No. 709,610. Patented Sept. 23, 1902.

J. SCHREINER.

BRUSH.

(Application filed Nov. 20, 1901.)

(No Model.)

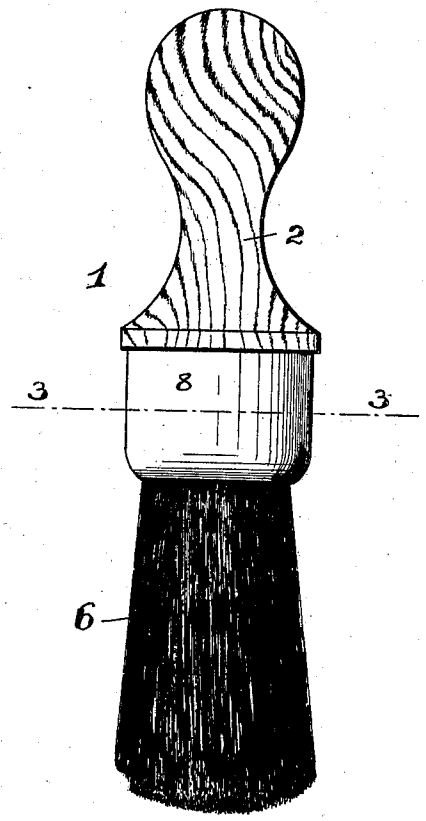


FIG. 1

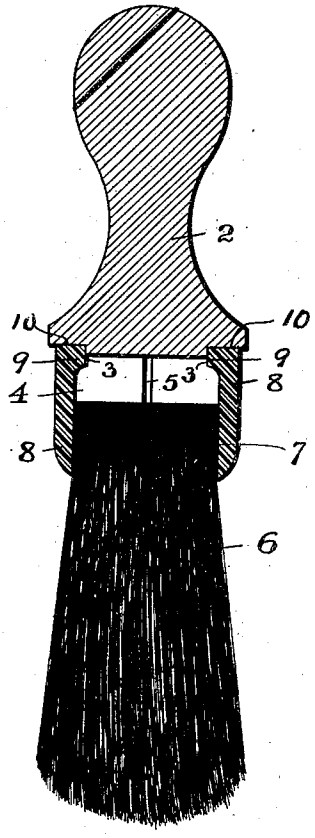


FIG. 2

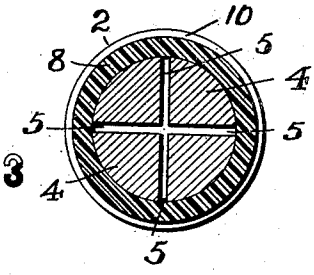


FIG. 3

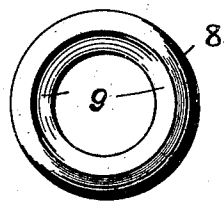


FIG. 4

WITNESSES:

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UNITED STATES PATENT OFFICE.

JOSEPH SCHREINER, OF IRVINGTON, NEW JERSEY, ASSIGNOR TO RUBBER AND CELLULOID HARNESS TRIMMING CO., A CORPORATION OF NEW JERSEY.

BRUSH.

SPECIFICATION forming part of Letters Patent No. 709,610, dated September 23, 1902.

Application filed November 20, 1901. Serial No. 82,961. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH SCHREINER, a citizen of the United States, residing at Irvington, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Brushes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to figures of reference marked thereon, which form a part of this specification.

My invention relates generally to improvements in brushes, and more particularly to a novel construction and method of producing shaving-brushes.

My invention consists in the novel construction of shaving-brush, as well as in the novel method of making the same, all of which will be more fully set forth in the following specification and then finally embodied in the clauses of the claim.

Heretofore shaving-brushes have been provided with an outer ferrule of celluloid, hard rubber, or other similar plastic material and an inner ring or ferrule of metal, which was arranged around the bunch or knot of bristles and within the said outer ferrule of a plastic material, as stated.

In shaving-brushes as ordinarily made with constant use the moisture from the soap and water will expand the butt-end of the handle of the brush to such an extent that the said end as it swells will cause the hard-rubber or other plastic ferrule to crack or split, and thereby render the brush unsightly and useless.

One principal object of this invention therefore is to so construct the butt-end of the handle of the brush that the expansion which is due to the swelling of the material of which the handle is made will not be in an outward direction against the inner cylindrical surface of the plastic ferrule, but rather a contraction of the butt-end of the handle will be the result, and all internal pressure will in consequence be removed from the inner surface of the plastic ferrule.

A second object of this invention is to dispense with the use of an inner ferrule or ring of metal and by means of my novel method hereinafter set forth to securely arrange and fasten a ferrule of any plastic material, such as celluloid or hard rubber, under heat and pressure directly about the "cured" bunch or knot of bristles and the butt-end of the handle of the brush and also providing a neat and simply-constructed and serviceable brush.

The invention is clearly illustrated in the accompanying drawings, in which—

Figure 1 is a side view of a brush embodying the principles of my present invention, and Fig. 2 is a longitudinal vertical section of the same. Fig. 3 is a horizontal section of the brush, the said section being taken on line 3 3 in said Fig. 1. Fig. 4 is a bottom view of the plastic ferrule employed.

Similar characters of reference are employed in all of the said above-described views to indicate corresponding parts.

I will first describe the general arrangement and construction of the various parts comprising the brush and then will set forth the novel method of making the same.

In the said drawings, 1 indicates the complete brush, which consists, essentially, of a handle 2 of any suitable and desirable configuration and preferably made of wood. The said handle is usually made with an annular groove 3 and a butt-end 4, which may be provided with one or more slots or saw-cuts 5, extending diametrically across the cylindrical butt-end 4 of said handle, as illustrated more particularly in Fig. 3 of the drawings. Embracing the outer cylindrical surface of said butt-end 4 and the cured end or knot 7 of a bunch of bristles 6, as illustrated in Fig. 2, is a ferrule 8, of a plastic material, such as celluloid, hard rubber, or the like. The said ferrule 8 is formed at its upper end with an internal annular shoulder or projection 9, which is fitted directly in the annular groove 3 of the brush-handle, the said ferrule becoming strongly united with the cured end of the bunch of bristles during the process of making the brush. This novel process or method of making and uniting the several parts of the brush consists, substantially, in

the following steps, although equivalent steps may be substituted without departing from the scope of my present invention.

I first take a suitable bunch of bristles and arrange their ends in a suitably-constructed forming ring or band, leaving the ends of the bunched bristles extending sufficiently through the said forming ring or band that the said ends can be cemented together. This is done by using a liquid cement adapted for vulcanization to form what is known as "hard rubber." This cement is placed in a suitable pan or receptacle, into which the ends of the bristles which extend beyond the said forming ring or band are dipped and thoroughly saturated, so that the cement will thoroughly permeate between the bristles and cement them together. The knot or bunch of bristles is next set upon a steam-table until the liquid cement has become sufficiently vulcanized or cured. The cured end of the bristles is then removed from the forming ring or band and slipped or arranged in the lower portion of a plain cylindrical ring or ferrule of a plastic material, as celluloid or hard rubber, and the said plastic ring or ferrule secured against the under face of a shoulder 10 of the said handle 2 of the brush. The several parts having thus been assembled, they are placed in a suitably-constructed mold, and under heat and pressure the inner surface of the said plastic ring or ferrule, preferably of celluloid, is forced into the previously-mentioned annular groove 3 and directly beneath a portion of the lower surface which surrounds the marginal edge of the butt-end 4 of the handle, whereby the said plastic ring or ferrule is provided with the annular retaining or holding shoulder 9, arranged as clearly represented in Fig. 2 of the drawings. At the same time the outer surface of the said ring or ferrule is suitably formed, as shown. By means of the heat and pressure employed the lower portion of the plastic ferrule or ring also becomes thoroughly united with the cured end of the bunch of bristles, and when the brush is removed from the mold the several parts are all completely and thoroughly united and can be properly polished to provide a finished brush ready for use.

Of course it will be understood that in place of the rubber cement employed for uniting the ends of the bristles any other suitable cement may be substituted which has the same qualities as those of the rubber cement.

Having thus described my invention, what I claim is—

1. A brush, comprising, a handle having a butt, a knot or bunch of bristles arranged against the said butt, said butt being provided with a slot or saw-cut, arranged to allow for a contraction of the said butt toward the center when moist, substantially as and for the purposes set forth.

2. A brush, comprising, a handle having a butt, and an annular groove in said handle, a knot or bunch of bristles arranged against the said butt, a ferrule surrounding the said knot or bunch of bristles provided with an internal shoulder extending into said groove, and the butt of said handle, and said butt being provided with a slot or saw-cut, arranged to allow for a contraction of said butt toward the center when moist, substantially as and for the purposes set forth.

In testimony that I claim the invention set forth above I have hereunto set my hand this 19th day of November, 1901.

JOSEPH SCHREINER.

Witnesses:
FREDK. C. FRAENTZEL,
ANDREW S. WRIGHT.