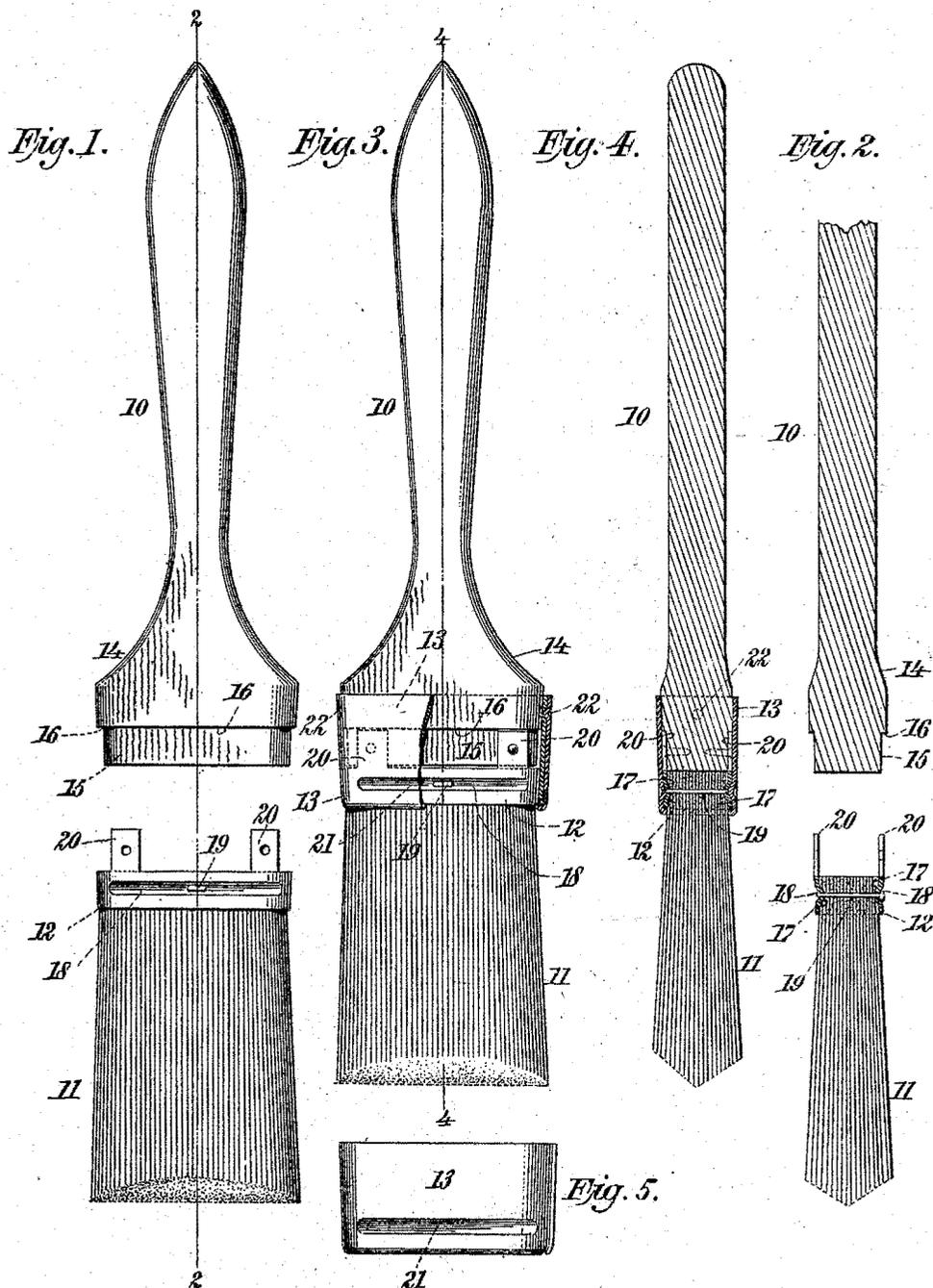


E. MILTNER.
BRUSH.

APPLICATION FILED JAN. 12, 1909.

932,630.

Patented Aug. 31, 1909



WITNESSES:
Guillaume Dietrich
Edwin H. Dietrich

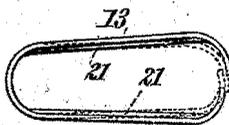


Fig. 6.

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ERNEST MILTNER, OF NEWARK, NEW JERSEY, ASSIGNOR TO RUBBER & CELLULOID HARNESS TRIMMING CO., OF NEWARK, NEW JERSEY, A CORPORATION OF NEW JERSEY.

BRUSH.

932,630.

Specification of Letters Patent. Patented Aug. 31, 1909.

Application filed January 12, 1909. Serial No. 471,843.

To all whom it may concern:

Be it known that I, ERNEST MILTNER, a citizen of the United States, and a resident of Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Brushes, of which the following is a specification.

The invention relates to improvements in brushes, and consists in the novel features and structure hereinafter described, and particularly pointed out in the claims.

The present invention embodies certain improvements on the brush described in Letters Patent No. 894,968 granted to me on August 4, 1908, and has for its object to improve the said brush in respect to its strength, durability and appearance.

It is a special object of the present invention to render the brush of greater utility and durability, and to this end my invention comprises certain novel features hereinafter described and claimed pertaining to the method of securing the bristles to the handle.

The invention will be fully understood from the detailed description hereinafter presented, reference being had to the accompanying drawings, in which:

Figure 1 is a front elevation of the handle and bristle portion of the brush separated from each other but ready to be connected together; Fig. 2 is a vertical section, partly broken away, of the same on the dotted line 2—2 of Fig. 1; Fig. 3 is a front view, partly broken away, of the complete brush, with all of its parts assembled; Fig. 4 is a vertical section of the same on the dotted line 4—4 of Fig. 3; Fig. 5 is a detached side elevation of a covering band or ferrule for the adjacent portions of the handle and bristles, and Fig. 6 is a top view of the same, said band or ferrule being shown as spread open or in an initial condition by solid lines and in its closed or final operative position by dotted lines.

In the drawings, 10 indicates the handle of the brush, 11 the bristles, 12 a band rigidly connected with the knot of the bristles and secured to said handle, and 13 an outer band or ferrule which covers the adjacent portions of the handle and said band 12.

The handle 10 is customarily made of wood with an enlarged inner end 14, which in the present instance has a reduced portion 15 formed by cutting away the wood around said end to an appropriate depth, said por-

tion 15 being of suitable length and a shoulder 16 being created at its upper end.

The bristles 11 have their inner ends secured into a knot by being dipped into an appropriate cementitious material, such as rubber or a composition containing rubber, and are further bound together by the band 12 which is preferably of metal and not only tightly encompasses the knot but is formed on opposite sides with depressed ribs 17 which are pressed into the knot and cementitious material and enter into interlocking engagement therewith, whereby the knot and band become inseparable under ordinary conditions. The formation of the inwardly projecting ribs 17 creates exterior grooves 18 in the band 12 and these grooves are utilized for a purpose hereinafter explained. The band 12 may be further secured to the knot by a nail or pin 19 driven through the band and knot and riveted or bent over at its pointed end, the head and riveted end of the nail or pin being preferably sunken in the grooves 18.

The band 12 is provided with a suitable number of ears 20 extending upwardly from its upper edge to closely fit upon or receive the reduced portion 15 of the handle, which portion 15 when the parts are assembled firmly engages at its lower end the adjacent end of the knot or bristles, as indicated in Figs. 3 and 4. The dimensions of the reduced portion 15 of the handle are preferably such that the end thereof will fit the end of the knot, that the ears 20 will lie flat against the sides of said portion and reach the shoulder 16 and that the outer surfaces of said ears will be substantially flush with the adjacent surfaces of the handle above said shoulder. The ears 20 are perforated to receive small nails which will be driven through them and into the material of the handle, whereby the handle and bristles become firmly secured together. The lower end of the handle and adjacent end of the knot are firmly held pressed together at the time the nails are driven through the ears 20. The band 12 secured to the bristles and having the ears 20 nailed to the handle affords very efficient means for connecting the bristles and handle and materially aids in providing a durable brush capable of withstanding the strains to which the brushes are subjected in use.

Exterior to the band 12 and covering the latter and the adjacent portions of the knot and handle, is the ferrule 13 which is in the form of a band of metal applied by being forced over the bristles and band 12. The ferrule 12 has a slightly inturned lower edge to engage the lower edge of the band 12 and depressed ribs 21 to spring into the grooves 18 of the band 12. The ferrule 13 fits very tightly against the band 12 and adjacent portion of the handle 10 and presents a smooth finished surface covering the joint between the bristles and handle, and also the ears 20 and reduced portion 15 of the handle. I preferably omit to nail the ferrule 13 to the handle, since by reason of its tight fit and the engagement of the ribs 21 with the grooves 18, said ferrule becomes rigidly secured without being nailed. I may, however, by means of a pointed punch indent the ferrule at its upper opposite end portions, as at 22, into the handle for more firmly securing the ferrule in place. In Fig. 6 I show the ferrule 13 as formed from a folded strip of tin, whose free ends are adapted to overlap when brought together and be soldered to each other to complete the ferrule before it is applied to the brush.

In constructing the brush I preferably vulcanize the rubber to form the knot by standing the knot-end of the bristles on a steam table after the band 12 has been applied thereto, and in order that the end of the knot may reach the table I bend the ears 20 outwardly into a horizontal position and then after the vulcanization, restore them to their vertical position. The ears 20 when bent outwardly into a horizontal position aid the bunches of bristles in standing upright on the table.

The brush constructed in accordance with my present invention is particularly strong and durable and attractive in appearance.

What I claim as my invention and desire to secure by Letters Patent, is:

1. A brush comprising a handle, a bunch of bristles having one end portion supplied with a hardening material to form a knot, a band closely encompassing said knot and having depressed portions pressing into said knot and the material thereat and also having upwardly extended portions receiving and secured to the inner end of the handle,

and an outer ferrule covering said band and the adjacent portion of the handle, said ferrule having depressed portions to enter the depressions in said band; substantially as set forth.

2. A brush comprising a handle, a bunch of bristles having one end portion supplied with a hardening material to form a knot, a band closely encompassing said knot and having depressed portions pressing into said knot and the material thereat and also having upwardly extended portions receiving and secured to the inner end of the handle, and an outer ferrule covering said band and the adjacent portion of the handle, said ferrule having depressed portions to enter the depressions in said band, and said handle having its inner end recessed to receive the upwardly extended portions of said band; substantially as set forth.

3. A brush comprising a handle, a bunch of bristles having one end portion supplied with a hardening material to form a knot, a band closely encompassing said knot and having depressed portions pressing into said knot and the material thereat and also having upwardly extended ears receiving and secured to the inner end of said handle, and an outer ferrule covering said band and the adjacent portion of the handle, said handle being recessed to receive said ears, whereby the outer surfaces of said ears and the adjacent portions of the handle above the ears become substantially flush; substantially as set forth.

4. A brush comprising a handle, a bunch of bristles having one end portion embedded in vulcanized hard rubber to form the knot, a metal band closely encompassing said knot and secured thereto and having upwardly extending portions beyond the knot receiving and secured to the inner end of the handle, and an outer ferrule covering said band and the adjacent portion of the handle; substantially as set forth.

Signed at Newark, in the county of Essex and State of New Jersey, this eighth day of January A. D. 1909.

ERNEST MILTNER.

Witnesses:

EDWARD G. ROBERTSON,
NORMAN ROCKWELL.

RUBBERSET

TRADE MARK

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