

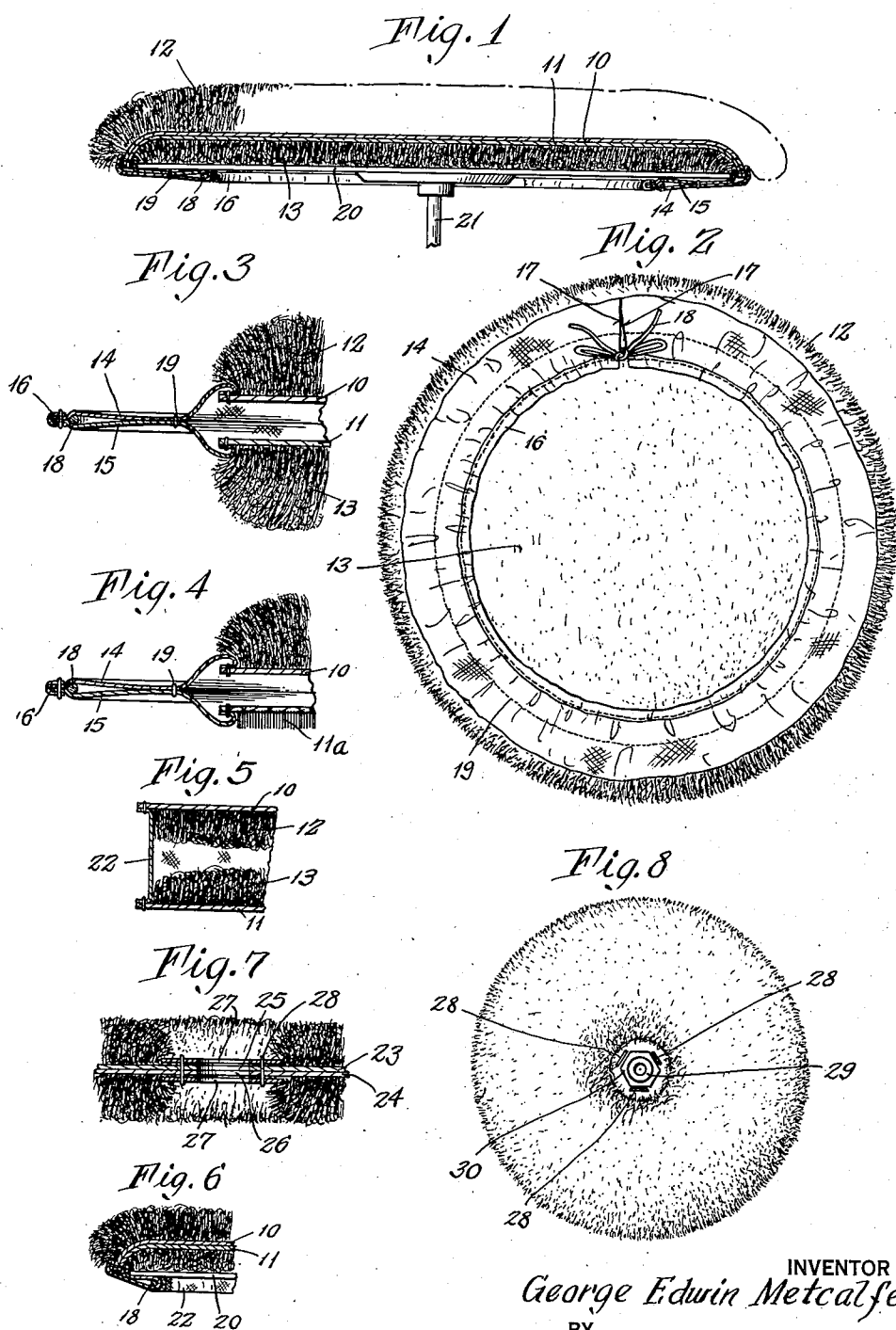
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POLISHING BONNET

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POLISHING BONNET

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This invention relates to rotary polishing devices or heads for attachment to powdered spindles, and more particularly to devices of this character, constructed to present substantially flat or broad faces to the work.

An object of the invention is to provide an improved, cushioned, single polishing element for attachment to a driving wheel, which element has dual polishing means yet is extremely simple and economical in construction, the element being arranged to be readily reversible on the wheel so as to present one or another of two polishing members to the work, and the polishing member not exposed providing a cushion-backing for the member which is exposed.

In accomplishing this object the invention provides a pair of sheets, preferably cut in the shape of disks, formed from soft, flexible, polishing material such as sheepskin having long fibres, or carpeting or the like, each disk having a polishing side and a reverse or back side and the disks being permanently secured together in back-to-back relation. The peripheral portions of the disks have secured to them, as by stitches, a flexible fastening strip which is preferably of fabric and carries a draw-string and the organization is such that the disks may be placed against and overlie the face of the driving wheel with either one of the polishing or fibrous sides exposed, and may be tied to the wheel by extending the fabric fastening strip along the peripheral part of the back of the wheel, and tightening the tie-string.

A further object of the invention is to provide an improved polishing element or device as above, in which the edge portions of the polishing disks and fabric strip, as well as the stitching along said portions, are not exposed but instead concealed and protected against abrasion and raveling. In accomplishing this, the polishing disks are sewed to the fabric fastening strip with all the parts inverted or in reversed position, the disks having their fibre-carrying or polishing sides facing each other. A short length of the peripheries of the disks are not sewed however, the ends of the fabric strip terminating short of each other and not meeting at this place. The disks and fabric strip therefore provide, in effect, a flat circular enclosure having an opening where the peripheral portions of the disks are not stitched. The entire assemblage is then turned inside out, by passing the disk and strip through the opening of the enclosure, thereby causing the polishing sides of the disks to be exposed and on opposite sides of the assemblage, the fabric

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strip being inverted and extending along the peripheral portions of the disks. A draw-string is then passed along the inside of the fabric strip, the ends of the draw-string extending out through the opening at the ends of the fastening strip, and the latter is folded flat on itself around the draw-string so as to bring the polishing disks back-to-back and substantially in engagement with each other. The doubled-over fabric strip is now folded, either in one direction or the other, over the edge of a driving wheel, whereby one or the other of the polishing faces of the disks is exposed, both of the disks extending in superposed relation over the face of the driving wheel. Tightening of the draw-string secures the superposed polishing disks tightly to the wheel.

In one form of the invention one of the disks is of sheepskin having exposed long fibres and the other is of carpeting material. In another form of the invention both of the disks are of sheepskin having long fibres. In either case, the disk which is not exposed provides an advantageous cushion-backing for the disk which is exposed, thereby adding to the yieldability of the exposed disk.

In a modification of the invention the superposed polishing disks have aligned openings in their central portions for receiving a spindle on which the driving wheel is carried, the disks being provided with washers whereby they may be clamped to the said spindle. By this construction, with the provision of a hollow spindle, a polishing substance may be fed to the working face of the exposed polishing disk while the latter is rotating and engaging the work.

Other features and advantages will hereinafter appear.

In the accompanying drawings:

Figure 1 is a diametric section taken through a polishing device made in accordance with the invention, the driving wheel and spindle being shown in elevation.

Fig. 2 is a rear view of the dual polishing element, the folded fabric strip thereof being drawn together at the back by a draw-string.

Fig. 3 is a fragmentary section taken through a peripheral portion of a dual polishing element formed of two sheepskin disks, the fabric fastening strip being folded on itself and the folded portions sewed together.

Fig. 4 is a view like Fig. 3 but showing one of the disks as being formed of carpeting material.

Fig. 5 is a fragmentary section of a peripheral portion of a polishing element after the sewing

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of the disks to the fastening strip and prior to the element being turned inside out.

Fig. 6 is a fragmentary sectional view of the polishing element of Fig. 5 subsequent to its being turned inside out and secured to a driving wheel.

Fig. 7 is a fragmentary sectional view through the center portion of a polishing element illustrating a modification of the invention whereby the disks are provided with aligned center openings, and

Fig. 8 is a plan or face view of the polishing element of Fig. 7, mounted on a wheel and hollow spindle.

Referring to Figs. 1, 2 and 3, the improved polishing device shown therein comprises a pair of sheepskin disks 10 and 11 having long woolen fibres 12 and 13, respectively, which constitute the polishing sides of the disks. The reverse or back sides of the disks are disposed against and in contact with each other. While the polishing device shown in these figures has a disklike shape, it should be understood that shapes other than circular, and polishing material other than sheepskin may be used. Any soft, flexible, sheet polishing material may be employed, from which to form the disks 10 and 11, whether it be the hide of animals such as sheepskin or whether it be carpeting material as illustrated in Fig. 4, or whether it be any other soft, woven or fleece-like material.

The disks 10 and 11 are secured together in back-to-back relation by a pair of fabric strips 14 and 15 which are respectively sewed to the peripheral portions of the disks and are also sewed to each other along their free edges, the latter seam also having a leather band 16. Preferably the fabric strips 14 and 15 are sewed to the disks 10 and 11 separately and while superposed thereon and extending in a curve, and the strips are then folded over as shown in Fig. 3 so that the sewed portions thereof and peripheral portions of the disks are enclosed. As seen in Fig. 2, the ends 17 of the fabric strips are made to substantially meet each other, so that the strips in effect constitute broken rings or bands. A draw-string 18 is passed inside and between the strips 14 and 15 closely adjacent the leather band 16, and the strips sewed together by a circular row of stitches 19, as shown in Figs. 2 and 3.

Referring to Fig. 1, the disks 10 and 11 may be secured to a driving wheel 20 carried on a spindle 21 by placing the disks against the face of the wheel and folding the fabric strips 14 and 15 over the periphery of the wheel so that the strips extend along and overlie part of the back of the wheel. When the draw-string 18 is tightened and tied, the disks 10 and 11 will be securely fastened to the wheel 20 and overlie the face thereof in superposed relation.

It will be noted that the disks 10 and 11 may be fastened to the wheel 20 with either one of the disks exposing its polishing fibres, the other disk being as a consequence located directly adjacent the face of the wheel and in engagement with the latter. By this organization, the disk which is not exposed provides an advantageous cushion-backing for the disk having the exposed fibres, thereby producing a desirable yielding effect to the exposed disk when the device is in use, and facilitating the polishing operation.

In the form of the invention shown in Figs. 1 through 3 both of the polishing disks are formed of sheepskin, whereas in the form of the invention shown in Fig. 4 one of the disks is formed

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of carpeting material. In this figure, the disk indicated at 11a is of carpeting material, while the disk 10 is of sheepskin. Either the disk 10 or the disk 11a may be exposed for polishing, depending on how the disks are applied to the driving wheel 20. In any event the disk not exposed provides a cushion-backing for the disk which is exposed.

Referring to Fig. 5, the disks 10 and 11 may be sewed together along their peripheral portions by a unitary fabric strip 22, the sewing being done with the edge portions of the disks and strip outwardly located or exposed as shown. With this construction, according to the invention, a short length of the peripheral portions of the disks 10 and 11 are not sewed, and the ends of the strip 22 are terminated short of each other so that a gap or opening is provided. Thus, in effect, an enclosure is produced by the assemblage of disks 10, 11 and strip 22, the said enclosure having a substantially flat circular or pancake shape. After the disks have been sewed to the strip 22 the assemblage is turned inside out by passing the disks and the strip through the opening of the enclosure, whereupon the fibre faces 12 and 13 of the disks will be located on the exterior, on opposite sides of the assemblage. The draw-string 18 may now be inserted in the enclosure and extended along the fabric strip 22, and the strip folded over on the string and itself, whereupon the disks may be secured to the driving wheel 20 in the manner shown in Fig. 6, the strip 22 being folded over the edge of the wheel and the draw-string 18 being tightened and tied in the same manner as illustrated in Fig. 2.

Referring to Figs. 7 and 8, polishing disks 23 and 24 may be provided, having their peripheral portions secured together as described above, the central portions of the disks having aligned openings 25 and 26 respectively and having washers 27 secured to the disks at the openings, as by staples 28. In this form of the invention, a hollow spindle 29 for the polishing wheel 20 may be extended through the aligned openings 25 and 26 and the washers 27, and the disks 23 and 24 may be clamped to the spindle in any suitable manner as by a nut 30, Fig. 8. By this organization, a polishing substance may be fed through the hollow spindle 29 to the working face of the exposed disk while the latter is rotating and in engagement with the work.

Variations and modifications may be made within the scope of this invention and portions of the improvements may be used without others.

I claim:

1. A polishing device comprising two sheets formed of flexible, sheet, polishing material, each sheet having a polishing side and a back side; and a flexible fastening strip having opposite longitudinal edge portions secured to edge portions respectively of the one sheet and the other and permanently securing the sheets together in back-to-back relation, substantially the entire edge portions of the strip and sheets being secured together whereby the sheets and strip form an enclosure, the strip engaging the polishing sides of the sheets and the edges of the sheets and strip facing in substantially the same directions whereby they may be all disposed within the said enclosure; and means carried by the fastening strip for removably securing the sheets and strip to a driving wheel whereby the sheets overlie the face of the wheel in superposed relation.

2. A polishing device comprising two sheets

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formed of flexible, sheet, polishing material, each sheet having a polishing side and a back side; and a flexible fastening strip having free ends and opposite longitudinal edge portions, the latter being secured to edge portions respectively of the one sheet and the other, and permanently securing the sheets together in back-to-back relation, substantially the entire edge portions of the strip and sheets being secured together whereby the sheets and strip form an enclosure having an opening, the strip engaging the polishing sides of the sheets and the edges of the sheets and strip facing in substantially the same directions whereby they may be all disposed within the said enclosure; and a tie-string extending along the inside of the fastening strip, the end portions of the tie-string being exposed at said opening of the enclosure whereby when the strip is folded over the back peripheral portions of a driving wheel, the string may be disposed in the fold and drawn and tied to secure the device to the wheel.

3. A polishing device comprising two sheets formed of flexible, sheet, polishing material, each sheet having a polishing side and a back side; and a strip of fabric having opposite longitudinal edge portions sewed to edge portions respectively of the one sheet and the other, and permanently securing the sheets together in back-to-back relation, substantially the entire edge portions of the strip and sheets being secured together whereby the sheets and strip form an enclosure, the strip engaging the polishing sides of the sheets and the stitches and the edges of the sheets and strip facing in substantially the same directions whereby they may be all disposed within the said enclosure; and means engaging the fabric strip for drawing the strip together to removably secure the sheets and strip to a driving wheel whereby the sheets

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overlie the face of the wheel in superposed relation.

4. A polishing device comprising a substantially rigid driving wheel; a pair of sheepskin disks permanently secured together along their peripheries in skin to skin relation, said disks being of substantially the same diameter as the wheel; and strip fabric secured to the peripheral portions of the disks for removably securing the disks to the driving wheel to overlie the face thereof, said fabric being folded around and engaging the periphery of the wheel and extending over the back of the wheel and having at its free edge a drawstring and means for carrying the same, said fabric being so secured to said peripheral portions as to be folded in opposite directions and engage the edge portions in each folded position whereby said pair of disks may be placed against the face of the driving wheel with either of the fleece sides exposed, and tied to the wheel by extending the said fabric strip along part of the back of the wheel and tightening the drawstring, the disk with the fleece side not exposed providing a cushion backing for the disk with the exposed fleece side.

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