

C. E. CARROLL.
 TOOTHBRUSH.
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1,389,624.

Patented Sept. 6, 1921.

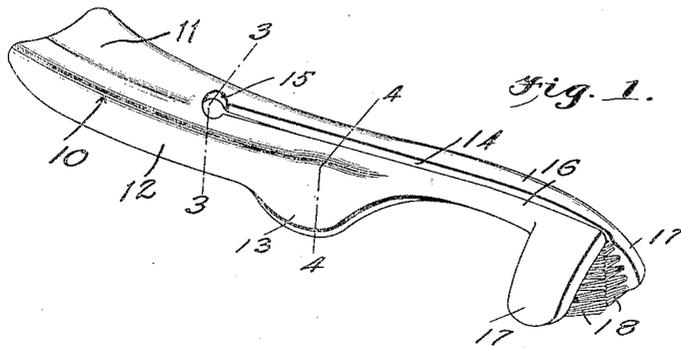


Fig. 1.

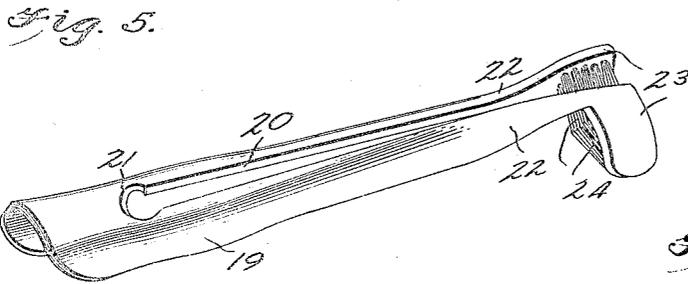


Fig. 2.

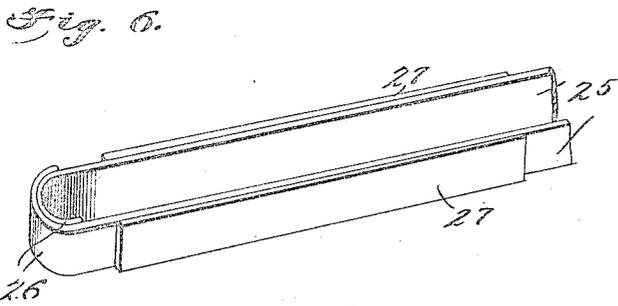


Fig. 3.

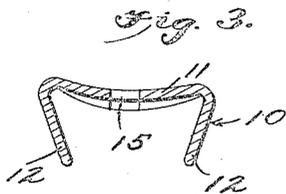


Fig. 4.

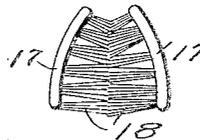


Fig. 5.

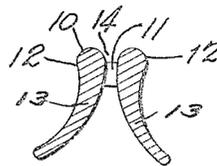


Fig. 6.

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TOOTHBRUSH.

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To all whom it may concern:

Be it known that I, CHARLES E. CARROLL, a citizen of the United States, and a resident of Newport, in the county of Jackson and State of Arkansas, have invented certain new and useful Improvements in Tooth-brushes, of which the following is a specification.

This invention relates to an improved tooth brush and more particularly to one of the double headed type adapted to clean both sides of the teeth and adjacent portions or margins of the gums at the same time, and is directed to certain improvements upon my prior Patents, Nos. 1133930, 1091291, Design 44997.

In all tooth brushes provided with a substantially U or C-shaped head or in all double headed tooth brushes designed to clean both sides of the teeth at the same time, there has been no provision made for creating more pressure or reducing the amount of pressure due to the variation in the thicknesses of the front teeth and the large jaw teeth. Thus, when using a double headed or U-shaped brush there is not enough pressure when brushing the thin teeth, but when the brush is passed back to the large jaw teeth, which are much thicker, there is generally too much pressure, with the result that the gums will be injured and will be caused to bleed. On the other hand, if the head of a U-shaped tooth brush has the legs of the U or the sides forming the head is long enough to reach the gums on either side of the teeth in the mouths of some people with extremely long front teeth, then it is too long to use on the jaw teeth in the same mouth, but by having the head divided and the handle so constructed that the two halves of the head may spring apart as two heads or sections, the brushing surface may be forced down over the longest teeth until the gum margins along the longest teeth may be cleaned with ease.

It is therefore the object of the present invention to provide a tooth brush which will overcome the above objections and to provide a construction wherein a slight rotary motion or oscillation of the two halves of the brush may be effected to bring the pressure on the tips along the gum margins where perfect cleaning is most to be desired,

and at the same time to provide a brush of simple construction and capable of economical production.

Other and further objects of my invention will become readily apparent to persons skilled in the art, from a consideration of the following description when taken in conjunction with the accompanying drawings, wherein:

Figure 1 is a perspective view of the preferred form of my improved double headed tooth brush.

Fig. 2 is an end elevation looking toward the head end.

Fig. 3 is a transverse sectional view taken on the line 3—3 of Fig. 1.

Fig. 4 is a similar view taken on the line 4—4 of Fig. 1.

Fig. 5 is a perspective view of a modification, and

Fig. 6 is a fragmentary perspective view of a further modified construction.

Referring to the drawings in detail, in which like reference characters designate corresponding parts throughout the several views, and referring more particularly to Figs. 1 to 4 inclusive, my improved tooth brush is shown as comprising a handle 10, the gripping portion of which is made substantially channeled shaped in cross section, with the web of the channel relatively thin and of concavo-convex shape as indicated at 11. At the sides of the handle there are provided flanges 12 and intermediately of the length of the handle, the latter is formed with concaved grasping extensions or flanges 13 which are adapted to receive the thumb and forefinger of the hand in which the brush is held for use.

The handle is split longitudinally or divided substantially two-thirds ($\frac{2}{3}$) of its length as indicated at 14, the slot at one end being preferably enlarged as indicated at 15, in order that a certain amount of relative movement will be afforded between the opposite shank portions 16 forming the shank or stem of the brush, in conjunction with the thin resilient web portion of the handle at the gripping portion, it being understood that the brush is made of celluloid, fiber, or other suitable resilient material, or even metal may be employed if so preferred.

The head is substantially U or C-shaped

or double headed, that is, in the form of an inverted U and provides opposed sides or sections 17 constituting the heads which carry at their concaved inner faces opposite each other in downwardly divergent relation, the bristles 18 which increase in length toward the tips as clearly seen in Fig. 2 of the drawings, the ends of the bristles being in contact in order to operate against the both sides of the teeth and margins of the gums to effectively cleanse the same. Thus, it will appear that by providing a brush with a divided head and shank portion, or the split arrangement as described, the opposed heads are adapted to spring apart while being normally held in contact or substantially so. In this way the halves of the head and handle may spread apart in passing over the large thick teeth in the posterior or sides of the mouth and may be forced together by pressure on grasping the handle by the grasping flanges 13, thereby creating the desired pressure in cleaning the thin front teeth and the gum tissue adjacent thereto. By applying pressure as stated, the opposed sides or sections of the head are caused to have a slight rotary motion or to oscillate so that the tips of the bristles or brushes will move together along the gum margin where perfect cleaning is most to be desired, while also adapting the brush to fit a person's mouth whether the teeth are short or long and generally obviating the objections heretofore referred to. If the side flanges were omitted or left off and pressure was brought to bear on the handle while the brush was engaged with a large jaw tooth, the tips of the brush heads would be forced apart and this obviously would be objectionable. Thus, the method of applying pressure in connection with the rotary motion or oscillatory movement of the heads or head sections, is an improved feature, in connection with the construction of the handle in such a manner that there is a spring or springy part back of the bifurcation of the handle.

I am also aware that a metal spring may be used or that a spring hinge arrangement may be used, but the method that I prefer is that the material of which the handles are made may be of such resiliency and U-shaped as to form a spring, as already described. In Fig. 5 a modified form is shown in which the handle 19 is substantially U or C-shaped in cross section, being channel-like but rounding instead of having the sides extended substantially at right angles to the intermediate or web portion and being substantially flat. In this form the back is slotted as indicated at 20, the slot being enlarged as indicated at 21 while the sections of the shank are spaced apart and relatively flat as indicated at 22. The heads

23 are disposed in divergent relation instead of being substantially in contact and with their inner edges parallel, but the bristles 24 are arranged substantially as hereinbefore described. The side flanges are also operated to cause the necessary rotary motion of the brushes to bring the tips thereof together under pressure for the purposes heretofore stated.

In Fig. 6 of the drawings the two half sections 25 forming the shank of the brush, as well as the handle, are of ribbon-like formation, being made from strips of material having curved end portions 26 disposed in overlapping relation at the bight of the handle and secured together so as to allow the necessary resiliency to permit use of the brush as heretofore described. In addition, the sides of the handle are reinforced by the strips 27 or the sides may be made with thickened portions in order to add rigidity at the intermediate parts. While this construction or the loop-like formation shown in Fig. 5 may be employed, the construction shown in Fig. 1 is preferred in which the main divisions of the handle are joined along the posterior portion by a thickened part of the material so that when the rotary motion caused by the pressure is taking place, the heads of the brush will be held in the same relative portions. I am also aware that still other ways may be employed to carry out the inventive idea and that the same ends may be obtained by working out the idea in metal spring parts.

In view of the foregoing it is thought that the operation of the device will be readily understood and in view of the simplicity and practical value that it will commend itself to those skilled in the art.

Having thus particularly described and ascertained the nature of the invention, and in what manner the same is to be performed, what is claimed is:

1. A tooth brush comprising a handle of channel shape throughout its length and divided longitudinally to form spaced shank portions having outwardly and downwardly directed heads, and bristles carried by said heads and extending downwardly and inwardly toward each other.

2. A double headed tooth brush comprising a resilient handle, said handle being slotted for the greater portion of its length to the free end to provide opposed shank portions, said handle having side flanges with edge extensions forming grasping portions for applying pressure to the opposed shank portions, said shank portions having oppositely inclined head sections and bristles carried by said head sections in opposed relation and adapted to be brought against the teeth by a slight rotary motion of the

head sections through the medium of pressure applied to the flanges and extensions thereof.

5 3. A double headed tooth brush comprising a resilient handle slotted for the greater portion of its length to provide opposed shank portions, said handle having side

flanges, said shank portions having oppositely inclined and outwardly extending head sections, and bristles carried by said head and extending downwardly and inwardly toward each other. 10

CHARLES EDWARD CARROLL.