A. MENG.

ROTARY TOOTH BRUSH.

APPLICATION FILED DEC. 15, 1908.

925,007.

Patented June 15, 1909.

Fig. 1

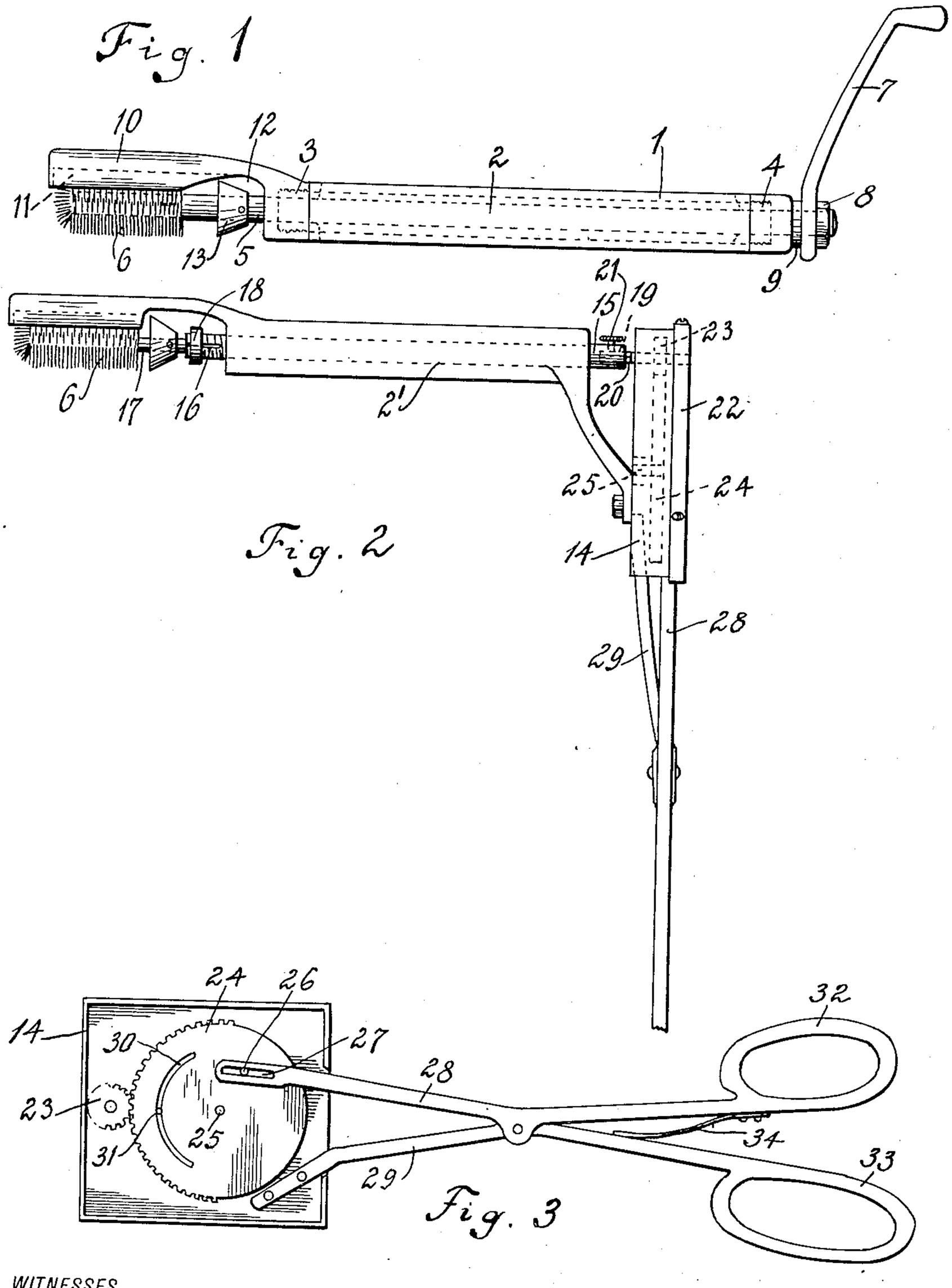

Fig. 2

Fig. 3

WITNESSES

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ARTHUR MENG, OF NEW YORK, N. Y.

ROTARY TOOTH-BRUSH.

No. 925,007. Specification of Letters Patent. Patented June 15, 1909.

Application filed December 15, 1908. Serial No. 467,660.

To all whom it may concern:

Be it known that I, ARTHUR MENG, a subject of the German Emperor, and resident of the city of New York, in the county of Kings and State of New York, have invented certain new and useful Improvements in Rotary Tooth-Brushes, of which the following is a specification.

The present invention relates to tooth brushes.

Heretofore usually an implement made of bristles, hair or fibrous material, fixed to a handle or a back, has been used for cleaning the teeth, which implement was swept or rubbed over the surfaces of the teeth. One of the serious defects of such an implement, that is of such a brush, consists in the fact that, when swept over the surfaces of the teeth, it does not remove, without injuring to some extent the gum, the impurities between the teeth satisfactorily.

The object of the present invention is to provide a brush obviating the defect mentioned, and, to attain this end, the invention consists of a, preferably, cylindrical brush, mounted upon a rotatable shaft, which is actuated by suitable means.

Another object of the invention is to provide a brush of the character specified, which is simple and inexpensive in construction, easy to operate, and the bristles of which wear uniformly.

Other objects of the invention will be apparent from reading the specification and examining the drawings, forming part of the present application for Letters Patent.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is an elevation of a brush constructed according to the present invention, Fig. 2 is an elevation of a modification of the device, and Fig. 3 is an end view of the device illustrated in Fig. 2, the cover being removed to more clearly show the operating mechanism.

Referring more particularly to the device shown in Fig. 1, the handle of the brush is indicated at 1, and consists of a tubular member 2, provided with bearings 3 and 4 at its ends, in which is rotatably mounted a shaft 5. The inner end of this rotatable shaft is provided with a brush-wheel 6, made of bristles, hair or other fibrous material. The other end of the shaft carries a crank 7, held thereon, preferably, by means of a nut 8, engaging the screw-threaded end of the shaft 5. Obviously a washer 9 may be placed between the end of the handle 1 and the crank 7, for a well known purpose. The inner end of the handle is provided with an extension 10, arranged above the brush, and having a groove 11, conforming to the shape of the cylindrical brush, whereby the latter is protected and, on the other hand, the lips and gum of the user are protected from injury. The extension 10 is recessed at 12 in order to receive a funnel shaped member 13, keyed to or otherwise secured to the shaft 5. The mouth of the funnel is located near to the brush 6, whereby the fluid or semi-fluid substances flowing from the brush toward the handle of the same, are collected in this funnel shaped member.

The operation of the device described is obvious from the foregoing description. The brush is applied to the teeth and the crank 7 turned, whereby the brush is rotated, cleaning thereby the teeth and removing the impurities between the same.

A modification of the device is illustrated in Figs. 2 and 3, in which the tubular member 2′, forming the handle, is attached to a casing 14, containing the operating mechanism of the brush, which mechanism will be hereinafter described. A shaft 15 is journaled in the tubular member 2′, to which shaft is attached the brush 6. More particularly, the hollow end of the shaft 15 is split at 16, and in engagement with the spindle 17 of the brush, and kept in such engagement by means of a ring 18, in screw-threaded engagement with the split end of the shaft 15. The other end of this shaft is provided with a square recess 19, engaged by a squared spindle 20, kept therein, preferably, by means of a screw 21. The spindle 20 is journaled in the casing 14 and in the cover 22 thereof, and carries fixedly secured thereto and within said casing a pinion 23, in mesh with a segment gear 24, pivoted to the casing at 25. This segment carries a pin 26, working in a slot 27 of an operating lever 28, pivoted to a second operating lever 29, one end of which is attached fixedly to the casing 14. The segment gear 24 is furthermore provided with a slot 30, engaged by a pin 31 of the casing 14, for the purpose of guiding and limiting the movement of the segment. The free ends of the levers 28 and 29 are provided with handles 32 and 33, respectively, whereby said levers may be taken hold of by the user. A spring 34 is arranged

between the levers 28 and 29, for a well known purpose.

The operation of the device illustrated in Figs. 2 and 3 is as follows: The brush is applied to the teeth, and the lever 28 forced toward the lever 29, whereby the segment is given an angular turn, and, since this segment meshes with the pinion 23, the shaft 15 and thereby the brush 6 is rotated. When the pressure is released from the handles, the spring 34 brings the same back to their normal positions, and rotates thus the brush in a direction opposite to the direction in which the same has been rotated by forcing the lever 28 toward the lever 29. This play may be repeated until the teeth are properly cleaned.

It is obvious that many minor changes may be made in the arrangement and construction of the several parts of the device without departing from the spirit and scope of this invention.

What I claim is:—

In a tooth brush, the combination with a handle, of a shaft rotatably mounted therein and having a cylindrical brush arranged upon one end thereof, a casing attached to said handle, a pinion on said shaft within said casing, a segment gear mounted in said casing in mesh with said pinion and having an arc-shaped slot, a pin on said casing and engaging said arc-shaped slot for guiding and limiting the movement of said segment gear, a pin mounted eccentrically upon said segment gear, and an operating lever having a slot engaging the pin of said segment gear, substantially as shown and described.

Signed at New York, in the county of New York and State of New York, this 8th day of December, A. D. 1908.

ARTHUR MENG.

Witnesses:

SIGMUND HERZOG,

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