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3,087,183

TOOTH BRUSH

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FIG. 1

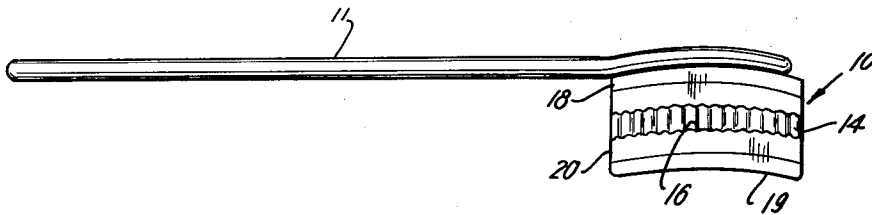


FIG. 2

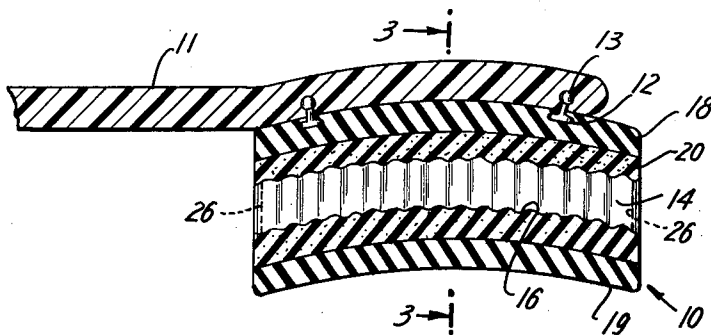
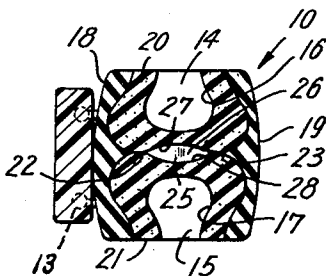


FIG. 3



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TOOTH BRUSH

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2 Claims. (Cl. 15-244)

This invention relates to tooth brushes.

The invention has particular reference to a tooth brush having a brush head which is provided with longitudinally extending recessed portions for receiving teeth of the upper and lower jaws for cleaning the same by a reciprocatory movement of the brush head and by opening and closing reciprocatory movement of the jaws.

Another object of the invention is to provide a brush head of said character in which the walls of the recessed portions are normally constricted and are expanded by the insertion of the teeth whereby the faces thereof snugly engage against the sides and crowns of the teeth and in the crevices and indentations and effect a wiping, cleaning and brushing action with the reciprocatory movement of the brush head or with the opening and closing reciprocatory movement of the jaws.

Still another object of the invention is to provide a brush head in which the walls of the recessed portions are of spongy resilient material which absorb and exude moisture with the relative movement thereof against the teeth and which have undulating, spiny or bristle-like faces for engagement in the crevices and indentations of the teeth.

The invention also comprehends a tooth brush having a brush head in which the recessed portions are longitudinally curved and open through the opposite ends of the head and between the recessed portions the head is provided with a longitudinally extending cavity which is closed at its ends and is adapted to be constricted by movement of the jaws toward each other so as to impinge the side walls of the recessed portions against the side faces of the teeth.

With the foregoing and other objects in view, reference is now made to the following specification and accompanying drawings in which the preferred embodiment of the invention is illustrated.

In the drawings:

FIG. 1 is a longitudinal view of a tooth brush constructed in accordance with the invention and showing one of the recessed portions in the brush head.

FIG. 2 is an enlarged longitudinal sectional view taken medially through one of the recessed portions and showing the handle partly broken away.

FIG. 3 is a sectional view taken approximately on line 3-3 of FIG. 2.

Referring to the drawings, the tooth brush includes a head 10 attached to a handle 11 by any desired means and which is preferably connected therewith by interengageable securing means such as by studs 12 affixed to the head 10 adjacent the ends thereof and with the headed outer ends of the studs frictionally fitting sockets 13 in the handle.

The head 10 extends longitudinally of the handle and is formed with upper and lower recesses 14 and 15 which opens through the opposite ends of the head. The recesses 14 and 15 approximate the cross-sectional configuration of a molar tooth of the upper and lower jaws respectively and have protuberances on the inner faces 16 and 17 thereof for engagement in the crevices and indentations in and between the teeth for cleaning the same. The protuberances may be of any desired character with the faces 16 and 17 of ribbed or undulating formation as illustrated or the same may have spiny or bristle-like protuberances. The head consists of opposite side walls 18 and 19 of a material which is sufficiently firm to retain its formation and between the side faces 18 and 19, the head is com-

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posed of flexible resilient and spongy material forming the walls 20 and 21 of the recesses 14 and 15 respectively. The walls 20 and 21 are disposed in longitudinally abutting relation as at 22 and 23 adjacent the side walls 18 and 19 and between the walls 20 and 21, the head is formed with a longitudinally extending recess 25 which is closed by a thin wall 26 cemented or otherwise connected with the walls 20 and 21 at each end of the head with the inner wall portions 27 and 28 of the walls 20 and 21 disposed in spaced relation between the lines of contact 22 and 23.

The head 10 is of arcuate formation from end to end and is releasably affixed to the longitudinal curved end portion of the handle 11 by the studs 12 and sockets 13 whereby the head may be removed and a new head affixed to the handle if desired.

The recesses 14 and 15 are longitudinally curved corresponding to the curvature of the head with the recesses located substantially medially of the width of the head. The recesses are curved so as to receive several of the teeth of the upper and lower jaws since the upper and lower rows of molars at each side and the row of incisors at the front of the mouth are usually of curved formation. This provides means by which several adjacent teeth in both the upper and lower jaws may be inserted in the upper and lower recesses 14 and 15 respectively and by a manual reciprocatory movement imparted to the brush head or by the opening and closing reciprocatory movement of the jaws the walls 20 and 21 will effect a cleaning of the teeth. This may be carried out so as to clean the molars on each side and the incisors at the front of the mouth. With the reciprocatory movement of the brush head, the jaws may be moved toward each other so as to compress the bottom wall portions of the recesses 14 and 15 to thereby close the recess 25 and then with the movement of the jaws away from each other the bottom wall portions of the recesses will return to their normal formation as illustrated in FIG. 3 of the drawings. This alternate closing and opening of the recess 25 will cause the side wall portions of the walls 20 and 21 to constrict and expand the recesses 14 and 15 respectively. The walls 20 and 21 being of resilient and spongy material will absorb and exude moisture with the compression and expansion of the walls 20 and 21.

The walls 20 and 21 are permanently affixed to the side walls 18 and 19 of the head and this may be done by any desired manner such as vulcanizing the said walls together with the formation of the recesses 14 and 15 or the walls 20 and 21 may be formed separately and the same vulcanized or otherwise adhesively secured to the side walls 18 and 19.

It will be understood that the brush head may be made in different sizes with different sizes of recesses 14 and 15 and with different degrees of curvature thereof so that a size may be selected to fit the size and formation of the teeth of any adult as well as children. It is also to be understood that the recess 25 provides a cushioning effect at the bottom of the recesses.

The side walls 18 and 19 are relatively firm so as to maintain their normal formation and may be made of partially vulcanized rubber, thermoplastic and the like, while the walls 20 and 21 forming the recesses 14 and 15 are resilient and cellular and may be made of cellular rubber, thermoplastic and the like.

While the preferred form of the invention has been shown and described herein, it is to be understood that the same is not so limited but shall cover and include any and all modifications of the invention which fall within the purview thereof.

What is claimed is:

1. In a tooth brush, a handle, a brush head affixed to

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one end of said handle, said brush head having a resilient body extending longitudinally thereof and provided with channels extending lengthwise of the length of the handle and in spaced relation from the longitudinal plane thereof, said channels extending into said brush head toward each other and being longitudinally curved with the ends thereof opening through the ends of the brush head, and said channels being of a length and of cross-sectional size to frictionally receive a plurality of adjacent teeth of the upper and lower rows of teeth of an individual with the teeth in each row extending longitudinally of the channels respectively for cleaning the same by relative movement of said brush head and teeth, and said head having a longitudinally extending cavity between the bottom walls of said channels so as to cushion said walls of the channels.

2. In a tooth brush, a handle, a brush head affixed to one end of the handle, said brush head having a resilient cellular body extending longitudinally of the handle, said body having channels opening through opposite faces thereof extending lengthwise of the length of the handle and in spaced relation from the longitudinal plane thereof and said channels being of a size to receive a plurality of adjacent teeth of the upper and lower jaws of an individual for cleaning the teeth by relative movement of said

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brush head and teeth, said channels having bottom walls which are spaced apart to provide a cavity extending longitudinally of said channels, end walls connected with said bottom walls of the channels closing the ends of said cavity, and said bottom walls normally maintaining their spaced apart relation and being resilient so as to flex toward each other to substantially close said cavity by pressure of the teeth of an individual against said bottom walls with the movement of the jaws toward each other.

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