Aug. 5, 1958 H. H. ROBINSON 2,845,646

TOOTHBRUSH AND PASTE HOLDER

Filed July 7, 1955 2 Sheets-Sheet 1

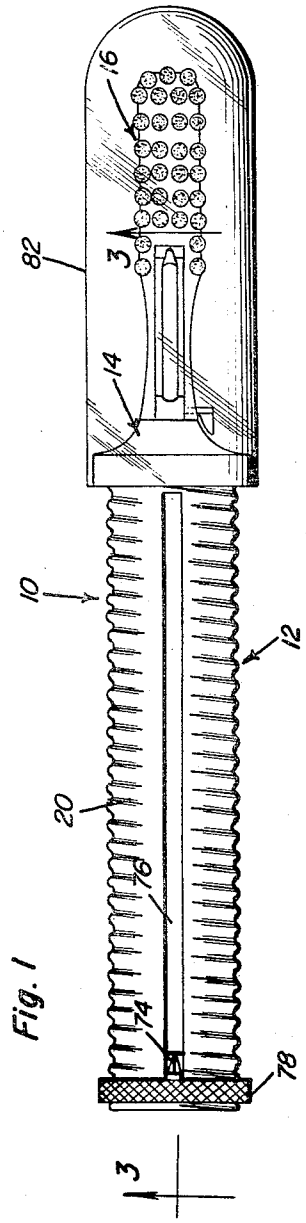


Fig. 1

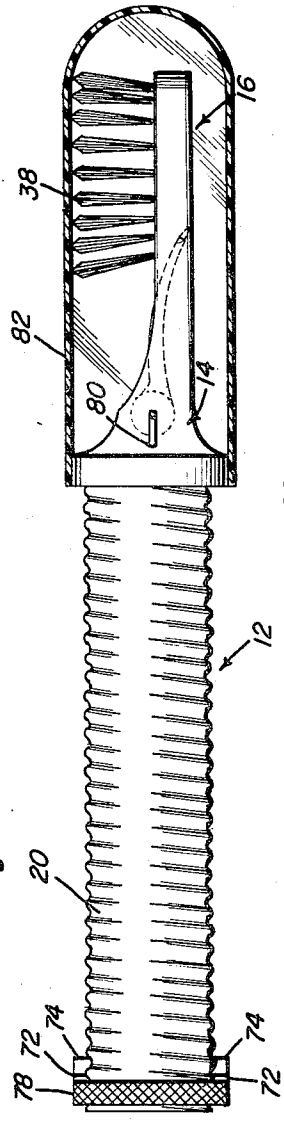


Fig. 2

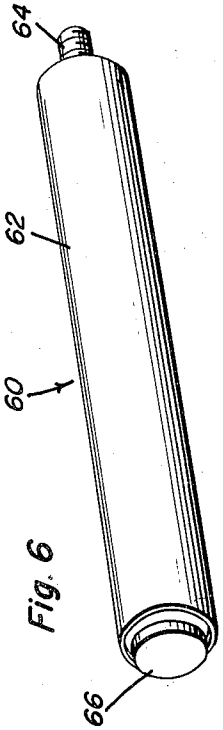


Fig. 6

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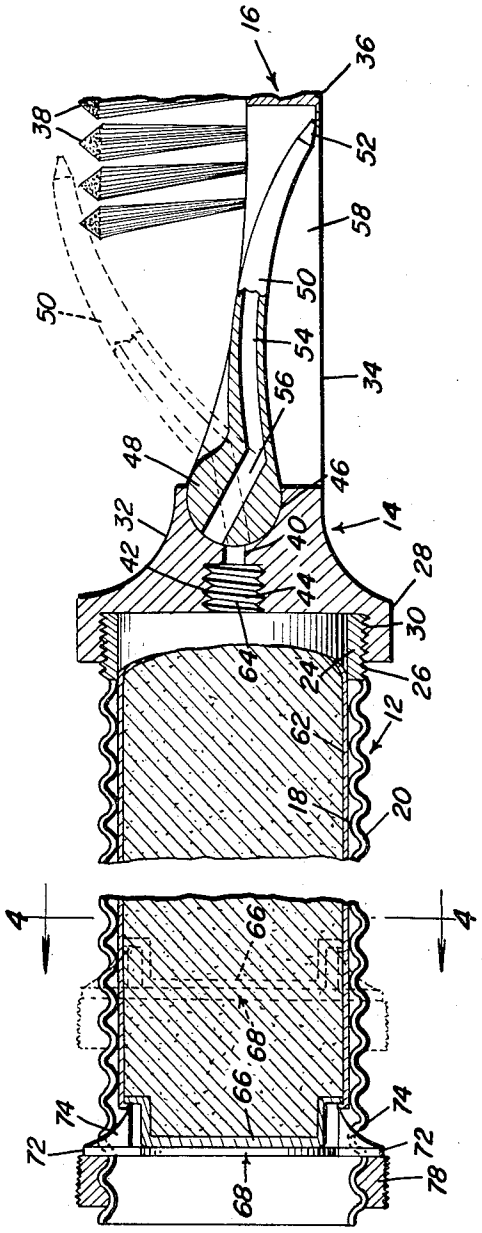


Fig. 3

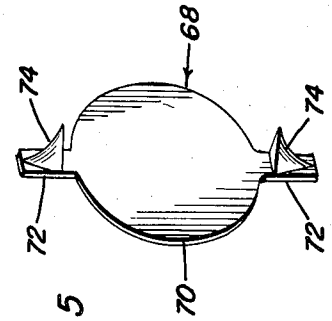


Fig. 5

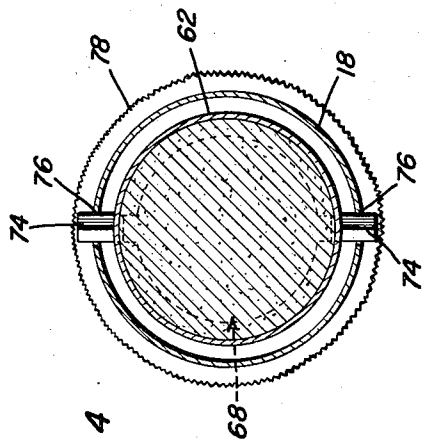


Fig. 4

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TOOTHBRUSH AND PASTE HOLDER

Herbert H. Robinson, New Orleans, La.

Application July 7, 1955, Serial No. 520,481

1 Claim. (Cl. 15—138)

This invention relates in general to new and useful improvements in dentifrice devices, and more specifically to an improved toothbrush.

The primary object of this invention is to provide an improved combined toothbrush and tooth paste dispenser which is so constructed whereby there is provided means for storing tooth paste to be dispensed on the bristles of the toothbrush within the handle of such toothbrush.

Another object of this invention is to provide an improved combined toothbrush and tooth paste dispenser of the type wherein tooth paste is stored within the handle of a toothbrush, there being a dispensing spout connected to the handle for directly dispensing tooth paste from within the handle onto the bristles of the head of the toothbrush.

Still another object of this invention is to provide an improved combined toothbrush and tooth paste dispenser, the toothbrush having a handle in which tooth paste to be dispensed is stored, and there being a delivery spout, the delivery spout actuating a valve controlling the flow of tooth paste, whereby tooth paste may be dispensed only when the dispensing spout is in a position for dispensing the tooth paste upon the bristles of the head of the toothbrush.

A further object of this invention is to provide an improved combined toothbrush and tooth paste dispenser, the toothbrush including a handle which is hollow for the reception of a tube of tooth paste, there being provided means within the handle for simultaneously splitting and dispensing tooth paste from within a tube carried by the handle.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is a top plan view of the combined toothbrush and paste dispenser which is the subject of this invention, and shows the general details thereof;

Figure 2 is a side elevational view of the toothbrush and paste dispenser of Figure 1 with a housing portion thereof being shown in section in order to clearly illustrate the other details of the toothbrush and paste dispenser;

Figure 3 is an enlarged longitudinal vertical sectional view taken substantially upon the plane indicated by the section line 3—3 of Figure 1 and shows the specific details of the toothbrush and paste dispenser, and intermediate portion of the handle of the toothbrush being broken away, and also the position of means for dispensing tooth paste being shown in dotted lines, the dispensing spout being shown in operative position by doted lines, and a forward end of the brush head being broken away;

Figure 4 is an enlarged transverse vertical sectional view taken substantially upon the plane indicated by the section line 4—4 of Figure 3 and shows the specific details of the handle of the toothbrush and the means for

dispensing tooth paste from a tooth paste tube disposed therein;

Figure 5 is an enlarged perspective view of the piston carried by the handle for dispensing tooth paste; and

Figure 6 is a perspective view of a special type of tooth paste tube intended for use with the present invention.

Referring now to the drawings, it will be seen that the combined toothbrush and paste dispenser, which is the subject of this invention, is referred to in general by the reference numeral **10**. The combined toothbrush and paste dispenser **10** includes a handle, which is referred to in general by the reference numeral **12**, a neck portion, which is referred to an in general by the reference numeral **14**, and a brush head, which is referred to in general by the reference numeral **16**.

Referring now to Figure 3 in particular, it will be seen that the handle **12** is in the form of an elongated tubular member **18** which is formed of sheet material and so configurated so as to be provided with external threads **20**. The forward end of the tubular member is connected to a ring **24** which is provided with external threads **26**.

The neck portion **14** includes a rear nut member **28** which is provided with internal threads **30**, the threads **30** meshing with the threads **26** to secure the neck portion **14** to the handle **12**. The neck portion **14** includes an intermediate tapered part **32** which terminates in a pair of spaced parallel parts **34**. The parts **34** terminate in a base **36** which is a part of the head **16**. Extending upwardly from the base **36** is a plurality of bristles **38**.

In order that tooth paste may be conveniently dispensed upon the bristles **38**, the neck portion **14** is provided with an axial bore **40**. The rear part of the bore **40** opens into an enlarged counterbore **42** which is provided with internal threads **44**.

The forward end of the bore **40** opens into a generally semicylindrical valve seat **46** in which there is mounted for pivotal movement a generally cylindrical valve member **48**. Connected to the valve member **48** for both actuating the same and for dispensing paste passing therethrough is an elongated dispensing spout **50**. The dispensing spout **50** terminates in a dispensing tip **52** that includes a passage **54** therethrough. The passage **54** is commuicated with a passage **56** in the valve member **48**.

Normally, the dispensing spout **50** is seated in a recessed seat **58** formed in the forward part of the neck portion **14** and the rear part of the base **36**. At this time, the bore **56** is out of alignment with the bore **40** and tooth paste cannot be dispensed. By swinging the dispensing spout **50** upwardly to the dotted line position of Figure 3, the dispensing tip **52** can be disposed in overlying relation with respect to the bristles **38** so that tooth paste may be dispensed on the bristles **38**. At this time, the bore **56** has swung into alignment with the bore **40** and tooth paste may be dispensed from within the handle **12**.

Referring now to Figure 6 in particular, it will be seen that there is illustrated a tooth paste tube which is referred to in general by the reference numeral **60**. The tooth paste tube **60** includes an elongated body member **62** which is preferably formed of a foil type metal. One end of the tooth paste tube **60** includes an externally threaded neck **64**. The opposite end of the tube **62** is closed by a circular plug **66**.

Referring now to Figure 5 in particular, it will be seen that there is illustrated a piston which is referred to in general by the reference numeral **68**. The piston **68** includes a central disk **70** which has extending outwardly therefrom in circumferentially opposite directions, radiating guide members **72**. The guide members **72** are provided with forwardly projecting knives **74**.

The housing **18** of the handle **12** is provided with a pair of longitudinally extending slots, as is best illustrated in Figures 1 and 4, the slots being referred to by

the reference numerals **76**. Disposed in the slots **76** are the guide members **72**. Threadedly engaged on the exterior of the housing **18** in engagement with the threads **20** is a follower nut **78**. The follower nut **78** engages the guide members **72** of the piston **68** to urge the piston **68** longitudinally of the handle **12**.

When it is desired to dispense tooth paste upon the bristles **38**, the dispensing spout **50** is swung to its dotted line position of Figure 3. The follower nut **78** is then rotated on the housing **18** to advance the same longitudinally thereof. This moves the piston **68** longitudinally thereof with the result that the knives **74** engage the end of the tube **62** and commence splitting the same. The disk **70** engages the disk **66** and forces the same through the split portion of the tube **62**. This process is best illustrated by dotted lines in Figure 3.

Referring now to Figures 1 and 2 in particular, it will be seen that there is provided a crank arm **80**. The crank arm **80** is connected to the valve member **48** and may be utilized to facilitate the rotation thereof. This will also facilitate the pivoting of the dispensing spout **50** between its operative position and its inoperative position.

In order that the bristles **38** may be retained in a sterilized condition, there is provided a housing **82**. The housing **82** is of a size whereby it may be slipped over the brush head **16** and the neck portion **14**. The housing **82** is of a diameter to frictionally fit over the nut part **28** of the neck portion **14**.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly, all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

A combined toothbrush and paste holder comprising a tubular handle for receiving tooth paste, said handle having a neck portion, a brush head carried by said neck portion, a paste passage in said neck portion communicated with the interior of said handle, a dispensing spout pivotally connected to said neck portion, a valve positionable between said neck portion and said spout, said spout being connected to said valve for actuating the same, a recessed seat formed in said neck portion and extending into said brush head, said brush head including upwardly projecting bristles, said recessed seat terminating between at least two spaced bristles, said dispensing spout having a dispensing end, said dispensing spout being normally seated in said seat with said valve in a closed position and said dispensing end being disposed between said two bristles and protected thereby, said spout being pivotal to a valve opening position overlying said brush head for dispensing paste onto others of said bristles.

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