Nov. 27, 1928.

1,693,229

V. FELMAR

TOOTHBRUSH

Filed Aug. 18, 1927

Fig. 1.

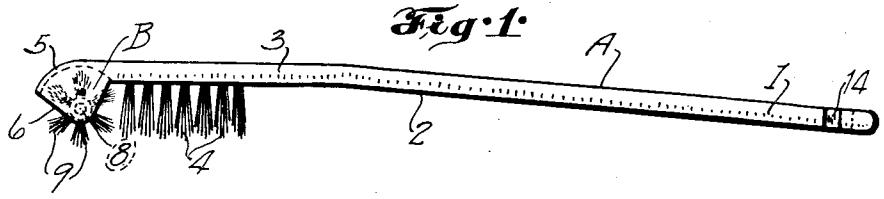


Fig. 2.



Fig. 3.

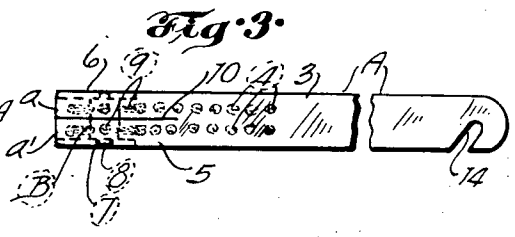


Fig. 4.

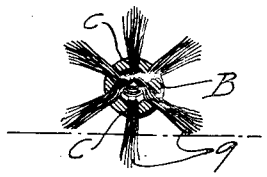


Fig. 5.



Fig. 6.

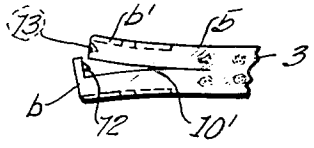
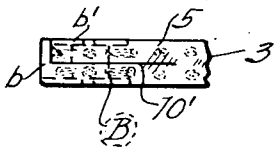


Fig. 7.



INVENTOR
Victor Felmar.
BY Ralph Klein
ATTORNEY

Patented Nov. 27, 1928. 1,693,229

UNITED STATES PATENT OFFICE.

VICTOR FELMAR, OF TAYLORVILLE, ILLINOIS.

TOOTHBRUSH.

Application filed August 18, 1927. Serial No. 213,878.

This invention relates to a certain new and useful improvement in tooth-brushes and has for its chief object the provision, as a new article of manufacture, of a tooth-brush having two sets of bristles for the efficient removal of foreign matter from between the teeth and the cleaning of both the labial and lingual surfaces of the teeth.

And with such object in view, my invention resides in the provision of a tooth-brush comprising a series of relatively fixed bristles adapted particularly for cleaning engagement with the opposed surfaces of the teeth and a set of revolvable bristles adapted particularly to fit in and effect removal of foreign matter from the interstices of the teeth, and in the novel features of form, construction, arrangement, and combination of parts hereinafter described and pointed out in the claims.

In the accompanying drawing, Figure 1 is a side elevational view of a tooth-brush embodying my invention;

Figure 2 is a fragmental plan view of the brush, showing its forward end or tip sprung for receiving and engaging the revolvable set of bristles;

Figure 3 is a similar view of the brush, with its revolvable set of bristles in supported, journaled position;

Figure 4 is a slightly enlarged transverse sectional view of the revolvable set of bristles and their supporting roller;

Figure 5 is a fragmental side elevational view of the brush, showing the working or cleaning application of its revolvable set of bristles in connection with a set of teeth; and

Figures 6 and 7 are fragmental plan views of a slightly modified form of brush embodying my invention, respectively showing the brush-head in sprung bristle roller-receiving and in closed roller-engaging condition.

Referring now more in detail and by reference characters to the drawing, the brush A includes a body comprising, as is usual, a handle 1, shank 2, and head 3, formed preferably integrally of any suitable material, such as, for instance, gutta-percha, bone, celluloid, or the like. Suitably set in, and substantially forming part of, head 3 of the brush body, are longitudinally disposed rows of bristle-tufts 4 for cleaning engagement with the opposed labial and lingual surfaces of the teeth. For purposes of present description, the bristles 4 may be said to be relatively fixed with respect to the brush-head 3. At its forward or tip end, the brush head 3 is preferably integrally provided with an arcuate extension 5 formed laterally at its opposite side margins with a pair of parallel ears 6, 6, having registering or aligning recesses or apertures 7, 7, to receive for rotation the trunnions 8, 8, of a roller B carrying one or more sets of radially disposed bristles 9. Thus, as it might be said, the preferably arcuate wall or head portion 5 and its ear-extensions 6, 6, provide or form a bearing or journal for the bristle-roller B, which roller is consequently rotatable in the longitudinal plane of the brush.

It will of course, be understood that roller B and its bristles 9 are of such dimensions relatively to its supporting journal as to conveniently fit therein for rotation, and to facilitate mounting of the bristle roller B, the brush-body at its wall 5 and head 3 is preferably kerfed longitudinally, as at 10, for a suitable distance inwardly from the tip of the brush, whereby the portions *a*, *a*, of the so divided or split head-wall 5 may be suitably spread, as by a tool 11, and the brush B then disposed in co-operative engageable relation by the ears 6 at the recesses or apertures 7, the ears 6, on such disposition of the roller B and removal of the tool 11, springing into engagement with the roller-trunnions 8 and the roller B being then efficiently rotatably supported as a part or member of brush A. If desired and as shown in Figures 6 and 7, the brush-head 3 and its extension 5 may be angularly kerfed, as at 10′, and the so formed portions *b*, *b*′, of the split wall 5 provided with interlocking prong or tooth 12 and recess 13 for detachably securing the wall-portions *b*, *b*′, together against accidental separation.

The bristle-roller B may be constructed in any suitable manner. Preferably, however, the body of roller B, which may be formed of hard rubber or other suitable material, is formed with an annular series of diametrically disposed ways *c* and the bristle members so projected through such ways and set in the roller-body that the opposite ends of such members extend in opposed relation radially of the roller-body in the production of suitable radiating bristle tufts. In this manner I economize in the cost of production and facilitate the proper circumferential spacing of the bristle-tufts 9 at their free or outer-ends, it being desirable that the bristle-

tufts 9 at their free or tooth engaging ends be circumferentially spaced a distance equal approximately to the width of the usual tooth T.

Preferably also the tufts 9 are normally of usual V-shape at their teeth engaging or free ends, and as so constructed and spaced, the revolvable tufts 9, in the application of the brush to and over the teeth T, are adapted to successively and without interference, the one by the other, to first obliquely, then substantially at a right angle, and then again obliquely engage the several successive teeth and thus not only clean the side surfaces of the several teeth, but also more or less deeply enter the interstices of the teeth and effect the removal therefrom of any foreign matter, as illustrated by dot and dash line in Figure 4, the bristles 4 functioning, as is usual, in the application of the brush in the removal of tartar and other foreign matter from the opposed surfaces of the teeth.

My new brush thus by means of its two sets of bristles efficiently performs the two functions of cleaning the teeth and effecting removal of foreign matter from between the teeth. The brush as a whole is of simple and inexpensive form and structure, and it will be evident that the bristle-carrying roller B may be readily removed or replaced. As shown in Figure 2, the handle 1 is preferably formed with an obliquely disposed open-end slot, as at 14, to facilitate suspending the brush from a hook or the like when the brush is not in use.

It is to be understood that changes in the form, construction, arrangement, and combination of the several parts of my new brush may be made and substituted for those herein shown and described without departing from the nature and principle of my invention.

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

1. As an article of manufacture, a tooth-brush comprising a head, an arcuate extension integrally projecting from the head, spaced ears integrally depending from said extension, a roller disposed between and journalled for rotation upon the ears, and a circumferential set of radially projecting bristle-tufts carried by the roller and rotatable in the longitudinal plane of the head.

2. In a tooth-brush, a body, a bristle-roller, and a bearing upon the body for the roller, said bearing comprising an extension upon the body and spaced journal-ears depending from the extension, the body and said extension being coincidentally split longitudinally for sprung supporting engagement by the ears with the roller.

In testimony whereof, I have signed my name to this specification.

VICTOR FELMAR.