

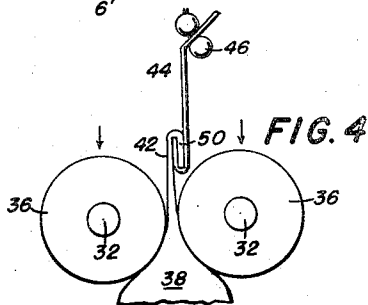
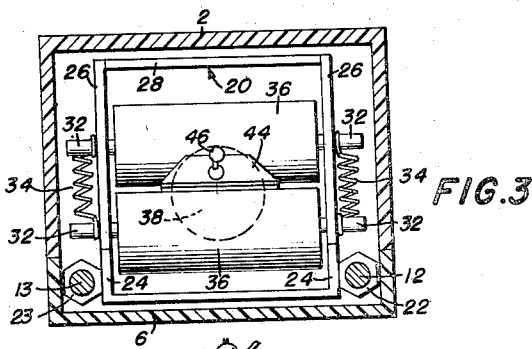
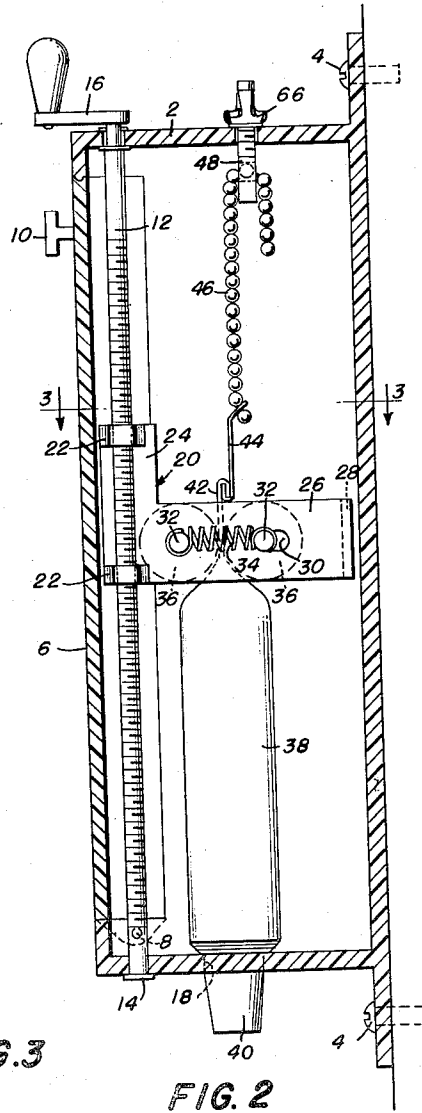
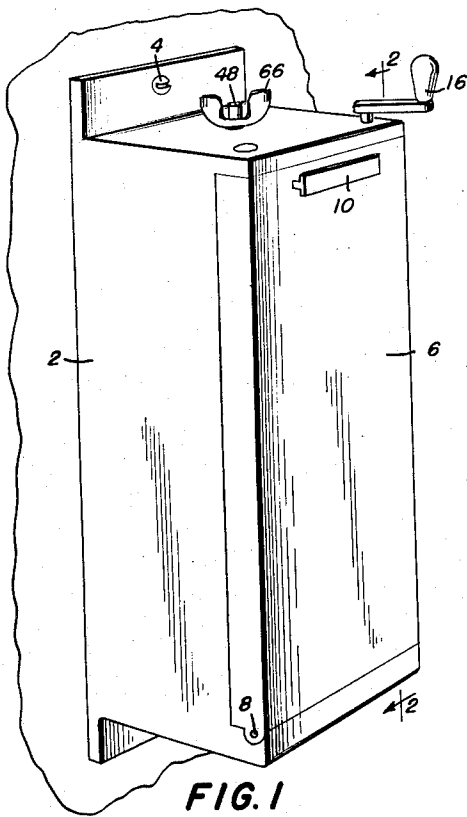
Aug. 25, 1959

E. L. BOND, JR
DISPENSER FOR TUBES

2,901,147

Filed Nov. 6, 1957

2 Sheets-Sheet 1



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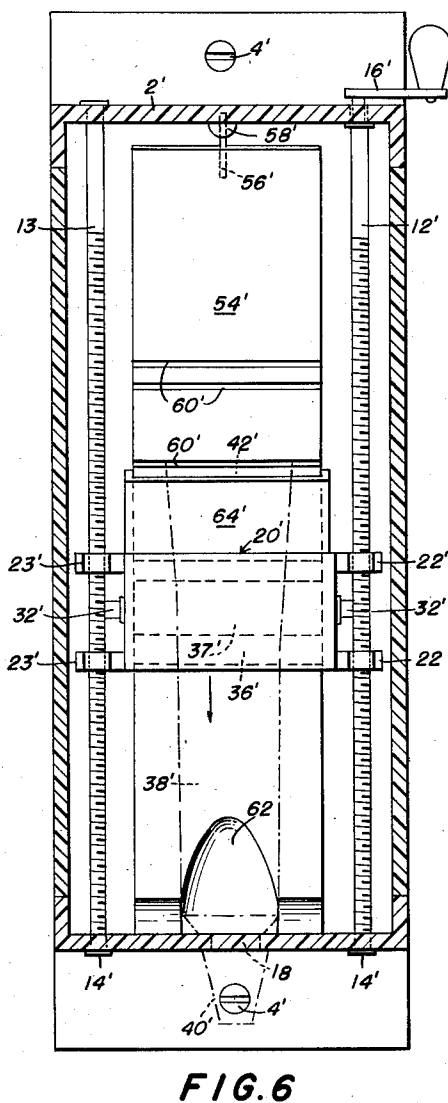
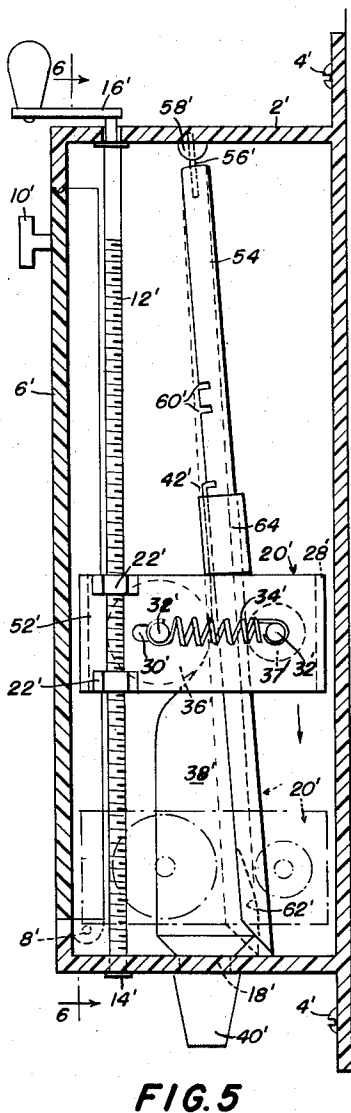
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DISPENSER FOR TUBES

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DISPENSER FOR TUBES

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2 Claims. (Cl. 222—102)

This invention relates to dispensers for tubes, particularly tubes containing tooth paste, shaving cream and the like, which contents are periodically dispensed in small amounts.

Previously, numerous inventors have attempted to construct devices for the facile and sanitary discharge of such tubes. Such devices generally have comprised a rack and pinion with compressing roller or a pair of rollers for compressing the tube from its end to its neck, the tube neck generally protruding through a hole in the bottom of the device.

A principal shortcoming of these devices is that means are not provided for retaining the tube end against the motion of the roller towards the neck of the tube. Thus, complete compression of the tube and complete discharge of the contents is virtually impossible. Another objection is that none of the rollers or compressing means are transversely adjustable to variously sized tubes and the varying shape of a tube as it is being discharged of its contents.

Accordingly, it is an object of my invention, to provide a toothpaste tube dispenser having longitudinally adjustable means for retaining a tube end.

Another object of invention is to provide a dispenser for tubes which may accommodate variously sized tubes without modification.

Yet another object of invention is to provide tube compressing means which are self adjusting to variously sized tubes and the varying size of a tube as it is being compressed.

Yet another object of invention is to provide a dispenser for tubes which may be economically manufactured and readily repaired.

Yet additional objects of invention will become apparent from the description hereinafter and the attached drawings, in which:

Figure 1 is a perspective view of my device mounted on a wall or the like;

Figure 2 is a vertical sectional view taken along lines 2—2 of Figure 1, showing a tooth paste tube positioned for dispensing of contents;

Figure 3 is a transverse sectional view taken along lines 3—3 of Figure 2 and showing the transversely adjustable rollers 36 encompassing clip 44 and compressing a tube end;

Figure 4 is an enlarged elevational view of my compressing rollers compressing a tube end while the tube end is retained by my unique J-shaped clip;

Figure 5 is a vertical sectional view, taken along lines 2—2 of Figure 1 and illustrating a modification of my device, wherein a pivoted and upstanding press board supports and retains the tube between the compressing rollers;

Figure 6 is a vertical sectional view taken along lines 6—6 of Figure 5, illustrating a tube in position on the press board.

Referring now to the drawing the numeral 2 taken to represent a rectangular casing which may be constructed of metal, plastic or the like and which may be mounted

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to a wall or the like by means of screws 4. This casing 2 has a front piece 6 which may be pin mounted as at 8 and have thereon a simple handle 10.

As may be seen in Figure 2 and Figure 3, within the casing 2 is a longitudinally positioned screw shaft 12 rotatably mounted in the base plate of the casing as at 14. In parallel to screw shaft 12 is a longitudinally positioned guide shaft 13. This guide shaft 13 is without threads and may be immovably fastened at the casing 2 top and bottom plates. For operation of the screw shaft 12 a screw fastened handle 16 is mounted at the top thereof and protrudes through the casing 2. The casing bottom plate has hole 18 therein, permitting protrusion of a tube neck through the bottom, and leaving the tube neck threads partially exposed so that tube cap 40 may be screwed thereon when my device is not in use. Mounted between the screw shaft 12 and guide shaft 13 is a rectangular yoke 20 having an upstanding segment 24 and a carrying segment 26.

Threaded nuts 22 are welded to the screw shaft side of the upstanding portion and engage screw shaft 12. Non-threaded or similar nuts 23 may engage the non-threaded guide shaft 13. The horizontal carrying segment 26 of the yoke embraces yoke rear piece 28 and has mounted transversely in its side roller shafts 32 on which rollers 36 are mounted. As will be noted in Figure 2, the yoke apertures 30 for the roller farthest from screw shaft 12 and guide shaft 13 are elongated in the form of a slot. Since the roller shafts 32 are urged together by spring 34, a transverse adjustability to variously sized tubes and the varying size of a tube as it is compressed is accommodated by elongated apertures 30. The tube body 38 is retained in its upstanding position by means of J-shaped clip 44 being bent at its end to form anchor 50 which engages the under side of the tube crimped end 42. Clip 44 is fastened to chain 46 which has an adjustable base mount 48 having therein a conventional aperture and slot which permits shortening or lengthening of the chain for adjustment to tubes of various lengths. Base mount 48 is threaded at its shank, for longitudinal adjustment by means of knurled nut 66.

In operating my device the door 6 is opened by means of handle 10. Initially the tube cap 40 is removed and the tube neck is placed through aperture 18 and the cap replaced. J-shaped clip 44 is placed between rollers 36, anchor 50 extends below rollers 36 to the tube crimped end 42. Compression of the tube is effected by rotating of handle 16, which in turn rotates screw shaft 12 effecting a lowering of yoke 20. Thus, as the tube end 42 is retained by clip 44 the yoke 20 and compressing rollers 36 are gradually lowered to compress the tube from end to neck, discharging contents of the tube when the cap 40 is removed. During compression the crimped end of the tube 42 is engaged by anchor 50, ball chain 46 is adjusted in base mount 48 and knurled nut 66 is adjusted to provide tautness to the completed assembly from the cap 40 to the base mount 48.

A modification of my device is shown in Figure 5 and Figure 6 wherein a nearly similar yoke 20' is employed in connection with screw shaft 12' and guide shaft 13'. The yoke 20' differs in that elongated aperture 30' is provided for the roller shaft 32' which is nearest screw shaft 13. Also, in this modification a large roller 36' and smaller roller 37' are urged together by spring 34' which interconnects roller shafts 32'. Positioned between rollers 32' is an upstanding pressboard 54' which may be rotatably mounted by means of stud 56' engaging an apertured base 58' attached slightly off-center to the underside of the casing 2 top. In the upper half of the pressboard 54' there are provided transverse slots 60' into which the tube crimped end 42 is inserted. Then, sleeve 64' is positioned over the tube end, combining with the

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transverse slot 60' to retain the tube end in stationary position relative to the bottom plate aperture 18'. As may be seen in Figure 6, the press board 54' has at its lower extremity a concavity 62' which partially encompasses the hard incompressible end of the tube, permitting the press board to become aligned substantially in parallel with the tube. Since the press board 54' is pivoted as at 58', the downward movement of yoke 20' and consequent compressing action of rollers 36' and 37' tends to align the press board in parallel with the sides of the casing 22. Thus, when the yoke 20' is in its lowest position as shown in phantom in Figure 5, press board 54' is more vertically aligned, as shown also in phantom.

It is to be understood that my invention is capable of many modifications which might be made without departing from the spirit and scope of the invention which I claim as follows.

I claim:

1. A tube dispenser comprising a casing having a tube positioned therein, including means for access to said casing, a positioner engaging the dispensing end of said tube, a longitudinal screw shaft rotatably mounted between ends of said casing, a yoke reciprocally mounted on said screw shaft, a pair of transversely reciprocal com-

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pressing rollers axially mounted in said yoke, said rollers being urged together by spring means inter-connecting their axes, a press board longitudinally disposed between said rollers, said press board having transverse slots and a slidable sleeve attached at a side of one extremity, said slots and sleeve combining to anchor the closed end of said tube in spaced relation to said discharge end, and said pressboard having at its other extremity a concavity permitting substantially parallel alignment of said tube and said press board.

2. A dispenser for tubes as claimed in claim 1, said press board being pivotally mounted at one end and assuming an increasingly vertical disposition during reciprocation of said yoke towards said discharge end.

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