

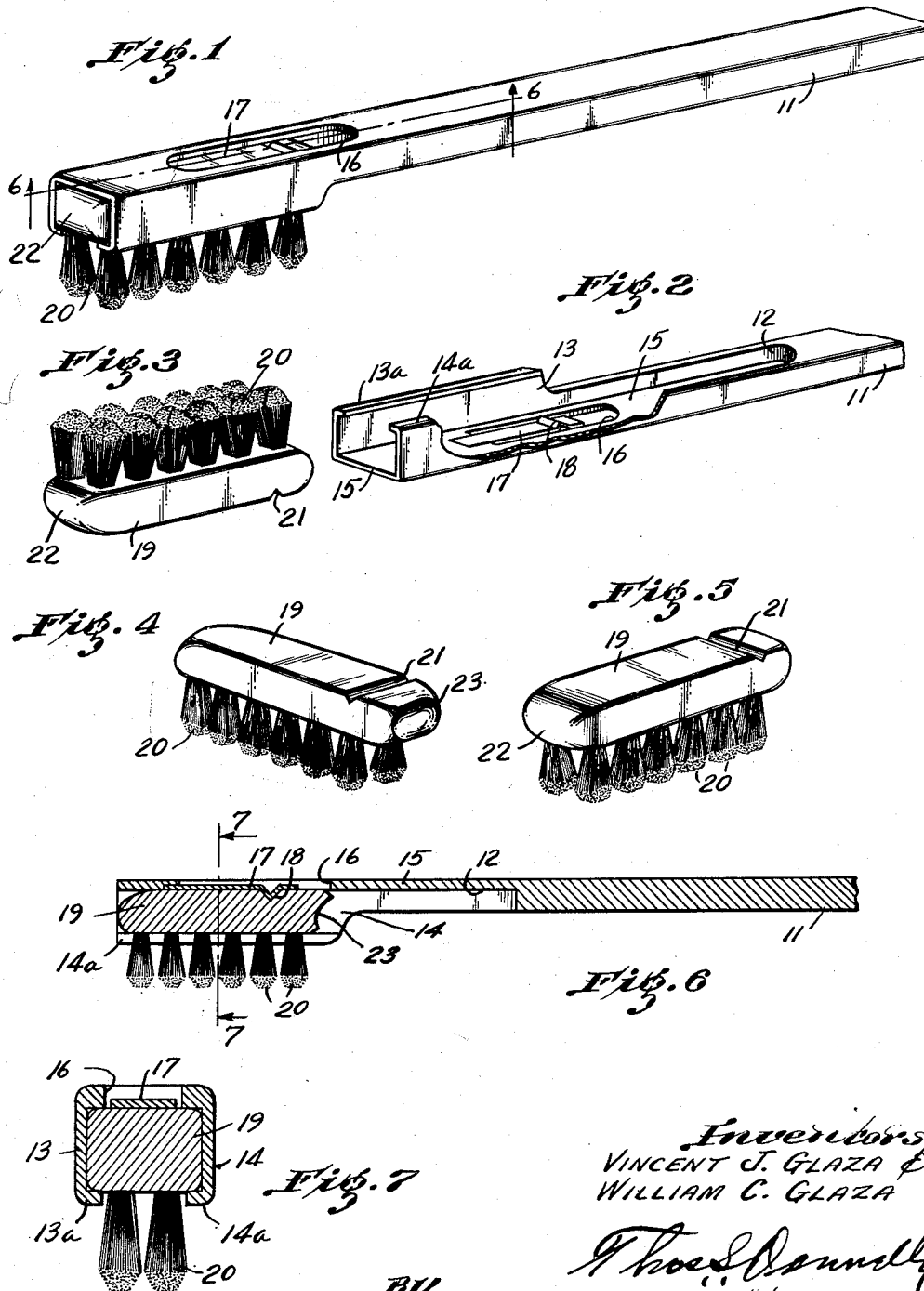
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TOOTHBRUSH HAVING A REMOVABLE HEAD

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## TOOTHBRUSH HAVING A REMOVABLE HEAD

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3. Claims. (Cl. 15—176)

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Our invention relates to a new and useful improvement in a tooth brush and has for its object the provision of a tooth brush so arranged and constructed that the bristle bearing portion may be easily and quickly removed from the handle on which mounted and replaced with another one, thus providing a sanitary arrangement whereby the repeated use of used tooth brushes may be avoided. This sanitary feature of the invention is important in that it makes it possible for a person having some disease of the mouth or gums to prevent infection or spreading of the disease and also eliminate the possibility of retarding the elimination or cure of the disease.

Another object of the invention is the provision in a tooth brush of this class of a handle having a resilient gripping portion adapted for gripping the bristle bearing portion and holding it rigid and firm in position while, at the same time, so constructed and arranged that a bristle bearing portion may be slid out of position and replaced with another.

Another object of the invention is the provision of a tooth brush of this class having a removable bristle bearing portion and provided with yieldable means for normally retaining the bristle bearing portion in operative position.

Another object of the invention is the provision in a tooth brush of this class of a bristle bearing portion having a back or body provided with a recess at one end and a tapered portion at the other adapted for sealing in a similar recess so that one of the members may be replaced by pressing thereagainst with the member which is intended to replace.

Other objects will appear hereinafter.

It is recognized that various modifications and changes may be made in the detail of structure illustrated without departing from the invention and it is intended that such shall be embraced within the scope of the claims which form a part hereof.

Forming a part of this specification are drawings in which,

Fig. 1 is a perspective view of the invention,

Fig. 2 is a perspective view in fragment of the handle with parts broken away,

Fig. 3 is a perspective view of the bristle bearing portion showing it in inverted position,

Fig. 4 is a perspective view of the bristle bearing portion illustrating one end,

Fig. 5 is a perspective view of the bristle bearing portion illustrating the opposite end,

Fig. 6 is a fragmentary, sectional view taken on line 6—6 of Fig. 1,

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Fig. 7 is a slightly enlarged sectional view taken on line 7—7 of Fig. 6.

As shown in the drawing, the invention comprises a handle 11 which is preferably formed from resilient material such as plastic or metal. This handle is provided with a longitudinally extending channel 12 adjacent the forward or outer end of the handle. Said channel includes at its open end an inwardly longitudinally for a distance of approximately one half the length of the channel 12 the oppositely disposed side wall portions 13 and 14 which project beyond the plane of the handle. It will be noted that the side portions 13 and 14 cooperate at the open end of said channel to provide a passage of greater depth than the inner portion of the channel. This feature provides for more efficient insertion of a replacement brush body as will be hereinafter described. Extending inwardly from the wall 13 is a gripping flange 13a and a similar gripping flange 14a extends inwardly from the wall 14, the channel 12 also being provided with a bottom 15.

Formed in this bottom 15 is a longitudinally directed slot 16, extending over which is one end of a leaf spring 17 which is attached at its opposite end to the bottom 15 and which is provided intermediate its end with a transverse rib 18.

The brush comprises a back or body 19 projecting outwardly from the front face of which are the bristles 20. Formed in the back face 19 is a transversely extended groove 21 adapted for receiving the rib 18. One end of this body 19 is formed tapered, as at 22, and the opposite end is provided with a recess or pocket 23 in which the tapered end 22 is adapted to seat snugly.

It will be noted that the groove 21 is V-shaped in cross section and that the rib 18 is also V-shaped in cross section. In inserting the brush body 19 into position, it is slid into position from the inner end of the channel with the in-turned flanges 13a and 14a bearing snugly against the front face of the body 19 and the walls 13 and 14 being slightly sprung apart so that there is frictional engagement between the body 19 and this channel portion in which it is seated. When the groove 21 comes into registration with the rib 18, this rib 18 will snap into the groove 21 and serve to assist in holding the bristle bearing portion in position and in fixed relation to the handle 11. The leaf spring 17 serves to maintain the face of the body 19 in close engagement with the faces of the in-turned flanges 13a and 14a so that should there be any play, this frictional engagement will still take place.

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When it is desired to replace the bristle bearing portion, the replaceable body is placed in the inner portion of the channel 12 with its tapered end 22 in engagement with the recess or pocket 23 of the worn body. By pressing outwardly on this new body, the old unit is dislodged and slides longitudinally out of the channel 12, the rib 18 riding out of the groove 21, and when the used body clears the channel it will fall out and the new body will be in position, the rib 18 snapping into the groove 21 of the new body. The inner portion of the channel serves to guide the new body into the outer portion of the channel and direct the ejecting force in a straight line along the longitudinal axis of the worn body. It will also be noted that the relatively shallow depth of the inner portion of the channel enables the user of the device to more easily engage the replacement unit with the fingers during the ejecting operation.

In this way, there is provided an economical tooth brush in which a sanitary condition, both of the tooth brush and the mouth, may be facilitated and maintained, at all times, with the additional advantages of a comparatively new brush being accessible for use.

What we claim as new is:

1. A tooth brush of the class described comprising a handle having a channel formed in one end thereof extending longitudinally of said handle and open at its outer end, a replaceable bristle bearing insert snugly slidable in said channel, said channel having a length of at least twice the length of said insert, the portion of said channel adjacent said open end and inwardly longitudinally for a distance equal to or less than the length of said insert having relatively short, inwardly directed projecting portions adapted to extend over the longitudinal edges of said insert and prevent its moving out of said channel in a

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direction transversely of said handle, and resilient friction means associated with said handle and said insert to normally hold said insert in position for use adjacent the open end of said channel under said projecting portions.

2. A tooth brush as set forth in claim 1, wherein the side walls of said channel adjacent the open end and inwardly longitudinally of said handle for a distance equal to or less than the length of said insert project beyond the plane of the face of said handle in which said channel is formed, the inner portion of said channel thereby being of less depth than said insert holding portion.

3. A tooth brush as set forth in claim 1, wherein said replaceable bristle insert is rounded at one end and has a socket formed in the opposite end thereof.

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