substances, and has for one of its objects to provide an improved device for supporting a filled tube in such position that the contents thereof may be dispensed by the manipulation of an element of said device and without the necessity of handling the tube.

Another object is to provide a device of the character stated which will embody features of simplicity in construction, practicability and cheapness of manufacture, and which will operate effectively to expel the entire contents of the tube supported thereby.

The above and other objects will appear more clearly from the following detailed description when taken in connection with the accompanying drawing which illustrates a preferred embodiment of the inventive idea.

In the drawing:—

Figure 1 is a perspective view of the device without the tube attached.

Figure 2 is a similar view of the winding member, showing the manner of connecting a tube thereto.

Figure 3 is a top plan view of the device.

Figure 4 is a perspective view of the device with the tube attached, and

Figure 5 is a transverse section through the device.

The present invention is primarily designed as a convenient means of supporting a flexible tube and expelling or dispensing the contents thereof without the necessity of handling the tube after the same has been mounted on the device and the latter is so constructed that all of said contents will be effectively discharged from the tube by a compressing or squeezing action applied thereto.

Broadly, the device comprises a winding member and a supporting member, generally indicated by the numerals 6 and 7, respectively. Preferably, the winding member 6 is in the form of a roller having an elongated slot 8 extending therethrough and of sufficient length to receive therein the usually flattened, closed end of a filled flexible tube 9. Opposite ends of the roller 6 are provided with trunnions 10 and 11 for mounting the winding member in the supporting member 7, as will presently appear. The trunnion 11 terminates in a key 12 utilized to rotate the member 6 relative to its supporting member to thereby cooperate with the latter to expel the contents of the tube and also to coil or wind thereon the emptied portion of the tube.

The supporting member 7 is adapted to be attached to any convenient support, such as a wall or the like, and is preferably formed from an elongated strip of resilient metal of suitable width. The ends of the strip are bent to provide lugs or ears 13 that engage the wall or other support to which the device is attached, and fasteners 14 extend through said lugs to secure the supporting member in a horizontal offset position relative to the wall. Projecting from the lugs 13 are the side sections 15 one of which is provided with an opening 16 to receive the trunnion 10 while the other has a slot 17 in its upper edge adapted to receive the trunnion 11. In this manner, the member 6 is removably mounted on the supporting member for rotative movement relative thereto.

The intermediate section 18 of the elongated strip is disposed adjacent and parallel to the member 6 and extends between the side sections 15 so as to combine with said member to form a restricted passage 19 through which passes the portion of the tube 9 being emptied as the member 6 is turned by means of its key 12. The section 18 is preferably curved transversely to strengthen the same and also to conform substantially to the contour of the portion of the tube 9 which is just entering the restricted passage, thereby preventing any abrasive action against said tube. Said section 18 cooperates with the roller and any convolutions of the emptied portion of the tube thereon to exert a pressure against the part of the tube in the restricted passage so that the contents of the tube are forced toward the discharge end of the latter when the member 6 is given a partial rotation.

As the emptied portion of the tube is progressively wound upon the roller and the number of convolutions increases, with a resultant increase in the effective diameter of the roller, the width of the passage 19 would gradually decrease if the relation between said roller and section 18 remained fixed. Such a condition would have the effect of making it increasingly difficult to turn the roller as the open end of the tube approaches said passage and might result in a complete jamming of the tube between said roller and section before the contents of the tube could be entirely discharged. To overcome such a difficulty, it is proposed to provide a resilient connection between the section 18 and the side sections 15 whereby the former will have a relative movement away from the winding roller under the influence of the convolutions of the wound portion of the tube and, at the same time, will exert a substantially uniform pressure in the direction of said roller irrespective of the num-

ber of convolutions on the latter. In order to accomplish this, the material of the strip from which the member is formed is bent upon itself, between the outer ends of the sections **15** and the ends of the section **18**, to provide outwardly diverging connecting sections **20**. These sections, due to the resiliency of the metal of the strip, allow of a limited amount of outward movement of the section **18** and at the same time, exert a substantially constant inward pressure thereon which will, at all times, be sufficient to force out the entire contents of the portion of the tube being emptied. In this manner, the restriction of the passage **19** will be, for all practical purposes, the same at the conclusion of the winding operations of the tube as it is in the beginning when the closed end of the tube is first inserted into the slot **8** and the member **6** given a partial revolution to secure said end in place.

What is claimed is:

1. In a device for supporting a flexible tube and dispensing the contents thereof, a winding member upon which the tube is adapted to be coiled when expelling its contents, and a supporting member formed from an elongated strip of material bent to provide side sections, an intermediate section, and connecting sections between said side and intermediate sections, said side sections having means constituting a bearing for said winding member, said intermediate section being bowed transversely and combining with said winding member to provide a restricted passage through which said tube passes as its contents are being expelled, and said connecting sections being formed by doubling the material upon itself to provide a resilient connection between the side and intermediate sections whereby the latter will exert a yielding pressure against the portion of said tube passing through said passage.

2. In a device for supporting a flexible tube and dispensing the contents thereof, a supporting member formed from a single length of material having its ends provided with attaching means for securing the member to a wall or other support, side sections extending from said ends, an intermediate section joining said side sections, and a winding member for said tube disposed adjacent said intermediate section and forming therewith a restricted passage through which said tube passes as it is being coiled upon said winding member.

3. In a device for supporting a flexible tube and dispensing the contents thereof, a supporting member formed from a single strip of material to include side sections, an intermediate section, and connecting sections joining said intermediate and side sections, said connecting sections being formed by doubling said strip upon itself between said side and intermediate sections, and a winding member for said tube mounted for rotation in said side sections adjacent said intermediate section so as to combine therewith to form a restricted passage through which said tube passes as it is being coiled upon said winding member.

4. In a device for supporting a flexible tube and dispensing the contents thereof, a supporting member comprising side sections, an intermediate section, and resilient connecting sections joining adjacent ends of said side sections, and a winding member rotatably mounted in said side sections in close proximity to said intermediate section and combining therewith to form a restricted passage through which said tube passes as it is being coiled upon said winding member.

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