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L. I. FINCKE

1,497,495

TOOTHBRUSH

Filed April 18 1923

Fig. 1.

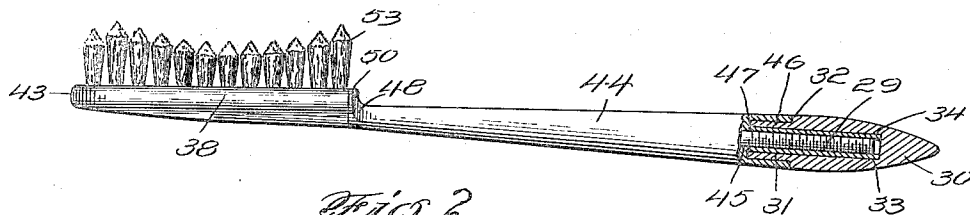


Fig. 2.

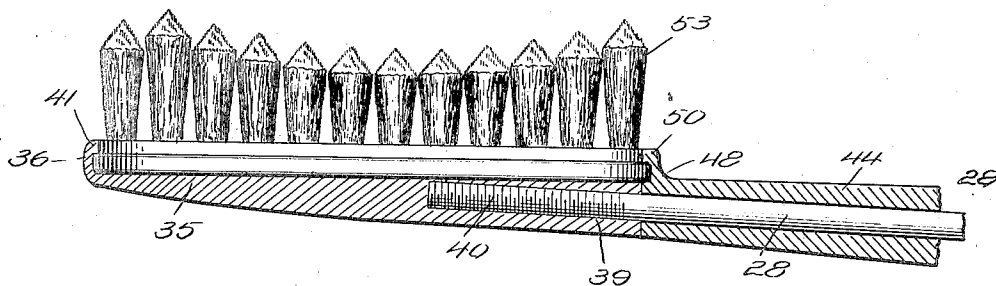


Fig. 3.

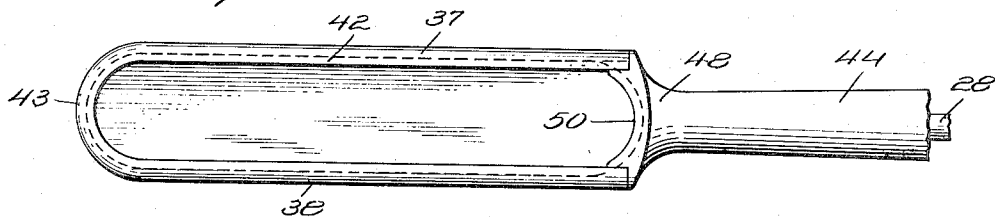


Fig. 4.

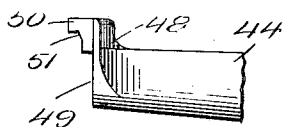


Fig. 5.

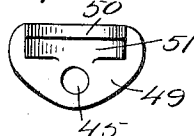


Fig. 6.

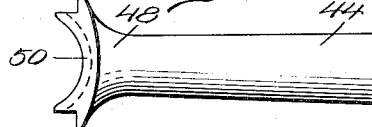


Fig. 7.

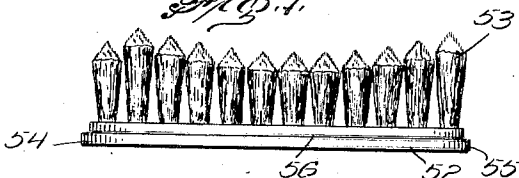


Fig. 8.

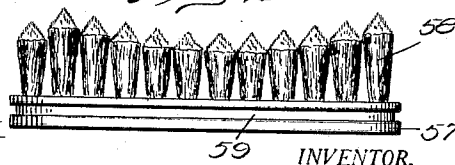
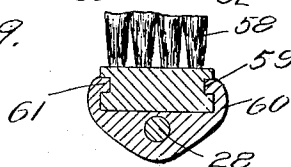


Fig. 9.



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LEO I. FINCKE, OF CHICAGO, ILLINOIS.

TOOTHBRUSH.

Application filed April 18, 1923. Serial No. 632,920.

To all whom it may concern:

Be it known that I, LEO I. FINCKE, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Tooth Brushes, of which the following is a specification.

This invention relates to tooth brushes, and has for its object to provide a brush of such class, with means as hereinafter set forth, constituting a combined clamping and handle element, a holder element and a removable brush head capable of being detachably secured within said holder element so that the brush head can be conveniently removed when occasion so requires for the purpose of thoroughly cleansing it throughout, and whereby when the brush head becomes damaged or worn a new one can be substituted without discarding the said element, under such conditions setting up provision so that the holder and handle elements can be employed indefinitely for supporting brush heads.

A further object of the invention is to provide a tooth brush, in a manner as hereinafter set forth, comprising a removable brush head adapted to be detachably clamped in position and further capable of being reversed when occasion so requires.

Further objects of the invention are to provide a tooth brush which is simple in its construction and arrangement, strong, durable, compact, thoroughly efficient in its use, conveniently assembled, and comparatively inexpensive to manufacture.

With the foregoing and other objects in view, the invention consists of the novel construction, combination and arrangement of parts as hereinafter more specifically described and illustrated in the accompanying drawings, wherein is shown an embodiment of the invention, but it is to be understood that changes, variations and modifications can be resorted to which come within the scope of the claims hereunto appended.

In the drawings wherein like reference characters denote corresponding parts throughout the several views:—

Figure 1 is a side elevation, partly in section, of a tooth brush, in accordance with this invention.

Figure 2 is a longitudinal sectional view, broken away.

Figure 3 is a top plan view, broken away.

Figure 4 is a fragmentary view, in side elevation, of one end of the clamping section forming a part of the combined clamping and handle element.

Figure 5 is an end view of the clamping member.

Figure 6 is a top plan view, broken away, of the clamping member.

Figure 7 is a side elevation of the brush head.

Figure 8 is a side elevation of a modified form of brush head.

Figure 9 is a cross sectional view of the form of brush head shown in Figure 8, and further illustrating the brush head mounted in the holder element.

A tooth brush in accordance with this invention includes a holder element, a combined clamping and handle element and a brush head, which is detachably clamped within the holder by the combined clamping and handle element.

Referring to Figures 1 to 7 of the drawings, the combined clamping and handle element thereof comprises a stem 28, which is cylindrical in cross section and has one end terminal portion, as indicated at 29, threaded, and threadedly engaging with the said end terminal portion 29 is a locking head formed of a body portion 30, provided with a reduced tubular extension 31 at one end which forms an annular shoulder 32. The body portion 30 is provided with a socket 33, which opens at the free end of the extension 31 and secured within the socket 33, is a sleeve 34, provided with interior threads which engage with the threaded end terminal 29, of the stem 28.

The preferred form, further includes a holder element in the form of a receptacle for receiving the brush head and which comprises a bottom 35, forward end wall 36, and a pair of side walls 37, 38. The brush receptacle is open at its rear end and the said rear end is squared. The bottom 35, at the rear thereof, is formed with a socket 39, in which is secured the end terminal portion 40, of the stem 28. As shown, the end terminal portion 40 is provided with threads which engage with the wall of the socket 39. The wall of the socket 39 is threaded. It is obvious however, that the end terminal portion 40 can be secured in the socket 39, in

any other suitable manner. The top of the end wall 36, and at the top of the side walls 37, 38, each of said walls is formed with an inwardly extending flange and the flange at the top of the end wall 36 is indicated at 41, and the flanges at the top of the side walls 37, 38, are indicated at 42. The forward end of the brush receptacle is rounded, as indicated at 43, in Figure 3. The brush receptacle is not only open at its rear end, but also at its top.

The combined clamping and handle element further includes a clamping section consisting of a tube or sleeve 44, having its bore of two different diameters, as indicated at 45, 46. The portion of smaller diameter, as indicated at 45, is of greater length than the portion of greater diameter which is indicated at 46, and that portion of smaller diameter is mounted on the stem 28, and the portion of greater diameter is mounted on the extension 31. The providing of the tube 44 with a bore of two different diameters, forms a shoulder 47, against which abuts the extension 41 of the locking head, as shown in Figure 7. That portion of greater diameter of the bore, which is indicated at 46, is arranged at one end of the tube 44, and the other end of the tube 44 has formed integral therewith a flared enlargement 48, provided with a flat face 49, having projecting therefrom a protuberance 50, which is under-cut, as at 51. The protuberance 50 is segment-shaped in plan and is of a width to extend into the brush receptacle between the inner ends of the flanges 42, as clearly shown in Figure 3.

The brush head comprises a base 52, having secured therewith a series of tufts of bristles 53. The base 52 is rounded at each end, as at 54, 55, and it comprises an upper and a lower portion and with the lower portion of greater width and greater length than the upper portion thereby providing a continuous peripheral shoulder 56, which when the brush head is mounted in the brush receptacle, is not only overlapped by the flanges 41 and 42, but also overlapped by the under-cut protuberance 50, as clearly shown in Figure 3. The brush head, when mounted in the brush receptacle extends slightly beyond the open end of said receptacle and against the protuberance 50, as shown in Figure 3.

As both ends of the brush head are rounded, the brush head can be reversed when occasion so requires.

When it is desired to remove the brush head, the locking head is detached from the end terminal portion 29 of the stem 28, the tube 44 shifting rearwardly and the brush head can then be shifted from the brush receptacle through the rear end thereof.

Referring to Figure 8, which illustrates a

modified form of brush head, it consists of a base 57, having secured therewith a series of tufts of bristles 58. The base 57 is provided with a continuous peripheral groove 59, so that when the head is mounted in the brush receptacle, as indicated at 60 in Figure 9, the flanges 61 will engage in the grooves 59 and couple the brush head to the brush receptacle. The base 57 is rounded at each end and when mounted in the brush receptacle, the rear end 50 of the grooves 59 is adapted to receive the protuberance 50, that is to say, the upper projecting portion of the protuberance 50. The base 57 of the form of brush head shown in Figure 14 is of greater height than the base employed in connection with the other forms of brush heads shown.

The form of brush head shown in Figure 8 is reversible.

The preferred embodiment of a tooth brush in accordance with this invention, is as described and illustrated, but it is obvious that changes in the details of construction can be had which will fall within the light of the invention as claimed.

What I claim is:—

1. A tooth brush comprising a rectangular receptacle open at its top and rear and having an enlargement depending from its bottom, said receptacle formed with an inwardly extending flange on the inner face of the sides and front end thereof, a removable brush head mounted in the receptacle and overlapped by said flanges whereby the brush head is detachably connected with the receptacle, a substantially elongated stem secured to and projecting rearwardly from said enlargement and providing the body portion of a handle, a clamping element shiftable lengthwise of and inclosing said stem and constituting the hand gripping portion of the handle, said element including means for closing the rear open end of the receptacle, said means when in closure position being flush with the sides of the receptacle, and a shouldered element mounted on the stem and engaging the clamping element for maintaining said means in abutting engagement with the rear end of the receptacle and brush head to secure the latter within the receptacle, said means overlapping the rear end of the brush head and extending into the receptacle.

2. A tooth brush comprising a rectangular receptacle open at its top and rear and further having an inwardly extending flange formed on the inner face of its sides and front, a removable brush head detachably connected with the receptacle by said flanges, a substantially elongated stem secured to and projecting rearwardly from the receptacle and constituting the body portion of a handle, a sleeve mounted on and shiftable

lengthwise of said stem and constituting the hand gripping portion of the handle, said sleeve having an enlarged forward end abutting against the rear end of each side of the
5 receptacle and further having a forwardly directed portion overlapping the rear end of the brush head for securing it in the receptacle, and means carried by the stem for maintaining said enlarged end in abutting engagement with respect to said receptacle 10 and brush head.

In testimony whereof, I affix my signature hereto.

LEO I. FINCKE.