Nov. 7, 1950 J. M. MILLER 2,528,662

TOOTH PASTE DISPENSER HAVING A CUTOFF VALVE ACTUATED BY A TOOTHBRUSH

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Fig. 1.

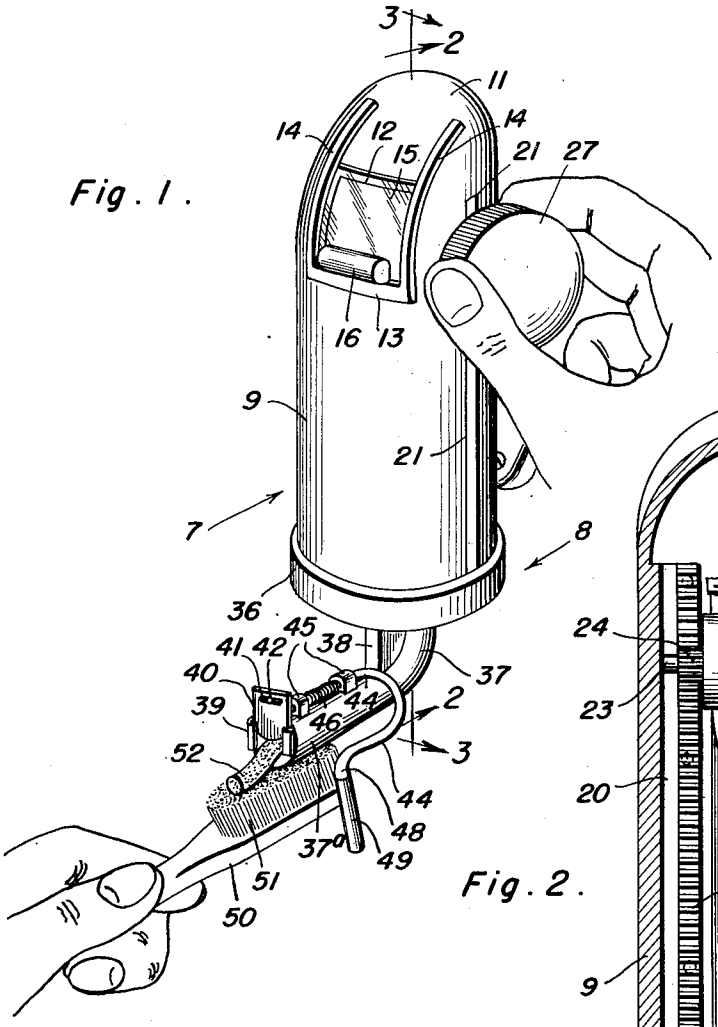


Fig. 2.

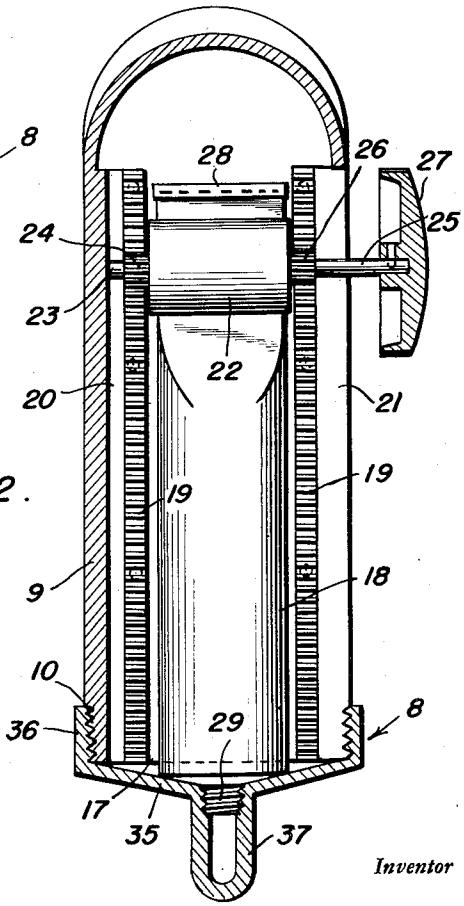
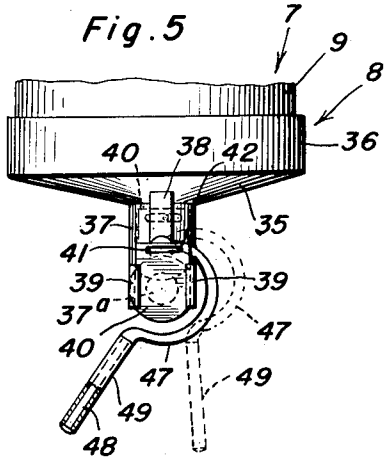


Fig. 5



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Fig. 3.

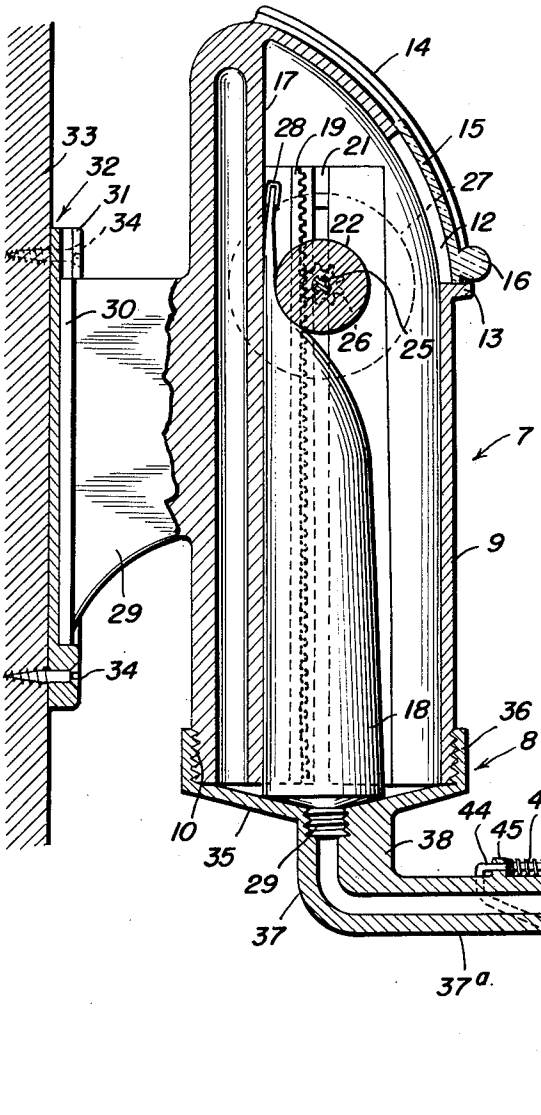
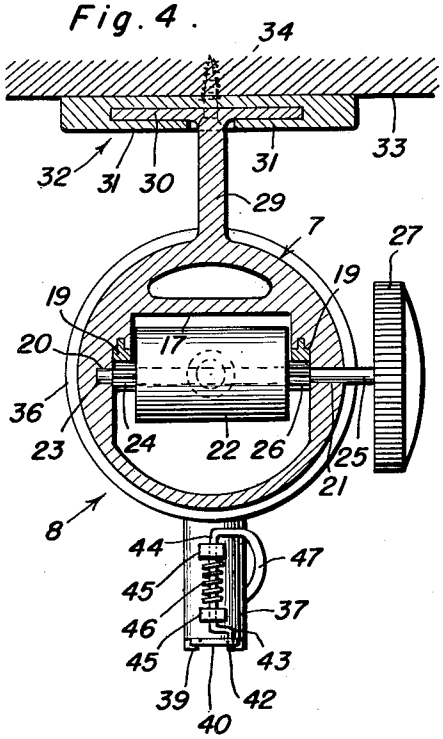


Fig. 4.



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TOOTH PASTE DISPENSER HAVING A CUT-OFF VALVE ACTUATED BY A TOOTH-BRUSH

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Application June 30, 1948, Serial No. 36,189

2 Claims. (Cl. 222—127)

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The present invention relates to collapsible tube holding and dispensing devices and has more particular reference to a type which is especially, but not necessarily, adapted to contain a tooth paste tube, the same being characterized, primarily considered, by a novel valved paste discharge neck.

More specifically, the invention has to do with a casing or equivalent enclosure for the paste tube in which a knob-turned roller is slidably mounted in a manner to compress the tube and to effectively express the paste from the tube, said casing being provided on its lower end with a novel cap carrying the improved valve-equipped discharge neck.

In carrying out the principles of the invention, I provide a simple screw cap which is detachably connected with the lower open end of the casing, which serves to permit the screw neck of the tube to be properly lined up and connected thereto and which is provided with an L-shaped discharge neck, a cut-off valve for the ejecting end of the neck and operating means for the valve, which means includes a lever which is constructed and arranged to be actuated by the toothbrush.

Other objects and advantages will become more readily apparent from the following description and the accompanying illustrative drawings:

In the drawings, wherein like numerals are employed to designate like parts throughout the views:

Figure 1 is a perspective view of a valve-equipped tube container and dispensing device constructed in accordance with the principles of the present invention and illustrating the manner in which same is used;

Figure 2 is an enlarged vertical section on the line 2—2 of Figure 1;

Figure 3 is a similar vertical sectional view at right angles, with parts in elevation, said section being on the vertical line 3—3 of Figure 1, looking in the direction of the arrows;

Figure 4 is a horizontal section through Figure 3; and

Figure 5 is an enlarged end elevation of the valved cap means, said view observing the lower portion of Figure 3 in a direction from right to left.

Referring now to the drawings by distinguishing reference numerals, the casing unit is denoted by the reference character 7 and the valve-equipped closing cap unit is denoted, in a unitary structural sense, by the reference character 8. The casing comprises a cylindrical, vertically elongated shell 9 of appropriate shape and open at its bottom and screw-threaded, as at 10, and closed at its top, as at 11. As seen in Figure 3, a sight opening 12 is provided and this is exteriorly provided with a horizontal stop lip 13 and spaced parallel arcuate guide channels 14 which channels serve to accommodate a sliding transparent window 15 having an appropriate finger grip 16. The window permits the user to observe the starting operation and also facilitates obtaining access to the interior to set the parts in proper relationship for effective operational results. On its interior, the casing is provided with a flat or panel-like backing 17, against which the tooth paste tube 18 is firmly pressed, as shown to advantage in Figure 3. The numerals 19 designate vertical parallel racks, and one rack to the left in Figure 2 cooperates with a grooved guideway 20. Diametrically opposite to the guideway and cooperating with the remaining rack is a longitudinal slot 21 which opens through the lower open end of the casing. Located between the racks is a presser roller 22 mounted on a turnable and slidable shaft. One end of the shaft provides a journal 23 which operates in the guideway 20. This end of the shaft is provided with a cog 24 meshing with the adjacent rack 19. On the opposite end of the roller, the shaft portion 25 is provided with a cog 26 which meshes with the other rack. The shaft portion 25 extends outwardly and beyond the slot 21 where it carries a finger knob 27. The finger knob is sufficiently large and appropriately knurled to permit it to be grasped and operated in the manner indicated in Figure 1. These types of ejectors are not new and it is obvious that by placing the end portion 28 of the tube between the backing plate and roller as the roller turns, it compresses the tube and, in turn, expresses the contents through the usual screwthreaded discharge neck 29 (see Figs. 2 and 3). It is also customary to provide suitable means for attaching the casing to a wall or other support. I provide a casing with an integral T-shaped bracket including a portion 29 carrying a wedge-shaped head 30 which is removably mounted in wedge-type guide channels 31 on a wall bracket 32 held in place on the wall 33 by screws or similar fastenings 34. Obviously, I make no claim to the bracket or fixture means for supporting the unit 7.

Referring now to the novel unit 8, this comprises a closing cap 35 for the lower open end of the casing, said cap having a screw-threaded

rim 36 which is screwed on the screw-threaded end portion 10 of the casing, as shown in Figure 2. The cap is provided with a substantially L-shaped discharge neck including a depending vertical portion 36 and a horizontal portion 37, there being a brace at 38. The portion 36 is suitably socketed and screw-threaded as shown in Figures 2 and 3 to accommodate the screw neck 29 on the tooth paste tube. The discharge end of the branch 37 has spaced parallel keepers 39 for a plate-type cut-off valve 40. The valve has an elongated horizontal slot 41 to accommodate the tip portion 42 of a crank 43 formed on one end of a rocker shaft 44. The rocker shaft is mounted for oscillation in bearings 45 provided atop the branch 37. A coiled spring 46 is wrapped around the rocker shaft and properly attached thereto and anchored to urge the crank in a direction to normally keep the valve plate closed. The opposite end of the rocker shaft is fashioned into an operating lever including a curvate portion 47 which partially surrounds the neck and which terminates in an appropriately angled portion 48. The end portion 48 is provided with a swivelly mounted sleeve 49 which functions as a convenient anti-friction roller and which serves to accommodate the head 50 of the toothbrush. The curvate portion of the lever is substantially C-shaped, as brought out to advantage in Figure 5, and when the valve is closed, it takes the underlying position seen in Figure 5 and places the actuating roller 49 at a convenient spot where it may be brought into play by side pressure from the brush head 50. By placing the edge of the brush head against the roller and forcing the brush to one side, in an obvious manner, the lever is thus actuated and in turn rocks the rocker shaft against the tension of the return spring. This lifts the valve, causing same to assume the open position seen in Figure 1. Now, with the bristles 51 of the brush located beneath the discharge end of the neck or portion 37, the user catches hold of the knob 27 and actuates the expressing roller to squeeze paste 52 from the tube 18 onto the brush bristles as illustrated.

In view of the foregoing description taken in conjunction with the accompanying drawings, it is believed that a clear understanding of the device will be quite apparent to those skilled in this art. A more detailed description is accordingly deemed unnecessary.

It is to be understood, however, that even though there is herein shown and described a preferred embodiment of the invention, the same is susceptible to certain changes fully comprehended by the spirit of the invention as herein described and within the scope of the appended claims.

Having described the invention, what is claimed as new is:

1. In a tooth paste holder and dispenser of the class described, a holding casing having expressing means therein, an L-shaped discharge neck carried by the lower end of the casing, said neck terminating in keepers, a valve plate slidable in said keepers, a rocker shaft operatively connected at one end with said valve plate for lifting it, means for rockably mounting the rocker shaft on said neck, a return spring for said rocker shaft and valve plate, said rocker shaft being provided at one end with a laterally directed curvate lever partially surrounding the neck and terminating in an actuating member, said actuating member being provided with a swivelly mounted brush accommodating roller.

2. As a new article of manufacture, a dispensing device for use in association with the discharge neck of a collapsible tube of the class shown and described comprising a discharge neck having a discharge end embodying spaced parallel valve keepers, a valve plate slidable in said keepers and normally closing the discharge end of the neck, a pair of fixed bearings mounted exteriorly on said neck, a rocker shaft mounted for oscillation in said bearings, said shaft being provided at one end with a crank, said crank being operatively connected with said valve plate for lifting and lowering the latter, a coiled spring surrounding the rocker shaft and anchored on said neck and shaft in a manner to exert pressure on the crank to keep the valve normally closed, the remaining end of said rocker shaft having a laterally directed and arcuately curved actuating lever partly surrounding the neck and provided with a swivelly mounted brush adapting roller.

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