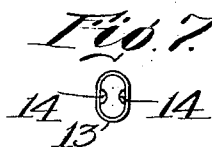
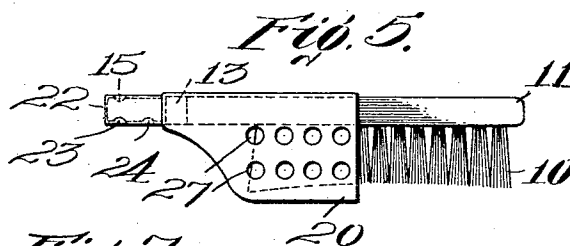
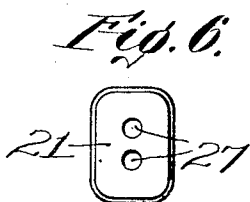
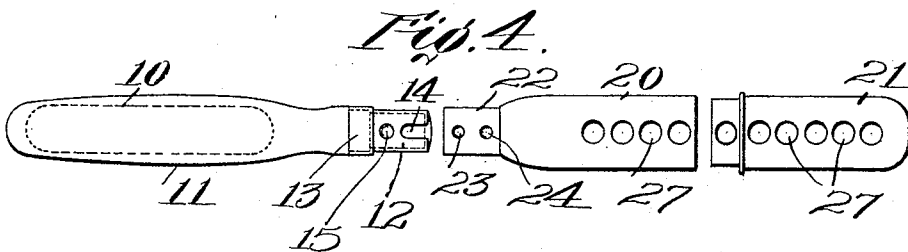
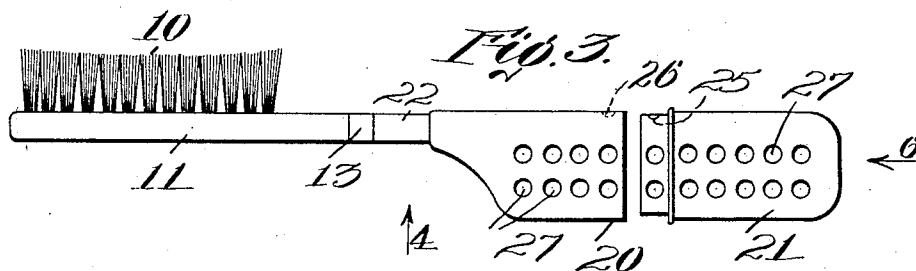
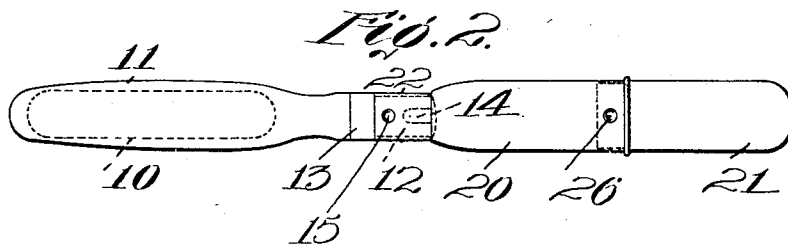
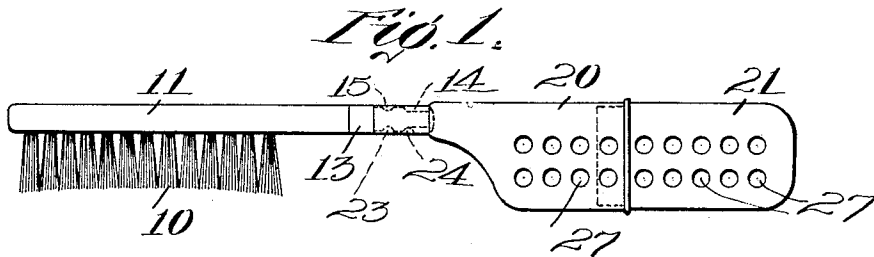


G. E. W. MILLER.
TOOTH BRUSH.

APPLICATION FILED SEPT. 21, 1909. RENEWED MAY 11, 1912.

1,054,017.

Patented Feb. 25, 1913.



Witnesses:

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UNITED STATES PATENT OFFICE.

GUSTAF E. W. MILLER, OF WORCESTER, MASSACHUSETTS.

TOOTH-BRUSH.

1,054,017.

Specification of Letters Patent.

Patented Feb. 25, 1913.

Application filed September 21, 1909, Serial No. 518,882. Renewed May 11, 1912. Serial No. 696,801.

To all whom it may concern:

Be it known that I, GUSTAF E. W. MILLER, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented a new and useful Tooth-Brush, of which the following is a specification.

This invention relates to a tooth-brush.

The principal objects thereof are to provide a simple, inexpensive, compact, and sanitary construction whereby the brush can be packed away in a small space in such a way that it can be carried in the pocket, hand-bag, or the like and will be kept clean and wholesome without any danger of taking up dust or dirt, or of wetting the pocket or other receptacle in which it is placed; to provide a construction in which the casing itself can be used as the handle and detachably secured to the brush in either of two different positions whereby the handle can be applied to the brush so as to suit the convenience of the user; to provide means whereby the brush will be securely held by the handle and whereby when the brush is placed within the handle or casing it will be firmly held in position with its bristles out of contact with the walls of the casing, so that the bristles will not serve as a support for the brush.

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 elevation of a preferred embodiment of the invention showing the brush ready for use; Fig. 2 is a plan thereof; Fig. 3 is a view similar to Fig. 1 showing the brush reversed and also showing the parts of the handle separated; Fig. 4 is a bottom plan view thereof; Fig. 5 is a side view showing the brush held in one part of the casing; Fig. 6 is an end view of the casing; and Fig. 7 is an end view of the socket of the casing.

It has been proposed heretofore to use the handle of a tooth brush as a casing for receiving the brush itself, but so far as I am aware these constructions have been made in such a way that it was necessary to have the lower edge of the handle always projecting down below the points of the bristles of the tooth brush where it was more or less in the way. Furthermore, they had joints in some instances that were difficult to keep clean, and in others there was ab-

solutely no way to clean the inside of the casing. In order to avoid these difficulties and to carry out the above mentioned objects, a tooth brush constructed according to the present invention can be made as shown in the drawings. In this case the brush is provided with bristles 10 a back 11 of any desired character and with a short shank 12. This shank is shown as provided with a non-corrosive sheet metal tip 13. This is reduced slightly at the end, and is provided with a top and bottom longitudinal groove 14 extending inwardly a certain distance from the end. Beyond each of these slots is a depression 15, the purpose of which will appear hereinafter.

The handle or casing comprises two members 20 and 21. The member 20 is provided with a socket 22 having top and inwardly extending projections 23 near the outer end and similar projections 24 near the inner end. As the casing preferably is made of sheet metal, these projections are resiliently supported. The socket 22 exactly fits the shank 12, and when in position as shown in Figs. 1, 2 and 3 the outside surfaces of the sockets are flush with the larger part of the tip 13. In this position the projections 23 are guided into the groove 14 and then over the bridge of metal at its end and down into the depression 15 which securely holds the parts in position. At this time the projection 24 extends into the groove 14, and further assists in holding the parts. The other part 21 of the casing constitutes practically a cover, and it is telescopically connected with the part 20 and preferably fits inside it. It is shown as having a socket 25 for receiving an inwardly extending projection 26 on the main part of the casing to hold the parts firmly in position. As has been stated the handle or casing preferably is made of a non-corrosive sheet metal, such as aluminum or an alloy thereof for example. It is also preferably provided with rows of perforations 27 at the sides and bottom, two of these perforations also being shown in the end of the cover.

When it is desired to pack the tooth brush away it is simply drawn from the socket as indicated in Fig. 4 and is then reversed and placed in the casing in the manner indicated in Fig. 5. In this instance the projection 24 slides into the groove 14 then over the projection and into the depression 15 so as to hold the brush firmly in posi-

tion within the casing. This latter function is assisted by the projection 23 which remains in the groove 14. As the shank 12 fits within the socket and is held by the projections it will be seen that the tooth brush itself is firmly held in position within the casing by the socket so that it does not come in contact with the walls of the casing. Moreover as it keeps the ends of the bristles away from the walls there is better chance for the air to circulate through the ends which are the parts which most need the air, and consequently the brush is kept clean and wholesome at all times.

15 The same principles can be applied to other kinds of brushes according to this invention.

While I have illustrated and described a preferred embodiment of the invention, I am 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 I do not wish to be limited to all the details of construction shown and described, but

What I do claim is:—

1. The combination with a brush having a shank provided with a depression near the end thereof, of a casing adapted to receive the back and shank and having an open-ended socket provided with an inwardly extending resilient projection adapted to engage in the depression of the shank when the shank is placed in said socket with the brush projecting outwardly therefrom, and having a second resilient projection adapted to engage in said depression when the back is placed within the casing with its shank projecting into the socket.

2. The combination with a brush back having a shank provided with a longitudinal groove near the end thereof, of a casing adapted to receive the back and shank and having a socket provided with an inwardly extending resilient projection adapted to engage in the groove in the shank.

3. The combination in a brush of a part provided with a longitudinal groove extending inwardly from the end thereof and with a depression beyond the end of said groove, and a part adapted to receive the first named part and having a socket provided with an inwardly extending resilient projection adapted to engage in the depression in the first named part.

4. The combination with a brush back having a shank provided with a longitudinal groove extending inwardly from the end thereof and with a depression beyond the end of said groove, of a casing adapted to receive the back and shank and having an open-ended socket provided with an inwardly extending resilient projection adapted to engage in the depression in the shank when the shank is placed in said socket with the back projecting outwardly therefrom, and having a second resilient extending projection adapted to engage in said depression when the back is placed within the casing with its shank projecting into the socket.

In testimony whereof I have hereunto set my hand, in the presence of two subscribing witnesses.

GUSTAF E. W. MILLER.

Witnesses:

A. E. FAY,

C. FORREST WESSON.