

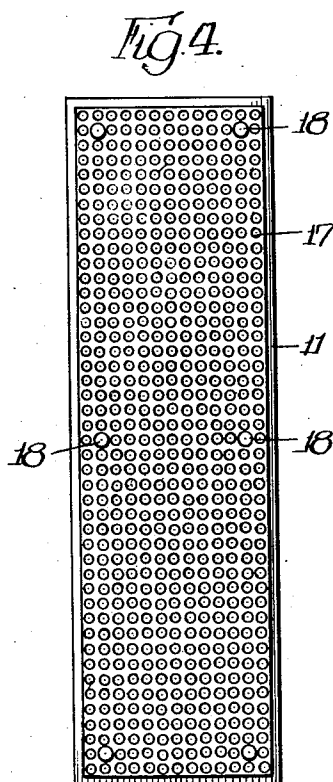
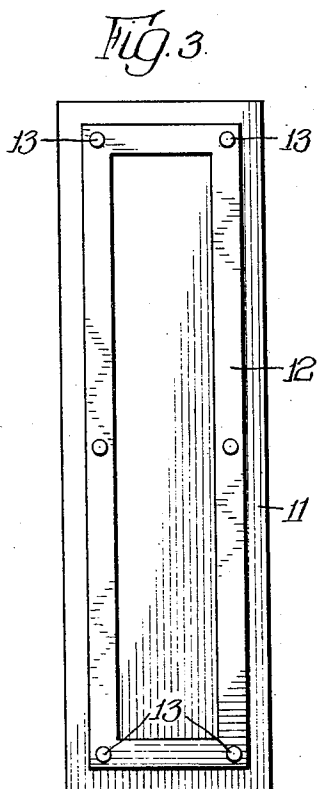
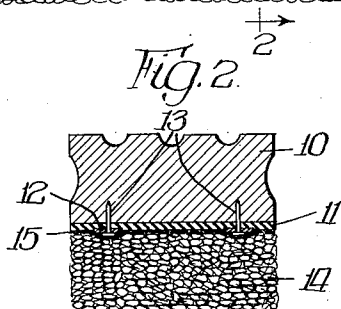
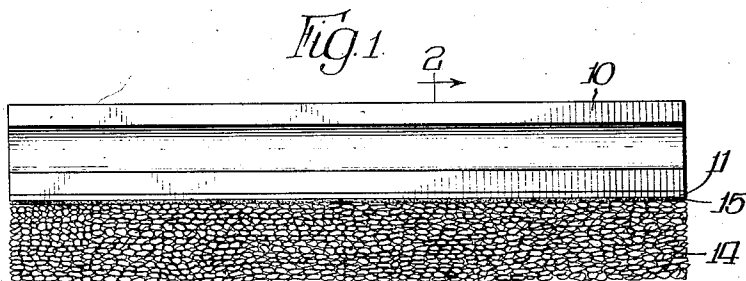
Aug. 8, 1933.

A. GRAF

1,921,252

MEANS FOR ATTACHING A SPONGE RUBBER PAD TO A BACKING MEMBER

Filed Sept. 26, 1932



Inventor:
Albert Graf,
By Fisher, Clapp, Sousa & Pond attys

UNITED STATES PATENT OFFICE

1,921,252

MEANS FOR ATTACHING A SPONGE RUBBER PAD TO A BACKING MEMBER

Albert Graf, Chicago, Ill.

Application September 26, 1932
Serial No. 634,920

3 Claims. (Cl. 15-244)

This invention relates to a new and improved means for attaching a sponge rubber pad to a handle, support, or other backing member, its chief intended application being to the art of brushes for either hand or machine use.

Of late years a material commonly known as sponge rubber has become increasingly popular as the scrubbing and cleaning element of various types of brushes, in lieu of the bristles commonly employed; but, in the practical manufacture of such brushes, considerable difficulty has heretofore been experienced finding means to securely unite the sponge rubber pad to the back member or handle (usually of wood) of the brush. Various cements, glues and other adhesives have been tried, but it has been found that they do not long remain resistant to the action of water and soap, so that after a short period of use the pad becomes detached from the handle.

The main purpose of the present invention has been to provide a thoroughly practical and durable means of attaching the sponge rubber pad to the back member, handle or other support that would be moisture-resistant and would maintain the pad securely united to the handle under any and all conditions of service. In solving this problem, I have taken advantage of the fact that while the so-called rubber cements will not unite rubber to wood, ivory, or the other materials of which brush handles are commonly made, it will and does securely unite rubber to rubber against the penetrative action of water or other forms of moisture. Accordingly, in carrying out my invention, I employ in combination with a back member and a pad of sponge rubber overlying one side of the back member, moisture-resistant means for attaching the pad directly to said side of the back member; and in the preferred forms of the invention herein-after more fully described, I employ a thin sheet of vulcanized rubber with means other than an adhesive for securing said sheet to the back member, and I then unite the rubber pad to said sheet by a rubber cement.

Several slightly different specific forms in which the invention may be embodied are illustrated in the accompanying drawing, in which:—

Fig. 1 is a side elevation of the brush.

Fig. 2 is a transverse section on the line 2—2 of Fig. 1.

Fig. 3 is a bottom plan view of Figs. 1 and 2 with the sponge rubber pad omitted, and showing one means for fastening the vulcanized rubber sheet to the back member.

Fig. 4 is a view similar to Fig. 3 showing another means for fastening the vulcanized rubber sheet to the back member.

Describing first the form of the invention illustrated in Figs. 1, 2 and 3, 10 may designate the back member or handle which in this instance may be assumed to be a wooden block. To the under side of this block I apply a thin sheet 11 of soft vulcanized rubber, and this sheet 11 is secured to the block 10 by means of a thin skeleton frame 12 which may be of metal, celluloid, indurated fiber, hard rubber, or any other suitable material laid on the sheet 11 and nails or tacks 13 driven through the frame 12 and the sheet 11 into the back member 10. I then apply to the outer exposed surface of the sheet 11 and frame 12 a thin coating of rubber cement, and I also apply to one side of a sponge rubber pad 14 a similar coating of rubber cement, allowing both coatings to dry. The two cement coatings are then brought together and merged under pressure applied to either the block 10 or the pad 14, or both. This cement layer securely and permanently unites the pad 14 to the rubber sheet or strip 11, and since the latter is nailed to the handle block 10, the sponge rubber pad is thus securely united to the back member or handle.

Mechanical fastening devices other than the frame 12 and nails 13 may be employed, as suggested in Fig. 4, in which I show a thin sheet metal screen 17 that is placed on the rubber sheet 11 and secured to the wooden handle member by small nails or brads 18. In this case the sponge rubber pad is united to the rubber sheet 11 by a large number of tiny rubber cement tongues that extend through the apertures of the screen.

In both of the forms illustrated, the mechanical fastening means for securing the rubber sheet to the back member or handle consists of a thin open-work strip, which preferably does not extend quite to the edges of the rubber sheet, so that, in the finished brush, these mechanical fastening devices are entirely concealed.

The invention may be usefully embodied not only in brushes of all kinds, but in many other articles using a sponge rubber pad where water would break down or disintegrate a cement or glue joint between the pad and a non-rubber surface.

Manifestly, still other mechanical and moisture-resistant fastening means may be employed for securing the sponge rubber pad to the back member and, more particularly, for securing the vulcanized rubber sheet 11 to the back member. Hence, I do not limit the invention to the par-

tical fastening devices illustrated and described, except to the extent indicated in specific claims.

I claim:

5 1. An article of the type described, comprising a back member, a vulcanized rubber sheet applied to one side of said back member, a pad of sponge rubber overlying and cemented to said sheet, a skeleton frame lying wholly between said
10 sheet and said pad, and means for attaching said frame to said back member.

15 2. An article of the type described, comprising a back member, a vulcanized rubber sheet applied to one side of said back member, a thin open-

work strip overlying said sheet and nailed to said back member through said sheet, and a pad of sponge rubber overlying and cemented to said sheet and strip, said strip lying wholly between said sheet and said pad.

3. An article of the type described, comprising a back member, a vulcanized rubber sheet applied to one side of said back member, a screen overlying said sheet and nailed to said back member through said sheet, and a pad of sponge rubber overlying and cemented to said sheet through the apertures of said screen.

ALBERT GRAF.

15

20

25

30

35

40

45

50

55

60

65

70

75

80

85

90

95

100

105

110

115

120

125

130

135

140

145

150