March 10, 1953 T. M. DENDY 2,630,812

COMBINED TOOTHBRUSH AND PASTE DISPENSER

Filed Aug. 21, 1950

Fig. 1.

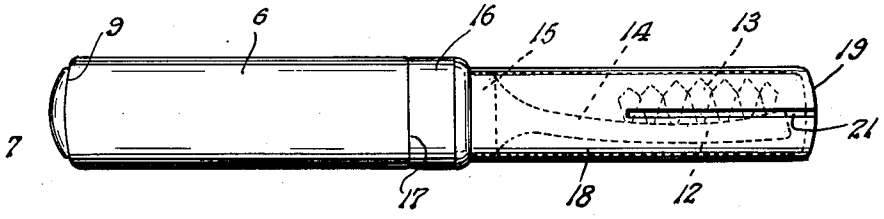


Fig. 2.

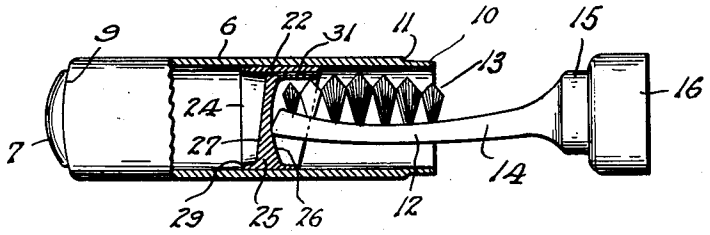


Fig. 3.

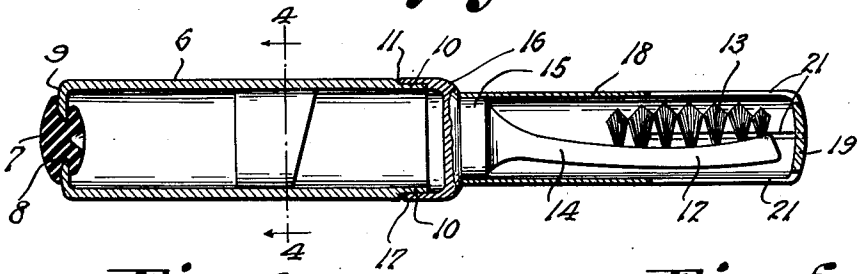


Fig. 4.

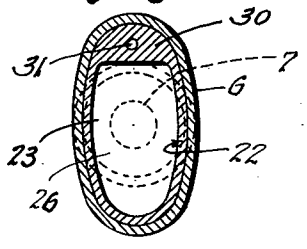
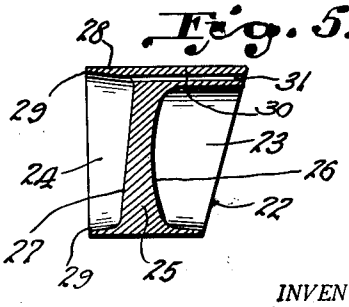


Fig. 5.



INVENTOR.
Tally M. Dendy

BY
Eugene E. Stevens
ATTORNEY.

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COMBINED TOOTHBRUSH AND PASTE DISPENSER

Tally M. Dendy, Jackson, Miss.

Application August 21, 1950, Serial No. 180,569

5 Claims. (Cl. 132—84)

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This invention relates to an improvement in a combined tooth brush container and tooth paste holder and dispenser.

The main object of the invention provides a tooth paste receptacle having a piston movable therein, said piston having a passage therethrough by which the tooth paste is deposited upon the bristles of the tooth brush.

A further improvement incorporates the operation of the piston for dispensing the paste as by pressure exerted on the piston from the forward end of the tooth brush, whereby the brush is in correct position to receive the expelled tooth paste.

A further object of the invention provides a tooth paste holder of oval shape to prevent any rotation of the paste-expelling piston.

A further improvement provides a piston being recessed at both front and rear sides, and having a relatively thick central web portion, the inner face side of the web sloping from bottom to top to direct paste upwardly to the outlet channel within the upper portion of the piston.

Other objects and advantages will become apparent from the following description and accompanying drawings, in which—

Fig. 1 is a side view of the assembled tooth paste holder and tooth brush container;

Fig. 2 is a view, partly in section, showing the specific structure of the piston, the brush container removed and the brush end in contact with the outer face of the piston;

Fig. 3 is a longitudinal sectional view of the paste holder and tooth brush container, the brush and piston shown in full lines;

Fig. 4 is a section on the line 4—4 of Fig. 3; and

Fig. 5 is a vertical longitudinal section through the piston.

Referring to the drawings, in which like numerals have been used to designate similar parts throughout the various views, the container for holding the tooth paste is shown at 6 and is provided at one of its ends with a filling opening closed as by a rubber stopper 7 having an annular recess 8 into which fits the circular flange 9 surrounding the container opening. The forward end of the paste container 6 terminates in a reduced annular flange 10 forming a shoulder 11. The tooth brush of the present invention consists of the usual head 12 and bristles 13, the head extending into a reduced handle portion 14 of solid plastic construction, said handle flaring to an enlarged part 15, the enlarged part 15 having attached thereto as by fusion or the like

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an enlarged cup-shaped terminal 16, the terminal portion 16 having an inside diameter of sufficient size to provide for frictional fitting of the same with the flange part 10 of the paste container 6, the annular outer surface 17 of the cup-shaped member 16 abutting the shoulder 11 when the brush is mounted thereon.

A brush cover or container 18 has a closed end 19 and an open end which latter frictionally engages the outer flared surface 15 of the brush handle to thereby protect the brush when the same is stored or not in use, as in the Fig. 3 condition. However, it is contemplated that when the brush is in use the container 18 can be used in the capacity of a brush handle extension, in which position the container 18 is removed from the portion 15 and its open end is frictionally engaged within the open cup-shaped portion 16 of the handle, of course, after the same has been removed from the paste container 6 and thereby provides better and easier manipulation of the brush during the cleaning operation. It likewise becomes effective for use as a handle when the brush is being used for forcing the piston to dispense paste upon the brush bristles. The brush casing 18 is provided adjacent its closed end with a plurality of longitudinally extending cuts 21, four in number, extending from the closed end 19 inward of the casing to provide for ventilation of the brush bristles when the brush container is mounted to enclose the brush.

The piston or plunger 22 is of oval shape in cross-section and is frictionally mounted for reciprocation within the paste container 6. The plunger is recessed at its front end as seen at 23 and likewise at its rear end at 24 to form a connecting web 25 having its outer wall slightly concaved as shown at 26 while the opposite wall 27 is inclined upwardly for a purpose later to appear.

The outer surface of the piston is oval in form to frictionally engage the inside walls of the paste container 6, the walls 28 surrounding the recess 24 being beveled to a feather edge 29 whereby they will perform a certain scraping action along the inner surface of the container 6 and thus prevent the escape of the paste or like contents of the container from leaking therepast. The upper portion of the plunger 22 is thickened at 30 as seen in Fig. 4 and said thickened portion is provided with a longitudinal bore or passage 31 through which paste passes upon inward movement of the piston, the upwardly inclined wall 27 tending to direct the paste contents upward to the passage opening 31. The concaved surface

26 of the piston provides a surface which is adapted to receive the front end of the brush head 12, which brush, upon being pressed inwardly to force the piston inwardly, causes the discharge of paste through the passage 31 onto the brush bristles 13. It is, of course, to be understood that when the piston is being moved to dispense paste, the bristles are held directly under the discharge end of the passage 31.

In the operation of the device, the rubber stopper 7 is first removed and the open end of a paste tube is inserted therein to deposit the contents thereof within the container 6, the piston being forced back towards the open end of the container until it is stopped by abutting the inner face surface of the cup-shaped member 16. Thereupon, the filling tube is removed and the rubber stopper flexed within the opening of the container. The tooth brush cover is removed, whereupon the tooth brush is removed from the open end of the paste container and turned end for end, in which position the free end of the brush head 12 can be pressed against the surface 26 of the piston to force the same inwardly until a sufficient amount of paste has been deposited upon the bristles. The brush is then removed, turned end for end and again fitted to the container 6, which acts as a handle, and the usual teeth cleaning operation is performed. After use, the cover 18 is then fitted in place over the brush head.

As will be understood from an inspection of Fig. 3, the flange 9 at the rear end of the container 6 about the plug receiving opening serves as a stop to limit outward movement of the piston, or plunger, 22. Should it be found desirable to remove the plunger 22, as for instance for cleaning, it is a simple matter to remove the plug 7 and using a pencil or the like, force the plunger outwardly through the open end of the container 6.

It will therefore be seen that I have provided a compact and combined tooth brush holder and paste dispenser which is a self-contained unit and is capable of being carried opon the person, and in which the tooth paste and tooth brush are embodied in a single unit which is extremely handy and compact and thereby eliminates the usual practice of requiring both a paste container and tooth brush, the invention being highly useful by persons taking trips or while travelling.

A preferred form of the invention has been illustrated but it is contemplated that various changes and modifications are possible within the scope of the following claims.

I claim:

1. In a combined toothbrush and toothpaste dispenser including a toothpaste container having an open end, and a toothbrush having a handle, the outer end of the toothbrush handle providing a closure for said open container end; the combination of a piston slidably mounted within the container, said piston having a passage therethrough adjacent one chamber wall, cooperating means in part provided by the piston and in part by the container wall for preventing rotative movement of the piston in the chamber, the head end of said brush being insertible into said chamber from the open end of the container to engage the piston inwardly of and in plane with said passage whereby to move the piston within the container and force material through said piston passage onto the brush bristles.

2. A dispenser for tooth paste or the like comprising a container having a filling opening at one end, a stopper for said opening, a freely movable piston within the container, the opposite end of the container being open, a removable closure for the last mentioned container end, said piston having front and rear recessed portions and having a longitudinal discharge passage therethrough, the wall of the inner piston recess being inclined toward and terminating adjacent the entrance end of the discharge passage whereby to direct material thereto, and means to move the piston to force material through the discharge passage.

3. A dispenser for toothpaste and the like, comprising a container having a filling opening at one end, a stopper for said opening, the container being open at the opposite end, a removable closure for said last-mentioned container end, a slidable piston within the container, said piston being thickened adjacent one container wall portion, said piston having a longitudinal discharge passage therethrough at the site of said thickened portion, said piston having front and rear recessed portions defining a central web portion, the walls of the front recess portion of the piston sloping to a feather edge and the face wall of said front recess sloping toward the inlet of said discharge passage whereby to direct material thereto.

4. A dispenser for toothpaste or the like comprising a container having a filling opening at one end, a closure for said filling opening, said container being open at its opposite end, a closure for said last-named container end, a slidable piston within the container, a piston-intercepting stop shoulder adjacent the filling opening end of said container, said piston having a longitudinal off-center discharge passage therethrough, the front face of said piston providing a recess tapering from adjacent the piston margins toward the entrance end of said discharge passage, and means such as a toothbrush head insertable through the second-mentioned container end to operate the piston to discharge material through the passageway onto the brush.

5. The combination set forth in claim 4, and the filling opening end of said container having an inturned circumferential flange surrounding said filling opening and engaged by the margin of said front piston recess whereby to act as a stop for said piston.

TALLY M. DENDY.

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