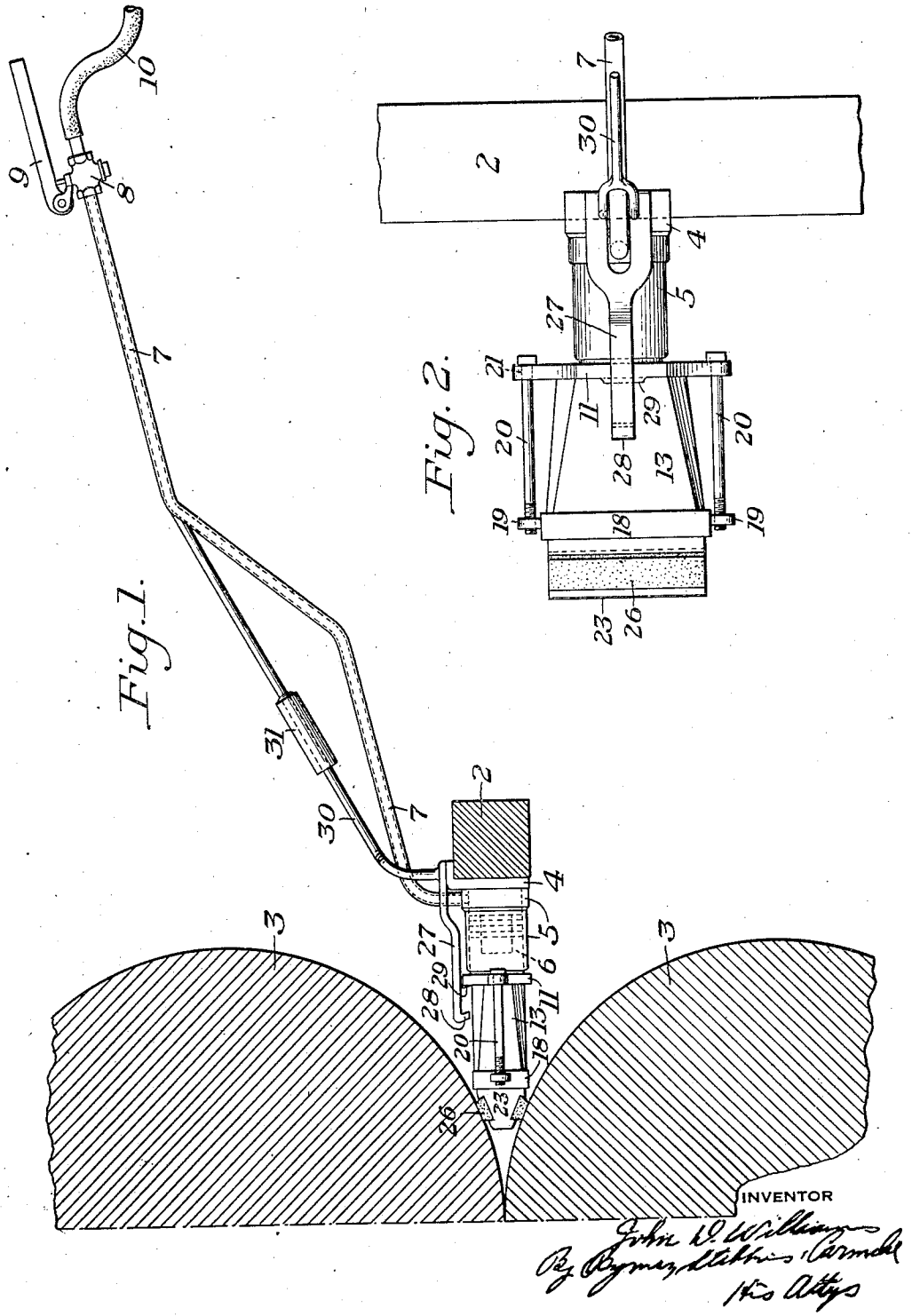
March 4, 1930. J. D. WILLIAMS 1,749,457

MEANS FOR GRINDING OR POLISHING ROLLS

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MEANS FOR GRINDING OR POLISHING ROLLS

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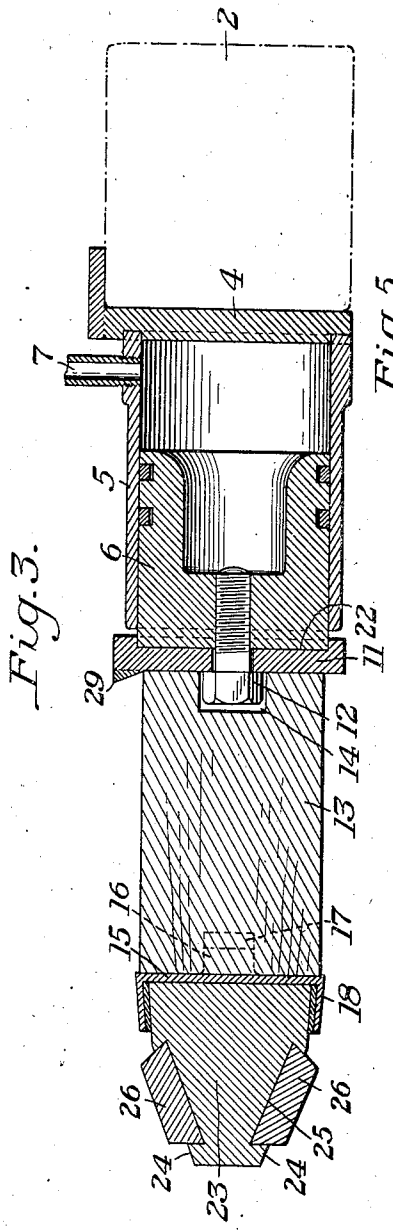


Fig. 3.

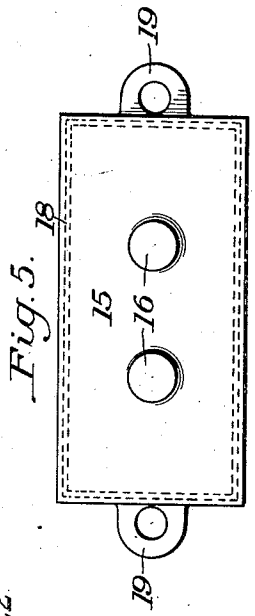


Fig. 5.

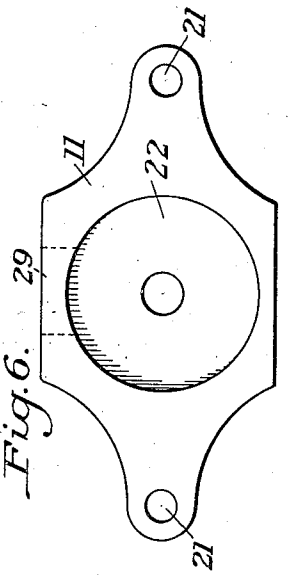


Fig. 6.

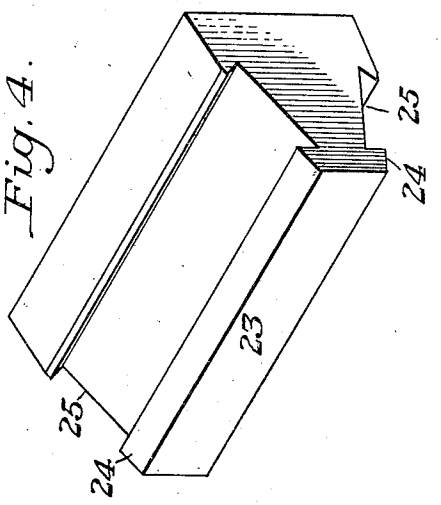


Fig. 4.

INVENTOR

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His Attys

Patented Mar. 4, 1930 1,749,457

UNITED STATES PATENT OFFICE

JOHN D. WILLIAMS, OF NILES, OHIO

MEANS FOR GRINDING OR POLISHING ROLLS

Application filed August 15, 1924. Serial No. 732,197.

The present invention relates to grinding or polishing and more particularly to means for grinding or polishing the surfaces of rolls.

An object of the invention is to provide means whereby the surfaces of two cooperating rolls may be simultaneously ground or polished uniformly.

A preferred embodiment of the invention is illustrated in the accompanying drawings in which,

Figure 1 is a view showing the grinding of polishing means in elevation and the rolls and a guiding means for the grinding or polishing means in section;

Figure 2 is a plan view, on a larger scale, of a portion of the grinding or polishing means;

Figure 3 is a longitudinal section, on a larger scale, through a portion of the grinding means;

Figure 4 is a perspective view of the block for holding the grinding or polishing stones;

Figure 5 is a rear elevation of the holder for the block, and

Figure 6 is a front elevation of the cross head.

The grinding or polishing means of the present invention comprises a rest bar 2 adapted to be supported in a fixed position by the roll housings of a pair of cooperating rolls 3. This rest bar will be positioned adjacent the cusp or bight of the rolls and will extend parallel to the axes of the rolls.

Supported and guided by the rest bar is a metal bracket 4 in the form of an angle having a short horizontal flange engaging the upper face of the rest bar and having a vertical leg engaging the front face of the rest bar. The vertical leg of the bracket 4 has an annular groove therein in which is welded one end of a fluid pressure cylinder 5 having a hollow piston 6 working therein. Communicating with the cylinder is a pipe 7 for conducting compressed air or other suitable fluid into the cylinder. The supply of pressure fluid is controlled by a valve 8 having an operating handle 9. The supply pipe 7 may be connected with a flexible hose 10 leading to a compressed air tank or other source of pressure fluid supply.

A cross head 11 is secured to one end of the piston 6 by means of a bolt 12 extending through an opening in the cross head and tapped into the end of the piston. Mounted on the cross head is a hard wood block 13 having a recess 14 in one end thereof to receive the head of the bolt 12. This block has a holder 15 mounted upon its outer end. The holder 15 is in the form of a metal plate having a pair of rearwardly extending integral lugs 16 which are received in openings 17 in the end of the block 13. This plate also has a peripheral flange 18 and a pair of tapped lugs 19 extending from the ends thereof. The holder 15, the block 13, and the cross head 11 are firmly clamped together by a pair of bolts 20 which extend through openings 21 at the ends of the cross head and are tapped into the lugs 19 of the holder 15. It will be noted that the cross head 11 is provided with a circular recess 22 receiving the end of the piston 6.

Mounted in the holder 15 and embraced by the flange 18 thereof is a holder 23 for the grinding or polishing stones. The holder 23 is held in the holder 15 by Babbitt metal inserted in the space between the faces of the holder 23 and the flange 18. The holder 23 has oppositely inclined side faces 24 provided with dovetail recesses 25. Held in these recesses are the grinding or polishing stones 26, which are preferably of carborundum, although any other suitable grinding or polishing medium may be employed.

Welded to the horizontal flange of the bracket 4 is a stop bar 27 having its outer end provided with a downwardly extending hook 28 adapted to engage an inclined stop 29 welded to the outer face of the cross head 11 adjacent its upper edge. This stop bar is adapted to limit the outward movement of the piston 6 when pressure fluid is admitted to the cylinder 5 through the pipe 7.

In order to move the grinding or polishing means longitudinally of the rest bar 2, the stop bar 27 has a rod 30 secured thereto. This rod has the end thereof which is secured to the stop bar bifurcated to straddle the

pipe 7 and is secured at its other end to said pipe and is provided with a wooden handle 31.

The operation of the device will be apparent from the foregoing description. When it is desired to grind or polish the surfaces of a pair of rolls, such as the rolls 3, the rest bar 2 will be positioned adjacent the bight of the rolls and supported in a fixed position on the roll housings. The bracket 4 and attached parts will then be placed on the rest bar in the position shown in Figure 1. When pressure fluid is admitted to the cylinder 5 the piston 6 will move outwardly, thereby carrying the grinding or polishing stones 26 into engagement with the surfaces of both rolls and causing such grinding or polishing stones to bear upon the surfaces of the rolls with a uniform pressure, the amount of which may be varied as desired. The operator may then move the grinding or polishing means along the rest bar so as to grind or polish the rolls throughout their length.

The advantages of the invention arise from the provision of a simple and inexpensive means for applying a uniform grinding or polishing action to the surfaces of a pair of cooperating rolls.

While I have described the invention in connection with the grinding or polishing of rolls it will be understood that its utility is not limited in this respect and it will also be understood that changes may be made in the details of construction without departing from the spirit of the invention or scope of the appended claims.

I claim:

1. A grinding and polishing means including a fixed supporting bar, a carrier slidably mounted on the bar, a cylinder on the carrier, a piston in the cylinder, and an abrading element supported on the piston, substantially as described.

2. A grinding and polishing means including a fixed supporting bar, a carrier slidably mounted on the bar, a cylinder on the carrier, a piston in the cylinder, and a head on the piston having oppositely inclined abrasive surfaces thereon, substantially as described.

3. The combination with a pair of cooperating rolls, of a guide bar disposed adjacent the bite of said rolls, a carrier mounted for movement along the bar, a cylinder on the carrier, a piston in the cylinder, and a transverse head on the piston, said head having oppositely inclined abrasive surfaces thereon, and means for supplying fluid pressure to the cylinder, substantially as described.

In testimony whereof I have hereunto set my hand.

JOHN D. WILLIAMS.