

Dec. 2, 1924.

1,517,320

J. P. STODDART

TOOTHBRUSH

Filed March 12, 1923

Fig. 1.

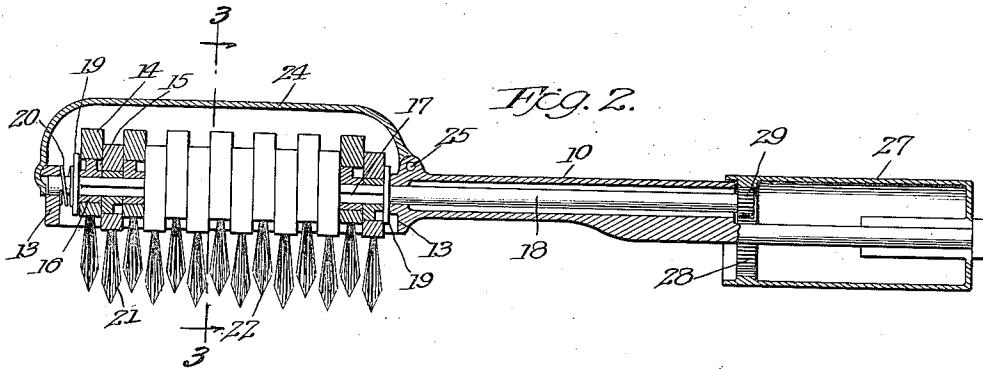
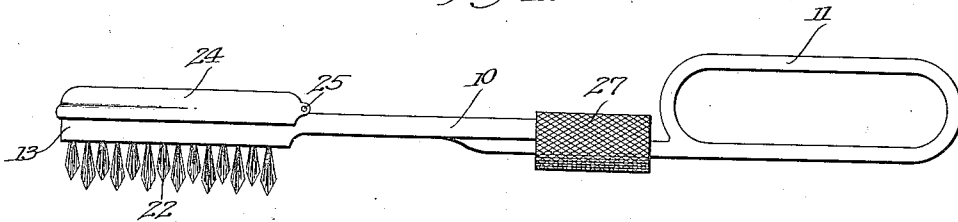


Fig. 3.

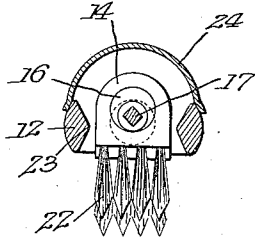
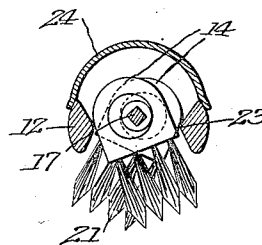


Fig. 4.



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WITNESS:

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UNITED STATES PATENT OFFICE.

JOHN PENDREIGH STODDART, OF SALINAS CHACALLUTA, ARICA, CHILE.

TOOTHBRUSH.

Application filed March 12, 1923. Serial No. 624,558.

To all whom it may concern:

Be it known that I, JOHN PENDREIGH STODDART, a subject of the King of Great Britain, residing at Salinas Chacalluta, Arica, Chile, South America, have invented new and useful Improvements in Tooth-brushes, of which the following is a specification.

This invention relates to tooth brushes, and contemplates a structure wherein the brush proper is susceptible of oscillatory motion, so that the bristles can be moved across the teeth vertically and thereby find their way into the crevices in a manner and with a degree and certainty not permissible with an ordinary tooth brush.

In carrying out the invention I preferably construct the brush proper of a plurality of sections mounted for oscillatory movement, said sections simultaneously moving in opposite directions, so that the teeth can be thoroughly cleaned in quick order.

Another important object of the invention residing in providing the handle of the brush with means for actuating the brush or brush sections, so that the brush can be used with the ease and convenience of an ordinary tooth brush.

The nature and advantages of the invention will be readily understood when the following detailed description is read in connection with the accompanying drawings, the invention residing in the construction, combination and arrangement of parts as claimed.

In the drawings forming part of this application, like numerals of reference indicate similar parts in the several views, and wherein:

Figure 1 is a side elevation of a brush constructed in accordance with the present invention.

Figure 2 is a longitudinal sectional view except that certain of the brush sections are shown in elevation.

Figure 3 is a sectional view taken on the line 3—3 of Figure 2.

Figure 4 is a similar view showing the positions of the adjacent brush sections when the latter are oscillated.

Referring to the drawings in detail, it will be noted that the handle of the brush is hollow for a portion of its length, the hollow portion being indicated at 10, and extended to provide a terminal loop 11. The handle projects from one end of an elongated

frame like member including spaced parallel sides and end members 12 and 13 respectively and in this frame operates the brush proper above referred to.

The brush is preferably made up of a plurality of sections which are arranged in face to face contact and mounted on a shaft for oscillatory motion. Each brush section includes a head 14 having an opening 15 to actuate an eccentric 16 mounted upon the shaft above mentioned. This shaft is journaled in the end members 13 of the elongated frame, and includes a squared portion 17 arranged in said frame and a tubular portion 18 arranged in the portion 10 of the handle. The squared portion 16 supports spaced washers 19 between which the brush sections are grouped, a coiled spring 20 surrounding one end of the shaft and exerting a pressure against the adjacent washer 19, so that the brush sections are all held operatively associated upon the shaft. There is of course one eccentric 16 for each brush section, and each eccentric has a squared opening to accommodate the squared portion 17 of said shaft. It will be noted, however, that the eccentrics are oppositely disposed alternately, so that the bristles 21 of every other brush section projects beyond the terminals of the bristles 22 of the other sections. The construction and arrangement of these parts is such that when the shaft referred to is partially rotated in reverse directions, the alternate brush sections are oscillated simultaneously in opposite directions, the relative positions of the adjacent brush sections under these circumstances being illustrated in Figure 4. Upon inspection of Figures 3 and 4, it will be observed that the inner surfaces of the parallel sides 12 of the elongated frame are bevelled outwardly toward its upper and lower edges, thereby defining what I term a fulcrum point 23, adapted to be engaged by the heads 14 of the respective brush sections, to limit the oscillatory movements of said sections, and to incidentally impart to said sections a slightly pivotal movement with relation to the shaft and the eccentrics supported thereon. The brush sections are adapted to be moved vertically over the teeth, incident to the operation of the shaft, and in this manner find their way into the crevices to thoroughly clean the teeth. This can be accomplished in quick order due to the fact that the brush sections oscillate or move in op-

posite directions. When the brush is not in use, the bristles are arranged within a cap or housing 24 which is pivoted as at 25 upon the handle and held in normal position by its association with the outermost end member 13 of the said frame in the manner illustrated in Figure 2.

While the shaft may be rotated in any suitable manner for the purpose intended, I preferably provide means which are mounted upon the handle, so that the brush can be manipulated in a very easy and convenient manner, the means including a sleeve 27 which is knurled and journalled on the handle as illustrated in Figure 2. This sleeve is provided with an internal gear 28 which meshes with a small gear 29 carried by the shaft 18, and manifestly by rotating the sleeve, similar motion is imparted to the shaft to actuate the brush sections as stated.

While it is believed that from the foregoing description, the nature and advantages of the invention will be readily apparent, I desire to have it understood that I do not limit myself to what is herein shown and described and that such changes may be resorted to when desired as fall within the scope of what is claimed.

Having thus described the invention, I claim:

1. A tooth brush including a handle, a brush comprising a plurality of sections mounted for oscillating movement simultaneously in opposite directions, and means for simultaneously actuating the brush sections.

2. A tooth brush including a handle, a frame, a brush including a plurality of sections arranged within the frame and mounted for oscillating movement, and means for oscillating alternate sections simultaneously in opposite directions.

3. A tooth brush including a handle, a frame like portion arranged at one end thereof, a shaft journalled in the handle and frame, a plurality of brush sections arranged within said frame and mounted on said shaft for oscillatory movement, incident to the rotation of said shaft, means for rotating

said shaft, and means for simultaneously oscillating alternate brush sections in opposite directions.

4. A tooth brush including a handle, a frame like portion at one end thereof, a shaft journalled in the handle and having a squared portion arranged in the frame, eccentrics carried by the squared portion of said shaft, a plurality of brush sections arranged within the frame, each section including a head having an opening to receive one of said eccentrics, whereby said brush sections are oscillated incident to the rotation of the shaft, and means for rotating said shaft.

5. A tooth brush including a handle, a frame like portion at one end thereof, a shaft journalled within the handle and having a portion arranged within the frame, a plurality of brush sections arranged within the frame and supported by the shaft, each section including a head having an opening an eccentric for each head and arranged upon the shaft and received within the opening of said head, said eccentrics being alternately arranged in reverse positions whereby said brush sections are oscillated incident to the rotation of the shaft and simultaneously moved in opposite directions.

6. A tooth brush including a handle, a frame like member at one end thereof, a shaft journalled in the handle and having a portion arranged in said frame, a plurality of brush sections arranged within the frame and receiving said shaft, and means for oscillating said brush sections, and simultaneously moving the latter in opposite directions incident to the rotation of the shaft, a pivoted cap arranged at one side of the frame and adapted to normally receive the bristles of the brush, a sleeve rotatably mounted on the handle, an internal gear carried by the sleeve, and a small gear carried by the adjacent end of the shaft and meshing with the internal gear whereby the rotation of the shaft is controlled by said sleeve.

In testimony whereof I affix my signature.
JOHN PENDREIGH STODDART.