Jan. 29, 1957 F. J. SIPMANN 2,779,505

TOOTH PASTE CONTAINER HAVING MEANS TO POSITION IT IN A CAVITY IN THE HANDLE OF A DISPENSING TOOTHBRUSH

Filed Dec. 3, 1954 2 Sheets-Sheet 1

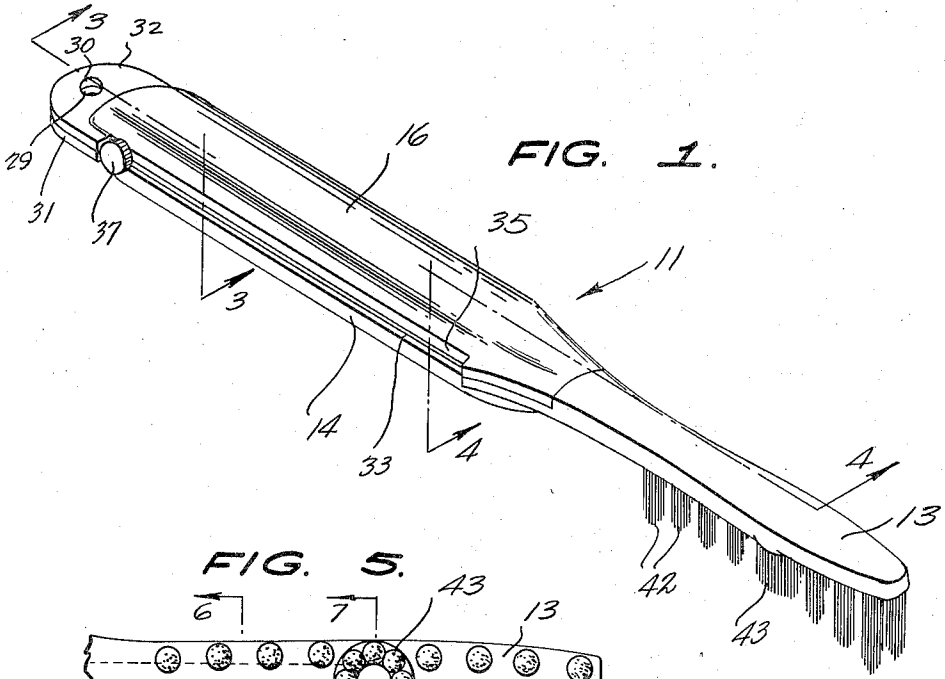


FIG. 1.

FIG. 5.

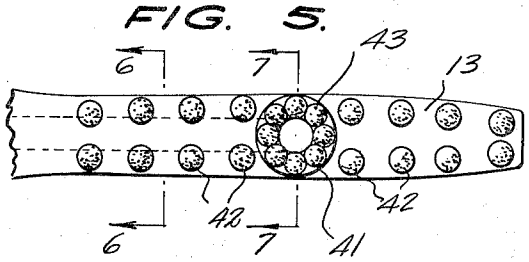


FIG. 6.

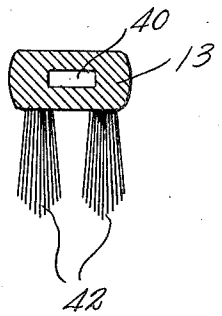
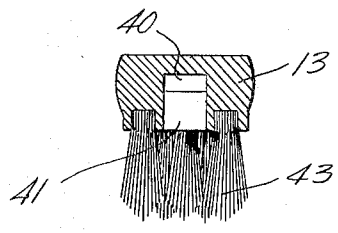


FIG. 7.



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Filed Dec. 3, 1954 2 Sheets-Sheet 2

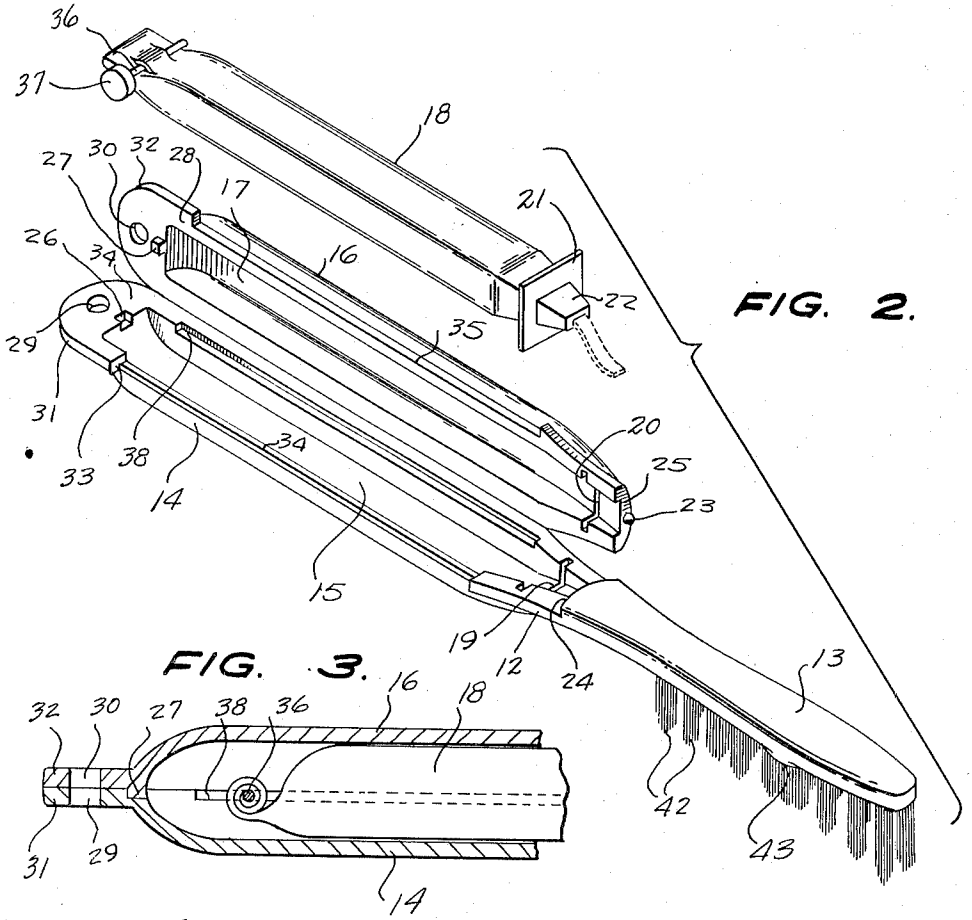


FIG. 2.

FIG. 3.

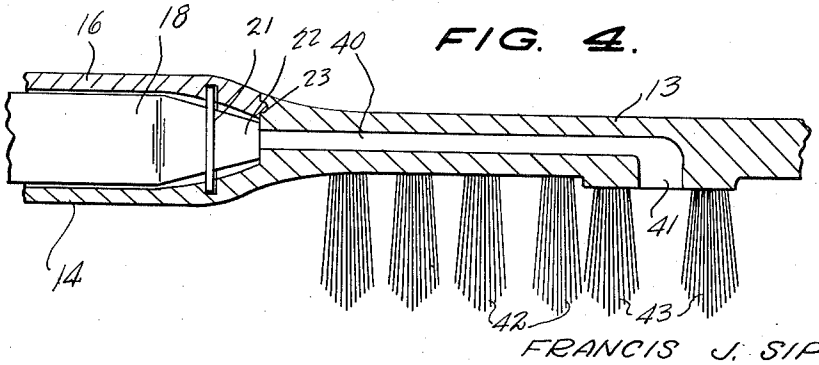


FIG. 4.

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TOOTH PASTE CONTAINER HAVING MEANS TO POSITION IT IN A CAVITY IN THE HANDLE OF A DISPENSING TOOTHBRUSH

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Application December 3, 1954, Serial No. 472,914

2 Claims. (Cl. 222—100)

This invention relates to improvements in toothbrushes, and more particularly to a toothbrush provided with means for receiving a collapsible dispensing container containing tooth paste material and being arranged to feed the tooth paste material to the bristle portions of the brush.

The main object of the invention is to provide a novel and improved fountain toothbrush which is simple in construction, which is easy to assemble and disassemble, and which is easy to maintain in a sanitary condition.

A further object of the invention is to provide an improved fountain toothbrush having means to receive and support a collapsible tube of toothpaste material and to feed the tooth paste from the tube to the head portion of the tooth brush, the improved toothbrush being inexpensive to manufacture, being compact in size, being neat in appearance, and being durable in construction.

Further objects and advantages of the invention will become apparent from the following description and claims, and from the accompanying drawings, wherein:

Figure 1 is a perspective view of an improved fountain toothbrush constructed in accordance with the present invention.

Figure 2 is a perspective view of the components of the toothbrush of Figure 1, shown in separated positions.

Figure 3 is an enlarged cross sectional detail view taken on the line 3—3 of Figure 1.

Figure 4 is an enlarged cross sectional detail view taken on the line 4—4 of Figure 1.

Figure 5 is an enlarged fragmentary bottom view of the head portion of the toothbrush of Figure 1.

Figure 6 is a transverse vertical cross sectional view taken on the line 6—6 of Figure 5.

Figure 7 is a transverse vertical cross sectional view taken on the line 7—7 of Figure 5.

Referring to the drawings, the improved fountain toothbrush is designated generally at **11** and comprises a main body **12** formed with the head portion **13** and with the hollow handle portion **14**. The hollow handle portion **14** is formed with a cavity **15** and has the removable cover **16**, said cover having a cavity **17** which mates with the cavity **15** to receive a collapsible tube **18** of tooth paste material, the cooperating cavities **15** and **17** being shaped to snugly receive the tube **18**, as will be readily apparent from Figure 2. The cavities **15** and **17** are formed at their forward end portions with mating grooves **19** and **20** located in a common transverse plane and being shaped to receive a rectangular rigid positioning flange **21** rigidly secured on the rigid forward end portion **22** of the paste tube **18**.

As is clearly shown in Figure 2, the rigid end portion **22** is of rectangular transverse cross section and tapers in size toward its forward end, said rigid end portion having a flat rectangular internal bore defining a conduit through which paste material from the tube **18** may be discharged from the forward end of the tapered rigid element **22**. As shown in Figure 2, the forward portions of the cavities **15** and **17** are tapered in cross section toward their forward ends to conform with the shape of the rigid conduit element **22** on the forward end of the tube **18** so as to snugly receive said rigid conduit element, and to also receive the flange **21** so as to securely position the forward end of the dispensing tube **18** in the forward end portion of the resultant cavity defined by the cavity elements **15** and **17** when the cover **16** is secured on the hollow handle **14** in closed position.

The forward end of the cover **16** is provided with the locking projection **23** which is engageable in a suitable recess provided in the transverse shoulder portion **24** on the main body **12** between the head portion **13** and handle portion **14** thereof, as shown in Figure 2, said shoulder portion being adapted to receive the transverse end surface **25** of the cover **16** thereagainst. The handle portion **14** is formed at its rear end with the recess **26** adapted to lockingly receive a square lug **27** projecting from the plane bottom surface **28** of the cover **16**, said recess **26** being shaped to snugly receive the projection **27**. Respective registratable apertures **29** and **30** are provided on the respective end flanges **31** and **32** of the handle portion **14** and the cover **16**, whereby a resultant aperture is defined by means of which the assembled toothbrush may be suspended on a suitable hook or similar supporting element.

The cover **16** may be engaged on the handle **14** by first inserting the lug **27** in the recess **26** and then forcing the cover **16** against the handle, whereby the projection **23** snaps into its recess, since the elements are flexible enough to allow them to be thus interengaged.

The handle **14** is formed at its side margin with a longitudinal notch **33** having a top edge element **34** which is spaced a short distance below the plane of the top surface **34** of the handle member for a purpose presently to be described. The cover member **16** is similarly formed with a notch **35** at its side edge which is registrable with the notch **33**.

Designated at **36** is a dispensing key which is secured transversely to the end portion of the tube **18**, said key being provided with the circular head **37**. When the tube **18** is disposed in the cavity **15** of handle **14**, the shank of the key **36** extends transversely over the edge **34** of notch **33** and the end of the key is received in a longitudinal recess **38** provided in the wall of the handle **14** opposite the notch **33**. The recess **38** and the top edge **34** define bearings for the opposite end portions of the transversely extending key **36**, enabling said key to be rotated and to be moved longitudinally forwardly as the rear portion of the tube **18** is rolled up on the key.

As shown in Figure 1, the circular head **37** is disposed in the space defined by the registering notches **35** and **33** and is thus retained closely adjacent to the resultant hollow body defined by the handle **14** and the cover **16** thereof when said cover is in closed position, as shown.

The head **13** is formed with the longitudinal passage **40** which is located so as to communicate with the outlet of the conduit element **22** of the collapsible tube **18**, said passage **40** also communicating with a discharge opening **41** located at the intermediate portion of the group of bristle tufts **42** provided on the head of the toothbrush. As shown in Figure 5, the intermediate group of bristles may be circularly arranged, as illustrated at **43**, and are arranged around the opening **41**, whereby tooth paste material discharged by squeezing the tube **18** will flow outwardly through the opening **41** and onto the circularly arranged bristles **43**, and will flow thence

onto the remaining bristle tufts **42** as the toothbrush is used.

As will be readily understood, when the head **37** is rotated, squeezing pressure is developed in the end portion of the tube **18**, causing the tooth paste to be extruded from the rigid forward conduit **22** and through the passage **40**. The tooth paste is discharged from the opening **41** onto the circularly arranged group of bristles **43**.

It will be readily understood that when a tube **18** is emptied, the cover **16** may be opened, and the depleted tube may be readily removed, a new tube **18** being inserted in place thereof, the flange **21** of the new tube being engaged with the recesses **19** and **20** so that the tube will be securely positioned in the handle portion of the toothbrush, so that the rigid conduit element **22** at the forward end of the tube will be in accurate communication with the passage **40**.

While a specific embodiment of an improved fountain toothbrush has been disclosed in the foregoing description, it will be understood that various modifications within the spirit of the invention may occur to those skilled in the art. Therefore, it is intended that no limitations be placed on the invention except as defined by the scope of the appended claims.

What is claimed is:

1. A disposable container for paste material comprising a tube of material of plastic quality, a forwardly tapering rigid discharge conduit element of rectangular transverse cross section secured to the forward end of said tube, and a rectangular positioning flange rigidly secured to and projecting outwardly from opposite sides of said conduit element.

2. A disposable container for paste material comprising a tube of material of plastic quality, a forwardly tapering rigid discharge conduit element of rectangular transverse cross section formed with a relatively flat internal bore of substantially rectangular transverse cross section, means securing said rigid discharge conduit element to the forward end of said tube, and a rectangular positioning flange rigidly secured to and projecting outwardly from opposite sides of said conduit element.

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