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3,413,674

REVERSIBLE BUFFING PAD

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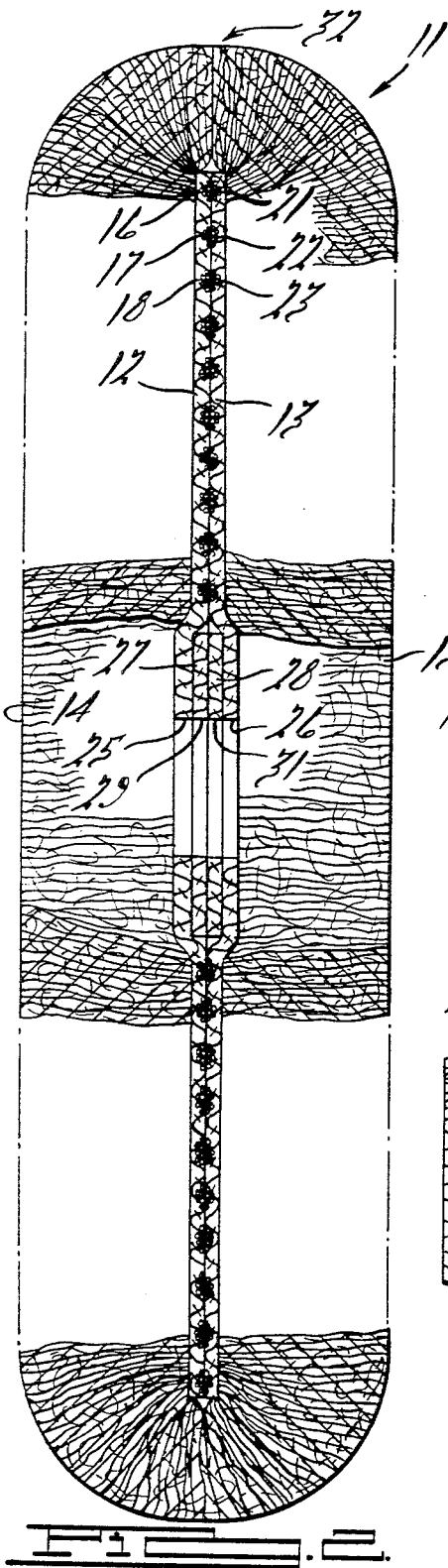


FIG. 1.

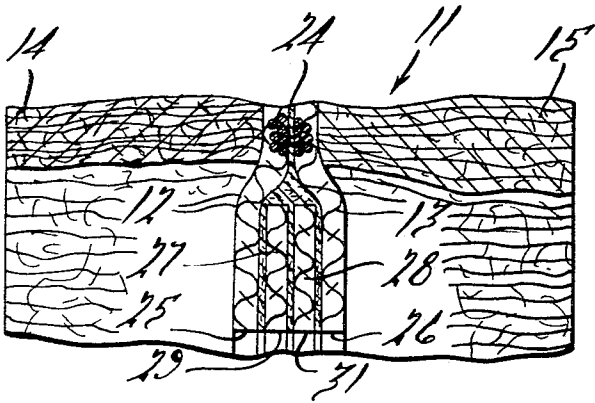
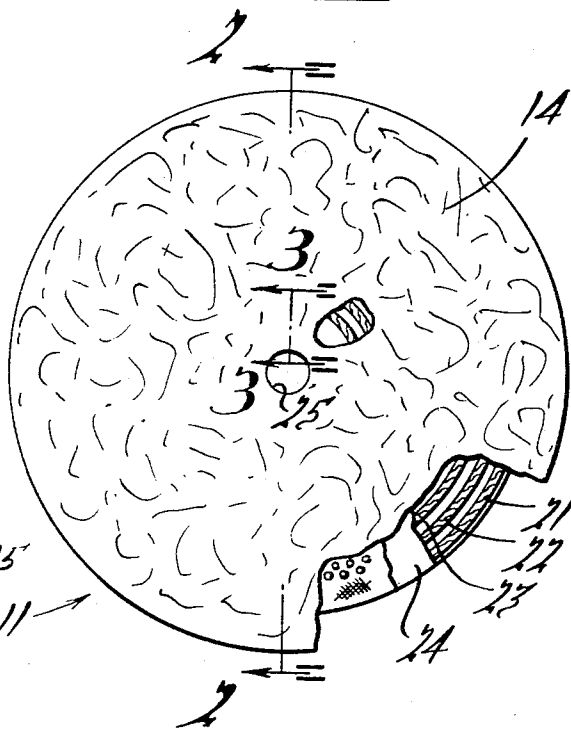


FIG. 3.

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REVERSIBLE BUFFING PAD

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2 Claims. (Cl. 15—230.12)

ABSTRACT OF THE DISCLOSURE

A reversible buffing wheel having piled opposite surfaces one of which acts as a buffing surface and the other of which acts as a cushioning surface for the buffing surface. The buffing wheel has a continuous piled surface from one face to the other with the pile extending around the edge. This continuous piled surface is formed by adhering two piled members in back-to-back relationship, steaming the thus joined article and tumbling and drying to cause intermixing of the tufts at the periphery of the article.

Background of the invention

This invention relates to the art of buffing or polishing pads.

The many uses of buffing or polishing pads are well known and one such use is the polishing of automobile finishes. Due to the high buffing speeds, considerable care must be taken to avoid burning or otherwise damaging the painted surface. Such damage may occur when the buffing wheel is moved across a concave surface of the article being buffed. In such cases, conventional buffing wheels will cause burning due to the high peripheral velocity at the edge of the buffing wheel. Conventional buffing wheels have not provided a soft enough surface at the edge to preclude this burning. In addition, the pressure exerted upon the buffing wheel by the operator has considerable bearing in the degree of surface finish obtained.

To preclude the foregoing detrimental effects, various types of buffing wheels have been proposed that embody curved or cushioned peripheral edges. In addition, cushioning of the entire buffing pad by means of sponge rubber or pneumatic bladders have been proposed. These proposals all add considerable cost to the buffing pad, which may, in many instances, have an extremely short life.

Summary of the invention

This invention overcomes the aforementioned defects by providing a reversible polishing wheel that is comprised of first and second annular backing sheets formed from relatively flexible material. A plurality of tufts of buffing material are woven through each of the backing sheets to present piles of buffing material on one side of each such backing sheet. The backing sheets are fixed to each other with their piles extending in opposite directions. Means are provided for fixing the polishing wheel to a driving member with the piles of buffing material carried by one of the annular backing sheets being presented to a surface to be polished and the piles of the buffing material carried by the other annular backing sheet serving as a cushion for the polishing surface. Thus, no separate cushioning structure is required. In addition, when the one polishing surface becomes worn or contaminated to such a degree that it can no longer be used, the polishing wheel may be reversed. The spent surface will still be effective to provide a satisfactory cushion for the newly presented polishing surface. Thus, the cushioning function is achieved without added cost and, in fact, a reduced overall cost is achieved due to the dual use permitted by the pad.

A polishing or buffing wheel embodying this invention also is formed with the tufts at the periphery of the respec-

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tive backing sheets interspersed so that a piled surface is presented around the edge of the buffing wheel. This reduces the likelihood of burning due to high tip velocities when polishing concave surfaces. This interspersing of the tufts is accomplished by first affixing the piled backing sheets together and then tumbling the article, which tumbling intersperses the tufts at the periphery of each backing sheet.

Brief description of the drawings

FIGURE 1 illustrates a plan view, with portions broken away, of the buffing wheel embodying this invention.

FIGURE 2 is an enlarged cross-sectional view taken along the line 2—2 of FIGURE 1.

FIGURE 3 is an enlarged cross-sectional view taken along the lines 3—3 of FIGURE 1.

Detailed description of the preferred embodiments of the invention

A reversible buffing wheel embodying a preferred form of the invention is identified generally by the reference numeral 11. The buffing wheel 11 is comprised of a pair of generally annular shaped backing discs 12 and 13 that may be formed from any suitable relatively flexible material such as cotton duck or the like. A plurality of tufts of wool or other suitable polishing material are woven through the backing disc 12 in a known manner to provide a piled polishing surface 14 at one side of the disc 12. In a like manner, a plurality of tufts are woven through the backing disc 13 to form a pile polishing surface 15 at one face of the disc 13. The tufts are arranged in a generally circumferential pattern around the respective backing discs 12 and 13, as indicated by the reference numerals 16, 17, 18, 21, 22 and 23. The tufts are ranged closely enough together so as to provide a substantially continuous pile surface on each side of the polishing wheel 11.

The tufted backing sheets 12 and 13 are affixed to each other in any suitable manner, as by the application of an adhesive between the untufted surfaces thereof, as clearly shown in FIGURES 2 and 3. The adhesive is identified generally by the reference numeral 24 and may be of any known type. This gives the wheel 11 sufficient rigidity to act in the desired manner.

In order to provide means for attaching a polishing wheel 11 to an electric drill or other suitable power source, the discs 12 and 13 are formed with generally circular openings 25 and 26 at their centers. A pair of annular backing members 27 and 28 also having central openings 29 and 31, respectively, are fixed between the backing discs 12 and 13 adjacent their apertures 25 and 26 by the adhesive. The members 27 and 28 may also be formed from cotton duck, the double layer giving sufficient rigidity for an effective attachment to a driving power tool. The tufts adjacent the center of the discs 12 and 13 will substantially cover the attachment member in use.

When the polishing wheel 11 is affixed to the driving source which, as has been noted, may be a conventional electric drill, the pile surface 14 can first be presented to the surface to be buffed. The pile surface 15 will act as a cushion for the surface 14 during polishing so as to give the operator the requisite feel so that he may apply the optimum polishing pressure to the pad. After the surface 14 becomes worn, contaminated or otherwise spent so that it is no longer satisfactory as a polishing surface, the wheel 11 may be reversed on the power tool with the surface 15 then serving as a polishing surface. Even though the surface 14 is no longer suitable as a polishing surface, it will still have sufficient resiliency to act as a cushion for the now used polishing surface 15.

In order to preclude damage to the surface being polished, particularly if it is concave, it is desirable if the tufts of the respective backing discs 12 and 13 are merged

so as to provide a continuous piled surface from one face to the other around the edge of the wheel 11. This interspersion occurs in the area identified by the reference numeral 32 in FIGURE 2.

The interspersion is achieved by first affixing the discs 12 and 13 together in the manner previously noted. The thus joined article is then steamed so as to moisten the piles 14 and 15. The article having the moistened pile is then placed in a conventional commercial dryer and dried by tumbling and exposure to heated air. After the article is dried, the tumbling may continue either with or without heat. This tumbling and drying has been found to provide an effective interspersion of the tufts at the periphery of each of the discs 12 and 13 so as to provide a continuous piled surface around the periphery of the polishing wheel 11.

While it will be apparent that the preferred embodiments of the invention disclosed are well calculated to fulfill the objects above stated, it will be appreciated that the invention is susceptible to modification, variation and change without departing from the proper scope or fair meaning of the subjoined claims.

What is claimed is:

1. A reversible polishing or buffing wheel or the like comprising a first annular backing sheet formed from a relatively flexible material, a plurality of tufts of buffing material woven through said first backing sheet and presenting piles of said buffing material on one side of said first backing sheet, a plurality of tufts of buffing material woven through said second backing sheet and presenting piles of said buffing material on one side of said second

backing sheet, means affixing adjacent faces of said backing sheets together with the respective piled buffing surfaces of said backing sheets facing in generally opposite directions, said tufts of buffing material carried at the periphery of each backing sheet being interspersed with each other to provide a continuous piled surface across the edge of said buffing wheel from one of its faces to the other of its faces, and means for affixing said polishing wheel to a driving member with the piles of buffing material carried by one of said backing sheets being presented to a surface to be polished, the piles of buffing material carried by the other of said backing sheets serving to cushion the piles used for polishing.

2. A reversible polishing or buffing wheel or the like as set forth in claim 1 wherein the means for affixing said polishing wheel to the driving member comprises circular holes formed substantially at the center of the respective backing sheets.

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