Dec. 11, 1923. 1,476,779

H. TAUB

TOOTHBRUSH

Filed May 12, 1921

Fig. 1.

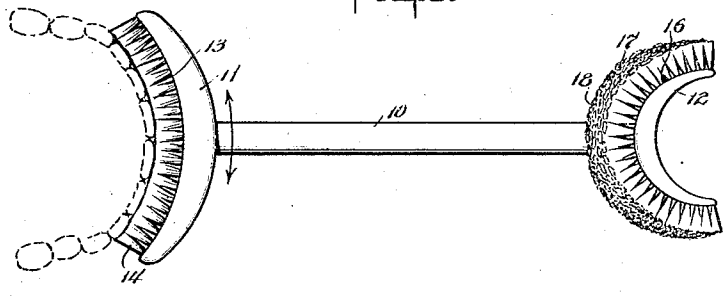
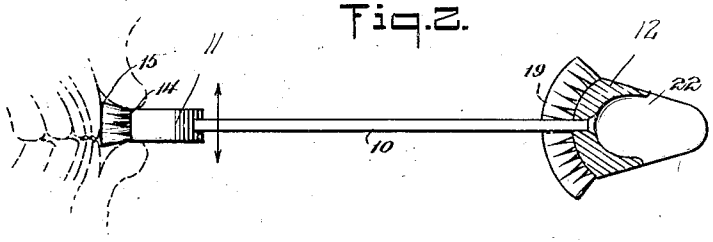


Fig. 2.



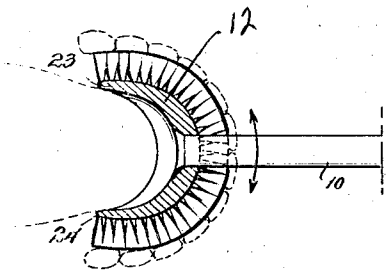


Fig. 3.

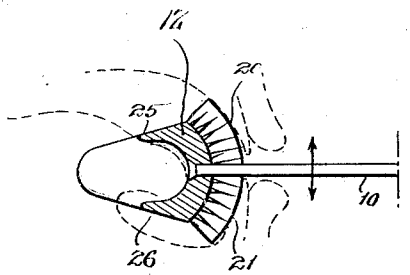


Fig. 4.

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UNITED STATES PATENT OFFICE.

HERMAN TAUB, OF NEW YORK, N. Y.

TOOTHBRUSH.

Application filed May 12, 1921. Serial No. 469,044.

To all whom it may concern:

Be it known that I, HERMAN TAUB, a citizen of Czechoslovakia, and resident of New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Toothbrushes, of which the following is a specification.

The invention relates to a tooth brush for cleaning the anterior or posterior faces of both rows of a person's teeth.

It is appreciated that tooth brushes of the usual construction have a handle extending from and in line with the line of the bristles and that it is necessary in brushing the anterior faces of the rows of teeth to brush one side, of course, usually with one hand, and then reverse the hand to brush on the opposite side of the teeth rows. With these brushes too it is difficult, if not practically impossible, to brush the posterior or interior surfaces of the rows of teeth for the brush which is designed as usual with a concaved brushing surface is obviously inapplicable to brush a concaved surface. Numerous attempts have been made to meet these difficulties but invariably there has resulted an unweilding article, the very difficulty incidental to its use contributing to its unpopularity.

According, the primary object of this invention is to provide a simple form of structure which can be easily and readily manipulated to brush both posterior and anterior surfaces with either a lateral movement or with the vertical movement lengthwise of the teeth sanctioned by the dental profession.

I attain this invention broadly by providing a double headed tooth brush, one head of which is provided with a brush surface fashioned to fit the posterior tooth surface and the other head of which is provided with a brush surface fashioned to fit the anterior tooth surface when the teeth are in an almost closed position.

The invention also features a handle arrangement by means of which the brushing can be effected with one hand engaging the handle in a natural position and by means of which the person can lean over a basin or like receptacle and permit the cleansing liquid to flow freely from the mouth without danger of its discharging down the person's arm.

Still another object of the invention is to provide a form of tooth brush which when employed to brush the anterior surface can be moved or at least guided by the tongue thus supplementing the manual actuation of the brush and insuring the possibility of the brush surface reaching all parts of the teeth structure.

Another object of the invention is to provide a form of tooth brush which can be accommodated in the mouth without materially distorting the cheeks or in any way tending to injure the gum structure in case of careless manipulation.

Another object of the invention is to provide a form of tooth brush in which the brushing surfaces are exposed and thus tend to permit the ready cleansing of the same or the ready introduction thereto of the cleansing composition used in brushing the teeth.

Various other objects and advantages of the invention will be in part obvious from an inspection of the accompanying drawings and in part will be more fully set forth in the following particular description of one form of mechanism embodying my invention, and the invention also consists in certain new and novel features of construction and combination of parts hereinafter set forth and claimed.

In the accompanying drawings:—

Figure 1 is a plan view of a tooth brush constituting a preferred embodiment of the invention and showing the engagement of one of the heads with the anterior surface of a row of teeth shown in ghost outline;

Figure 2 is a view in side elevation and partly in vertical section of the device shown in Figure 1 and showing how one of the heads is located between the person's lips in brushing the outside surfaces of the teeth;

Figure 3 is a horizontal sectional view of the right hand head shown in Figure 1 disposed in position engaging the posterior surface of a row of teeth shown in ghost outline and guided by a tongue shown in plan and similarly outlined; and

Figure 4 is a vertical sectional view taken centrally through the showing in Figure 3 and showing the brushing surface in engagement with the partially closed rows of teeth shown in ghost outline.

In the following description and in the claims, parts will be identified by specific names for convenience of expression but

they are intended to be as generic in their application to similar parts as the art will permit.

In the drawings there is shown a long flat handle 10 secured at opposite ends in arcuate cross heads 11 and 12. The head 11 is crescent shape in plan, as shown in Figure 1, and flat as shown in Figure 2 with the handle 10 extending centrally from the convexed side thereof. The opposite or concaved side 13 is provided with sets of bristles 14 secured in place as is usual with approved forms of brush structures. The brushing surface 15 of the bristles is flat in vertical section, as shown in Figure 2, but is concaved as shown in Figure 1 and the curve is designed at least roughly to conform to the curvature of the rows of teeth of the person for whom the brush is intended. It will be, of course, quite obvious that the brush when marketed will have to be made in different sizes to accommodate the varying curvatures of different person's teeth but in general practice four or five marketable sizes will be sufficient.

The opposite head 12 is also of crescent shape in plan except that it is of proportionately smaller arc than the head 11 and as shown in Figure 2 has a greater vertical depth than the opposite head. The convexed side 16 of the head 12 is provided with sets of bristles 17 which have a convex brushing surface curved in two directions at right angles to each other, with one curvature 18 fashioned to fit the posterior surface of the rows of teeth as shown in Figure 3 and with the other curve 19, that is the curve in the vertical plane when the brush is in use, having a curvature to fit at least approximately the surface form from point to root of the teeth when the rows are almost in closed position as shown in Figure 4. The bristles in both heads project from their respective heads in the same direction and the handle 10 passes through the bristles 16 so as to bring an upper portion 20 of the bristles 16 against the posterior surface of the upper row of teeth and a portion of the bristles 21 against the corresponding lower row of teeth.

The concaved outer side of the head 12 is provided with a tongue receiving recess 22. This recess is curved in two directions and is outlined horizontally by the horn portions 23 and 24 of the head as shown in Figure 3 and is outlined vertically by the extensions 25 and 26 which are so arranged that the tongue engaging against the upper flange 25 can raise the portion of the brush within the mouth and correspondingly pressing down on the flange 26 will depress the portion of the brush in the mouth. Correspondingly a movement of the tongue to the right of left causes an engagement with the horns of the head and in this way the tongue can assist in moving the brush horizontally about the rows of teeth.

In operation and first referring to the showing at the left hand side of Figure 1, it will be understood that the brush properly wet and charged with the cleansing substance, if desired, can be introduced between the lips and with the rows of teeth either opened or closed the brush can be moved horizontally in opposite directions, as indicated by the double headed arrow in Figure 1 or can be moved vertically, that is, lengthwise of the teeth, as shown by the similar arrow in Figure 2.

The teeth can then be separated by opening the mouth with the head 12 introduced back of the teeth and the rows of teeth brought almost together as shown in Figure 4. The brush can then be moved horizontally as indicated by the arrow in Figure 3 this brushing both or either one of the rows of teeth as shown in Figure 3 or the brush can be moved vertically or rather moved about the tongue as a pivot to brush the teeth vertically as shown by the arrow in Figure 4.

It will be understood that the handle 10 is grasped between the fingers of one hand with the handle 10 extending at right angles to the operator's forearm. In this way the user can lean over a basin or like receptacle and any drippings from the mouth running down the handle 10 will flow off the opposite end of the brush, thus avoiding any possibility of the drippings running down the sleeve or arm of the user.

By means of a device of this character it is thus possible to readily clean the molars on both sides, an operation which is obviously difficult with present forms of tooth brushes. As the teeth are almost in contact when cleaning the posterior surfaces it is possible to hold a large amount of cleansing material in the mouth and in this way the cleansing material is forced into all of the cavities.

While I have shown and described, and have pointed out in the annexed claims, certain novel features of my invention, it will be understood that various omissions, substitutions and changes in the form and details of the device illustrated and in its operation may be made by those skilled in the art without departing from the spirit of the invention.

Having thus described my invention, I claim:

1. A tooth brush including a head having an arcuate line of bristles forming a convex brushing surface curved in two directions at right angles to each other and adapted to engage the anterior surface of both rows of teeth when the rows are almost closed on each other, and a handle projecting laterally from said head and disposed approximately

midway between the upper and lower edges of the brushing surface thereby to bring some bristles against both the upper and lower teeth when the handle projects from the mouth and between the partly closed rows of teeth.

2. A tooth brush including an arcuate head provided with a brushing surface on the convexed side adapted to engage the anterior surface of the user's teeth and provided on the concaved side with a recess fashioned to receive the tip of the person's tongue and thus permit the tongue to move and guide the brush.

3. A tooth brush for simultaneously brushing the posterior faces of both rows of teeth when the rows are almost closed on each other, said brush provided with a convex brushing surface curved in two directions at an angle to each other with one curve being relatively long and designed substantially to fit horizontally the row of teeth and the other curve being at right angles to the first named curve relatively short and designed substantially to fit vertically against the posterior faces of the teeth and a handle extending centrally from the brushing surface and designed to extend outwardly from the mouth between the rows of teeth.

4. A tooth brush for simultaneously brushing the posterior faces of both rows of teeth when the rows are almost closed on each other, said brush provided with a convex brushing surface curved in two directions at an angle to each other with one curve being relatively long and designed substantially to fit horizontally the row of teeth and the other curve being relatively short and designed substantially to fit vertically against the posterior faces of the teeth, said brush provided with a handle extending outwardly from the center of the brushing surface adapted to extend from the mouth between the almost closed rows of teeth.

Signed at New York city, in the county of New York and State of New York, this 28th day of April, A. D. 1921.

HERMAN TAUB.