J. W. BRADSHAW.

BRUSH.

APPLICATION FILED JAN. 24, 1910.

1,160,370. Patented Nov. 16, 1915.

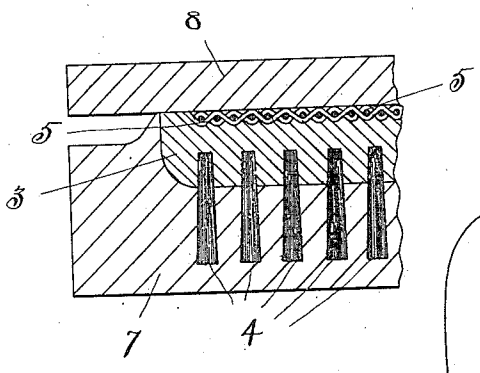


Fig. 2

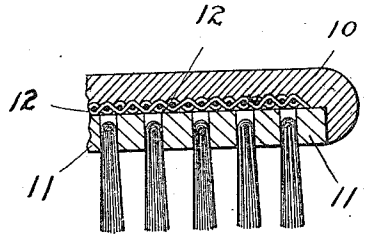


Fig. 3

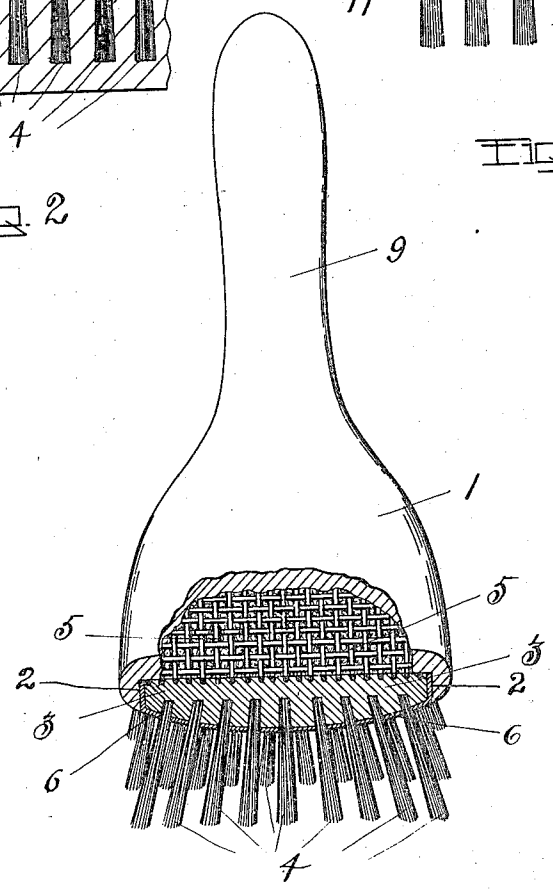


Fig. 1

WITNESSES

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UNITED STATES PATENT OFFICE.

JAMES W. BRADSHAW, OF TROY, NEW YORK, ASSIGNOR, BY MESNE ASSIGNMENTS, TO ALPHA BRUSH COMPANY, OF TROY, NEW YORK, A CORPORATION OF NEW YORK.

BRUSH.

1,160,370. Specification of Letters Patent. Patented Nov. 16, 1915.

Application filed January 24, 1910. Serial No. 539,695.

To all whom it may concern:

Be it known that I, JAMES W. BRADSHAW, a citizen of the United States, residing at Troy, county of Rensselaer, and State of New York, have invented certain new and useful Improvements in Brushes, of which the following is a specification.

The invention relates to such improvements and consists of the novel construction and combination of parts hereinafter described and subsequently claimed.

Reference may be had to the accompanying drawings, and the reference characters marked thereon, which form a part of this specification. Similar characters refer to similar parts in the several figures therein.

Figure 1 of the drawings is a view in perspective, partly broken away and partly in cross-section, of a brush made in accordance with my invention. Fig. 2 is a vertical cross-section of a die or mold adapted for forming the bristle-supporting block from plastic material, and embedding therein an attaching body of woven fabric or the like. Fig. 3 is a view in cross-section of a brush having a back formed of plastic composition, with a wooden bristle-supporting block attached thereto in accordance with my invention.

The representation of the woven fabric is necessarily somewhat diagrammatic.

The principal object of the invention is to more securely unite together in a brush or bristle-supporting block formed of plastic material and a supporting back therefor.

Other objects of the invention will appear in connection with the following description.

My invention is particularly adapted for the manufacture of brushes wherein the bristles have their ends embedded in a block or pad formed of plastic material, which block or pad is mounted within or upon a wooden back. The invention may, however, be advantageously employed in any case where it is desired to securely attach a block formed of plastic material to a supporting back or other body.

In carrying out my invention in its preferred form, as illustrated in the drawings, I incorporate in the bristle-supporting block formed of plastic material, by embedding therein, a body of woven fabric which is thereafter attached to the brush-back by an adhesive substance.

Referring to the drawings, 1, represents a brush-back preferably formed of wood provided with a face-recess, 2, adapted to receive a bristle-supporting pad, 3, formed of plastic material, in which the inner ends of the tufts of bristles, 4, are embedded so as to project from the outer face thereof.

On the back of the block or pad, 3, is a body, 5, of woven fabric embedded therein so as to expose on the back thereof portions of the fabric-threads. The block thus formed is secured to the brush-back, 1, by means of a suitable adhesive, as glue, whereby the exposed portions of the fabric-threads are made adherent to the brush-back.

I have shown the block or pad, 3, faced with a thin sheet, 6, apertured to permit the bristles to pass therethrough, which sheet may be made of celluloid or aluminum or other material adapted to impart a finished appearance to the face of the brush. The sheet, 6, may be dispensed with if desired, and the brush-back may be recessed or otherwise, as desired. The fabric, 5, can be applied to, and embedded in, the back of the brush-pad in any known manner, either at the time the pad is formed or thereafter. If applied after the pad is formed, the back of the pad can be softened by heat and the fabric pressed thereupon, causing the threads of the fabric to become more or less embedded in the softened composition. I prefer, however, to incorporate the fabric in the block or pad at the same operation whereby the pad is formed by the dies upon the ends of the bristles. In pursuing the latter method, the heated plastic material is placed upon the exposed ends of the tufts of bristles, which are supported in holes in the die-plate, 7, a sheet of woven fabric is superimposed upon the plastic material and covered by the upper die-plate, 8, which is forced toward the die-plate, 7, to cause the composition to flow into and fill all parts of the mold or die-cavity. As soon as the plastic material has set, the upper die-plate is removed, leaving the fabric, 5, embedded in the plastic material, but with portions of its threads exposed on the back surface thereof, the plastic material having hardened into a rigid pad. The pad thus formed is then removed from the lower die-plate, 7, and placed within the recess, 2, or applied to the face of an unrecessed back to which a thin coating of glue has been applied.

When the glue has set and hardened, the threads of the fabric will be found firmly adherent to the back; and, being embedded in the pad, 3, they serve to securely unite the pad to the brush-back.

For certain purposes of the invention any interstiсed or fibrous body may be used in place of the woven fabric. By the term woven fabric I mean to include not only fabric formed by interlacing threads, but fabric formed by interlooping threads as by knitting.

I have shown the brush-back provided with a handle, 9, which may be omitted if desired.

While I have particularly described a preferred form of brush, in which the bristle-supporting pad is formed of plastic material and the back of wood, I consider that making the brush-back of plastic material and the bristle-supporting block of wood or other material to which is attached a body of fabric or the like embedded in the plastic composition of the back, to call for a mere reversal of the steps and construction above described, and to come within the spirit of my invention.

In Fig. 3 I have shown the brush-back, 10, formed of plastic material and the bristle-supporting block, 11, formed of wood, with the woven fabric, 12, embedded in the composition of the back and adherent to the bristle-supporting block.

What I claim as new and desire to secure by Letters Patent is—

1. A brush having a bristle-supporting block of plastic material, a supporting back therefor, and a body of fibrous material attached to said back and embedded in said block.

2. A brush having a hard block of plastic material, bristles having one end embedded in said material and projecting from one face thereof, a body of fabric embedded in said material and partly exposed upon the other face of said block, and a back adherent to the exposed portions of said fabric.

In testimony whereof, I have hereunto set my hand this 17th day of January, 1910.

JAMES W. BRADSHAW.

Witnesses:
FRANK C. CURTIS,
J. DONSBACH.