Sept. 8, 1936. C. W. FULLER 2,053,905

TOOTH BRUSH

Filed May 8, 1933

Fig. 1.

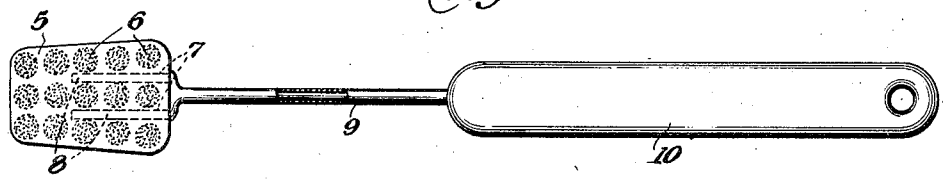


Fig. 2.

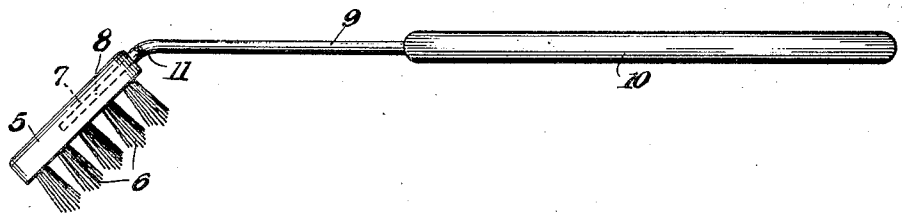


Fig. 3.

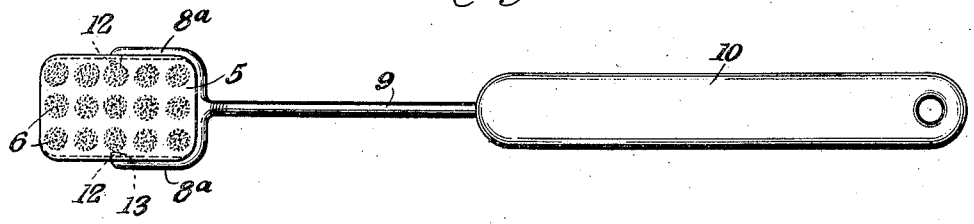
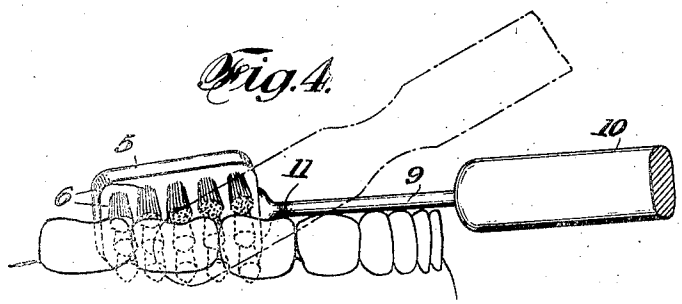


Fig. 4.



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Patented Sept. 8, 1936 2,053,905

UNITED STATES PATENT OFFICE

2,053,905

TOOTH BRUSH

Clarence W. Fuller, Yonkers, N. Y.

Application May 8, 1933, Serial No. 669,944

2 Claims. (Cl. 15—167)

This invention relates to toothbrushes and especially to brushes designed to effectively clean the lingual faces of the teeth and gums.

In all present designs of toothbrushes the handle portion is of such thickness as to prevent the bristles assuming a position substantially parallel to the gum line, when used to brush the lingual faces of the teeth. The brush of necessity must be angularly disposed so the handle portion may pass over the teeth and for this reason only the extreme end bristles of the brush will reach the gum line.

Authorities are in accord that the proper technique for brushing the teeth entails the positioning of the bristles at right angles to the face of the teeth and imparting a slight rotary motion under considerable pressure to the brush. The various sectors of the anterior and posterior teeth, buccally, labially and lingually are thus thoroughly cleansed and the gums properly massaged.

While the remedy, here disclosed, appears quite simple, the importance of this invention will become strongly apparent when it is pointed out that a toothbrush constructed in accordance with this invention will not only have longer life but will bring into active position at the vulnerable gum line a greater number of bristles and permit effective and thorough cleaning and protection of that portion of the teeth and gums most liable to erosion and infection.

An important object of the invention therefore resides in the provision of a toothbrush having a thin but strong neck portion adjacent the bristles to permit substantial parallelity between the bristles and the gum line when used on the lingual faces of the teeth.

Another feature of the invention is in the provision of a toothbrush having an included obtuse angle between the bristle face of the brush and the handle so the lips may be closed over the thin neck portion of the handle to prevent excessive drooling in addition to positioning the bristles properly on the teeth.

Another feature resides in the provision of a brush having a greater width adjacent the thin neck portion than at its free end to further assist in bringing to bear a greater number of bristles on the gum line.

Another object is in the provision of a tooth brush having a handle, the greatest width of which is in the plane of the brush head face to serve as an indication to the user that the bristles are properly positioned at substantially right angles to the tooth faces. In this manner the bristles, under the pressure of the hand are bowed and flexed and in tending to straighten, seek the otherwise inaccessible recesses and crevices between the teeth.

Further objects and advantages of the invention will appear from the following disclosure thereof together with the attached drawing which illustrates a preferred form of embodiment thereof, and in which:

Fig. 1 is a plan view of a preferred form of tooth brush.

Fig. 2 is a top view of another form of the invention showing an included angle between the brush head and handle.

Fig. 3 is a plan view of an alternate form of tooth brush.

Fig. 4 indicates the form shown in Fig. 2, as in use on the lingual faces of the teeth, there being also shown in broken lines an ordinary tooth brush similarly used.

In the drawing, that form of the invention illustrated in Figs. 1 and 2, comprises a brush head 5 provided with bristles 6. The brush head may be provided with holes 7 opening at one end to accommodate the tines 8 of a relatively thin yet rigid neck portion 9, a handle 10 being secured thereto at its opposite end. The tines may be secured to the head in a suitable manner such as by a press fit or by cementing.

The head and handle may be constructed in the usual manner and the neck portion 9 may be preferably of a rigid metallic member properly covered to obviate the contact of metal on the teeth.

As shown in Fig. 2, an obtuse angle may be formed between the head and the handle as shown at 11. This angle is approximately 135° or such exact angle as experience would dictate.

The head 5 is preferably made in the form of a regular trapezoid with that portion adjacent the neck portion wider than the opposite free end. This permits the handle to assume a slight upward angle when in use to the incisal surfaces of the teeth and yet have the lowermost row of bristles parallel to the gum line.

In keeping with the shape of the brush head, the bristles are preferably set in diverging rows thereby affording sufficient space in the head to accommodate the tines 8.

As can readily be seen from the above, there is thus provided a tooth brush over which the lips of the user may close and which, as best indicated in Fig. 4, enables the user to properly clean at the gum line with all of the lowermost bristles of the brush.

As is further apparent from Fig. 4, all of the bristles are brought to bear on the teeth simultaneously. It should be particularly noted that the head assumes a position substantially parallel to the gum line to afford this uniform application of the bristles to the teeth.

For the sake of comparison, an ordinary tooth brush is also shown in Fig. 4 and due to the lack of angle between its head and handle and its relatively thick neck portion, it, in use must be applied at the angle shown. It is apparent, therefore, that only the lowermost bristles are performing their work.

The alternate form of the invention illustrated in Fig. 3, is similar to the form above described except that the head is provided with grooves 12 along its longitudinal edges, receptive of tines 8a. These tines may be provided with inbent ends 12 which are adapted to enter into seats 13 in the head.

Either of the forms of attachment above described may be made permanent or detachable as desired. The form shown in Fig. 3, permits of end to end reversal of the head in relation to the handle.

Although I have described my improvements with considerable detail and with respect to certain particular forms of my invention, I do not desire to be limited to such details since many changes and modifications in the form, arrangements, proportions and sizes thereof may well be made without departing from the spirit and scope of my invention in its broadest aspect.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:

1. In a toothbrush, a brush head having rows of diverging bristles to provide unobstructed spaces between the greater portion of each row, a handle and tines on the handle adapted to engage seats in the head to form a cooperating union between the head and handle, said tines engaging that portion of the head having the greatest space between the bristle rows.

2. In a toothbrush, a brush head having rows of diverging bristles, to provide unobstructed spaces between the greater portion of each row, a handle and tines on the handle adapted to engage seats in the head to form a cooperating union between the head and handle, said tines engaging that portion of the head having the greatest space between the bristle rows, and a thin substantially rigid neck portion joining the tines and handle whereby the bristles of the brush when in use may assume a position substantially parallel to the gum line to afford substantially uniform application of the bristles to the teeth.

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