No. 843,544 PATENTED FEB. 5, 1907.

J. MORRISON.

METHOD OF MAKING BRUSHES.

APPLICATION FILED FEB. 17, 1906.

FIG. 1.

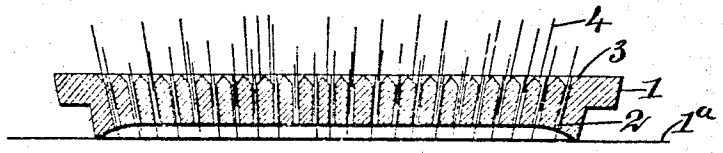


FIG. 2.

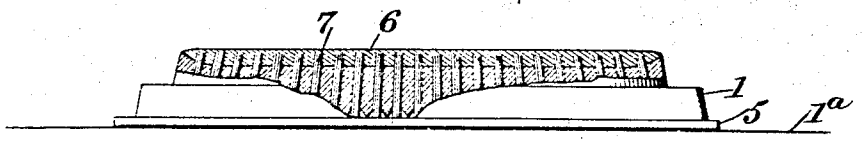


FIG. 3.

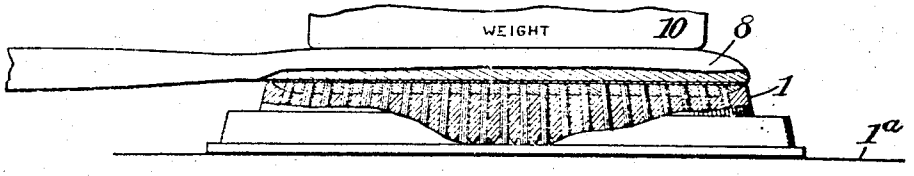


FIG. 4.

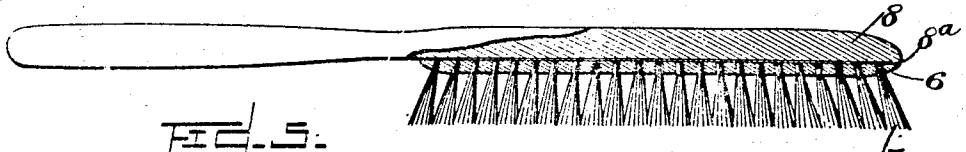


FIG. 5.





FIG. 6.

WITNESSES:

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METHOD OF MAKING BRUSHES.

No. 843,544. Specification of Letters Patent. Patented Feb. 5, 1907.

Application filed February 17, 1905. Serial No. 246,034.

To all whom it may concern:

Be it known that I, JOHN MORRISON, a citizen of the United States, and a resident of Troy, in the county of Rensselaer and State of New York, have invented a new and Improved Method of Making Brushes, of which the following is a full, clear, and exact description.

My invention relates to brushes, and more particularly to a method of assembling and constructing the same.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a vertical longitudinal section through the metal die member used for grouping the bristles and for holding the same in position. Fig. 2 is a side elevation, partly in section, showing the die member 1 and the plastic material 6 for holding the bristles together and forming the inner backing of the brush. Fig. 3 is a side elevation, partly in section, showing the handle as being applied upon the inner backing. Fig. 4 is a side elevation, partly in section, showing the brush complete. Fig. 5 is a side elevation, partly in section, showing a brush-back provided with an adhesive for causing the inner backing to stick to the brush-back; and Fig. 6 is a side elevation, partly in section, showing a brush-back intended to stick by the adhesion of the inner backing alone.

The die member 1 is made, preferably, of metal and is provided with bristle holes or apertures 2, disposed radially, as indicated in Fig. 1, each bristle-hole terminating in a funnel-shaped indentation 3 for guiding the loose bristles into position. The die member 1 is rested upon any appropriate surface 1^a, and the bristles 4 are allowed to drop loosely, but endwise, upon it, being guided by the funnel-shaped indentations 3, so as to fill up the bristle-holes and to arrange the several bristles into tufts or groups. The superfluous bristles are then whisked off and a plate 5 is laid upon the die member 1, which is thereupon quickly inverted, so that it rests face downward upon the plate 5. This leaves the several tufts of the bristles protruding slightly from the back of the die member 1—that is, from its upper surface, as seen in Fig. 2. A thick coating 6 of plastic material is next spread upon the die member 1 so as to envelop the upper or protruding tufts of bristles, as indicated in said figure. The brush-back 8 is next applied to the layer 6 of plastic material, and a pressure member 10 is applied to the brush-back so as to force it into complete engagement with the layer 6 of plastic material. The brush-back may have a comparatively thin layer 8^a of adhesive material applied to its face. This adhesive material consists of shellac or of any other substance which is rendered sticky by the application of heat. The coating 6 of plastic material when applied is heated, and consequently is somewhat viscous.

Where a brush-back of the form shown at 9 in Fig. 6 is employed, no special coating 8^a of adhesive material is used. This form of brush-back is employed in instances where the layer 6 of plastic material is sufficiently viscous to adhere directly to the brush-back 9 without the aid of any additional adhesive. For most purposes it is immaterial whether the adhesive 8^a be employed or not; but some compositions used for making the plastic layer 6 do not when heated present sufficient adhesiveness for my purposes, and when this occurs it is necessary to employ the additional adhesive 8^a. Pressure being applied upon the brush-back 8 or 9 by means of the pressure member 10, which may, if desired, have the form of a weight and should be capable of exerting a pressure of thirty or forty pounds, the brush-back is caused to adhere to the plastic material 6. The pressure is continued for some time—that is, until the layer 6 is hard and solid. The pressure member 10 is now removed, and the complete brush is readily removed by its handle. The die member 1 is now turned over so as to assume the position indicated in Fig. 1 and again filled with bristles for the completion of the next brush.

It will be seen that by this method comparatively inexpensive machinery can be used and that the operation is very simple. The die member 1, taken together with a simple means for applying a general pressure, is the only mechanism needed. This die member 1 is, in effect, a simple form of mandrel.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

The method herein described of making brushes which consists in assembling bristles into tufts, applying a plastic material about the bases of said tufts, forming the face of

said plastic material opposite the projecting bristles with a plane surface, applying an adhesive coating to the plane surface of the brush-back, and forcing the said face of the said brush-back into engagement with the plane surface of the said plastic material to cause it to adhere thereto.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN MORRISON.

Witnesses:
DAVID S. SAXE,
A. H. ALLENDORPH.