

No. 793,277.

PATENTED JUNE 27, 1905.

D. H. COLES.

BRUSH.

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Fig. 1.

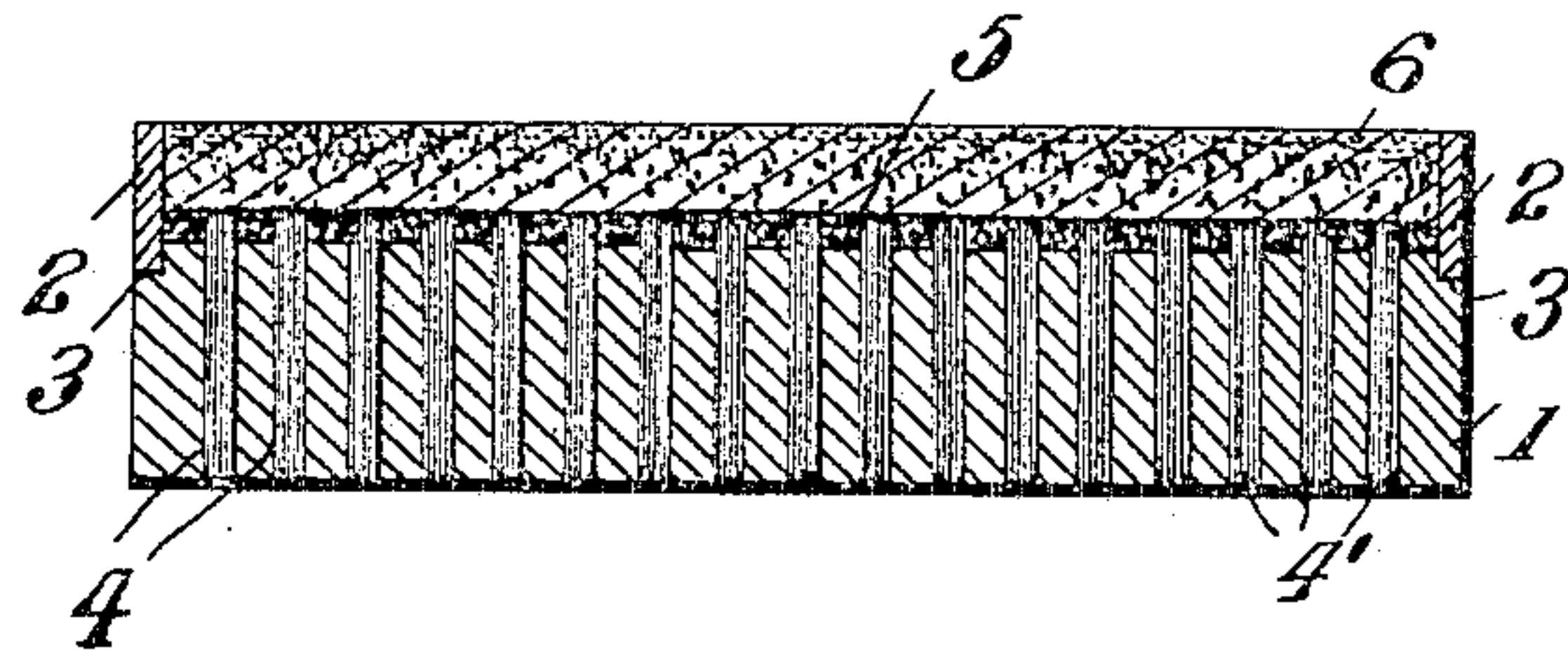


Fig. 2.

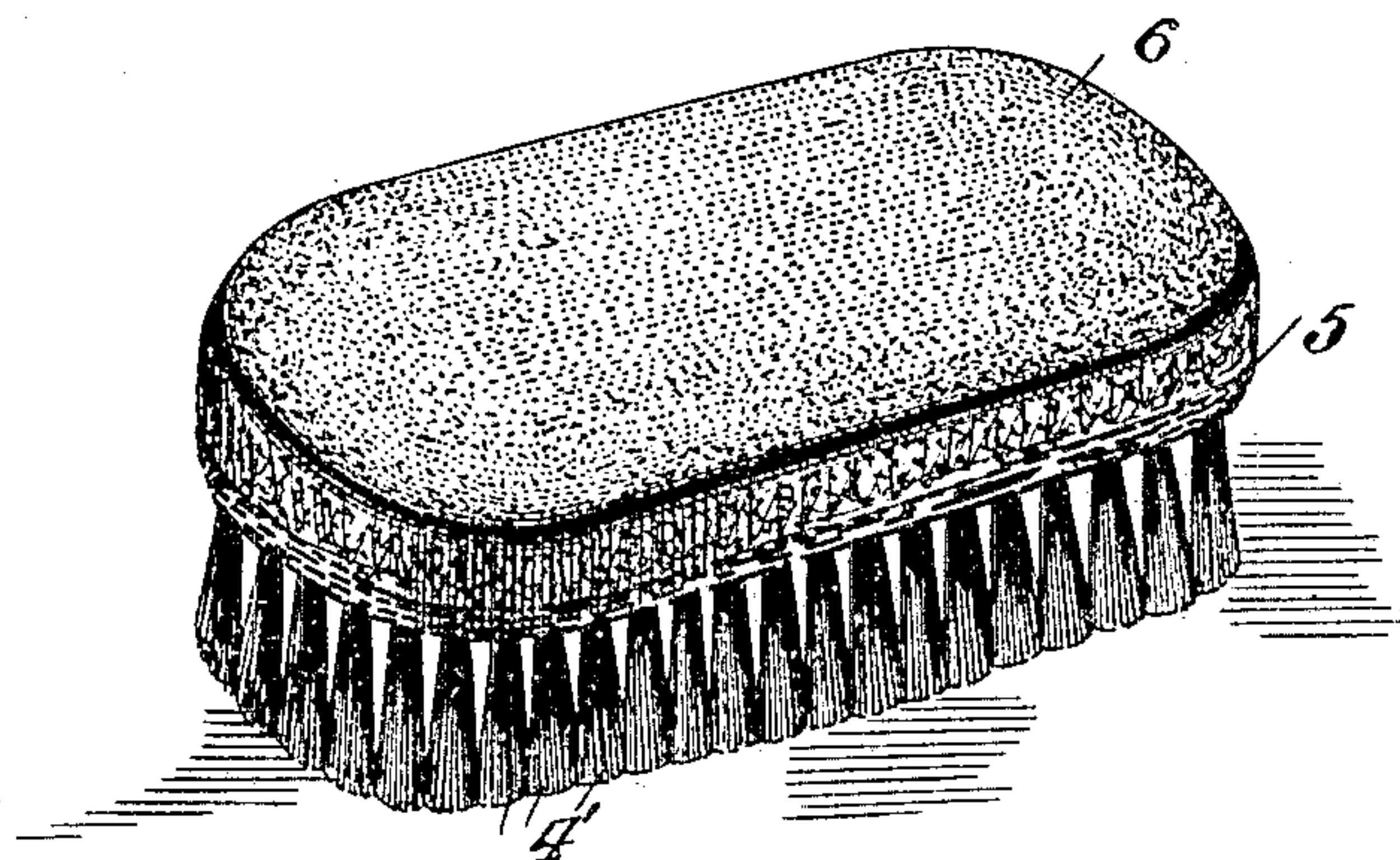
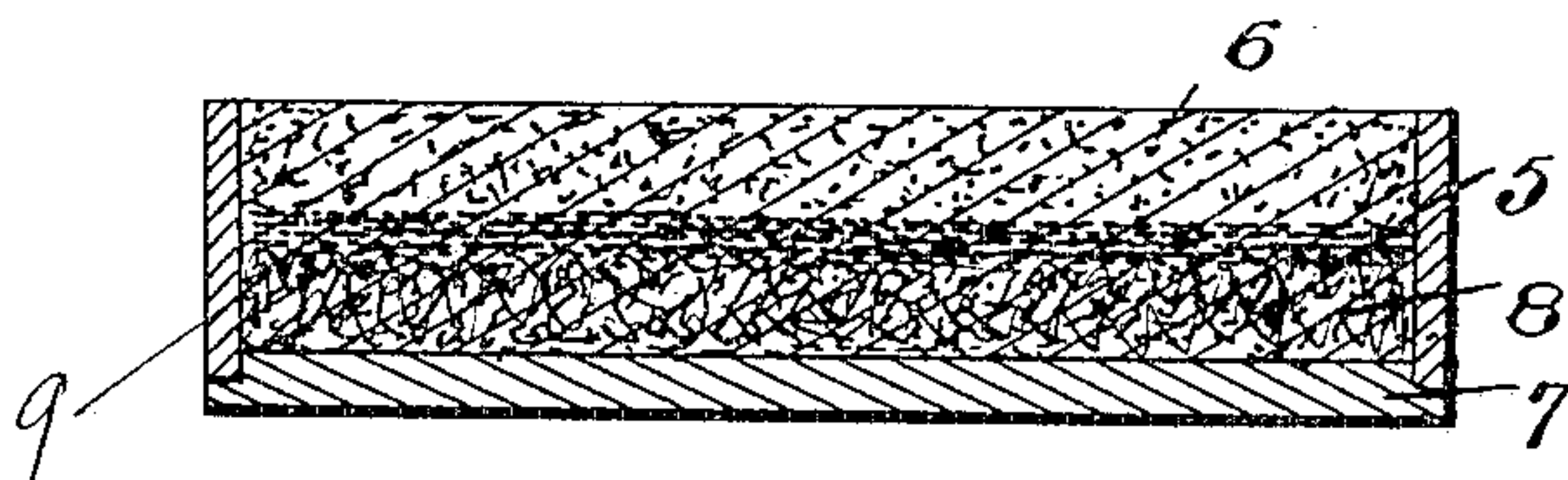


Fig. 3.

Witnesses

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UNITED STATES PATENT OFFICE.

DAVID H. COLES, OF BROOKLYN, NEW YORK.

BRUSH.

SPECIFICATION forming part of Letters Patent No. 793,277, dated June 27, 1905.

Application filed February 15, 1905. Serial No. 245,723.

To all whom it may concern:

Be it known that I, DAVID H. COLES, of Brooklyn, New York, have invented a new and useful Improvement in Brushes, which invention is fully set forth in the following specification.

This invention relates to brushes and the method of making the same, and especially those in which the bristles or fibers are retained in place by a composition constituting the molded back; and it has for its object to provide a brush with a back which will retain the bristles and fibers on one side and which will serve at the same time as an abrasive surface on the other. Brushes embodying this idea can be made in various forms, depending upon the use to which they are intended. When in the form of nail-brushes, the back in such case will contain a fine-grained abrasive powder, such as pumice, and the brush portion will be made of fine bristles, while in the case of a scrubbing-brush the back will be rough-grained and the brush part of coarse bristles. In the latter class of brushes the bristles may be replaced by a coarse fibrous material, such as loofah—the fibrous contents of the Chinese gourd—and the abrasive back of the brush will comprise a coarse abrasive material, such as sand, emery, or the like. The bristles or fibers will act as a brush when used for that purpose and will serve as a reservoir for supplying water when the abrading surface is used for scrubbing.

In order to effect the objects of this invention, I give, by way of example, the preferred manner of making the brush and refer to the accompanying drawings in illustration of the same.

Figure 1 shows in vertical section a mold and a bristle brush in the course of its preparation in accordance with this invention. Fig. 2 is a similar view, but showing a modification. Fig. 3 shows in perspective the completed brush.

Referring to Fig. 1, 1 indicates the bottom of a mold such as is commonly employed in making bristle brushes, the thickness of the bottom corresponding to the length of the bristles. 2 is a frame adapted to rest on a ledge 3, formed at the top of the member 1

and is intended to retain the backing composition while in its plastic state. The bottom 1 is provided with a plurality of bristle-receiving holes 4. The size and style of mold will depend on the size and character of brush to be made. The form here given is merely one for illustration of the method of constructing the brush. Having provided a mold of the character indicated, the tufts of bristles 4' are inserted in single or double length through the holes 4, leaving their ends, which are to be embedded in the composition, protruding a short distance above the bottom of the mold. The ends of the bristles protruding outside the mold are trimmed off flush with the outside surface of the mold, and the latter is placed in position to receive the plastic composition. There is then poured around the projecting bristles within the mold a cementing composition such as commonly employed for brush-backs. This material is introduced hot and flows around and fills up the spaces between the tufts and preferably to a depth about sufficient to be on a level with the ends of the tufts, as shown at 5, Fig. 1. There is next introduced into the mold the composition which is to form the abrasive back of the brush. The basis of this composition may be hard rubber or any of the plastic compositions used for brush-backs. I take such composition and render it soft by heat and while in this state spread it into sheets of the desired thickness and then incorporate in its upper surface an abrasive material, such as pumice-powder, emery, sand, or carborundum. A back 6 is then cut out of this material of suitable shape to fit the mold, and while the cementing composition is still hot the back is pressed into the mold and into intimate contact with the cementing composition, whereby the two are thoroughly incorporated at their surfaces and constitute a firm and solid back having the bristles firmly secured therein. The mold is then removed, and a brush of the appearance shown in Fig. 3 results. The backs may, however, be cut to size, introduced into the mold, and then the abrasive material introduced into the surface.

Instead of making the brush of bristles, as above described, fibrous materials, such as a

matted mass of loofah, may be used. In such case the bottom 7 of the mold is preferably solid, as indicated in Fig. 2. A piece of the fiber 8 is cut out having an outline of the mold and placed on the bottom of the same. Over this fiber is poured a layer 9 of the cementing composition, which penetrates more or less into the interstices of the upper layers of the mass of fibers. Next is affixed the abrasive composition back 10 in a manner similar to that above described. In applying the backs a slight pressure should be applied, sufficient to effect an intimate union of the abrasive composition and cementing material.

15 A brush made in accordance with this invention combines the advantages of inexpensive construction, which results from the use of a molded back, together with the advantage of giving to the brush an abrasive back which is firmly secured to the bristles or fibers of the brush with no danger of its separation therefrom and which can be made at less cost than brushes hitherto made.

Having thus described my invention, what I claim is—

1. A brush having on one side fibrous materials and on the opposite side an abrasive composition constituting a molded back for said brush.

2. A brush having on one side fibrous materials and on the opposite side an abrasive composition comprising a molded back for said brush and cementing composition retaining said fibers to said back.

3. A brush comprising a body of fibers, a composition of cementing material in which said fibers are partly embedded, a plastic-composition backing having one surface intimately incorporated with said cementing material and its opposite surface provided with abrasive material.

4. A fiber brush having a molded back provided with abrasive material, said fibers serving as a water-reservoir for said abrasive surface.

5. A method of making brushes consisting in assembling a mass of fibers in a mold, applying to the fibers a cementing material while said material is hot, introducing the plastic backing provided with abrasive material, and subjecting the whole to gentle pressure.

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

DAVID H. COLES.

Witnesses:

ELISHA K. CAMP,
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