May 11, 1954 L. W. SHERWIN 2,677,842

TOOTHBRUSH WITH DISPENSABLE CLEANSING PAD

Filed Nov. 7, 1950

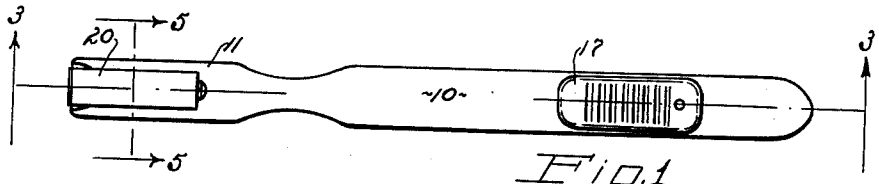


Fig. 1

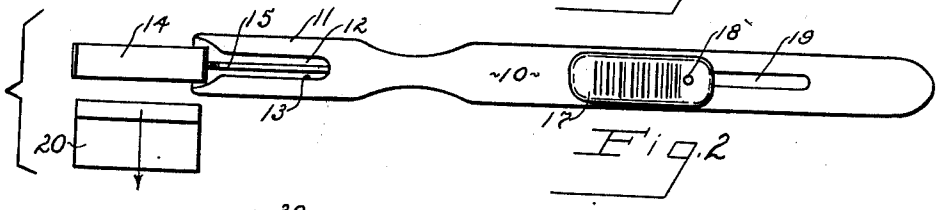


Fig. 2

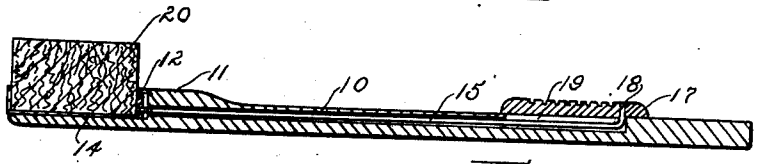


Fig. 3

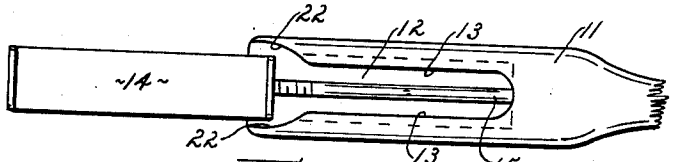


Fig. 4

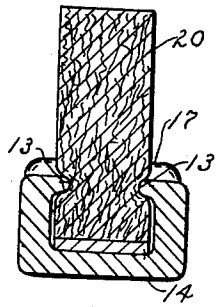


Fig. 5

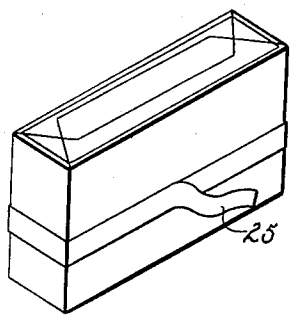


Fig. 6

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TOOTHBRUSH WITH DISPENSABLE CLEANSING PAD

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4 Claims. (Cl. 15—210)

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This invention relates to improvements in tooth brushes and the like, and more particularly to that type of tooth brush employing a tooth cleansing member or pad intended to be disposed of after each tooth cleansing operation.

Heretofore, it has been proposed to employ a disposable cleansing member. However, such brushes have not received any appreciable acceptance due to the relatively high cost of the disposable pad or brush element, the complicated structure for mounting it on the handle portion of the brush, and the lack of any substantial sanitation advantage.

This invention has as an object a tooth brush of the type referred to embodying a structural arrangement by which the disposable cleansing pad is quickly and conveniently mounted on the handle portion of the brush and ejected therefrom after use without touching the pad.

The invention further contemplates a cleansing pad which is economical to manufacture but which is particularly efficient in cleansing the teeth. These pads are of such a nature that they may be sterilized and individually wrapped with a protective covering which is removed after the pad has been mounted in the handle, whereby the pad presented for use is in a sterile condition.

The invention consists in the novel features and in the combinations and constructions hereinafter set forth and claimed.

In describing this invention, reference is had to the accompanying drawings in which like characters designate corresponding parts in all the views.

Figure 1 is a plan view of the bristle or pad side of the brush.

Figure 2 is a view, similar to Figure 1, with the pad slide moved outwardly from the pad retaining slot for the ejection of the pad from the handle and the ejected pad shown on its side.

Figure 3 is a sectional view taken on line 3—3, Figure 1.

Figure 4 is an enlarged view of the left hand portion of Figure 2.

Figure 5 is a view taken on line 5—5, Figure 1.

Figure 6 is a perspective view of a cleansing pad in its protective wrapping.

The brush consists of an elongated handle portion 10, in one end of which, as in the head portion 11, there is formed a slot 12 extending inwardly from the outer end of the handle. This slot may be of T-formation, or provided at its opposite sides with ribs 13 to frictionally hold the pad during the cleansing operation. A slide member 14 is mounted in the slot 12 for reciprocation therein. The handle 10 is formed with a lengthwise extending passage in which there is slidably mounted a rod or stem 15, one end of which is connected to the slide 14, and the opposite end to an actuating member 17. As shown in Figure 3, one end of the stem 15 is bent outwardly, as at 18, and secured to the actuator 17, the confronting surface of the handle being formed with an elongated slot 19 in which the bent portion 18 is permitted to slide lengthwise of the handle.

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The cleansing member 20 is in the nature of a rectangular pad formed of felted material. This pad is proportioned so that the transverse width of the pad is substantially the same as the width of the bottom of the T slot 12, whereupon the ribs 13 frictionally engage opposite sides of the pad, as shown in Figure 5, and in this manner the pad is firmly retained in the slot. The pad is adapted in lengthwise dimension to be positioned upon the slide 14, and the ends of the slide are bent upwardly toward the open side of the T slot for engagement with the ends of the pad 20. Rearward movement of the actuator 17 and the slide 14 effects movement of the pad into the T slot. To aid in this movement, the outer ends of the ribs 13 are chamfered as at 22, Figure 4. After the teeth have been brushed and cleaned, forward movement of the actuator 17 toward the head portion 11 effects ejectment of the pad 20 from the T slot and as the handle is turned over, the pad drops from the slide 14. With this arrangement, the used pad is ejected from the handle without the necessity of touching it.

I have found that a pad made from a fibrous mixture containing from 30 to 40% wool fiber; 50 to 60% cotton fiber, and 5 to 15% rayon fiber, is particularly efficient for the tooth cleansing operation. The pads 20 are preferably sterilized at the time of manufacture and while sterile are wrapped with protective sheet material, such as cellophane, and the wrapped pad is provided with a tear tape 25, see Figure 6. The wrapped pad is placed in the slide 14 and moved into the T slot 12. Thereupon, the protective wrapper is removed from that portion of the pad extending from the handle by manipulation of the tear tape 25, as will be well understood. In this manner, the pad is presented for use in sterile condition and after use, the pad is ejected from the handle portion as described. When not in use, the handle portion may be kept in an antiseptic solution for any extended time without damage due to the fact that there is no brush or cleansing pad present to be adversely affected by the solution.

What I claim is:

1. A tooth brush comprising a handle formed with an open-ended slot T shaped in cross section and extending axially inward from one end of the handle, a slide member movable into and out of said slot, said slide member having portions adapted to detachably engage opposite ends of a cleansing pad and being operable to move the pad into and out of said slot upon reciprocation of the slide member, the sides of said slot frictionally engaging said pad to retain the same in the slot, and an actuating member having a portion slidably mounted on the exterior of the handle to effect reciprocation of said slide member.

2. A tooth brush comprising a handle formed with an open-ended slot T shaped in cross section and extending inwardly from one end of the handle, a dispensable cleansing pad having a base portion adapted to frictionally engage the sides of said slot, said handle being formed with an axial passage extending from the inner end of said slot toward the opposite end of the handle, a slide member mounted for reciprocation in said slot and having a portion extending toward the open side of the slot and adapted to engage the cleansing pad, said slide member being operable to move said pad into and out of the slot upon reciprocation of the slide member, a stem slidably mounted in said passage and being connected at one end to said slide member, and an actuator arranged exteriorly of the handle and connected to the opposite end of said stem to effect reciprocation of said stem and slide member.

3. A tooth brush comprising a handle portion formed with an open-ended slot T shaped in cross section and extending axially inward from one end of the handle, a slide member mounted for movement into and out of said slot, said slide member having portions extending toward the open side of said slot and adapted to engage opposite ends of a cleansing pad and being operable to move the pad into and out of said slot upon reciprocation of the slide member, and an actuating member having a portion arranged exteriorly of the handle and movable lengthwise thereof for effecting reciprocation of the slide member.

4. A tooth brush comprising a handle portion formed with an open-ended slot extending axially inward from one end of the handle, a slide member mounted for movement into and out of said slot, said slide member having portions adapted to detachably engage opposite ends of a cleansing pad and being operable to move the pad into and out of said slot upon reciprocation of the slide member, an actuating member having a portion arranged exteriorly of the handle and movable lengthwise thereof for effecting reciprocation of the slide member, said slot having a pair of ribs spaced outwardly from the bottom wall of the slot and extending inwardly thereover, the ends of said ribs adjacent the open end of the slot diverging outwardly forming a divergent throat for guiding the cleansing pad into the slot between said ribs upon inward movement of the slide member.

References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
403,350	Horsey	May 14, 1889
770,588	Koch	Sept. 20, 1904
1,407,214	Osborn	Feb. 21, 1922
1,421,911	Cohen	July 4, 1922
1,558,225	Boeker	Oct. 20, 1925
1,635,924	Buckley	July 12, 1927
1,705,542	Ryser	Mar. 19, 1929
1,711,621	Temple	May 7, 1929
1,729,167	Knapp	Sept. 24, 1929
1,879,552	Silva et al.	Sept. 27, 1932
2,092,438	Wilt	Sept. 7, 1937
2,326,632	Friedman	Aug. 10, 1943
2,435,394	Hawley	Feb. 3, 1948
2,517,029	Ridner	Aug. 1, 1950

FOREIGN PATENTS

Number	Country	Date
1,932	Great Britain	Sept. 15, 1910