June 21, 1938. W. E. D. TURNER 2,121,373

TOOTH BRUSH

Filed Jan. 21, 1936

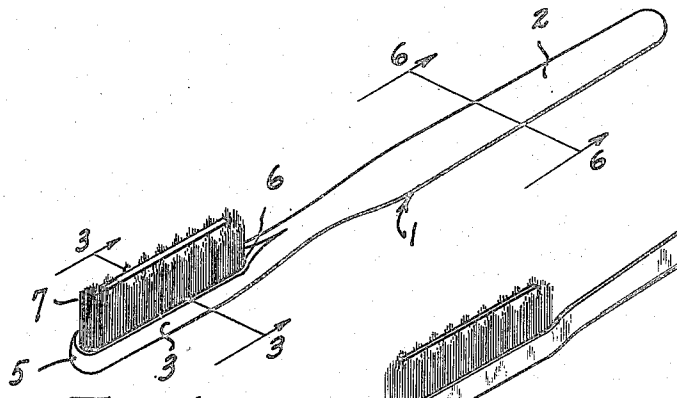


Fig. 1

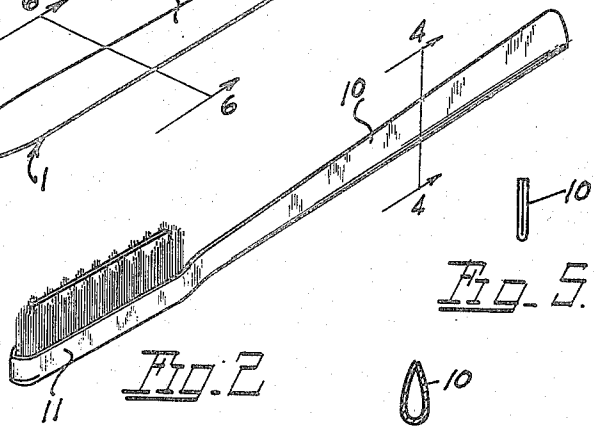


Fig. 2

Fig. 5.

Fig. 4.

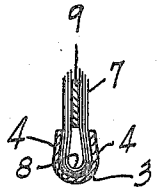


Fig. 3



Fig. 6

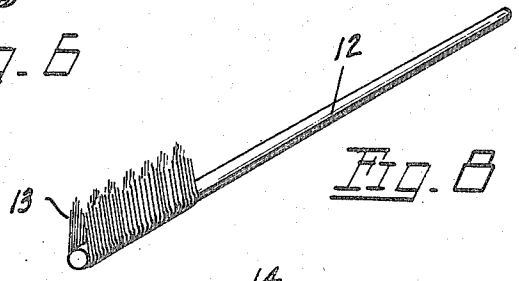


Fig. 8

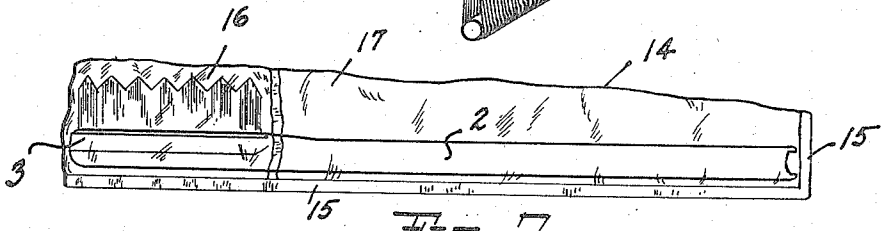


Fig. 7

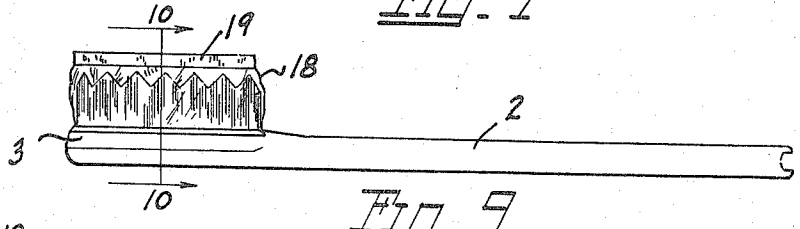


Fig. 9

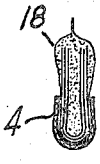


Fig. 10.

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Patented June 21, 1938

2,121,373

UNITED STATES PATENT OFFICE

2,121,373

TOOTH BRUSH

William E. D. Turner, Portland, Oreg.

Application January 21, 1936, Serial No. 60,010

3 Claims. (Cl. 15—167)

This invention is directed to improvements in tooth brushes and more particularly to the "single service" type of tooth brush shown and described in my co-pending application, Serial No. 643,046, filed November 17, 1932, entitled Brush, allowed June 6, 1935, and which has matured into Patent 2,031,990, of which this application is a continuation in part.

In the aforesaid patent I show and describe a brush of simple, efficient and inexpensive construction, and wherein the bristle holding portion of the handle, or head of the brush, is compressible so that a dentifrice, such as paste or the like, may be forced outwardly from the bristle holding portion into the bristles by lateral compression on the walls of the said bristle holding portion.

In the present application I show and describe a brush having similar structural characteristics except that the side walls of the bristle holding portion are rigid and non-compressible, and wherein the dentifrice, whether it be in paste form or in the form of cake or powder, may be carried within the bristles and positioned above the edges of the bristle holding portion and hermetically sealed with respect thereto in a sanitary condition.

The present invention contemplates the provision of a handle and head portion, as above outlined, which may be inexpensively manufactured by a molding process preferably, or by an inexpensive punching process.

A further object of the invention is the provision of bristles secured to any type of handle in such a way that they converge outwardly therefrom to embrace any form of dentifrice and to maintain the same beyond the edges of the handle or the bristle holding cavity therein.

A still further object is the provision of an inexpensive wrapping or container for the entire brush for hermetically sealing the same, or for wrapping and sealing the head or bristle portion only, so that the dentifrice and bristles may be preserved in a sanitary condition until ready for use. The wrapping for the bristle portion only, also serves as a container for a dentifrice in powder form. The wrapping or container in both instances may be made of cellophane or like substance which may be easily fractured and removed from the brush or bristles.

These and other objects will appear as my invention is more fully described in the following specification, illustrated in the accompanying drawing and finally pointed out in the appended claims.

In the drawing:

Figure 1 is a perspective plan view of my preferred form of tooth brush, showing the handle and head portion as integral with each other and formed by any approved method of molding.

Figure 2 is a perspective plan view of a modified form of the invention wherein the handle and head portion are stamped out of metal.

Figure 3 is a sectional end elevation taken along the line 3—3 of Figure 1.

Figure 4 is a sectional end elevation taken along the line 4—4 of Figure 2.

Figure 5 is an end elevation of the handle portion showing its flat sided formation.

Figure 6 is a sectional elevation taken along the line 6—6 of Figure 1.

Figure 7 illustrates a form of wrapping which may be employed to embrace the entire brush and to hermetically seal the same.

Figure 8 is another modified form of the invention showing bristles secured to one end of a simple and inexpensive one piece handle.

Figure 9 is a side elevation of the tooth brush showing the wrapping applied to the bristles only and forming a container for a dentifrice in powder form, if desired.

Figure 10 is a sectional end elevation taken on the line 10—10 of Figure 9.

Referring now more particularly to the drawing:

Reference numeral 1 indicates generally the main body of the tooth brush which consists of a handle 2 and a head portion 3. The head portion, in section, is shaped as shown in Figure 3 and is formed with rigid side walls 4 and curved end walls 5 and 6. Within this cavity thus formed, I secure a multiplicity of bristles 7 by any approved means such, for instance, as cement or the like within the bottom of the cavity, or I might choose to fasten the bristles in place by extending a pin or the like through the bristles and longitudinally of the cavity and secure the same at both ends thereof. It may be noted that each bristle, considered singly, is one continuous element folded over on itself as at 8.

It will be noted in Figure 3 that the side walls 4 of the cavity slightly converge. Thus, when the bristles are positioned within the cavity, they will also converge into contact with each other at their upper or free ends, under a certain degree of compression which is calculated to maintain a dentifrice 9, either in cake or paste form, above the upper edges of the bristle holding cavity and between the bristles until ready to use.

In the modified form of the invention illustrat-

ed in Figure 2 the structural characteristics are substantially the same as those of the preferred form so far as the shape of the bristle holding cavity and arrangement of the bristles and dentifrice are concerned. The handle 10 and head portion 11, however, are stamped or punched out of metal instead of being molded.

The further modified form of the invention illustrated in Figure 8 consists of a main body member 12 which may be uniform in thickness or diameter throughout its length. At one of its ends, I secure a multiplicity of bristles 13 folded over on themselves in like manner to the bristles shown in the other two forms of the invention. These bristles 13, instead of being cemented or otherwise secured within a cavity, embrace the outer surface of the main body member and are secured thereto by any suitable means, such, for instance, as cement, wire stitching, or an inexpensive metallic clip (not shown) could be provided to embrace the bristles under spring tension to converge them into contact with each other at their upper ends, as aforesaid.

In manufacturing the handle and head of the form of brush shown in Figure 1, I first prepare a plastic preferably consisting of a shellac compound similar in appearance to black bakelite or black celluloid, although the compound may be finished in any desired color. The raw materials used in preparing the plastic are properly mixed in a heated mixing machine. The mixture is then removed and placed in any approved type of rolling machine where it is rolled into sheets. Following this, the sheets are broken into correct sizes, each representing the proper amount of plastic needed to mold one handle and head portion. Each plastic piece is then folded over on itself lengthwise, and a portion thereof, near one of its ends, is expanded or widened to form the bristle receiving cavity, as aforesaid. When the pieces, thus dealt with, have dried, they harden into a rigid structure wherein the walls of the bristle receiving cavity are firm and non-compressible.

The sanitary wrapping for the entire brush, as illustrated in Figure 7, comprises a sheet of cellophane, or the like, 14 which is wrapped entirely around the brush and sealed along its edges as at 15. In some instances, I may prefer to divide the wrapping into two compartments; one compartment 16 for the head and bristles of the brush, and the other compartment 17 for the handle thereof. In Figure 9, I show a wrapping 18, for the bristles only, which is sealed along one of its edges as at 19 to, not only, preserve the bristles in a sanitary condition, but to also maintain a powder form of dentifrice in and around the bristles. As previously pointed out, these bags or wrappings are easily broken for ready access to the brush.

From the foregoing, it will be seen that the invention comprehends the provision of a simple durable tooth brush, but of such inexpensive construction that it may be used only once and discarded. These brushes are particularly useful as an advertising medium in hotels, rest rooms and the like, and may be readily dispensed from slot machines or the like for a trifling sum. The handles of the various forms of brushes illustrated, provide ample space for advertising indicia as do likewise the wrappings or containers for the same.

While I have shown a particular form of embodiment of my invention, I am aware that many minor changes therein will readily suggest themselves to others skilled in the art without departing from the spirit and scope of the invention. Having thus described the invention, what I claim as new and desire to protect by Letters Patent, is:

1. A brush comprising a head and handle portion, the head portion being formed with a cavity having a bottom wall and having flat rigid side walls, said side walls converging toward each other, bristles permanently mounted within said cavity to the bottom and side walls thereof and extending outwardly therefrom and converging toward each other in accordance with the convergence of said side walls.

2. A brush having a head and handle, an elongated cavity formed within the head and having a bottom wall and having flat rigid and non-compressible side walls, rows of bristles permanently mounted within said cavity to the bottom and side walls thereof and extending outwardly beyond the top edges thereof, said rows of bristles converging toward each other and adapted to grip a dentifrice therebetween.

3. A brush comprising a head and handle portion, a cavity formed within the head portion having bottom, side and end walls, the walls of the cavity being rigid and non-compressible, a plurality of bristles permanently mounted within the cavity to the walls thereof and extending outwardly therefrom into convergence with each other and adapted to grip a dentifrice and to hold the same in a position exteriorly of the top edges of the cavity.

WILLIAM E. D. TURNER.