

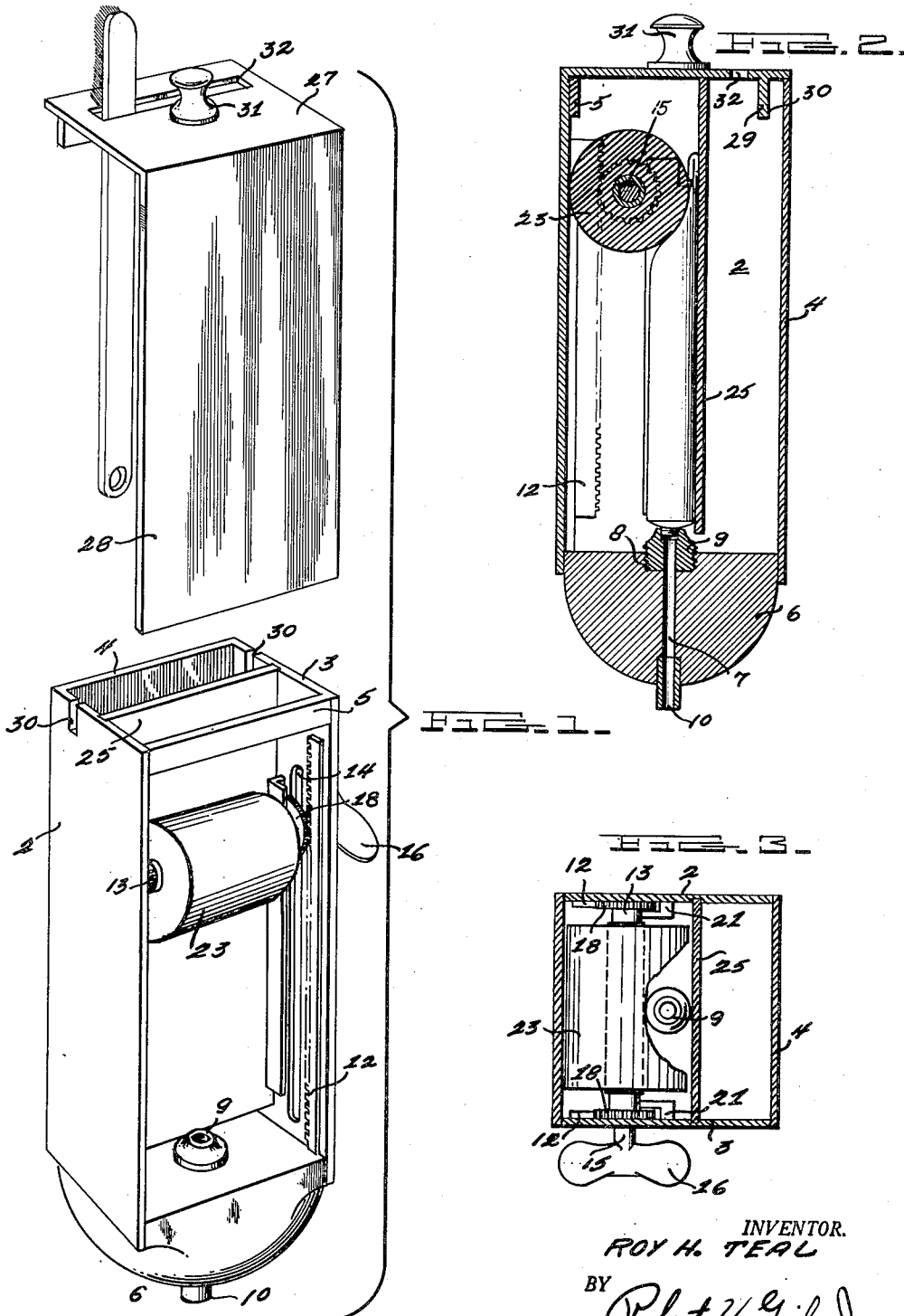
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DISPENSER FOR COLLAPSIBLE TUBES

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## DISPENSER FOR COLLAPSIBLE TUBES

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1 Claim. (Cl. 222-93)

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This invention relates to dispensers of the type which hold a collapsible toothpaste tube and permit of its being progressively squeezed from its closed end to its dispensing orifice.

It is among the objects of the present invention to provide a device of the class described which is characterized by simplicity and efficiency of operation, and particularly from the standpoint of exchanging an empty toothpaste tube for a full one.

Another object is the provision of the foregoing advantages in a device which is both simple and inexpensive to manufacture and is also durable in service.

Still another object is to provide a novel device for holding a collapsible toothpaste tube and dispensing the contents thereof, which also holds one or more toothbrushes or other articles in readily accessible manner.

The invention, then, comprises the features hereinafter fully described and as particularly pointed out in the claim, the following description and the annexed drawings setting forth in detail a certain illustrative embodiment of the invention, this being indicative of but one of a number of ways in which the teachings of the invention may be employed.

In the drawings:

Figure 1 is an exploded view, in perspective, of the improved toothpaste dispenser of the present invention, the front and top members of the housing therefor being shown as integral and in elevated position.

Figure 2 is a transverse sectional elevation of the novel toothpaste dispenser.

Figure 3 is a sectional plan view taken from within the housing and at the upper end thereof.

Referring more particularly to the drawings, the numerals 2 and 3 designate a pair of vertically disposed, rectangular shaped side-wall members which are arranged in parallelism and connected along their correspondingly rearward edges to a vertically disposed, similarly shaped rear-wall member or panel 4. According to a permissive embodiment of the present invention, all of the elements of the present invention, including the side-wall members 2 and 3 and the rear-wall member or panel 4, may be made of metal, and assembled and connected in any of the convenient modes well-known in the art.

Extending between the upper ends of the forward edges of the side-wall members 2 and 3, and connecting the same, is a cross-member 5 which provides a strengthening effect and also serves to facilitate the seating of the top and frontal portions which will be later described.

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Disposed at the bottoms of the side-wall members 2 and 3 and the rear-wall member 4 is a plug 6 which connects these three elements and serves as a support for an inverted collapsible toothpaste tube of conventional shape and size. The plug 6, which serves as the bottom of the housing of the toothpaste dispenser of the invention has a vertical bore 7 extending therethrough. The upper end of this bore 7 communicates with an enlarged recess 8 within which there is seated a centrally-apertured screw-threaded receptacle 9 which is constructed and arranged to receive the exteriorly screw-threaded end, or dispensing orifice, of the toothpaste tube.

The lower end of the vertical bore 7 of the plug 6 projects from the lower end of the latter and is provided with a suitable cap or cover 10.

Along the forward edge of each of the side-wall members 2 and 3, there extends a vertically disposed rack 12, the gear-teeth of which face inwardly; and between these vertically disposed inwardly facing racks 12, there extends a horizontal shaft 13, one end of which extends through, and projects from, an elongate vertical slot 14 in the side-wall member 3. This projecting end 15 of the horizontal shaft 13 has a winding key 16 secured to it. A pair of gears 18 are secured to that portion of the horizontal shaft 13 which lies between the side-wall members 2 and 3, each of the said gears being disposed opposite one of the vertically disposed inwardly facing racks 12 and adapted for constant enmeshment therewith through the agency of a suitable biasing means, such as vertical guides 21 which may be attached to the side-wall members 2 and 3.

As previously stated, one of the most important features of the present invention is extreme simplicity and efficiency in enabling the exchange of an empty toothpaste tube for a full one, and towards these ends, there is provided an improved operating instrumentality in lieu of the conventional winding key of the prior art from which the collapsed and wound toothpaste tube must be removed. More specifically, this operating instrumentality comprises a roller 23 which is loosely mounted on the midsection of the horizontal shaft 13. This roller 23 is constructed and arranged for progressive downward movement with the horizontal shaft 13 in such manner as to bear against, and progressively squeeze, the collapsible toothpaste tube from its closed end to its dispensing orifice. For all practical purposes, this roller 23 may be half-round in cross-section, as shown in Figure 2. In any

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event, it is provided on the lower half of its transverse cross-section with a curved portion which is adapted to bear against one of the two broader faces of the toothpaste tube and exert a squeezing, collapsing pressure against it as it is moved downwardly with the horizontal shaft 13 by the clockwise rotative movement of the winding key 16.

In order to assist the roller 23 in its progressive downward squeezing movement, the opposite face of the inverted collapsible toothpaste tube is backed-up by a vertically disposed, rectangularly shaped removable partition 25 which extends between the side-wall members 2 and 3 and is secured thereto in any suitable manner, as by means of vertical slots, or equivalent means.

From the lower half of Figure 1, it will be seen that, as the winding key 16 is rotated clockwise, the gears 18 on the horizontal shaft 13 will cause the latter to move downwardly and take with it the squeezing roller 23 which, as aforesaid, will squeeze the inverted collapsible toothpaste tube between it and the partition 25; and this relationship will continue throughout the length of the contents within the said tube.

Referring more particularly to the upper half of Figure 1, the top and frontal members of the housing of the improved toothpaste dispenser of the present invention are joined together, the composite portions being designated at 27 and 28 respectively. On the under side of the top member 27 there is formed a cross-member 29 which depends therefrom, and which is adapted to ride in a pair of vertical slots 30 formed adjacent the rearward portions of the upper edges of the side-wall members 2 and 3.

The top member 27 is also provided at its approximate center with a handle 31, by means of which it may be conveniently removed.

Another feature of the device of the present invention is the construction and arrangement of the housing to provide means for holding one or more toothbrushes in readily accessible manner. This means may conveniently take the form of a series of individual apertures, or an elongate slot 32, formed in the top member 27 and communicating with the space between the removable partition 25 and the rear-wall member 4.

While I have shown and described certain specific embodiments of the present invention, it will be readily understood by those skilled in the art that I do not wish to be limited exactly thereto, since various modifications may be

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made without departing from the scope of the invention as defined in the appended claim.

I claim:

In an apparatus for dispensing the contents of a collapsible tube, a base provided with a discharge outlet, a casing adapted for detachable association with said base, said casing comprising a rear wall and a pair of interconnected parallel side walls, each of said side walls having a vertically extending recess, a removable vertical transverse partition having its side edges adapted to seat in the vertically extending recesses in said parallel side walls and arranged in spaced relation to said rear wall, said parallel side walls being connected at their upper forward edges by a relatively narrow cross-member, means associated with said base for holding the collapsible tube in inverted position, each of said parallel side walls being provided with a vertically extending rack, one of said side walls having a vertical slot disposed rearwardly of its vertically extending rack, a horizontal shaft disposed within said casing and extending through said vertical slot, vertical guides on said side walls rearwardly of said racks engageable with said shaft, a pair of gears on said shaft adapted for rotatable engagement with said racks, means disposed exteriorly of said casing for enabling manual rotation of said shaft, a friction member mounted on said shaft for compressing a collapsible tube, a one-piece L-shaped cover adapted to enclose the front and top of said casing, said side walls being provided with oppositely disposed vertical slots in their upper edges, a depending transverse member on said L-shaped cover receivable in said slots, and said L-shaped cover having a slot in the horizontal portion thereof which is positioned over the compartment formed between the rear wall and the vertical partition, said last-named slot being adapted to receive at least one toothbrush, and means for retaining said cover on said casing.

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