

Aug. 29, 1933.

J. D. BATES

1,924,147

BRUSH

Filed June 27, 1931

Fig. 1.

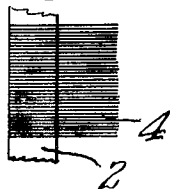


Fig. 3.



Fig. 2.

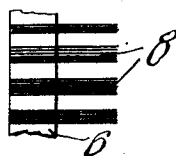


Fig. 4.

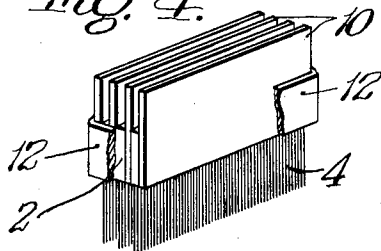


Fig. 7.

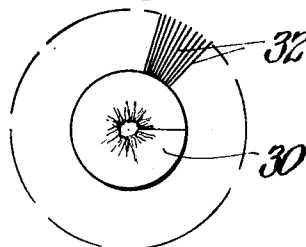


Fig. 5.

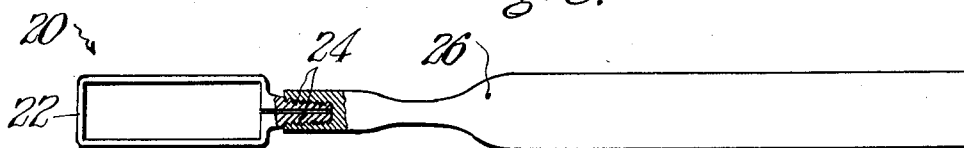
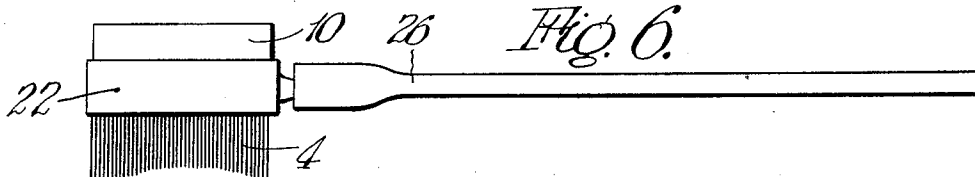


Fig. 6.



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UNITED STATES PATENT OFFICE

1,924,147

BRUSH

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5 Claims. (Cl. 15—202)

This invention relates to improvements in the art of manufacturing brushes.

The principal objects of the invention are the provision of a novel method of making a brush of novel form which may be removably carried by a handle. The novel features of the invention will be explained in connection with tooth brushes, but it will be understood that those skilled in the art may practice the invention in connection with brushes and handles in general without departing from the spirit and scope of the invention.

It is desirable for sanitary and utility purposes to provide in a tooth brush, or in fact various brushes, a handle and a plurality of brushes which may be removably carried by the handle. In this way a fresh brush may be substituted for a used brush as often as desired. To facilitate this according to certain special features of the invention brushes may be made at small cost, which brushes are readily and easily inserted in or removed from a handle.

Numerous novel features and advantages of the invention will be hereinafter more fully referred to in connection with the following description of the preferred form of the invention, which for illustrative purposes merely is shown in the accompanying drawing wherein:

Fig. 1 is a plan view of a strip member which is coated or covered with bristles for forming a brush.

Fig. 2 is a similar view of another form of the invention.

Fig. 3 is an end elevational view of the same, taken at right angles to Fig. 2.

Fig. 4 is a perspective view of a brush made according to the novel method of the invention.

Fig. 5 is a plan view of one form of handle or holder for the brush, and

Fig. 6 is a side elevational view of the same with a brush inserted therein, and

Fig. 7 is a plan view of a modified form of the invention.

Referring now to the drawing in detail the invention will be described:

In Fig. 1 there is shown a bristle support 2 in the form of a strip which is coated or covered with bristles 4. This bristle support 2 is preferably made from some flexible or bendable material such as paper, fabric, celluloid or the like and on it are deposited in some suitable manner a plurality of the bristles, all as shown. The bristles are arranged on the strip so that they extend outwardly from one side thereof at least and they are secured to the strip in some suitable

manner as by an adhesive material such as cellulose material in sticky condition like collodion, which may be applied either to the strip or bristles, or both.

The bristles may be the well known hair bristles or they may be of some suitable synthetic material, but will of course in all cases be of such a nature as will give in a finished brush the desired brushing or scrubbing action. Preferably the bristles used will be fibrous material, that is natural vegetable fibers. These are well adapted for the practice of the invention because they are inexpensive and more or less porous.

The support and bristles will preferably be treated with some suitable antiseptic and the adhesive material for sticking the bristles thereto will likewise include an antiseptic of some sort so as to render the whole more or less antiseptic in nature.

According to the modification of the invention shown in Figs. 2 and 3, a bristle supporting strip 6 is corrugated or provided with spaced transverse bristle receiving grooves or depressions. Bristles 8 are deposited or laid in these grooves as shown so as to be arranged in separated groups. These bristles may also be secured to the strip by a suitable adhesive after the manner previously described.

The bristle supports described may take various forms and they may be of various materials, while the bristles may be coated or laid thereon in various ways and held thereon by various means. This is all to the end that the support with the bristles is in effect a support which is coated or laid with bristles extending outwardly therefrom.

A bristle support thus laid or coated with bristles may have disposed thereon or associated therewith an additional strip of material represented by 10 in Fig. 4. This strip 10 will preferably be of flexible, yieldable material such as fabric, paper or the like and such as will be suitable for contacting with the gums of the mouth for massage purposes. These strips 10 extend outwardly for a distance from the bristle supports at the same or a side opposite to that from which the bristles extend or project.

A brush is formed from a plurality of the bristle supports 2 or 6 and a plurality of massage strips 10 arranged alternately in superposed relation as in Fig. 4. Arranged in this way they provide a main body or brush assembly having bristles extending from one side thereof and massage members extending from the other side. Of course the strips may be arranged to extend

transversely instead of longitudinally as shown.

The strips 10 may be affixed to the supports 2 and 6 at the time they are coated or a plurality of the strips 10 and supports 2 and 6 may be assembled in various ways to provide a brush.

There may be as many of these bristle supports in a brush as may be desired and likewise any desired number of massage strips may be employed. Adhesive material such as collodion or the like may be applied to the adjacent faces of the superposed members and then the whole assembly may be pressed in a die, or rolled, or in some manner subjected to pressure or moulded to form a brush of predetermined size and form. This will be desirable in order that a plurality of brushes may be uniform in shape and size so as to fit in a holder.

In addition to securing these superposed strips together as described, it may in some cases be desirable to provide a binder or band 12 which may extend around the brush body and be secured thereto in some suitable manner as by applying suitable adhesive material thereto.

When these elements are pressed or moulded together and secured as they are and then brought to some predetermined form and size and whether or not the brush embodies the outer binding band, the body formed in this way will be suitable to insert in a handle of some sort.

The handle may take various forms, but in the form of the invention shown in Figs. 5 and 6, it comprises a head member 20 which includes a rectangular band 22 for receiving a brush. This band may be split at one end and have complementary tapering screw members 24 as shown for screwing into an internally threaded end of a handle 26. As the brush is inserted in the band 22 it will be embraced and retained therein by screwing the handle and frame relative to one another so as to contract the frame and thereby clamp the brush. The handle may take various forms and may be easily adapted to receive the brush, so that the brush may be inserted therein with facility.

According to the special features of the invention superposed layers of material coated or laid with bristles or threads and massage or separating strips are arranged to provide brushes of various predetermined forms and shapes. When secured together by suitable adhesive material or otherwise and formed to provide a brush, said brushes are rigid and in fact provide a unified brush structure which is easily and readily inserted in a handle.

Various materials may be selected for the massage or separating strips as well as for the bristle supports and even the bristles themselves as it is not intended to be limited to any particular materials for these various elements.

According to the modification of the invention shown in Fig. 7 a support in the form of a strip is formed to provide a disc or ring 30 so that bristles 32 will radiate therefrom. Such a strip as has been described when made of paper, fabric or the like may be bent around and crimped if necessary in the center so as to give the desired disc. Such discs or rings may in themselves constitute brushes which may be affixed to handles or rotatable elements. By coating or laying the

bristles on the strip and securing them thereto and then forming the strip into a disc or ring, it is possible to provide circular brushes at small cost. Of course it is possible to employ a plurality of superposed circular brushes if desired in order to make up a brush body.

According to the novel features of the invention it is possible to produce the strips laid or coated with bristles, at a nominal cost wherefore brushes made therefrom will likewise be economical to manufacture. This is all to the end that a single handle may be used in connection with a plurality of separate brushes which are adapted to be easily and readily inserted in and removed therefrom.

In this way, since the brushes are inexpensive and easily inserted in or withdrawn from the handle, it is possible to change brushes frequently, thereby as they become contaminated, soiled or worn, they may be replaced with fresh brushes. This is all to the end that it is possible to have for use at all times a brush which is in sanitary and healthy condition.

Having described the invention what I now desire to claim and secure by Letters Patent of the United States is:

1. As an article of manufacture, a unitary brush body comprising in combination, a plurality of bristle strip portions including a flexible support having a plurality of fibrous bristles secured transversely thereon and extending outwardly from one side thereof and a plurality of massage strips, said massage strips being arranged in alternately superposed relation with said bristle strip portions and secured thereto.

2. As an article of manufacture, a unitary brush body comprising in combination, a plurality of secured together bristle strip portions including a flexible support having spaced transverse grooves with a plurality of fibrous bristles secured in said grooves, said bristles extending outwardly from one side of said strip portions and a plurality of massage strip portions arranged in alternate contiguous relation with the bristle strip portions.

3. As an article of manufacture, a unitary brush body comprising in combination, a plurality of secured together bristle strip portions including a flexible support having spaced transverse grooves with a plurality of fibrous bristles secured in said grooves, said bristles extending outwardly from one side of said strip portions.

4. As an article of manufacture, a unitary brush body comprising in combination, a plurality of bristle supports in superposed relation each including a flexible strip having a plurality of fibrous bristles secured in groups transversely thereon and extending outwardly from one side thereof.

5. As an article of manufacture, a unitary brush body comprising in combination, a plurality of bristle supports each including a strip having a plurality of fibrous bristles secured in groups transversely thereon extending outwardly from one side thereof, and a plurality of massage strips being arranged in alternately superposed relation with said bristle supports.

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