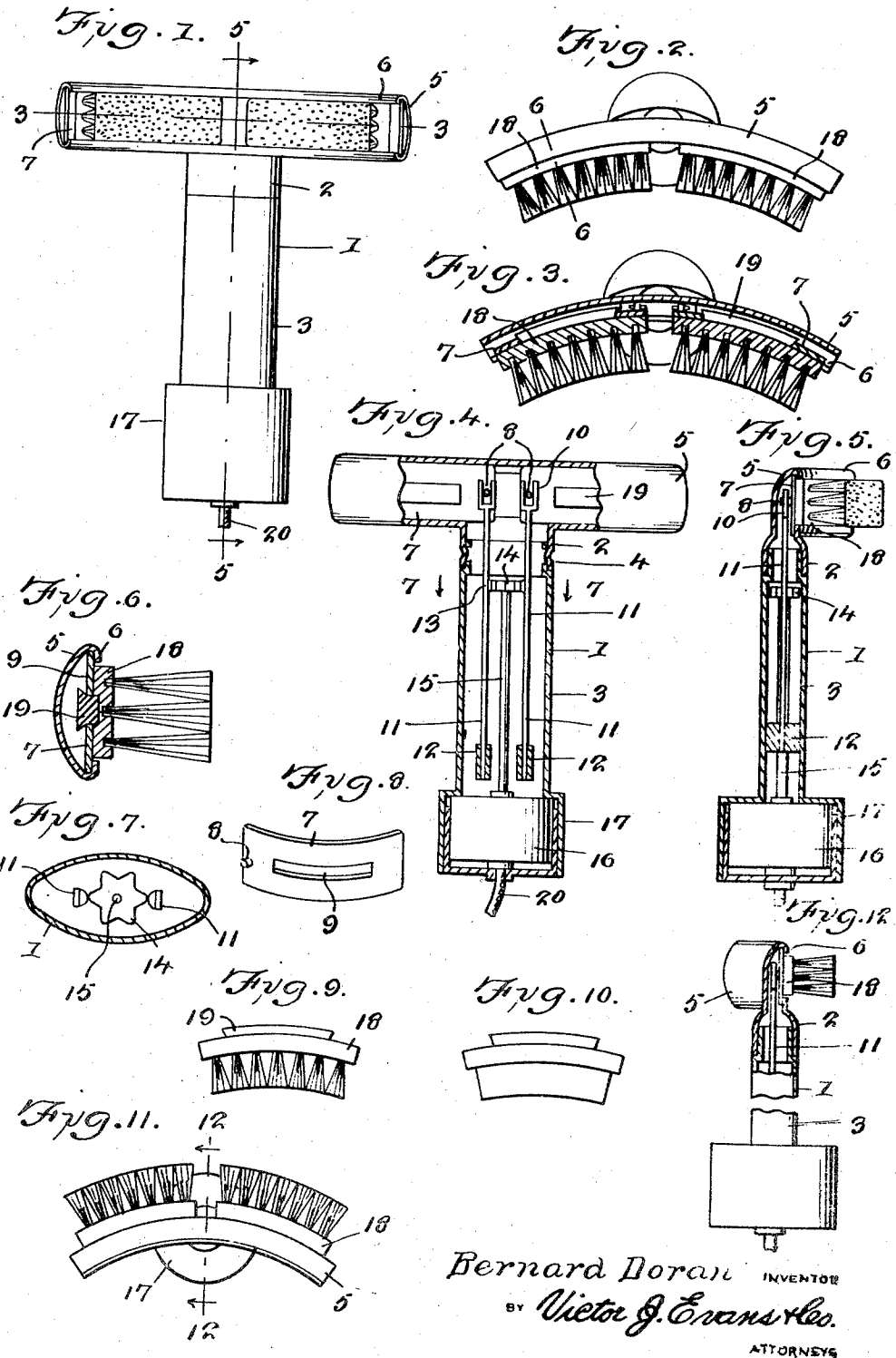


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ELECTRIC TOOTH BRUSH

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ELECTRIC TOOTH BRUSH

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3 Claims. (Cl. 15—22)

This invention relates to an electrically driven tooth brush and has for the primary object the provision of an efficient, compact and durable device of this character which will permit a person to clean the teeth of tartar and other foreign matter and massage the gums as thoroughly as accomplished by a dentist and which embodies the construction of a holder carrying a power driven means and a plurality of interchangeable cleaning and massaging elements which may be readily installed and removed when desired.

With these and other objects in view, this invention consists in certain novel features of construction, combination and arrangement of parts to be hereinafter more fully described and claimed.

For a complete understanding of my invention, reference is to be had to the following description and accompanying drawing, in which

Figure 1 is a front elevation illustrating an electrically driven tooth brush constructed in accordance with my invention.

Figure 2 is an end view illustrating the same.

Figure 3 is a sectional view taken on the line 3—3 of Figure 1.

Figure 4 is a rear elevation, partly in section, illustrating the device.

Figure 5 is a sectional view taken on the line 5—5 of Figure 1.

Figure 6 is a sectional view taken on the line 6—6 of Figure 2.

Figure 7 is a sectional view taken on the line 7—7 of Figure 4.

Figure 8 is a perspective view illustrating a brush head holding plate.

Figure 9 is a side elevation illustrating a brush head.

Figure 10 is a side elevation illustrating a massaging element.

Figure 11 is an end view illustrating a holder for supporting the cleaning or massaging element in such a manner as to clean the teeth upon the inner faces of the latter.

Figure 12 is a sectional view taken on the line 12—12 of Figure 11.

Referring in detail to the drawing, the numeral 1 indicates a hollow handle composed of sections 2 and 3 detachably connected, as shown at 4. The section 2 is integral with a brush holder 5 arcuately curved from end to end so as to conform to the contour of a person's jaws either on the inside or outside of the teeth. Each of these devices will be provided with a pair of holders, one for use in connection with the inner faces of the teeth and the other for use in connection

with the outer faces of the teeth. Each holder is of channeled construction, that is, the holder is provided with opposed guide flanges 6. In one of the holders the flanges 6 are located on the concaved side of the holder while the flanges of the other holder are located on the convex face. The only difference between the holders is the location of the guide flanges with respect to the curvature of said holders, as shown in Figures 2 and 11. The guide flanges slidably support plates 7 each having a pin 8 and a slot 9. The plates when assembled in the holder have the pins 8 at the adjacent ends of said plates to engage with forked ends 10 of flexible rods 11. The flexible rods are mounted in holders 12 in the section 3 of the handle 1. Opposed lugs 13 are formed on the flexible rods and engage with a star wheel 14 secured on a shaft 15. The shaft 15 is driven by an electric motor 16 mounted in the enlarged portion 17 of the sections 3 of the handle. The rotation of the star wheel brings about a rapid flexing of the rods 11 and the flexing of the rods brings about rapid reciprocation of the plates 7 in the holder 5.

Brush heads 18 are similarly constructed and curved to match the curvature of the holder as well as the plates 7 and have formed thereon yieldable tenons 19 adapted to extend through the slots 9 of the plates to removably secure the brush heads in the holder. The tenons 19 may be constructed of rubber or any other material suitable for the purpose so that the heads can be removed from the plates when subjected to an excessive pull thereon. Some of the brush heads have tufts of bristles secured thereto used for cleaning teeth of ordinary film and similar foreign matter. Other brush heads may have tufts of fine strand wire which may be employed for removing tartar and the like from the teeth while other brush heads, one of which is shown in Figure 10, may have secured thereto a block of soft rubber or similar material to act as a massaging element for massaging the gums.

The electric motor 16 has an extension cord 20 so that the device may be readily connected to an ordinary electrical output and conveniently used by a person when desiring to thoroughly cleanse the teeth of all kinds of foreign matter and also to massage the gums. The bristles when brought in contact with the teeth and the motor 16 in operation will be rapidly reciprocated over the teeth and thereby readily remove foreign matter. After cleaning the teeth the bristle type cleaning elements are removed and massaging elements, as shown in Figure 10, adapted into

place and when brought into engagement with the gums will thoroughly massage the gums to increase circulation thereof and thus aid in maintaining the gums in a healthy condition.

5 What is claimed is:

10 1. A tooth brush comprising an arcuately curved holder including guide flanges, plates slidably supported by said flanges for movement in a curved path, cleaning elements removably secured to said plates, a handle for said holder, flexible rods secured in said holder and connected to said plates, a power driven means for flexing said rods to impart reciprocation to said plates.

15 2. A tooth brush comprising an arcuately curved holder, a plate slidably supported by said holder, a cleaning element carried by said plate,

a hollow handle for said holder, a flexible rod mounted in said handle and connected to said plate, a projection on said rod, a star wheel engaging said projection for flexing the rod and thereby bringing about reciprocation of said plate, and means carried by the handle for rotating the star wheel.

5 3. A tooth brush comprising an arcuately curved holder including guide flanges, plates slidably supported by said flanges for movement in a curved path, a cleaning element removably secured to said plates, a handle for said holder, actuating means mounted in said holder and operatively associated with said plates, and power driven cam means to move the actuating means to impart movement to said plates.

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