

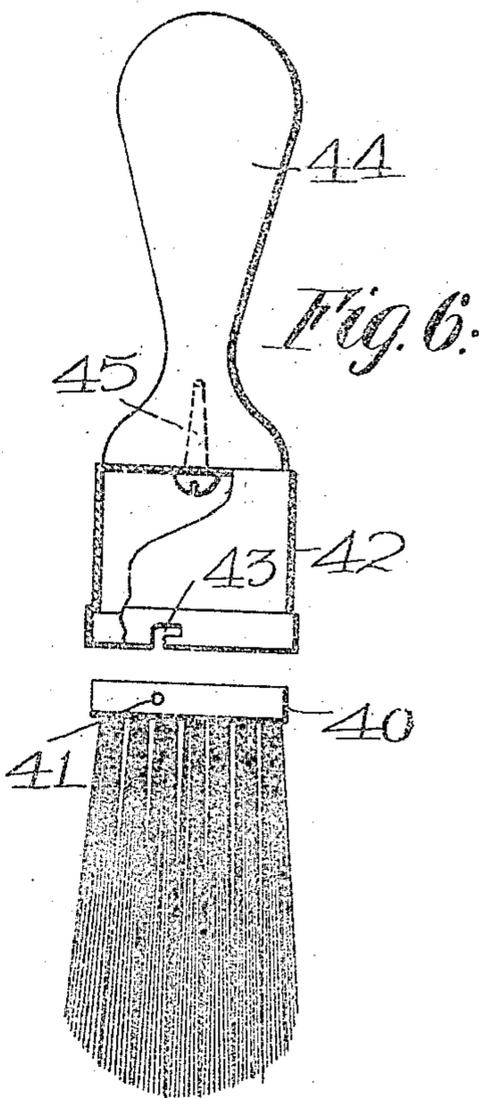
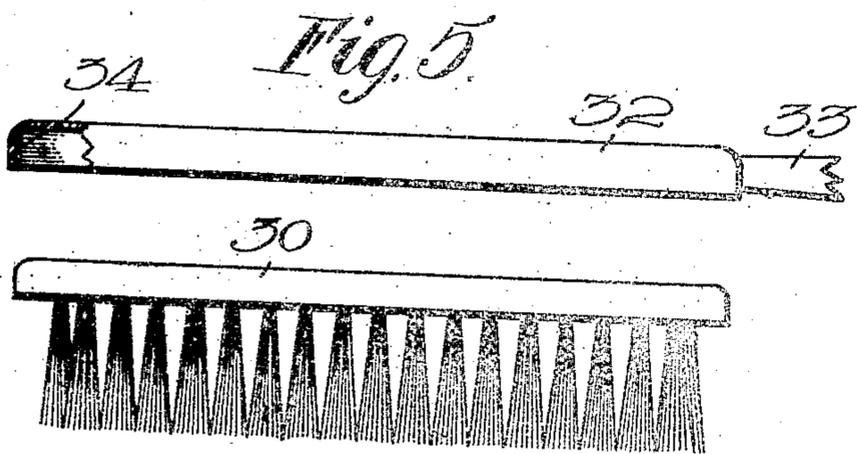
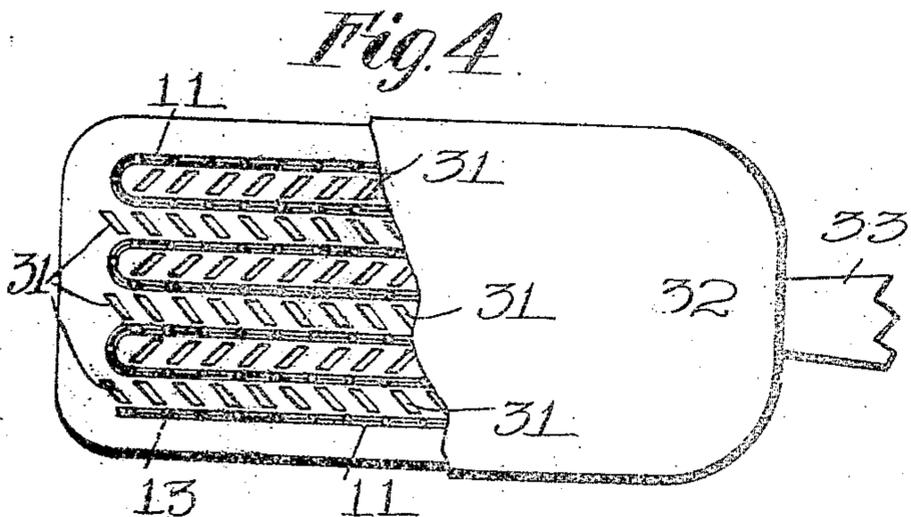
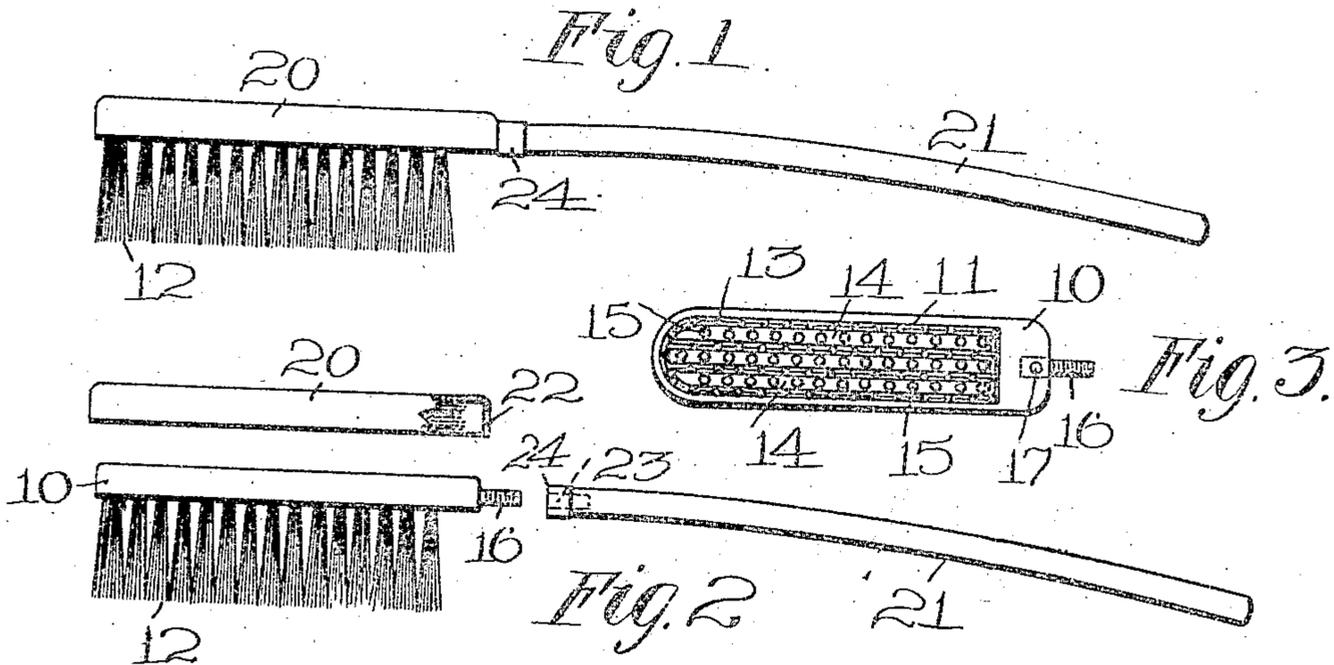
G. G. GRAMM & A. F. TIMME.

BRUSH.

APPLICATION FILED APR. 9, 1909

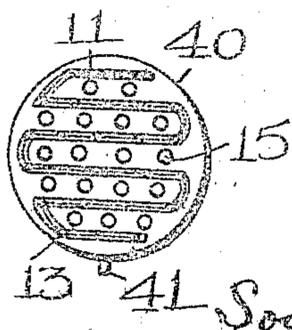
935,493.

Patented Sept. 28, 1909.



Witnesses: Fig. 7

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# UNITED STATES PATENT OFFICE.

GUSTAV G. GRAMM AND AUGUSTUS F. TIMME, OF WORCESTER, MASSACHUSETTS, AS-  
SIGNORS OF ONE-THIRD TO FREDERICK W. MARK, OF WORCESTER, MASSACHUSETTS.

BRUSH.

935,493.

Specification of Letters Patent. Patented Sept. 28, 1909.

Application filed April 9, 1909. Serial No. 488,311.

To all whom it may concern:

Be it known that we, GUSTAV G. GRAMM and AUGUSTUS F. TIMME, citizens of the United States, both residing at Worcester, in the county of Worcester and State of Massachusetts, have invented a new and useful Brush, of which the following is a specification.

This invention relates to brushes, and particularly to those brushes which are employed for the human body.

The principal objects of the invention are to provide a construction which will be entirely sanitary, which will have features rendering the brush capable of being cleansed and disinfected in a very simple and convenient manner; to provide a construction in which the holder for the bristles will have smooth surfaces and a minimum number of irregularities so that there will be few or no places where foreign matter can gather; to provide improved means for fastening the removable parts together; and other improved features of construction in the bristle holder itself.

Further objects and advantages of the invention will appear hereinafter.

Reference is to be had to the accompanying drawings, in which—

Figure 1 is a side view of a tooth-brush showing one form in which this invention may be carried out; Fig. 2 is a similar view showing the three detachable parts separated; Fig. 3 is a plan of the bristle holder removed from the other elements; Fig. 4 is a plan of a hair-brush partly broken away to show the top of the bristle holder, and involving certain modifications; Fig. 5 is a side view thereof showing the parts separated; Fig. 6 is a side view of a shaving-brush partly in section showing another form of the invention; and Fig. 7 is a plan of the bristle holder thereof.

Referring first to the first three figures, the brush in this form comprises a flat bristle holder 10 consisting of a plate of a non-corrodible alloy which will not be attacked by any of the ordinary disinfecting solutions adapted to be employed for cleaning the brush. This holder or plate is provided with substantially uniform plane top and bottom surfaces so that there will be no unnecessary protuberances or depressions on or in which foreign matter can collect. On the top surface are a series of shall-

low grooves 11 adapted to receive the wire or other fastening material with which the bristles 12 are fastened in position. In order to fasten the bristles these grooves are provided with small perforations 13 which are enlarged below to receive the bristles, the part of these perforations shown in Fig. 3 being smaller to receive the wire or other fastening means. It will be understood of course that these grooves can be filled over the fastening thread or wire with any material which will protect the fastening device and present a smooth upper surface, but we prefer to use a wire which in itself is not capable of being attacked by the antiseptic solutions. These grooves are parallel and longitudinal, and the fastening means preferably extends along them continuously from one to the other in a well understood manner. Between these grooves are inter-  
gral continuous walls 14 having surfaces flush with the top surface of the plate or holder, and provided with perforations 15 through which a liquid can be passed or forced to insure the cleaning of the bristles and the surfaces below which come between the bristles. Located at the end of the bristle holder is a projection 16 which is shown in this instance as screw-threaded and riveted by means of a rivet 17 to the plate. This projection may be of German silver so as to resist the attacks of liquid disinfectants, and have strength enough to keep its threads intact in use. On the back of this bristle holder is located a cap or cover 20. This preferably is formed of a sheet of German silver flat on the top to fit the top of the bristle holder and reinforce it, and bent down at the sides and ends so as to engage the sides and ends of the bristle holder. It may be held thereon by the resiliency of its sides and ends which preferably fit the plate friction tight, but we prefer to fasten it by means of a handle 21. For this purpose the cap or cover is provided with a slot 22 through which the projection 16 passes, and the end of the handle is provided with a screw-threaded opening 23 for receiving the projection. Around this opening is a shoulder 24 which, when the handle is screwed up on the projection, engages the end of the cap or cover on both sides of the slot and clamps it firmly to the end of the bristle holding plate.

In the form of the invention shown in

Figs. 4 and 5, the bristle-holding plate 30 is of substantially the same construction as that described except that between the grooves 11 are oblique elongated perforations 31 between the grooves. They serve more efficiently to permit the circulation of liquid through the brush back. In this case the cap or cover 32 is formed substantially like the cap or cover 20, except that it is not provided with a slot in the end, but is made integral with the handle 33, both of these parts preferably being formed of German silver or some other sheet material. In this case the cap or cover is secured to the plate or holder 32 by a sufficiently tight fit of its surrounding walls 34. In these two forms the bristle holder or plate extends to the back of the cap or cover and fits snugly so as to leave no space in which dirt can collect, thus making the brush thoroughly sanitary and rigid.

In Figs. 6 and 7 the same principle is applied to a shaving brush. In this case the bristle holder or plate 40 is shown as formed according to the principles shown in Fig. 3, but the projection 41 thereon is not screw-threaded. The cap or cover 42 is provided with an L-shaped slot 43 for receiving the projection 41 for holding the parts in position, although it will be understood that the principles shown in Fig. 5 can be employed in this case. Here also the handle 44 is shown as fixed by a screw 45 to the German silver cap 42, and as being located on the back of it instead of at the side or end as in the other forms illustrated.

The manner of using the brush will be readily understood. The parts being assembled and the brush having been used, it is cleaned by separating the parts, placing the bristle-holder in an antiseptic solution, boiling it, or treating it in any desired way. This can be done without interfering with the handle or back, which would not be the case if these parts were fixed to the bristle holder, because usually they are made of material which is attacked by ordinary disinfecting acids. The bristle holding plate

is formed of a metallic alloy which is not attacked by such disinfectants, and which will stand boiling water.

It will be understood from what has been shown and described that this invention may be carried out in many ways, and may be applied to various types of brushes:

While we have illustrated and described certain forms of the invention and certain applications thereof, we are aware that many modifications can be made therein by any person skilled in the art without departing from the scope of the invention as expressed in the claims. Therefore, we do not wish to be limited to all the forms or details of construction shown, but

What we do claim is:—

1. In a brush, the combination of a bristle holder having substantially uniform flat top and bottom surfaces and having perforations therethrough, and a fastening means thereon, a removable cap or cover for said holder, and a handle, said handle having a fastening device for securing it to said fastening means on the holder and for securing the cover thereon.

2. In a brush, the combination of a metallic non-corrodible bristle holder having a uniform lower surface, and provided with a screw threaded projection at one end, a hollow metal cap or cover adapted to cover the back and sides of said holder, having a slot for receiving said projection, and a handle having a screw threaded socket for receiving said projection, and a shoulder around the end of the socket for engaging the end of the cover at the sides of said slot, whereby the cover will be clamped to the holder when the handle is screwed up.

In testimony whereof we have hereunto set our hands, in the presence of two subscribing witnesses.

GUSTAV G. GRAMM.  
AUGUSTUS F. TIMME.

Witnesses:

A. E. FAY,  
C. F. WESSON.