

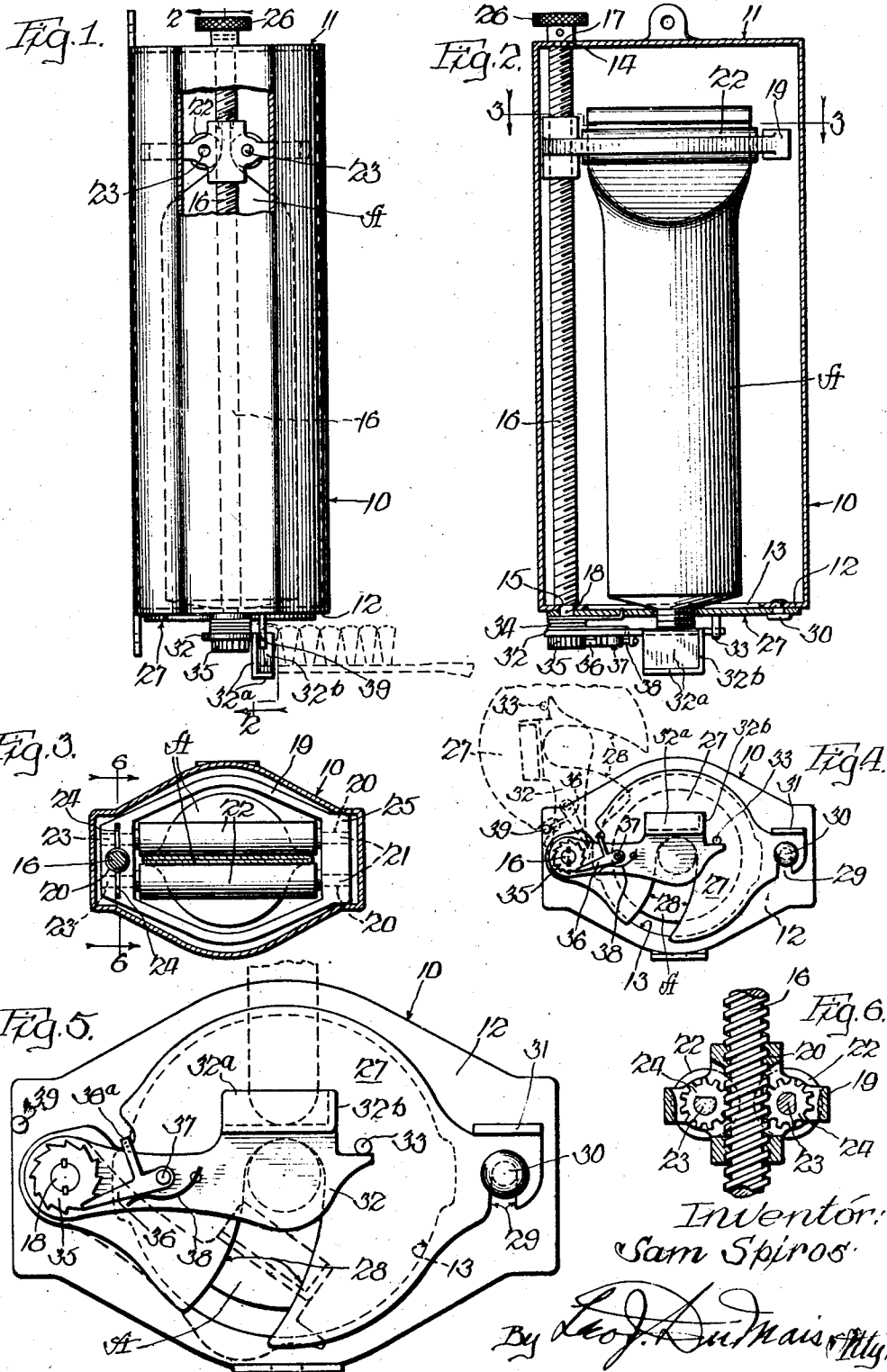
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PASTE DISPENSING DEVICE

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PASTE DISPENSING DEVICE

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5 Claims. (Cl. 221—60)

The invention relates to a paste dispensing device and more particularly to means for dispensing the contents of a collapsible tube.

The chief objects of the present invention are the provision of a dispensing device having a pair of rollers horizontally disposed in side by side relation therein and in which a collapsible tube may be easily and readily placed with the closed end of the tube between the rollers and having remote control means for causing the vertical movements of said rollers to collapse the tube to emit the substance therefrom when desired.

A further object is the provision of a device of this character wherein the tube is inserted and held in an inverted position having a cap member for closing the opening thereof which is operatively connected to a driving means for causing the rollers to be moved to collapse the tube as the cap member is moved.

A still further object is the provision of a device of this character having means whereby the remote control means may be rendered inoperative and having manual control means for actuating the vertical movement of the rollers to properly position them with respect to the tube.

With the foregoing and other objects in view, which will appear as the description proceeds, the invention resides in the combination and arrangements of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment herein disclosed can be made without departing from the spirit of the invention.

In the drawing:—

Figure 1 is a side elevation of my device having a portion broken away showing the operating mechanism.

Fig. 2 is a medial sectional view taken on the line 2—2 of Fig. 1 showing the operating parts in elevation.

Fig. 3 is a cross-sectional view taken on the line 3—3 of Fig. 2.

Fig. 4 is a bottom plan view of the device showing the bottom member or cover in open position in dotted lines.

Fig. 5 is an enlarged bottom plan view showing the cap member in changed position in dotted lines.

Fig. 6 is an enlarged sectional view taken on the line 6—6 of Fig. 3.

Referring to the drawing, the numeral 10 designates a casing which is elongated in cross section, having a closed top wall 11 and a bottom wall 12 provided with an opening 13. The top

wall 11 and the bottom wall 12 are each provided with an opening 14 and 15, respectively, into which a vertically extending screw-shaft 16 is pivotally mounted adjacent the side wall of the casing with its reduced ends 17 and 18 respectively extending outwardly of the walls 11 and 12.

A yoke 19 provided with a threaded opening 20 is held in horizontal threaded engagement with the screw-shaft 16 and is provided with horizontal openings adjacent each side of the screw-shaft into which the shafts 21 of a pair of rollers 22 are journaled. The rollers 22 are preferably of resilient material, such as rubber, etc., and are supported in the yoke 19 in spaced side-by-side relation to receive the closed end of a collapsible tube A between them. The ends 23 of the roller shafts 21 are milled to form a flat portion to receive the small spur gears 24 provided with a D-shaped center for securing them to the rollers and in meshing engagement with the screw-shaft 16.

The free end 25 of the yoke 19 is guided in the casing 10 to permit a vertical longitudinal movement of the yoke as the screw-shaft 16 is rotated, and the rollers 22 will be caused to turn toward each other by means of the gears 24 which are also in meshing engagement with the shaft 16 and on each side thereof.

A knurled knob 26 is fixed to the end 17 of the screw-shaft 16 to manually adjust and position the rollers with respect to the tube A as it is inserted through the opening 13 in the bottom wall 12.

A cover 27 is pivoted for swinging movement on the extension 18 of the shaft 16 and is provided with an arcuate slot 28 centrally thereof for receiving the neck portion of a collapsible tube A to retain the same within the casing 10 with the closed end thereof between the rollers 22. At its free end the cover 27 is provided with a slot opening 29 adapted to engage a headed stop 30 on the bottom wall 12 to securely retain the cover in position and which is also provided with a downwardly extending portion 31 forming a finger piece for manually swinging the cover member to insert or withdraw the collapsible tube. A cap member 32 is also pivotally mounted on the extension 18 of the shaft 16 and is normally urged against a stop by means of the spring 34 having one leg thereof anchored to the cover 27 and its other leg attached to the cap member 32.

As thus far described, it will be noted that the cover 27 and the cap member 32 are normally held together under the influence of the spring 34 and when said cover 27 is swung outwardly (see

Fig. 4) the cap member 32 will move therewith and when it is brought back to its closed position, the stop 33 will force the cap member 34 to its normal at-rest position over the opening in the neck of the tube A. The cap member 32 is provided with a downwardly and outwardly turned portion 32a having a side flange 32b forming a pocket-like rest or support for a tooth brush as shown in dotted lines in Figs. 1 and 5.

A ratchet wheel 35 is keyed to the extreme end 18 of the shaft 16 having a ratchet dog 36 pivoted at 37 on the cap member 32 and normally urged into engagement with the ratchet wheel by means of a spring 38. The dog 36 is provided with an extension 36a adapted to engage a stop 39 fixed to the bottom wall 12 of the casing when the cover 27 is moved outwardly to open position, thereby causing the ratchet dog 36 to disengage the ratchet wheel 35 and to be re-engaged by means of the spring 38 when the cover is returned to closed position.

When the cover is in open position as above described and the dog 36 is free of the ratchet wheel 35, (see dotted lines Fig. 4) the screw-shaft 16 may be manually turned by means of the knurled knob 26 for properly positioning the rollers 22 with respect to the tube A.

Assuming the device to be loaded, that is, the tube A being positioned within the casing 10 with the closed end thereof between the rollers 22 and the cover 27 in closed position (see Figs. 4 and 5), it is only necessary that the user position the brush against the rest or support formed by the walls 32a and 32b of the cap member 32 and press the same causing the cap member 32 to swing on the extension 18 of the shaft 16 and causing the dog 36 to engage and rotate the ratchet wheel 35 and the shaft 16, which in turn will cause the yoke 19 threaded thereto, to move downwardly and while doing so, the spur gears 24 in meshing engagement with the screw-shaft 16 will cause the rollers 22 to be positively driven to grip and collapse the tube A in their rolling movement, emitting the substance therein upon the brush which has been moved into the path of the tube. When the brush is removed, the cap member 32 will again resume its normal at-rest position against the stop 33 under the influence of the spring 38, thereby forming an enclosure for the open end of the tube.

I claim:—

1. A dispenser of the character described, comprising a closed casing having a top and bottom wall and provided with an opening in the bottom wall, a cover having an arcuate slot opening therein to receive the neck end of a paste tube and mounted for swinging movement with respect to the bottom wall, a vertically extending threaded shaft journaled in the top and bottom walls, a yoke in threaded engagement with said threaded shaft, rollers horizontally journaled in said yoke and geared to said threaded shaft, a cap member pivotally carried on the threaded shaft and closing the neck end of the paste tube, and means coacting with the cap member and said threaded shaft for causing a step by step downward movement of the yoke.

2. A dispenser of the character described, comprising in combination, a casing having a top and bottom wall and provided with an opening in the bottom wall to receive the neck of a paste tube, a screw-shaft pivotally supported in vertical position in said casing, a roller-carrying yoke member in threaded engagement with said screw-shaft, a cap member mounted on the screw shaft for swinging movements on said casing, means on the shaft and cap member for engaging and causing the rotation of said screw-shaft upon the movement of said cap member in one direction, and spring means coacting with the bottom wall and cap member for causing the reverse movement of said cap member.

3. A dispenser comprising in combination, a casing having a top and bottom wall and provided with an opening in the bottom wall for inserting a paste tube therein, a cover having an arcuate opening therein and mounted for swinging movement on said bottom wall, a threaded shaft journaled in said casing and extending outwardly at each end thereof, a roller-carrying yoke member in threaded engagement with the threaded shaft, a cap member closing the neck end of the tube and mounted on said shaft for swinging movements on said cover, and means for causing a partial rotation of said threaded shaft upon the movement of said cap member.

4. A dispenser comprising in combination, a casing having a top wall and a bottom wall having an opening in the bottom wall, a cover having a slot opening therein to receive the neck end of a paste tube and mounted for swinging movement on the bottom wall, a screw-shaft journaled in the top and bottom walls of said casing, a horizontally extending yoke in threaded engagement with the screw-shaft, rollers journaled in said yoke to receive the closed end of the paste tube therebetween, gears on the ends of the rollers in meshing engagement with the screw-shaft, a cap member pivotally mounted on the screw shaft closing the neck end of the paste tube, and dog and ratchet means coacting with the screw-shaft and the cap member for causing the rotation of the rollers to collapse the tube as the cap member is moved.

5. A paste dispensing device of the character described, comprising a casing having a closed top wall and a bottom wall having an opening therein, a screw-shaft disposed vertically within the casing, a cover having a slot opening therein to receive the neck of a collapsible tube, a roller-carrying yoke in threaded engagement with said screw-shaft, a cap member carried by the screw-shaft closing the neck end of the tube, a ratchet wheel on the screw-shaft, a spring-pressed ratchet dog carried by the cap member and engaging the ratchet wheel, and means on the casing in the path of the ratchet dog for disengaging the same when the cover is in open position.

SAM SPIROS. 65