

(No Model.)

R. ROY.
ROTARY BRUSH.

No. 445,083.

Patented Jan. 20, 1891.

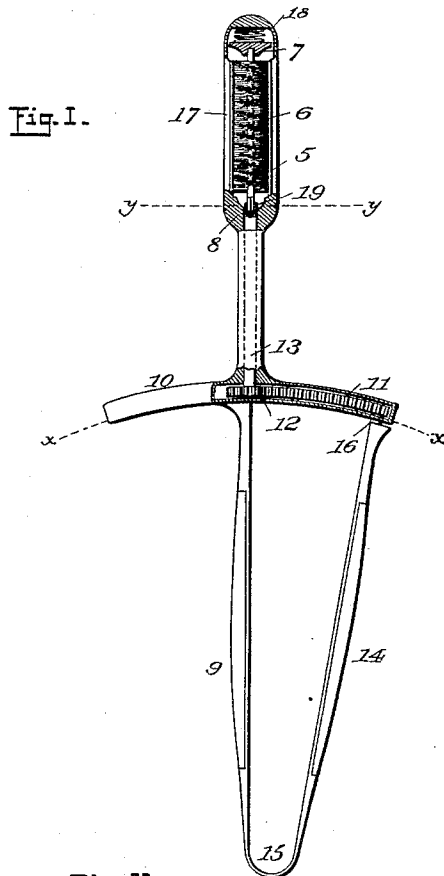


Fig. II.

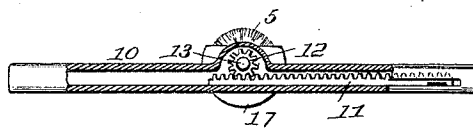
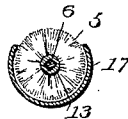


Fig. III.



Witnesses
Wm. H. Lusk
W. C. Hilliard

Inventor
Rosario Roy.
By his Attorney *W. C. Stevens.*

UNITED STATES PATENT OFFICE.

ROSARIO ROY, OF RICHMOND, VIRGINIA.

ROTARY BRUSH.

SPECIFICATION forming part of Letters Patent No. 445,083, dated January 20, 1891.

Application filed November 13, 1890. Serial No. 371,278. (No model.)

To all whom it may concern:

Be it known that I, ROSARIO ROY, a citizen of the United States, residing at Richmond, in the county of Henrico and State of Virginia, have invented certain new and useful Improvements in Tooth-Brushes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to tooth-brushes; and its object is to provide mechanical means whereby a brush held in one hand may be given a rotary motion to act vertically upon and between the teeth as well as to act horizontally across them.

To this end my invention consists in the construction and combination of parts forming a tooth-brush, hereinafter described and claimed, reference being had to the accompanying drawings, in which—

Figure I is a front elevation showing my tooth-brush with certain parts broken away. Fig. II is a transverse vertical section of the same at line *x*, and Fig. III is a transverse vertical section at the line *y* of Fig. I.

5 represents the body of the brush, which is cylindrical in form and mounted upon a shaft 6, journaled in bearings 7 and 8 of the frame-work which forms the handle.

9 represents the fixed portion of the handle provided with a segmental bearing or slideway 10, in which a segmental toothed rack 11 is fitted to slide.

12 is a pinion-wheel fixed upon the shaft 13 and journaled in the bearing 8 of the frame to engage the rack 11 and be rotated thereby, and provided with a socket 19 to hold the shaft 6.

14 is a movable portion of the handle, shaped to mate the portion 9 and connected therewith by a spring 15, which serves practically as a hinge on which the handle portion 14 may oscillate. The movable portion 14 of the handle is connected at 16 with the rack 11, and when it is pressed toward the fixed portion 9 by the operator's hand closing thereon the rack 11 is pushed downward across the frame, causing the pinion 12 and the brush 5, which is connected therewith, to revolve in one direction, and when the operator's hand is opened the spring 15 raises

the portion 14, causing the pinion and brush to revolve in the other direction. This oscillating motion between the parts of the handle may be repeated as rapidly as the operator desires, the speed of revolution of the brush being proportional thereto.

In order to protect the lips of the operator from the action of the brush, a shield 17, projecting from the bearing 8 as a portion of the frame, surrounds the brush for about two-thirds of its circumference, leaving the remaining one-third as an open side through which the brush may act. The brush-journal 6 may be removably fitted to the shaft 13 by means of the socket 19, so as to be interchangeable with brushes of different material, its outer end being journaled in a socket-bearing 7, which is actuated by a spring 18, so that the socket may be pressed endwise for the purpose of withdrawing the opposite end of the journal 6 from socket 19. These brushes may be made of any suitable material. The two portions of the handle 9 and 14 may also be made of any suitable material and they may be joined together by the spring 15, whose normal tendency is to hold the two portions separated.

It is evident that in using this brush it may not only revolve, as described, to act up and down on the teeth and between them, but it may be drawn to and fro across the teeth and used in other respects like the old-style tooth-brush.

Having thus fully described my invention, what I believe to be new, and desire to secure by Letters Patent, is the following:

1. The combination of a tooth-brush in cylindrical form mounted on a shaft provided with a pinion and journaled in bearings of a frame having a fixed handle portion, a movable handle portion attached at its outer end to the outer end of the fixed portion of the handle by a joint permitting oscillating motion, and a segmental toothed rack fitted to slide in the frame to engage the aforesaid pinion and connected with the free end of the movable portion of the handle, substantially as described.

2. The combination of a handle 9, having the slideway 10 and the bearing 8, the segmental rack 11, fitted to the said slideway, the pinion 12, provided with a shaft 13, jour-

naled in the bearing 8 to engage the rack 11, a rotatory brush 5, connected with the said shaft, and a handle portion 14, connected at its outer end with a handle 9 by a spring 15 and connected at its inner end with the said rack 11, substantially as described.

3. The combination of a handle, a shaft journaled therein, means for rotating the shaft, a shield connected with the handle, a socket-bearing in the outer end of the said shield, a spring impelling the socket-bearing inward, and a cylindrical brush provided

with a shaft adapted to be journaled at one end in the said socket and having a removable socket connection at its other end with the aforesaid pinion-shaft, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

ROSARIO ROY.

Witnesses:

W. E. BARKER,

J. H. BROWN.