

March 25, 1930.

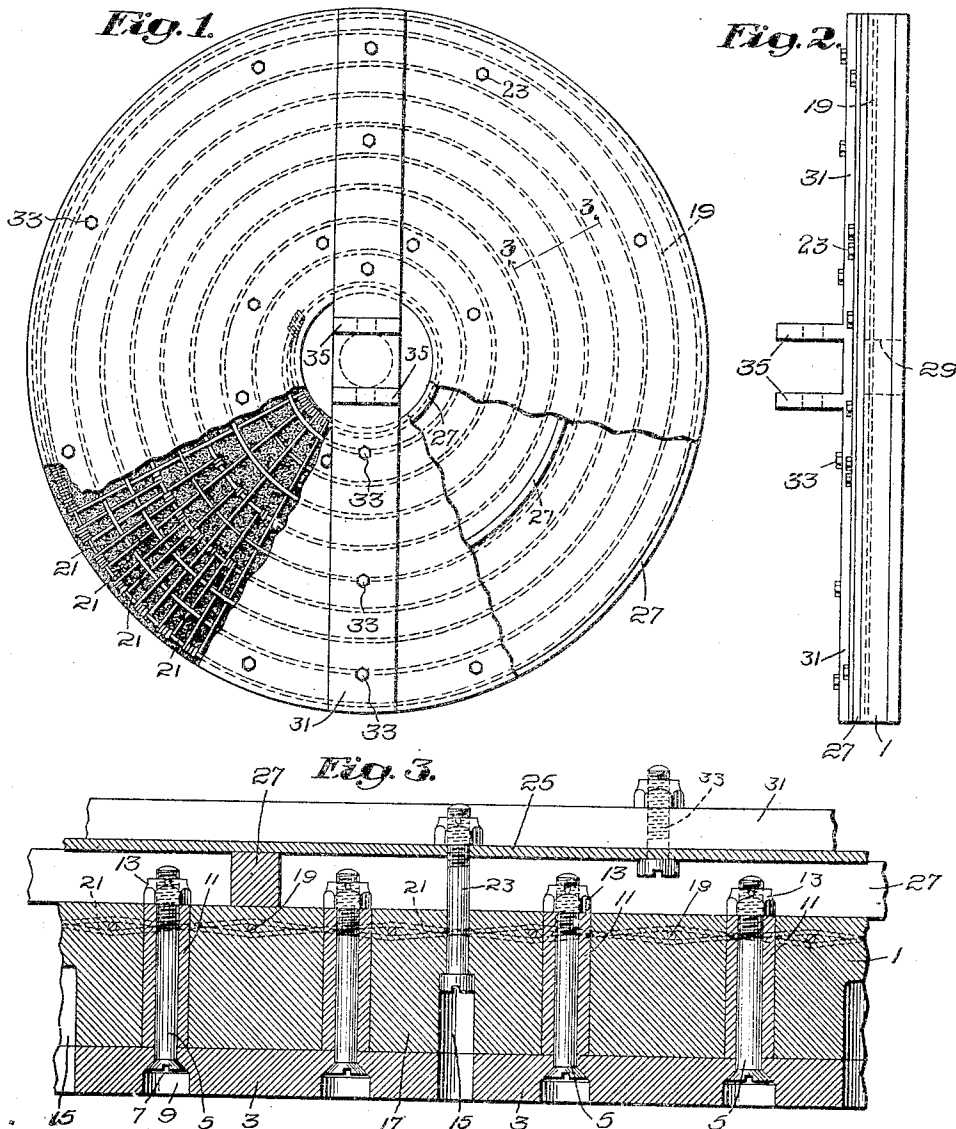
P. S. LEGGE

1,751,930

POLISHING HEAD

Filed Jan. 5, 1927

2 Sheets-Sheet 1



Inventor:
Peter S. Legge
by Emory Booth Janney & Darney
Attys

March 25, 1930.

P. S. LEGGE

1,751,930

POLISHING HEAD

Filed Jan. 5, 1927

2 Sheets-Sheet 2

Fig. 4.

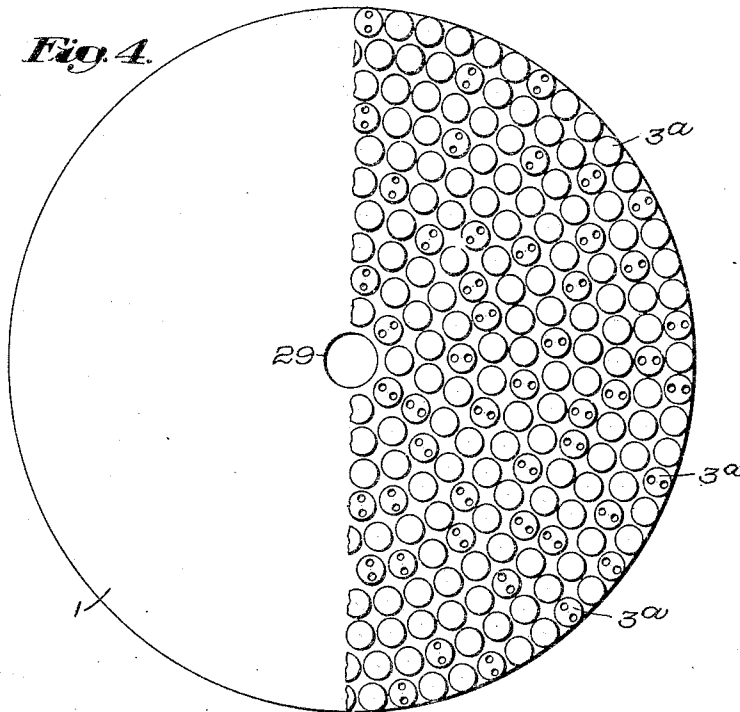
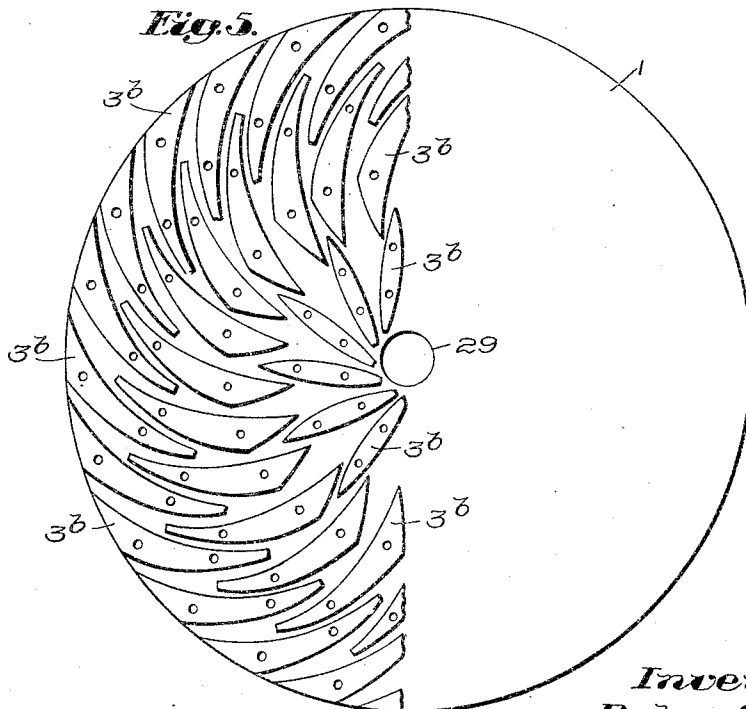


Fig. 5.



Inventor:
Peter S. Legge
by Emory North Journey & Harney
Att'y

UNITED STATES PATENT OFFICE

PETER S. LEGGE, OF SOMERVILLE, MASSACHUSETTS

POLISHING HEAD

Application filed January 5, 1927. Serial No. 159,119.

My invention relates to polishing tools, and particularly to a polishing head for use in stone working.

The invention will be best understood from the following description when read in the light of the accompanying drawings showing several specific embodiments of my invention, while the scope of my invention will be more particularly pointed out in the appended claims.

In the drawings:—

Fig. 1 shows a plan of a polishing head with parts broken away;

Fig. 2 is a side elevation according to Fig. 1;

Fig. 3 is a section on the line 3—3 of Fig. 1; and

Figs. 4 and 5 show modifications of the work engaging face of a polishing disk constructed according to the invention.

Referring to the drawings I have shown a polishing disk the body of which is formed of yielding material, as for example rubber, while the work engaging face comprises a number of work contacting members 3. The exact nature of the work contacting members will depend upon the kind of work to be performed. They may, for example, be of metal, or metal faced with carborundum, felt, or the like, or any other suitable material commonly employed in the stone working industries. The shape of the members 3 may be varied to suit various kinds of work, as for example they may be the circular disks indicated at 3^a in Fig. 4, or the elongated members 3^b arranged to form a species of "scroll wheel" shown in Fig. 5.

Referring to Fig. 3 I have illustrated the members 3 as secured to the body of the disk by screw bolts 5, the heads 7 of the bolts engaging the bottoms of the countersunk recesses 9 in the faces of the members 3, and the shanks 5 of the bolts extending through the disk. Preferably the bolts 5 are surrounded by bushings 11, each of which bears at one end against the corresponding member 3, and as shown, extends entirely through the disk. At their inner ends the bolts 5 as shown are provided with nuts 13 which engage the upper ends of the bushings 11. It will be ob-

served by this construction that the bushings 11 serve to prevent movement of the screws 5 relative to the members 3 when the portions of the disk behind the members 3 are compressed.

As illustrated, the portions of the body of the disk behind the members 3 are recessed as at 15 to provide raised portions 17, each of which forms a yielding backing for a corresponding member 3. This construction facilitates the yielding of the members 3 relative to each other, and makes the disk more flexible.

As illustrated, the body of the disk is molded about a flexible reinforcing structure. Herein this structure comprises the wire 19 which is bent into the form of a flat spiral surrounding the axis of the disk and is interlaced with the radially disposed wires 21, the latter being secured to the several convolutions of the wire 19 in any suitable manner, as for example being wrapped thereabout. The exact nature of the supporting structure may be varied to suit different conditions of use, and with disks of small diameter, say those under eighteen inches, the supporting structure may be omitted.

As shown the body 1 of the polishing head is secured by means of bolts 23 to a relatively rigid backing plate 25, being spaced therefrom by the concentric rings 27 which may be secured to the plate 25 in any suitable manner, as for example by spot welding. It will be observed that the rings 27 and plate 25 prevent flexure of the polishing head as a whole, while leaving portions thereof relatively yieldable. In polishing heads of small diameter the plate 25 and rings 27 may be omitted.

As illustrated the disk is provided with an axial aperture 29 through which water, mixed with abrasive if desired, may be fed to the work.

Referring to Figs. 1, 2 and 3, I have shown a bar 31 positioned diametrically of the disk and secured to the plate 25 by means of bolts 33. At the center of the disk the bar is provided with a pair of spaced perforated ears 35 which, as will be understood by those skilled in the art, may be used for securing

the disk to the universal joint connection at the end of the drive spindle for the disk.

It will be understood that within the scope of my invention wide deviations may be made from the particular embodiments of my invention herein described without departing from the spirit of my invention.

Claims:

1. A polishing head comprising a disk of flexible material carrying a plurality of spaced abrading members, and a separate rigid backing for said disk supporting the same in spaced relation at spaced points.
2. A polishing head comprising a disk of flexible rubber having a relatively rigid backing portion carrying a plurality of spaced, relatively soft bosses each carrying an abrading member.
3. A polishing head comprising a disk of flexible rubber carrying on one face thereof a plurality of spaced abrading members, the opposite face portion of said disk formed to provide a relatively rigid backing for said face carrying the abrading members.
4. A polishing head comprising a disk of flexible rubber carrying a plurality of spaced abrading members, a relatively rigid plate spaced from said disk and serving as a backing for the latter, and means for connecting said backing to said disk at a plurality of spaced points.
5. A polishing head comprising a disk having a plurality of raised portions of flexible material, said portions each carrying rigid abrading members.
6. A polishing head comprising a disk of flexible rubber having integral raised portions, said portions carrying abrading members.
7. A polishing head comprising a disk of flexible rubber having a rigid backing spaced therefrom, and a plurality of grinding stones carried by said disk forming a yielding work engaging face for said head.
8. A polishing head comprising a disk of flexible rubber having integral raised portions, and means carried by said portions forming a yielding work engaging face for said head.
9. A polishing head comprising a disk of flexible rubber having molded therein a flexible reinforcing part, and means carried by said disk forming a flexible work engaging face for said head.
10. A polishing head comprising a disk of flexible rubber having molded therein a flexible reinforcing part, said reinforcing part comprising interlaced wires, and means carried by said disk forming a flexible work engaging face for said head.
11. A polishing head comprising a disk of flexible rubber having molded therein a flexible reinforcing part, said reinforcing part comprising wires crossing each other at an angle, and means carried by said disk

forming a flexible work engaging face for said head.

12. A polishing head comprising a disk of flexible rubber having molded therein a flexible reinforcing part, said reinforcing part comprising wires generally concentric with the axis of said disk and wires generally radial to said axis crossing the first mentioned wires, and means carried by said disk forming a flexible work engaging face for said head.

In testimony whereof, I have signed my name to this specification.

P. S. LEGGE.

70

75

80

85

90

95

100

105

110

115

120

125

130