Oct. 9, 1934. J. E. BANNISTER 1,975,915

PASTE TUBE DISPENSER

Filed Nov. 21, 1932

Fig. 1

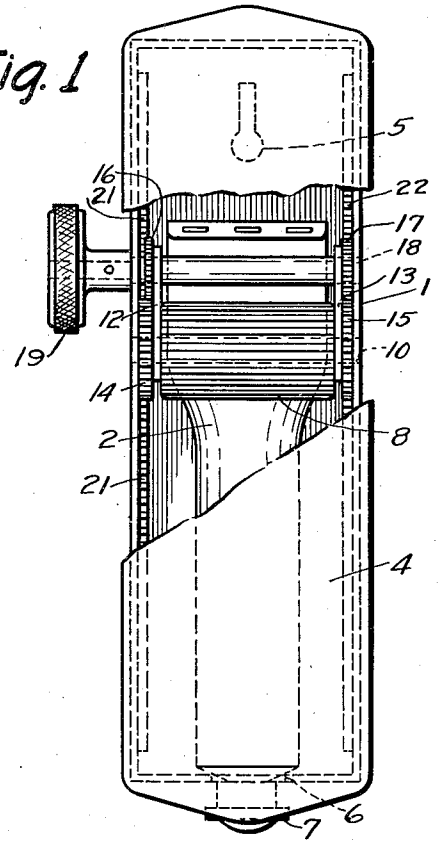


Fig. 2

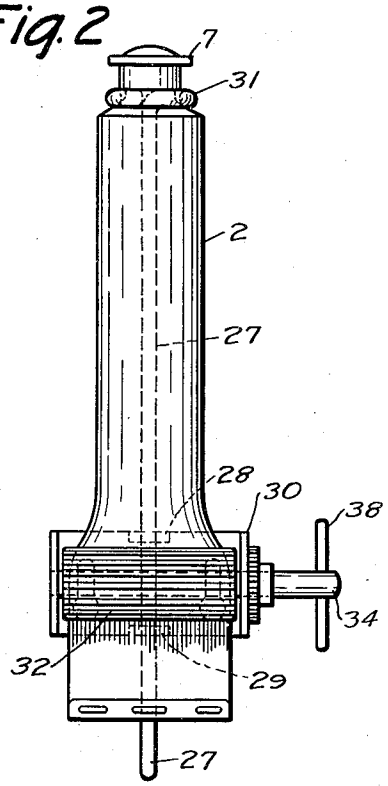


Fig. 3

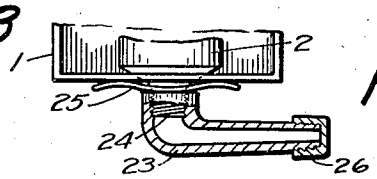


Fig. 4



Fig. 5

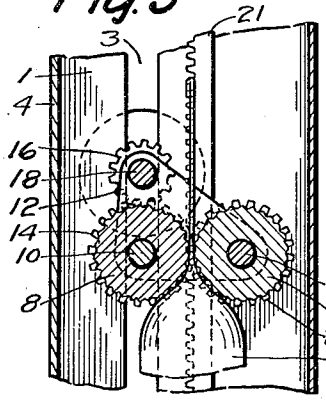
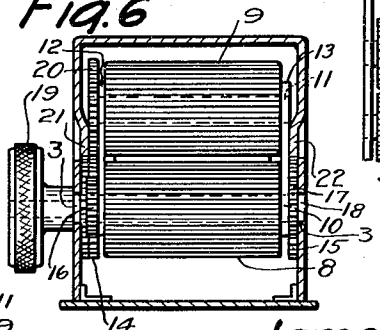


Fig. 6



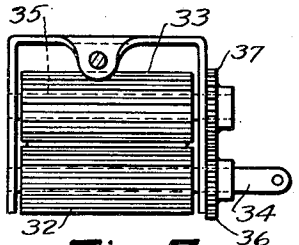


Fig. 7

INVENTOR

BY James E. Bannister

Harry Bowen ATTORNEY

Patented Oct. 9, 1934 1,975,915

UNITED STATES PATENT OFFICE

1,975,915

PASTE TUBE DISPENSER

James E. Bannister, Seattle, Wash.

Application November 21, 1932, Serial No. 643,653

3 Claims. (Cl. 221—60)

The invention is a dispenser for tubes of paste or the like having rollers in a carriage operated by a knob so that as the knob is turned, paste will be forced out of the tube.

The object of the invention is to provide a cabinet for dispensing paste from tubes so that it is not necessary to hold the tube and squeeze it by hand.

Another object of the invention is to provide means for dispensing tooth paste from tubes which may be operated by one hand so that a tooth brush may be held adjacent the end of the tube by the other hand.

Another object of the invention is to provide a dispenser for paste from tubes which is so arranged that the tube may be held in an upright or reversed position.

Another object of the invention is to provide a means for forcing paste from tubes in which the tubes may readily be removed and replaced.

A further object of the invention is to provide a device for dispensing paste from tubes which has feed rollers engaging both sides of the tube.

A still further object of the invention is to provide a device for dispensing paste from tubes in which all of the parts operate with a positive movement.

And a still further object of the invention is to provide a paste tube dispenser which is of a simple and economical construction.

With these ends in view the invention embodies a pair of feed rollers geared together with means for operating the rollers and means for holding a tube of paste so that as the rollers operate they will force the paste from the tube.

Other features and advantages of the invention will appear from the following description taken in connection with the drawing, wherein:

Figure 1 is a view showing a front elevation of the dispenser with part broken away showing the roller carriage on the inside.

Figure 2 is a view showing an alternate type of dispenser in which the cabinet is omitted and the tube held in an upright position above the rollers.

Figure 3 is a view showing a portion of the lower end of the cabinet showing an attachment for feeding the paste toward the side or front of the cabinet.

Figure 4 is a detail showing the end of the attachment shown in Figure 3.

Figure 5 is a cross section through the rollers and carriage of the device shown in Figure 1.

Figure 6 is a transverse sectional view showing the rollers and carriage of the device shown in Figure 1.

Figure 7 is a plan view showing the rollers and carriage of the device as shown in Figure 2.

In the drawing the dispenser is shown as it would be made wherein: numeral 1 indicates a cabinet, numeral 2 a tube of paste and numeral 3 slots in the sides of the cabinet forming a track.

In the design shown, the cabinet 1 is made of a rectangular shape and at the front is a door or closure 4. An opening 5 as shown in dotted lines in Figure 1 may be provided at the back so that the cabinet may be hung upon a pin or the like. At the lower end of the cabinet is an opening 6 through which the neck of the tube 2 may extend as shown in Figure 1 and a cap 7 may be screwed upon the neck of the tube to normally hold the tube in the position shown and also to close the tube. It will be understood that the regular tube cap may be used or any other cap may be used or any other means may be provided for holding the open end of the tube.

The upper end of the tube extends upward as shown in Figure 1 and passes between the rollers 8 and 9 which are mounted on shafts 10 and 11 and the shafts are rotatably mounted in plates 12 and 13 which, with the shafts, form a carriage as shown, with the ends of the shafts extending through the slots 3. The surfaces of the rollers 8 and 9 may be slightly corrugated as shown in Figure 5 or shaped in any other manner so that they will grip the surface of the tube and it will be noted that as the rollers are rotated they will grip and squeeze the tube and force the paste out so that a toothbrush may be held under or over the open end and the paste may be placed thereon.

On the shaft 10 are gears 14 and 15 that mesh with pinions 16 and 17 on a shaft 18 above the shaft 10 and at one end of the shaft 18, is a knob 19 which extends through the slot 3, by which it may be rotated by hand and as the shaft 18 is rotated by turning the knob 19 it will rotate the shaft 10 through the gears as shown and the shaft will rotate the roller 8 and also the roller 9 through the gear 20 on the shaft 11 as the gear 20 meshes with the gear 14 as shown in Figure 5.

The gears 14 and 15 also mesh with gear racks 21 and 22 at the sides of the cabinet and as these gears are rotated by the knob 19 they will move downward upon the racks and therefore force the rollers downward toward the full part of the tube. It will be understood that the gears and racks may be arranged in any other manner and also that the knob 19 may be located in any other position so that the gears and knob will rotate the rollers and force them to collapse the tube.

In Figure 3 an attachment 23 forming a right angle turn is screwed upon the neck 24 of the tube 2 and a spring 25 may be placed between the attachment and neck of the tube to resiliently hold and lock the attachment in place.

At the inner end of the attachment the opening is round to correspond with the tube; however, it is flattened out so that it is of a rectangular shape at the outer end as shown in Figure 4. A cap 26 may be placed on the outer end of the attachment to form a closure; however, it will be understood that any other means may be used for closing the tube or opening in the attachment.

In the design shown in Figure 2, the tube 2 is held in an upright position by a rod 27 which is held in bearings 28 and 29 in a bracket 30 and the upper end of the rod is formed with a loop 31 through which the neck of the tube extends so that the cap 7 may be placed on the upper end. Rollers 32 and 33 are mounted in the bracket 30 on shafts 34 and 35 and the shafts are provided with gears 36 and 37 as shown in Figure 7. The shaft 34 extends outward as shown and may be provided with a handle 38 by which it may be rotated by hand. It will be noted that the cap 7 may be removed from the tube and as the rollers are rotated by the handle 38 paste will be forced out of the tube. It will also be noted that the position of this device may be reversed so that the open end of the tube extends downward instead of upward.

It will be understood that other changes may be made in the construction without departing from the spirit of the invention. One of which changes may be in the design or arrangement of the cabinet, another may be in the use of other means for holding a paste tube in the cabinet, and still another may be in the use of other means for operating the rollers.

The construction will be readily understood from the foregoing description. In use the device may be provided as shown and when a new tube of paste is mounted in the dispenser the cap is removed, the neck of the tube placed through the opening at the end of the cabinet, and the cap may be replaced, thereby holding this end of the tube to the cabinet; or, when the attachment 23 is used, the cap may be discarded. The roller carriage is run towards the opposite end of the cabinet and is moved downward, or towards the tube so that the end of the tube is caught by the rollers. When it is desired to use paste from the tube the cap may be removed and as the rollers are rotated they will squeeze the tube and thereby force the paste out of the open end. After the tube is used it may readily be discarded and a new tube installed. The device is very unique in that it can be used in either position and also used with or without the cabinet.

Having thus fully described the invention what I claim as new and desire to secure by Letters Patent, is:

1. In a paste tube dispenser, feed rollers, gears on said rollers by which the rollers are geared together, pinions positioned above said gears for rotating the said gears and rollers, a casing in which the rollers are mounted with projections at the ends of the rollers extending through slots in the casing, gear racks in the casing meshing with gears on the rollers, means at one end of the casing for holding the neck of a paste tube with the closed end of the tube between the rollers, and means for rotating the said pinions through the slots in said casing.

2. In a paste tube dispenser, a casing, a carriage slidable in said casing, rollers in said carriage adapted to grip and squeeze a tube, gears on the said rollers through which the rollers may be operated, pinions meshing with said gears rotatably mounted in said carriage, a knob extending from said pinions thru a slot in said casing, racks in said casing meshing with said gears and adapted to cause the carriage to travel as the racks are rotated, and means for operating said gears and rollers.

3. In a paste tube dispenser, a casing, rollers slidable in said casing, said rollers adapted to grip and squeeze a tube of paste, gears for operating said rollers, pinions meshing with said gears and thru which the gears are rotated, a knob for operating said pinions thru the casing, means for causing said rollers to travel in the casing as they are rotated, means for holding the open end of said tube in said casing, an attachment extending from the casing adapted to be attached to the open end of the paste tube, a spring holding member between said attachment and end of the casing, and a closure for said tube.

JAMES E. BANNISTER.