

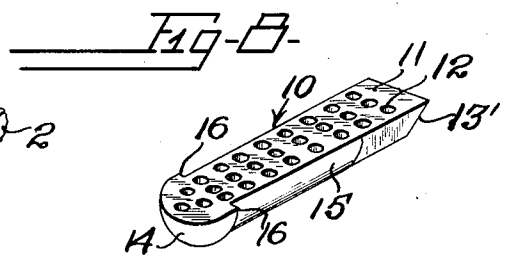
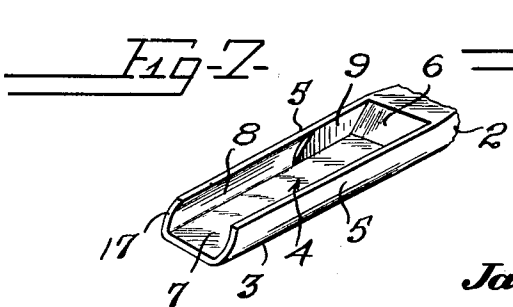
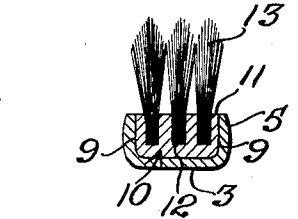
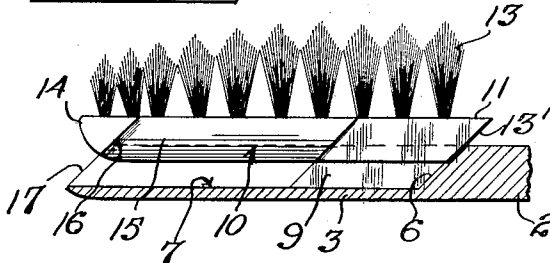
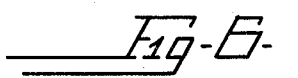
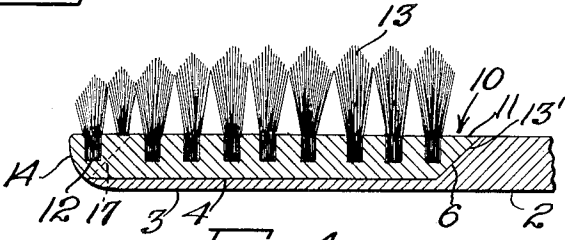
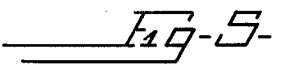
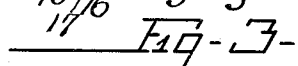
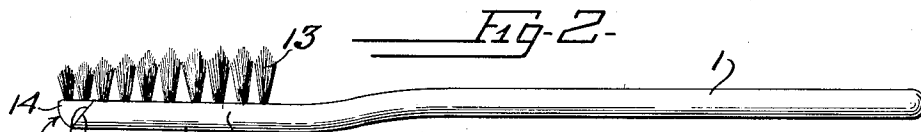
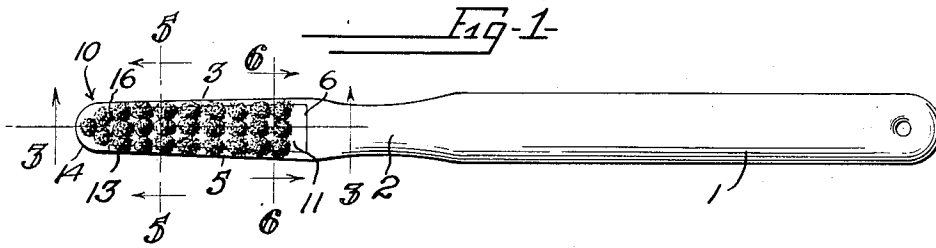
Jan. 23, 1934.

J. R. McELWAIN

1,944,797

TOOTHBRUSH

Filed May 3, 1933



James Robert McElwain

INVENTOR

BY Victor J. Evans & Co.

ATTORNEY

WITNESS:
H. S. Meader

UNITED STATES PATENT OFFICE

1,944,797

TOOTHBRUSH

James Robert McElwain, Kenosha, Wis.

Application May 3, 1933. Serial No. 669,235

3 Claims. (Cl. 15-176)

This invention relates to toothbrushes of the refillable type and has for the primary object, the provision of a device of the above stated character whereby one refill may be easily and quickly substituted for another in the holder of the toothbrush, the holder and body portion of the refill being so constructed that when assembled to each other no crevices or the like will be presented in which toothpaste or foreign matter may catch or accumulate, thereby maintaining the toothbrush in a highly sanitary condition and further the refill will be firmly and effectively retained against accidental displacement during the use of the toothbrush.

With these and other objects in view this invention consists in certain novel features of construction, combination and arrangement of parts to be hereinafter more fully described and claimed.

For a complete understanding of my invention, reference is to be had to the following description and accompanying drawing, in which

Figure 1 is a plan view illustrating a toothbrush constructed in accordance with my invention.

Figure 2 is a side elevation illustrating the same.

Figure 3 is a sectional view taken on the line 3-3 of Figure 1.

Figure 4 is a view similar to Figure 3 showing the refill partly positioned within the holder of the toothbrush.

Figure 5 is a sectional view taken on the line 5-5 of Figure 1.

Figure 6 is a sectional view taken on the line 6-6 of Figure 1.

Figure 7 is a fragmentary perspective view illustrating the holder.

Figure 8 is a perspective view illustrating the body portion of the refill.

Referring in detail to the drawing, the numeral 1 indicates a handle provided with a reduced portion to form a shank 2 slightly offset, as shown in Figure 2, and merging into a holder 3. The handle, shank and holder are of integral construction and constructed preferably of any suitable metal.

The holder 3 has a refill chamber 4 opening outwardly through the free end of the holder and through one face of the holder, as shown in Figure 7. The formation of the chamber 4 in the holder provides side walls 5, an end wall 6 and a bottom wall 7, the end wall 6 being disposed at an inclination as clearly shown in the drawing, while a portion of the side walls 5 is concaved, as shown at 8, and the remaining portions that join

the end wall 6 are tapered, as shown at 9. The side walls 5 are of comparatively thin material providing flexibility so that they may give during the insertion and removal of the refill in the chamber.

The refill consists of a body 10 having a flat face 11 provided with a series of openings 12 to receive tufts of bristles 13. One end of the body is beveled, as shown at 13', to correspond with the inclination of the end wall 6 of the holder while the opposite end of the body is slightly enlarged to form a closure 14 for the open end of the chamber 4. The side walls 15 of the body 10 have a portion thereof convexed to fit the concave portions of the side walls 5 of the holder, while the remaining portions of the side walls of the holder are inclined to correspond with the inclination of the portions 9 of the side walls 5 of the holder. The end 14 of the body projects slightly beyond the side walls of the body to form shoulders 16 disposed at an inclination to abut beveled or inclined end edges 17 of the side walls 5 of the holder. The body 10 when positioned in the chamber 4 completely fills the latter with the bristles 13 presented in a position that they may act freely upon the teeth of a person when moved within the mouth of the person. It is preferable that the tufts of bristles decrease in length towards the end 14 of the body 10, as shown in Figures 2 to 4. This arrangement of bristles allows a person to more readily operate the toothbrush in restricted areas of the mouth.

To place a refill within the holder 3 the body of the refill is positioned first, as shown in Figure 4 and a pressure upon the body in the direction of the wall 7 of the chamber 4 causes the body to snap into position within the chamber, the walls 5 of the chamber yielding to permit passage of the body 10 into the chamber and due to the inclination of the free edges of the side walls 5 and the shoulders 16 of the body portion and the inclined end 13' of said body portion and the inclined wall 6 of the chamber permit the easy starting of the refill into the chamber and also cause a limited endwise movement of the body of the refill during the snapping of the body into the chamber. To remove the refill from the chamber it is only necessary to exert pressure upon the end 14 of the body away from the holder. The refill due to the construction of the holder and the body of the refill eliminate crevices in which foreign matter may accumulate and thereby maintain the brush in a sanitary condition. The body 10 of the refill may be constructed of any material suitable for the purpose and

also may be of different colors to render it easy to distinguish one brush from another when grouped or assembled in a holder.

While I have shown and described the preferred embodiment of my invention, it will be understood that minor changes in construction, combination and arrangement of parts may be made without departing from the spirit and scope of my invention, as claimed.

Having described the invention, I claim:

1. A toothbrush comprising a handle, a holder on the handle and having a chamber opening outwardly through one end of the holder and one side face of said holder, and providing opposite resilient walls having portions thereof concaved and portions inclined, a refill body having portions of opposite walls convexed and other portions tapered to engage with the correspondingly shaped portions of the side walls of the holder when positioned in the chamber, and tufts of bristles carried by the body.

2. A toothbrush comprising a handle, a holder on the handle and having a chamber opening outwardly through one end of the holder and one side face of said holder, and providing opposite resilient walls having portions thereof concaved and portions inclined, a refill body having portions of opposite walls convexed and other por-

tions tapered to engage with the correspondingly shaped portions of the side walls of the holder when positioned in the chamber, tufts of bristles carried by the body, said chamber having its end wall inclined, and said body having one end inclined to fit the inclined end wall of the chamber.

3. A toothbrush comprising a handle, a holder on the handle and having a chamber opening outwardly through one end of the holder and one side face of said holder, and providing opposite resilient walls having portions thereof concaved and portions inclined, a refill body having portions of opposite walls convexed and other portions tapered to engage with the correspondingly shaped portions of the side walls of the holder when positioned in the chamber, tufts of bristles carried by the body, said chamber having its end wall inclined, said body having one end inclined to fit the inclined end wall of the chamber, said body having its opposite end enlarged to form shoulders abutting the end edges of the side walls of the chamber, said last-named end of the body forming a closure for the open end of the chamber and presenting a finger piece for a person to grip for the insertion and removal of the body from the chamber.

JAMES ROBERT McELWAIN.

30	105
35	110
40	115
45	120
50	125
55	130
60	135
65	140
70	145
75	150