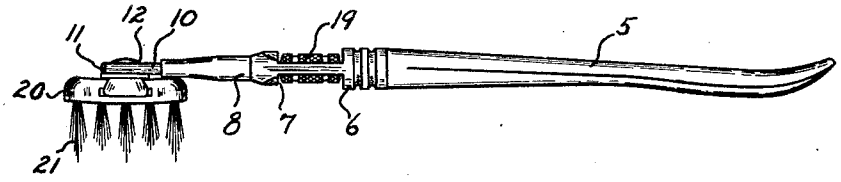
Dec. 8, 1931. R. R. MYERS 1,835,320

BRUSH

Original Filed Aug. 12, 1925

FIG. 1.



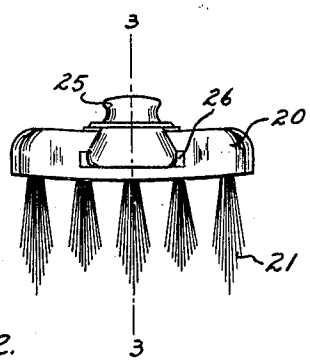


FIG. 2.

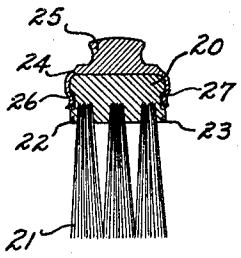


FIG. 3.

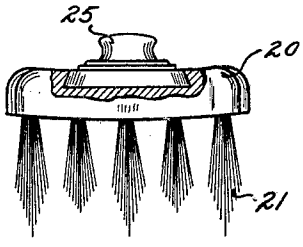


FIG. 5.

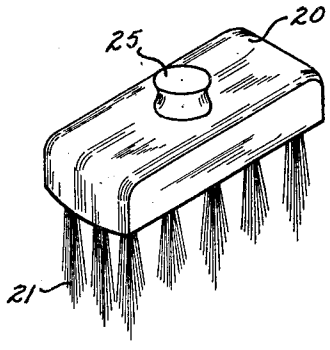


FIG. 4.

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Patented Dec. 8, 1931

1,835,320

UNITED STATES PATENT OFFICE

ROBERT R. MYERS, OF LAS VEGAS, NEVADA, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE CLEAN-BE-TWEEN TOOTHBRUSH CORPORATION, A CORPORATION OF DELAWARE

BRUSH

Original application filed August 12, 1925, Serial No. 49,762. Divided and this application filed November 19, 1927. Serial No. 234,456, and in Germany November 22, 1926.

This invention relates to improvements in brushes, especially to replaceable brush heads adapted for use with a permanent brush holder or handle.

The subject matter of the present application constitutes the division of that originally included in my copending application, Serial No. 49,762, filed August 12, 1925.

An object of this invention is to provide a replaceable brush element, adapted for use with a permanent brush holder, in such a manner that the brush is angularly adjustable with respect to the holder.

A further object is to provide a brush head which is movable relative to the handle therefor, and which may be so engaged by the handle as to be freely adjusted and yet retain any predetermined position to which it is adjusted.

A still further object is to provide a brush head, separable from the handle, the head being instantly adjustable solely by manual movement of the brush head.

A still further object is to provide a tooth brush element of a size and shape to conform to the curve of the dental arch, both the front and rear surfaces of the teeth, and to be accessible for cleaning every space in the oral cavity.

The immediate object of the described embodiment of the invention is to provide a brush head particularly adapted for use with a brush holder and clamp of the type described in my copending application, Serial No. 49,762.

Further objects and advantages of a brush constructed according to my invention will be apparent from the drawings and the following detailed description thereof.

It will be understood that the illustrated and described shape of the brush head, the form of the clamping stud, if any is used, the proportion and disposition of the various parts of the brush head, and the contour of the brushing surface, may be varied substantially without departure from the spirit and full intendment of this invention; the described matter constituting merely a single executional embodiment of the invention which is submitted in compliance with the statutory requirements relating to applications for Letters Patent.

Referring to the drawings, Fig. 1 is a side elevation of preferred forms of the brush head and handle, as assembled. Fig. 2 is a side elevation of the brush head. Fig. 3 is a transverse central section through the brush head, taken along line 3—3 in Fig. 2. Fig. 4 is a perspective view of a modified form of brush head. Fig. 5 is a side elevation, partly in section, showing a further modification of the brush head.

The reference characters employed in describing the present drawings are those used to designate like or similar parts of the several views accompanying my copending application, Serial No. 49,762; this is done in order better to coordinate the subject matter of the two inventions.

Referring particularly to the drawings, by numerals, the brush head which forms the subject of the present application is adapted for use with a handle 5. Suitably attached to the handle is a metal member 6 provided with an elongated opening 7, shaped to receive an adjusting nut 19. The metal member 6 comprises an outer tubular portion 8, for the purpose of partially enclosing the clamping device 10. The clamping device is provided with a circular head portion 11 having an opening 12 adapted to receive and frictionally engage a portion of the brush head, to connect the brush head and handle. The brush handle and clamping device form the subject matter of a separate application bearing Serial No. 234,457 and filed November 19, 1927.

The adjustable tooth brush member or head preferably consists of a back 20 formed of a suitable material and provided on its under face with a plurality of brush bristles 21. I prefer to form the brush back 20 so that a portion of its upper surface is sloped or chamfered, thus providing a brush back of graded thickness. This enables the user to employ the brush without danger of abrasion of the oral membranes. By preference the tufts of the bristles are disposed in rows both lengthwise and crosswise of the back 20. The cross rows are alternately of longer and shorter bristles,

and so spaced that the rows of longer bristles will engage the spaces between the teeth while the rows of shorter bristles are cleansing the tooth surface. The number of such cross rows of bristles should not be too great, for example, five such rows, as illustrated, are considered sufficient.

Secured in clamped relation to the oppositely disposed sides 22 and 23 of the brush head is a metal clamping member 24. The clamping member is preferably located midway between the ends of the brush head. The upper surface of the clamping member 24 may be provided with a stud 25, substantially cylindrical in form. The side wall of the stud 25 may be grooved as preferred, or may taper slightly from its upper end to the back 20 of the brush in order to form a perfect clamping surface when engaged by the metal clamping member on the brush handle. On each side of the brush head, I prefer to provide a slot, formed in the sides of the brush back. By preference the slots, designated as 26 and 27, respectively, are engaged by the terminal portions of the metal clamping member 24, in order better to secure the clamping member to the brush back, and to prevent end play of the brush back with respect to the handle. In Fig. 4, I have shown a modified form of brush head in which the metal clamping member 24 is dispensed with, the stud 25 being formed integrally with the back 20 of the brush. Although this construction is illustrated as a modified form, it is considered important as it may be manufactured and sold somewhat more economically than the form illustrated in the preceding figures.

In Fig. 5 is shown a modified means for mounting the stud 25, consisting of a stud support dove-tailed or mortised in the brush back 20, in lieu of the metal clamping member 24 which laterally engages the brush back.

The practical advantages offered by the described brush element will be apparent from the above detailed description of its parts and construction. Such a brush element is well adapted for use with a permanent handle and supplies the need of an easily adjustable, removable brush head. It will be observed that I have reduced to a minimum the size of the brush element and have bevelled its edges and rounded the corners. By providing a comparatively small brush, hitherto inaccessible portions of the mouth and gums are rendered easily available for frequent cleaning. The instant and universal adjustability of the brush is conducive to the practice of brushing the teeth toward and away from the gums, as now universally recommended by the dental profession. A small brush which is angularly adjustable enables the brush to adapt itself to the curvature of both the inside and outside tooth surfaces, a larger brush making contact with the teeth only at the extremities of the brush. The described construction, in which the brush is comparatively small in proportion to the handle, enables the renewal brush heads to be manufactured and sold for a fraction of the prevailing cost of a complete tooth brush. This practice enables economy of renewals, keeps the tooth brush always in good condition, and encourages frequent renewals for sanitary reasons.

I claim as my invention.

In a detachable tooth brush head of a type adapted for selective angular securement to a holder therefor, a unitary structure including a laterally recessed brush back, a stud having a peripheral channel of curved section constituting a frictional clamping seat, and a securing clip formed integrally with the stud, overlying the brush back, with its margins crimped into engagement with and protected by the lateral recesses of the back, whereby the stud is permanently secured to the brush back.

ROBERT R. MYERS.