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D. N. BOOTH

2,090,663

TOOTH BRUSH

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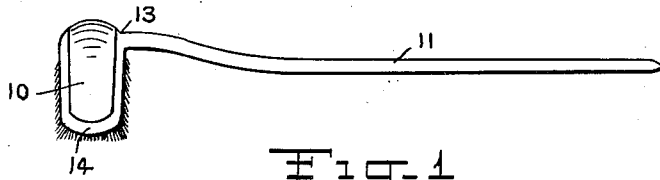


Fig-1

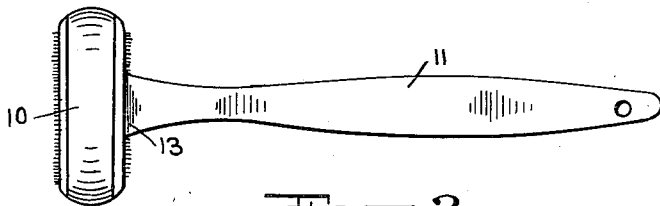


Fig-2

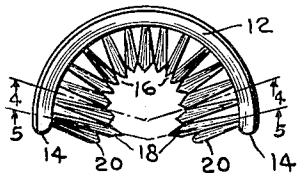


Fig-3

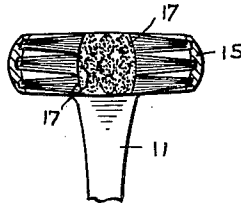


Fig-4

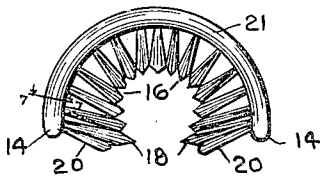


Fig-6

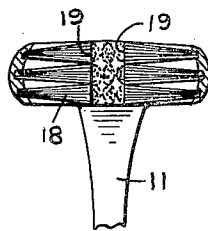


Fig-5



Fig-7

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TOOTH BRUSH

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4 Claims. (Cl. 15—167)

My invention relates to an improvement in tooth brushes. The primary object thereof is to provide a brush of this character which embodies a cleaning surface that conforms to the shape of the teeth. A further object is to construct the brushing surface in such a manner that it effectively cleans all three exposed surfaces of the teeth simultaneously, to wit, the labial, lingual or palatal, and cutting or masticating surfaces.

A still further object is to provide a brush head for the tooth brush of arcuate shape which, in cross section, is rounded or curved.

Another object of the invention is to prevent the brushing surfaces of the bristles of the brush from coming into contact with the gums of the user. In order to accomplish this object, the end, or lower bristles, of the brush are constructed in such a manner that their side surfaces rest upon the top of the gum tissue to guide the brush along the teeth of the user.

A further object of the invention is to provide a tooth brush having an arcuately shaped brush head in which the respective tip ends of the head have a rounded configuration.

Still another object is to provide a brush construction of this character which through means of the curved brushing surface will permit the proper cleaning of the interproximal spaces between the teeth and also readily facilitate a thorough cleaning of lingual or palatal, labial and masticating portions of the teeth at the same time.

My invention further includes other objects, advantages and novel features of construction and arrangement hereinafter more particularly referred to in connection with the accompanying drawing, in which Fig. 1 is a side elevation of a tooth brush made in accordance with the present inventive conception.

Fig. 2 is a plan view of the tooth brush as illustrated in Fig. 1.

Fig. 3 is a front elevation of the brush showing the position of the bristles in the brush head.

Fig. 4 is a cross section of the brush head taken along line 4—4, Fig. 3.

Fig. 5 is a cross section of the head along line 5—5, Fig. 3.

Fig. 6 is a front elevation showing a modification of the form of brush head, and

Fig. 7 is a cross section of the brush head taken on line 7—7, Fig. 6.

Referring particularly to Figs. 1 to 5, inclusive, the tooth brush as herein constructed comprises a brush head 10 and handle 11. The brush head is arcuate in form as indicated at 12 in Fig. 3, the

same being approximately semi-circular. The handle of the brush is integral with the brush head, the handle extending perpendicularly from the head at the central side portion thereof as indicated at 13. The respective lower tip surfaces of the bristle retaining head 10 are curved as designated in the drawing at 14. A cross section of the arched head, Figs. 4 and 5 indicates that the extrados of the same is curved as shown at 15 to have an exterior rounded convex form, which extends laterally throughout the length of the arch. At the bristle retaining side or intrados of the head the laterally extending curved surface is concave in form.

The bristles of the brush extend from the interior surface of the arched concave head 10 to provide a brushing surface which conforms with the shape of the teeth. This brushing surface, as shown at 16 in Fig. 3 is curved in a vertical direction to conform to the lingual or palatal, and labial portions of the teeth. The bristles in the upper part of the head provide a brushing edge for cleaning the masticating portions of the teeth. Fig. 4 of the drawing indicates that the bristles disposed in the head adjacent the side surfaces of the teeth are also curved in a horizontal direction as shown at 17, so that the same are effective in cleaning the interproximal spaces between the teeth. The bristles of the brush head, which are adapted to clean the side walls of the teeth of the user have adjacent concave brushing surfaces curved in a horizontal direction on both sides of the brush head, which curvature substantially corresponds to that of the laterally concave intrados. The lowest pair of effective bristles are employed to clean the base of the teeth just above the gum tissue, these bristles being longer and closer together at their adjoining brushing surfaces than the remaining bristles in the brush head, the same being designated in the drawing at 18. The brushing surface of the long bristles 18 is straight as indicated at 19 to provide a means for also cleaning the teeth in the front portion of the mouth. Bristles 18, extending from opposite sides of the brush head, situated below the curved tip surface bristles 17, are positioned so that the tip surfaces of the same are spaced in substantially parallel relation.

In order to prevent the longer set of bristles from rubbing upon the gum tissue of the user, a reinforcing set of bristles is employed below the same as indicated at 20. This set of bristles is not constructed with an end brushing surface inasmuch as the purpose of the same is to provide a non-irritating side surface which is rested upon

the gum tissue of the user to effectively guide the brush during use so that the brushing surfaces of the longer bristles 18 do not rub against the gum tissue.

5 With reference to Figs. 6 and 7 the modification of the invention illustrates a brush head having the bristle arrangement for cleaning the teeth in the same form as that hereinbefore described. The brush head proper in this instance
10 has a similar arcuate shape as designated at 21, the cross section of the head shown in Fig. 7 varying from the other form of the invention by being straight in form as designated at 22.

While I have shown and described the preferred
15 embodiment of my invention, I do not desire to limit myself to the specific forms illustrated, but may alter the construction and arrangement of parts as occasion requires without enlarging the scope of my invention or departing from the spirit
20 thereof as contained in the appended claims.

I claim as my invention:

1. A tooth brush having an arch shaped head, a handle member extending perpendicularly from the crown of the head, the extrados of the arch
25 shaped head being constructed to include a laterally convex curvature and the intrados being similarly formed to include a laterally concave curvature, both the convex and concave curvatures extending substantially throughout the distance
30 of the arched surface, a plurality of bristles extending from the intrados of the head, the bristles of the head adapted to clean the side walls of the teeth of the user having adjacent
35 concave brushing surfaces curved in a horizontal direction, when the brush is held in position for use, on both sides of the brush head, substantially corresponding to that of the laterally concave intrados.

2. A tooth brush having an arch shaped head,
40 a handle member extending perpendicularly from

the crown of the head, the extrados of the arch shaped head being constructed to include a laterally convex curvature and the intrados being
5 similarly formed to include a laterally concave curvature, a plurality of bristles extending from the intrados of the head, the bristles of the head adapted to clean the side walls of the teeth of the user having adjacent brushing surfaces
10 curved in both a horizontal and vertical direction, when the brush is held in position for use, and other bristles extending from opposite interior sides of the head, situated below the bristles adapted to clean the side walls of the teeth, having spaced parallel straight edge brushing surfaces.

3. A tooth brush having an arch shaped head,
15 a handle member extending perpendicularly from the crown of the head, a plurality of bristles projecting substantially radially from the interior face of the head adapted to contact simultaneously both the inner and outer sides of the teeth of
20 the user, the bristles for cleaning the inner and outer side walls of the teeth, extending from both sides of the brush head, having adjacent concave brushing surfaces curved in a horizontal direction
25 when the brush is held in a position for use.

4. A tooth brush having an arch shaped head, a handle member extending perpendicularly from the crown of the head, a plurality of bristles projecting substantially radially from the interior
30 face of the head adapted to contact simultaneously both the inner and outer sides of the teeth of the user, the bristles extending from both sides of the brush head for cleaning the inner and outer side walls of the teeth having adjacent
35 brushing surfaces curved in both a horizontal and vertical direction when the brush is held in position for use, the adjacent brushing surfaces which are horizontally curved being concave in form.

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