Aug. 18, 1931. W. B. TURNER 1,819,800

POLISHING DEVICE

Filed Feb. 21, 1931

Fig. 1

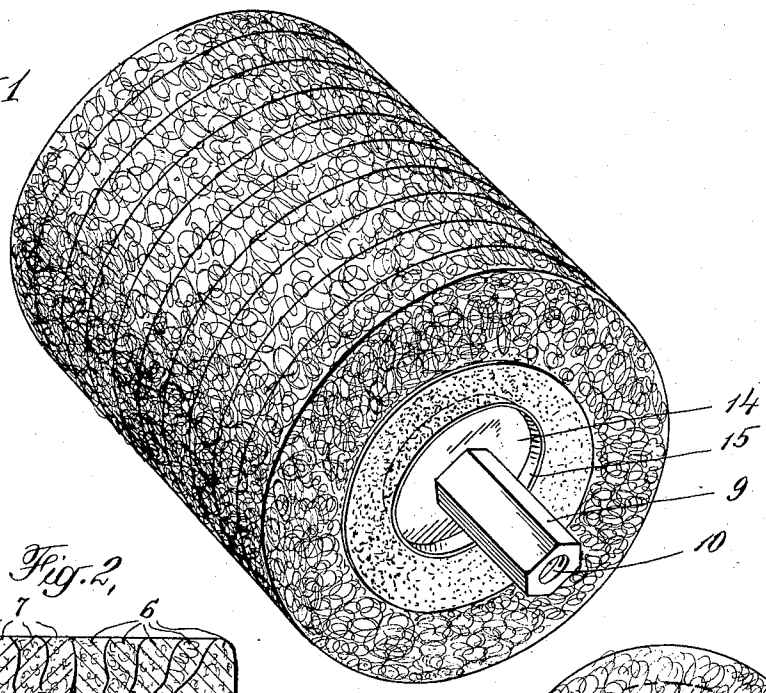


Fig. 2,

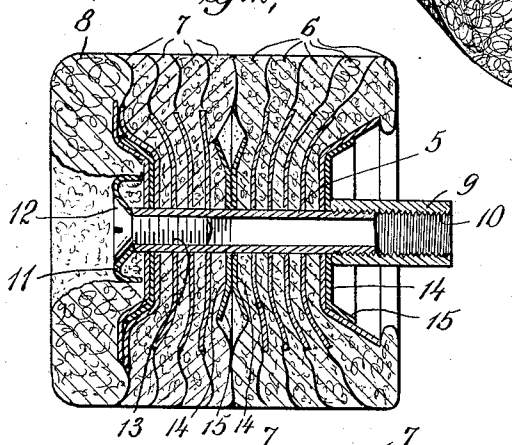


Fig. 3,

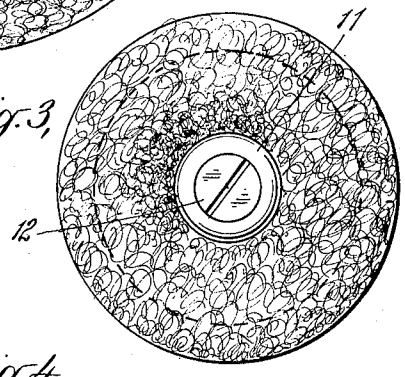
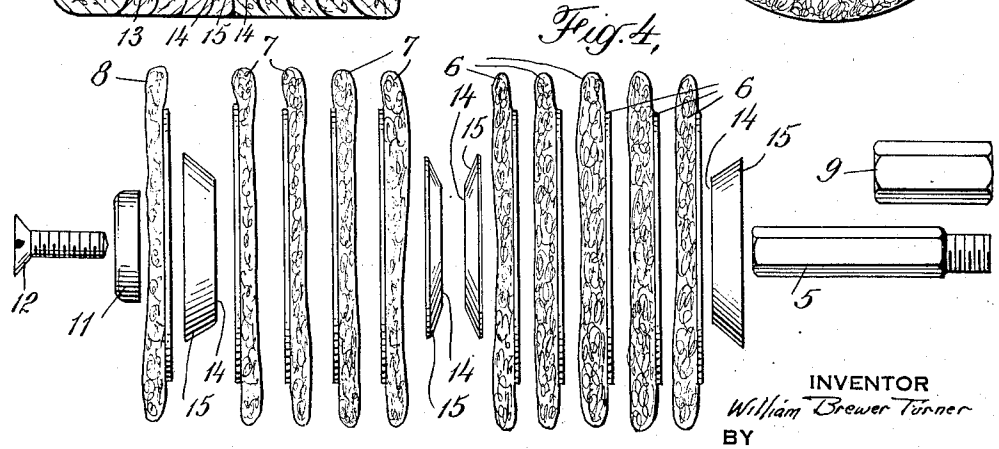


Fig. 4,



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1,819,8

UNITED STATES PATENT OFFICE

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POLISHING DEVICE

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This invention relates to devices for cleaning and polishing surfaces of wood, metal and the like, and particularly to a rotatable polisher adapted to be actuated from any suitable source of power.

Polishing devices have been employed heretofore in which a generally circular surface of sheepskin or like material is rotated and applied to the surface to be treated. Such a polishing device has a tendency to leave circular marks or rings on the surface treated, and it is otherwise unsatisfactory.

It is the object of the present invention to provide a simple and effective polishing device adapted to present a soft and yielding face to the surface treated, and movable thereover in a direction tangential to the direction of rotation, so that the disadvantages hereinbefore mentioned are avoided.

In carrying out the invention, I provide a plurality of discs of flexible material carrying a soft polishing material on one face thereof. The preferred material is sheepskin with the wool thereon. The discs are mounted on a suitable arbor which is adapted for rotation, and are arranged thereon so as to form a drum with the wool exposed at the periphery and preferably also at the free end thereof. The discs are arranged preferably in two or more groups, the wool carrying faces of the respective groups being oppositely directed. The groups of discs are held firmly on the arbor for rotation therewith by suitable fastening means. To expose the maximum wool surface at the periphery of the device I provide preferably means to tilt the discs of each group from planes perpendicular to the axis of the arbor.

Such means may comprise a plurality of washers each having a flange bent from the plane thereof. These washers may be disposed on the arbor between and at the opposite ends of the groups of discs, the flanges tending to dish the discs and thus to accomplish the intended purpose.

The invention will be better understood by reference to the following detailed description and the accompanying drawings, in which

Fig. 1 is a view in perspective of a device embodying the invention.

Fig. 2 is a longitudinal section through the device.

Fig. 3 is an end view of the device and Fig. 4 is an elevation of the device with the parts separated.

Referring to the drawings, 5 indicates the arbor which is preferably hexagonal in form to co-operate with similarly shaped openings in the discs 6, 7 and 8, so that the latter will not turn on the arbor. At one end, a collar 9 is internally threaded at 10 to engage the arbor and to provide a connection for the shaft of suitable driving mechanism such as the shaft of a motor or preferably a flexible shaft connected to the motor (not shown). At the other end of the arbor I provide a washer 11 and a screw 12, the latter being threaded to engage an opening 13 in the end of the arbor whereby the assembled parts are securely held on the arbor. The discs 6, 7 and 8 may be made of any suitable material, natural or artificial, having a satisfactory polishing surface, but I prefer to employ discs of sheepskin with the wool thereon. As indicated in the drawings, I may provide five discs 6 at the end of the arbor adjacent the collar 9 with the wool surface thereof directed away from the collar. I may similarly provide four discs 7 on the arbor with the wool surface thereof oppositely directed, that is to say, opposing the wool surfaces on the five discs previously mentioned. I may then employ a single disc 8 at the end of the arbor with the wool surface directed oppositely to the surfaces of the discs 7. It will be understood, of course, that the number of discs employed as hereinbefore described is merely illustrative and that any suitable number may be used, depending upon the desired size of the device and the purpose for which it is intended.

To effect the desired exposure of the wool surface at the periphery, I employ a plurality of washers 14 having suitable openings to embrace the arbor, and flanges 15 which are bent from the plane of the washers. One of these washers is disposed adjacent the collar 9, and two more with the flanges directed op-

positely are placed between the first and second groups of discs. A fourth washer is disposed between the second group of discs and the last disc on the arbor. The effect of the flanges on the washers is to tilt the discs of each group from planes perpendicular to the axis of the support, thus exposing the maximum possible wool surface both at the periphery and at the free end of the device.

The polisher as thus assembled affords a soft wool surface of maximum depth adapted to be applied to the surface to be treated. When the device is rotated by the application of power from any suitable source, it may be applied to the surface to be treated and moved in a direction tangential to the direction of rotation, thus ensuring maximum efficiency in the polishing operation and the avoidance of circular marks on the polished surface.

The device is simple in construction and inexpensive. The discs, when worn, can be removed and replaced readily to afford a fresh and satisfactory polishing drum.

Various changes may be made in the details of construction and arrangement of the parts without departing from the invention or sacrificing any of the advantages thereof.

I claim:

1. A device for cleaning and polishing comprising a rotatable support, a plurality of groups of flexible discs each carrying wool on one face thereof mounted on the support, the wool-carrying faces of the respective groups being oppositely directed, and means to hold the discs in assembled relation on the support.

2. A device for cleaning and polishing comprising a rotatable support, a plurality of groups of flexible discs each carrying wool on one face thereof mounted on the support, the wool-carrying faces of the respective groups being oppositely directed, means to hold the discs in assembled relation on the support, and means to tilt the discs of each group from planes perpendicular to the axis of the support whereby the wool-carrying faces are exposed at the periphery.

3. A device for cleaning and polishing comprising a rotatable support, a plurality of groups of flexible discs each carrying wool on one face thereof mounted on the support, the wool-carrying faces of the respective groups being oppositely directed, means to hold the discs in assembled relation on the support, and an additional disc carrying wool on one face thereof at the end of the device, the wool-carrying face being directed oppositely to the corresponding faces of the adjacent discs.

4. A device for cleaning and polishing comprising a rotatable support, a plurality of groups of flexible discs each carrying wool on one face thereof mounted on the support, the wool-carrying faces of the respective groups being oppositely directed, means to hold the discs in assembled relation on the support, an additional disc carrying wool on one face thereof at the end of the device, the wool-carrying face being directed oppositely to the corresponding faces of the adjacent discs, and means to tilt the discs of each group from planes perpendicular to the axis of the support whereby the wool-carrying faces are exposed at the periphery.

5. A device for cleaning and polishing comprising a rotatable support, a plurality of groups of flexible discs each carrying wool on one face thereof mounted on the support, the wool-carrying faces of the respective groups being oppositely directed, and a washer and screw engaging the support at one end thereof to hold the discs in assembled relation thereon.

6. A device for cleaning and polishing comprising a rotatable support, a plurality of groups of flexible discs, each carrying wool on one face thereof mounted on the support, the wool-carrying faces of the respective groups being oppositely directed, and washers having flanges bent from the plane thereof at opposite sides of each group of discs to tilt the discs of each group from planes perpendicular to the axis of the support whereby the wool-carrying faces are exposed at the periphery.

7. A device for cleaning and polishing comprising a rotatable support, a plurality of groups of flexible discs, each carrying wool on one face thereof mounted on the support, the wool-carrying faces of the respective groups being oppositely directed, washers having flanges bent from the plane thereof at opposite sides of each group of discs to tilt the discs of each group from planes perpendicular to the axis of the support whereby the wool-carrying faces are exposed at the periphery, and an additional disc carrying wool on one face thereof at the end of the device, the wool-carrying face being directed oppositely to the corresponding faces of the adjacent discs.

In testimony whereof I affix my signature.

WILLIAM BREWER TURNER.