

June 16, 1936.

L. R. SCHUMANN

2,044,595

BRUSH

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Fig. 1.

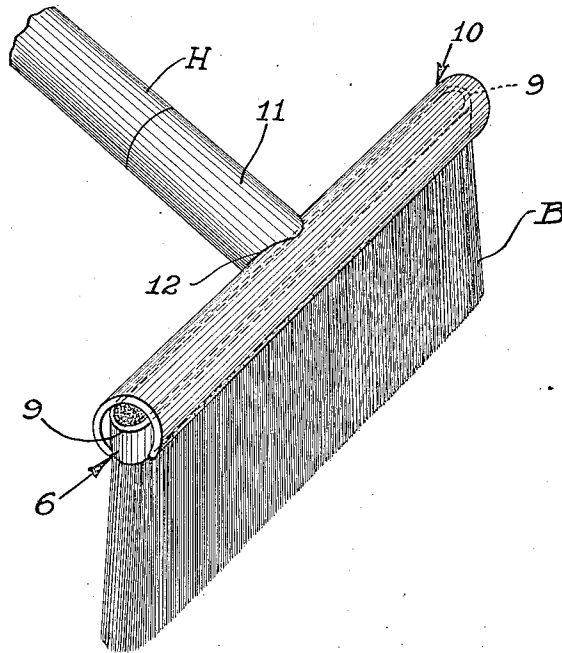


Fig. 2.

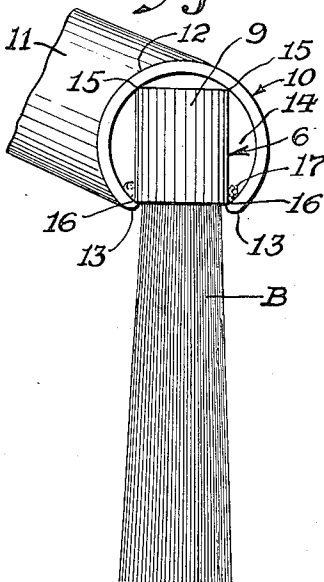


Fig. 3.

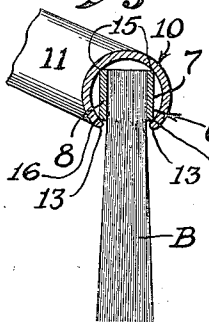


Fig. 4.

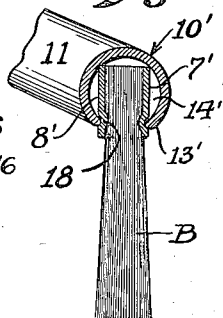
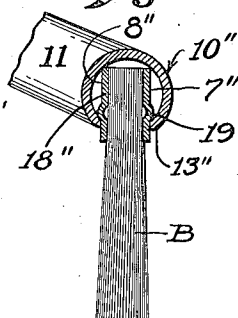


Fig. 5.



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BRUSH

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Application May 24, 1935, Serial No. 23,295

2 Claims. (Cl. 15-171)

My present invention relates to brushes, such as used in applying polishing compositions, such as wax, shellac, varnish, stain, etc., to floors or other surfaces, and as will become hereinafter more apparent, brushes embodying my invention may be used for various other purposes.

The principal general object of my invention is to provide a brush having a relatively simple sturdy holding element to firmly receive the bristles by an easy and quick operation so that the bristles may be used or applied to surfaces without relative movement between them and the holder at the points where they are joined.

More specifically, the objects of the invention are to provide a substantially unitary holder having a relatively long open channel located transversely to the socket or other coupling to receive a handle, a part of said member being open so that the bristles may project therefrom. Preferably both ends of the member are open to receive the upper ends of the bristles which are bound or encircled by a band, preferably metal, and the relative dimensions of the channel within the holder and of the encircling band are such that the band with the bristles carried thereby can be moved into one of the open ends of the member and longitudinally along said channel, making multi-point contact with the inner face of the member defining the channel to prevent relative movements between the holder and the band when the brush is used in the usual manner.

The foregoing and other objects and advantages of the invention will be pointed out during the course of the following detailed description of the accompanying drawing, in which:—

Fig. 1 is a perspective view of a brush embodying my invention, and a fragment of the handle;

Fig. 2 is an enlarged end view of the holder of Fig. 1 and encircling band showing a fragment of the handle receiving socket;

Fig. 3 is a transverse vertical sectional view thru the holder encircling band and bristles of Fig. 1; and

Figs. 4 and 5 are views similar to Fig. 3, showing modifications of the invention.

Referring to Figs. 1-3, the letter B designates the bristles, which are preferably secured together at their top by embedding the tops in rubber or other suitable binding compound, and the numeral 6 designates the encircling band, which is arranged around the tops of the bristles where they are set or joined together, and also secured to the tops of the bristles, so that the band and bristles form a unit. Preferably the

bristles B are arranged in a relatively wide group, and the band 6 has relatively long front and back portions 7 and 8 joined by the curved ends 9.

The holder for the united band and bristles comprises a relatively long member 10 in the nature of a split tube and provided with a socket or attaching element 11 to receive the handle H. The socket 11 may be formed as a part of the member 10, that is, both parts 10 and 11 may be formed from a single blank, or the member 10 may be a split tube with the socket 11 provided with a curved end 12 to fit around a portion of the member 10 to be secured thereto by welding or soldering.

Referring particularly to Figs. 2 and 3 it will be noted that the lower edges 13 of the split tube or member 10 are spaced apart a distance substantially equal to the thickness of the set of bristles, and also slightly less than the width of the encircling band 6. It will also be noted that the channel 14 within the member 10 is of a depth slightly greater than the height of the band 6 so that the band 6 and the tufted bristles B carried thereby may be inserted longitudinally of the holder 10 by pushing one end of the band 6 into the channel 14 and then sliding the band along the channel until the curved ends 9 are substantially flush with the ends of the holder 10. Obviously, it is not essential to have the holder 10 of the same length as the encircling band, because if desired the ends 9 may project slightly outwardly from the ends of the holder 10, or may be disposed within the holder. However, when the length of the band 6 and tuft of bristles is substantially the same as the length of the holder 10, the assembled brush provides a more attractive and neat appearance.

It will be noted that the upper edge of the encircling band 6 makes line contact with the inner face of tube 10 at two places, designated by the numeral 15, and at opposite sides of the channel 14 adjacent the top thereof; and that similar point contact is made at 16 with the inner wall of the holder 10 adjacent the extremities 13. Furthermore, the relative dimensions of the channel 14 and the encircling band 6 are such that the line contacts referred to, which of course extend all along the inner surface of the holder 10, is sufficiently snug or tight as to prevent relative rotational or endwise movement of the band 6 relative to the holder 10 under the usual forces or stresses exerted when the brush is in use.

Although the parts, as above described, are relatively so constructed and arranged as to pro-

vide upon assembly a brush capable of use in applying wax to floors, or paints, white-washes, and the like, to walls, or to adapt the brush to use in dusting; if desired, spots of solder may be placed between the outer surface of the band 6 and the inner wall of the holder 10, as designated by the numeral 17 in Fig. 2 to more or less permanently unite the encircling band and holder.

The use of the solder 17 is not necessary when the split tube 10 is made of metal of both sufficient strength and resiliency to permit the band 6 to be pushed therein along channel 14 in the manner shown and described and to firmly grip said band, with the multi-point contact established after insertion of the band. In this connection it is preferable to have the metal or material of band 6 of such nature as to take the grip of edges 13, as well as at points 15, to establish stabilization between the parts when the brush is in actual use. I might also explain that the normal or natural use of the brush would be to move the free ends of the bristles over a surface located in a plane transverse to the longitudinal vertical plane of the set of bristles. The leverage in such case would be such that the power would be applied at the free ends of the yieldable bristles, tending to, but not capable of turning the band 6 along edges 13 as a fulcrum, since the point or line contacts 15 would prevent it.

In Fig. 4, I have shown a modification wherein the walls 7' and 8', corresponding to walls 7 and 8, but slightly deeper than the walls 7 and 8 of Figs. 1-3, are provided adjacent their lower edges with grooves 18 which receive longitudinal edges 13' of the holder 10'. The manner of assembling the parts shown in Fig. 4 is the same as described in connection with those of Figs. 1-3, that is, the encircling band is positioned relatively to the open end of the grooves 14' so as to establish the grooves 18 in alinement with the edges 13' to receive said edges. When the encircling band has been inserted within the holder, the multi-point or line contact previously mentioned is also obtained for the purpose specified.

In Fig. 5, the holder 10'', which is the same as holders 10 and 10', receives an encircling band having long walls 7'' and 8'', on each of which is formed a bead 19 at points slightly above the points where the channels 18 are provided on the band 7', so that when the encircling band is inserted into the holder 10'', the lower extremities 13'' of the holder will engage under the beads 19 to firmly hold the encircling band and bristles carried thereby against rotational move-

ment in the holder and against accidental displacement therefrom during use of the brush. Of course the solder, as explained in connection with Fig. 2, may also be used in the structures of Figs. 4 and 5, if desired.

I claim:

1. In a brush of the character described, including a relatively wide set of bristles, a band encircling the bristles at one end thereof and united to said set of bristles, and forming therewith a brush head substantially rectangular in cross section, a holder for said united band and bristles in the nature of an open ended, substantially cylindrical tube having a channel therein, said tube having a slot in its wall from end to end and of a width substantially the same as the thickness of the set of bristles, the relative cross-sectional shape and size of said channel and encircling band being such as to provide line contact between the outer edges of said band and inner wall of the tube when the band is moved into and along the channel with the bristles projecting thru the slot, and with the edges of the holder along the slot gripping the band to firmly hold said band and bristles carried thereby in said holder against movement relative to the holder during use of the brush.

2. In a brush of the character described, including a relatively wide set of bristles, a band encircling the bristles at one end thereof and united to said set of bristles, and forming therewith a brush head substantially rectangular in cross section, a holder for said united band and bristles in the nature of an open ended substantially cylindrical tube having a channel therein, said tube having a slot therein from end to end and of a width substantially the same as the thickness of the set of bristles, the relative cross-sectional shape and size of said channel and encircling band being such as to provide line contact between the upper edges of said band and inner wall of the tube when the band is moved into and along the channel with the bristles projecting thru the slot, said band being deformed to provide elements to engage the edges of the holder on opposite sides of the slot in spaced relation to said edges, to firmly hold said band and bristles carried thereby in said holder against movement relative to the holder during use of the brush, said edges of the holder along the slot gripping the band to firmly hold said band and bristles carried thereby in said holder against movement relative to the holder during use of the brush.

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