

July 26, 1927.

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TOOTHBRUSH

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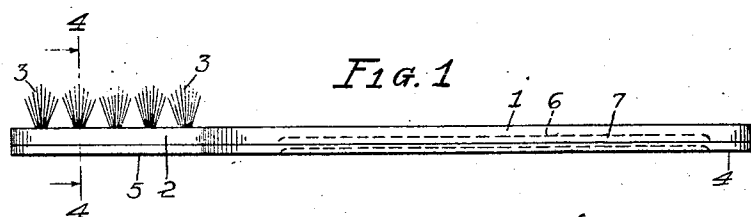


Fig. 1



Fig. 2

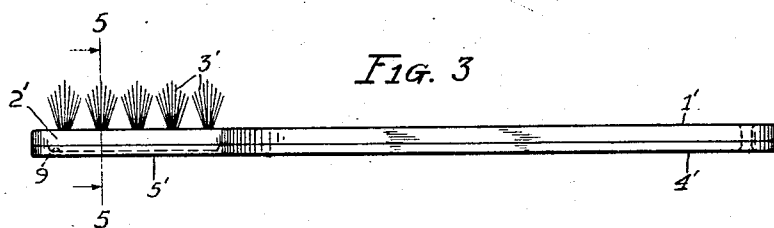


Fig. 3

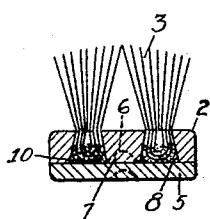


Fig. 4

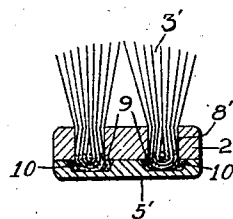


Fig. 5

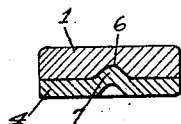


Fig. 6

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# UNITED STATES PATENT OFFICE.

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## TOOTHBRUSH.

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My invention relates to improvements in tooth brushes, and it consists in the combinations, constructions, and arrangements herein described and claimed.

5 An object of my invention is to provide a tooth brush which can be made at a small cost, and which may be sold through vending machines, where it may be used and then discarded.

10 A further object of my invention is to provide a tooth brush which while cheap in construction, yet is made so that the bristles will be firmly set.

A further object is to provide a tooth brush handle and head, which is made in two parts and in which the joining of the two parts virtually serves to set the bristles.

15 Other objects and advantages will appear in the following specification, and the novel features of the invention will be particularly pointed out in the appended claims.

20 My invention is illustrated in the accompanying drawing, forming part of this application, in which—

25 Figure 1 is a side view of a tooth brush constructed according to my invention,

Figure 2 is a plan view of the main portion of the brush before the bristles are set,

30 Figure 3 is a side view of a modified form of the device,

Figure 4 is an enlarged sectional view along the line 4—4 of Figure 1,

35 Figure 5 is an enlarged section along the line 5—5 of Figure 3, and Figure 6 is a section along the line 6—6 of Figure 2.

In carrying out my invention, I provide a handle and head which is preferably made of a cheap material, such as pasteboard or cardboard, or some form of paper material.

40 In Figure 1, I have shown a handle portion 1, which is integral with a head portion 2, these forming a main body portion in which the bristles 3 are held. A back member consisting of a handle portion 4 and a head portion 5, similar in contour and size with the main body portion, is shown in Figure 1. The handle portion 1 has a groove 6 stamped or otherwise fashioned therein, while the back portion has a ridge 7 which is formed by stamping the handle portion 4.

45 In forming the tooth brush, the bristles 3 are disposed in openings 8 (see Figure 4). It will be observed that these openings taper toward the back. The back itself is coated with glue 10, and then is placed against the body portion, so that the ridge 7 enters the

groove 6. These parts fit so that the ends of the back portion and body portion will register. That part of the back portion 5 which registers with the head 2 is copiously 60 treated with glue, so that when the parts are placed together, part of this glue will flow into the openings 8, and when the glue has hardened, it will retain the bristles therein securely, besides firmly cementing the back 65 portion to the body portion.

In Figures 3 and 5, I have shown a modified form, in which the portion 5', which backs the head portion 2', is recessed, as shown at 9, while the portion 2' is provided with straight bores 8' extending through the member 2'.

In this form of the device, as in the form shown in Figures 1, 2, and 4, the bristles 3' are placed in the bores 8'. The looped portion of the bristles may even extend beyond the bores into the recess 9, so that when glue is passed over the inner surface of the back, it will enter the recess 9, and will firmly 80 secure the bristles in position.

In both forms of device, it will be observed that the looped portion of the bristles is set in a cementing medium. In that form shown in Figure 4, the opening is tapered, so as to permit the cementing material to 85 harden at the end of the loop, thus preventing the tuft from pulling out through the smaller end of the opening. In Figure 5, the enlarged recess 9 has the same effect; i. e., it provides an undercut space in which the ends of the loops are held in a cementing material which has hardened, and which is prevented from pulling out by the relatively narrow opening in the head portion 2'.

I prefer to treat the upper and lower portions with a waterproof coating. The surfaces, which are joined together of course are not so treated. Any suitable waterproofing composition or color may be used.

In both forms of the device, the openings 100 as well as the recesses are punched, and not drilled. This speeds up the output, and at the same time, instead of removing material, as would be done by drilling, it compresses the walls of the openings and recesses and 105 renders them hard and dense.

I claim:

1. A tooth brush comprising an elongated body having a head portion provided with openings therethrough, said body having a longitudinal recess, a back having a ridge arranged in said recess for centering said

back with respect to the body portion and having a head portion arranged to register with the head portion of the body, bristle tufts having loops arranged in the openings, 5 and cementing material securing said back to said body.

2. A tooth brush comprising a body having a head portion provided with tapered openings extending from one face of the 10 head to the other, a tuft of bristles for

each opening, each of said tufts being bent at its center portion to form a loop, said loop being disposed in one of said tapered openings with the central portion of the loop in the larger end of the opening, cementitious 15 material holding the loop within the opening, and a back portion covering the ends of the embedded loops secured to the body portion.

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