E. H. RODELL.

TOOTH BRUSH.

APPLICATION FILED FEB. 17, 1912.

1,112,561.

Patented Oct. 6, 1914

Fig. 1.

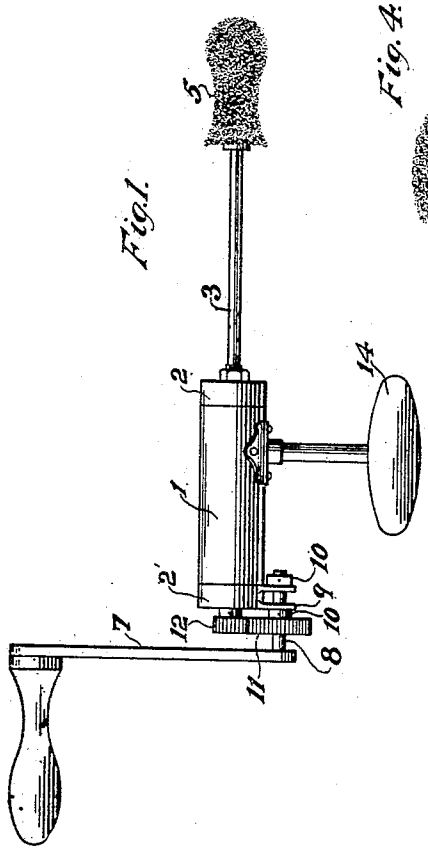


Fig. 4.



Fig. 3.

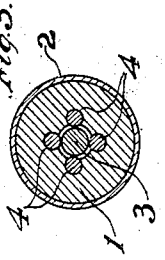
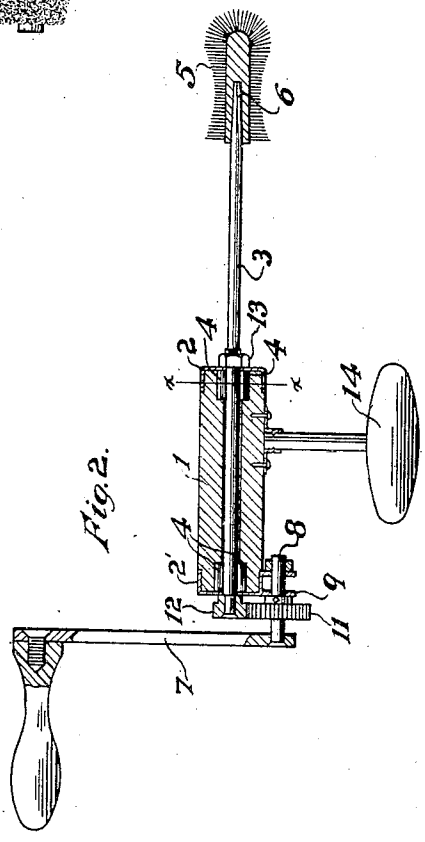


Fig. 2.



Witnesses

W. Brandt.

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UNITED STATES PATENT OFFICE.

EDWIN H. RODELL, OF CUMINGS, NORTH DAKOTA.

TOOTH-BRUSH.

1,112,561. Specification of Letters Patent. Patented Oct. 6, 1914.

Application filed February 17, 1912. Serial No. 678,300.

To all whom it may concern:

Be it known that I, EDWIN H. RODELL, a citizen of the United States, and a resident of the city of Cumings, county of Traill, and State of North Dakota, have invented certain new and useful Improvements in Tooth-Brushes, of which the following is a specification.

My invention relates to tooth brushes and more specifically to that class thereof in which the brush proper is of the rotary type which is pressed against the teeth and manually rotated at high speed in effecting the thorough cleaning of the latter.

The object of my invention is the production of a tooth brush of the character mentioned which will be of improved construction and efficient in operation.

Other objects will appear hereinafter.

With these objects in view, my invention consists in the combinations and arrangements of parts hereinafter described and claimed.

My invention will be best understood by reference to the accompanying drawing forming a part of this specification, and in which—

Figure 1 is a side elevation of a tooth brush embodying my invention, Fig. 2 is a substantially central section of the device, Fig. 3 is an enlarged cross section taken on line x x of Fig. 2, and Fig. 4 is a side elevation of a brush of a slightly different form from that shown in Figs. 1 and 2, the brush shown in this figure being designed for cleaning the inner surfaces of the teeth, whereas the brush of the design shown in Figs. 1 and 2 is designed for use in cleaning the outer surfaces of the teeth.

The preferred form of construction, as illustrated in the drawing, comprises a tubular cylindrical supporting member 1, said member being formed preferably of wood, the extremities thereof being reinforced by metallic ferrules 2 and 2′. Mounted in the member 1 is a shaft 3, roller bearings 4 being provided at the ends of said supporting member. One end of the shaft 3 is extended, as shown, the same supporting a rotary brush 5 at its outer extremity, said brush being provided with a tapering socket 6 which is engaged by the correspondingly tapered outer extremity of said shaft, friction being depended upon in operatively connecting said shaft with said brush. With this construction, it will be seen that ready attachment or detachment of the brush is afforded. The periphery of the brush 5 is concave, as shown, in order to adapt the same especially for use in cleaning the outer sides of the teeth, the concavity of said periphery corresponding, as will be understood, with the transverse curvature of the teeth. In Fig. 4 is shown a brush 5′ which is of the same construction as the brush 5 except that the periphery of the former is convex in form, the brush 5′ being designed for use in cleaning the inner sides of the teeth, the convexity of the periphery thereof conforming substantially with the contour of the inner sides of the teeth. The provision of two brushes with peripheries as described adapting the same for use respectively upon the inner and outer sides of the teeth, will conduce to a thorough cleaning of the latter, when the device is in use. By providing shaft 3 with an elongated extension, as shown, it is possible to insert the brush far into the mouth for cleaning the teeth positioned far back in the mouth.

Arranged at the opposite extremity of the shaft 3 is a crank handle 7 which is secured to a stud shaft 8 rotatably mounted in bearings 9 formed upon the ferrule 2′, collars 10 pinned to said shaft and which engage against the bearings 9, serving to lock said shaft against relative longitudinal movement. Secured to the shaft 8 is a gear 11 which meshes with a pinion 12 fixed to the adjacent end of the shaft 3. With this arrangement, it will be seen that an operative connection is established between the cleaning brush and the crank handle 7 so that upon rotation of the latter, said brush will be simultaneously rotated. By the employment of a gear 11 which is considerably larger than the pinion 12 which is arranged upon the brush shaft, a high speed of rotation of said shaft and hence of the brush carried thereby will be secured upon rotation of the crank handle at a much lower speed. Threaded upon the shaft 3 is a nut 13 which together with the pinion 12 prevents relative longitudinal movement of said shaft, said nut and pinion engaging against the respective ends of the member 1 in serving in this connection.

Rigidly secured to and laterally projecting from the supporting member 1 is a handle 14. The handle 14 is provided in order

to guide the cleaning brush during the employment of the device and for pressing the same against the surfaces of the teeth which are being cleaned. This being the function of said handle, the same is arranged at the end of the member 1 adjacent the brush so as to secure the greatest leverage possible.

A tooth brush of the construction set forth is durable and economical in construction, the same may be manipulated with the greatest ease and is adapted, when in operation, to effect a very thorough cleaning of the teeth of the user.

While I have illustrated and described the preferred form of construction for carrying my invention into effect, this is capable of variation and modification without departing from the spirit of the invention. I, therefore, do not wish to be limited to the exact details of construction set forth, but desire to avail myself of such variations and modifications as come within the scope of the appended claim.

Having described my invention, what I claim as new and desire to secure by Letters Patent, is:

The combination with a tubular supporting member; of a driven shaft rotatably mounted therein; a gear mounted upon said shaft; a ferrule mounted upon the terminal of the tubular supporting member adjacent to the gear carried by the driven shaft aforesaid; bearings formed on said ferrule; a driving shaft mounted for rotation in said bearings; a gear mounted upon said driving shaft for meshing with the gear mounted on the terminal of the driven shaft; means for rotating said driving shaft; and a right angularly arranged handle secured to the side of said tubular supporting member

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

EDWIN H. RODELL.

Witnesses:
JOSHUA R. H. POTTS.
HELEN F. LILLIS.