Dec. 20, 1932. H. C. LORD 1,891,331

APPARATUS FOR CLEANING OR POLISHING RODS

Filed May 5, 1930

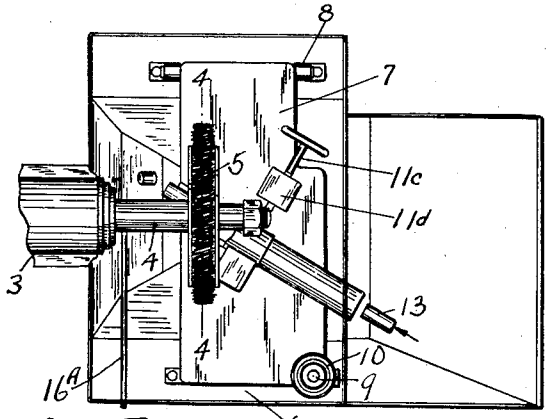


Fig 1

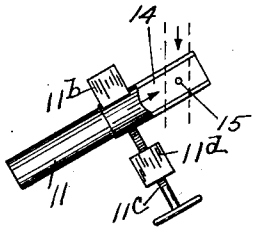


Fig 2

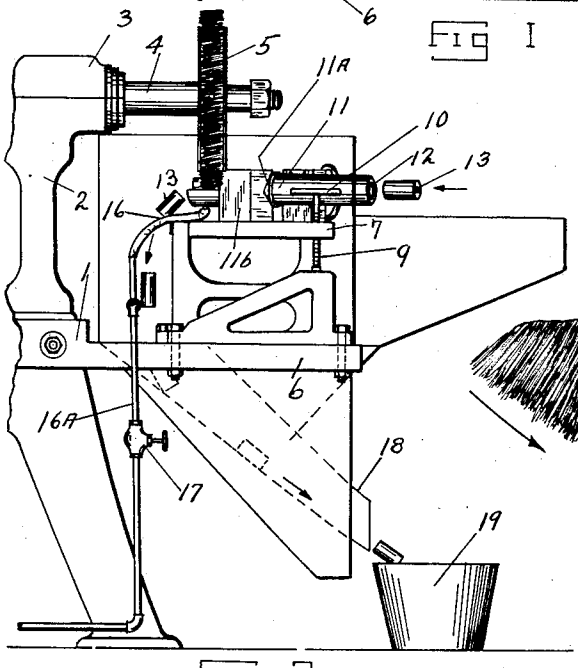


Fig 3

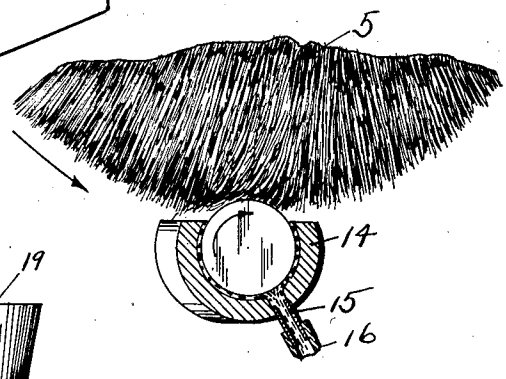


Fig 4

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UNITED STATES PATENT OFFICE

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APPARATUS FOR CLEANING OR POLISHING RODS

Application filed May 5, 1930. Serial No. 449,970.

For many purposes it is desirable to clean or polish rods, as for example in preparing them for plating, or similar operations. Under such conditions it is usually desirable to remove the foreign material by wire-brushing and to clear away the material loosened by water. It is desirable also to turn the rod during this operation so that the wheel reaches all parts of the circumference and also to control its axial movement. With the present invention the rod is carried in a guide and the fluid, preferably water under pressure, is delivered through the guide against the rod and in opposition to the thrust of the wheel. In consequence the fluid or liquid floats the rod, thus permitting it to turn readily in the guide and the same fluid carries off the material removed. Features and details of the invention will appear from the specification and claims.

A preferred embodiment of the apparatus embodying the invention is illustrated in the accompanying drawing as follows:—

Fig. 1 shows a plan view of the apparatus.

Fig. 2 a detached view of the guide.

Fig. 3 a side elevation of the apparatus.

Fig. 4 an enlarged view in section on the line 4—4 in Fig. 1.

1 marks the frame, 2 a stand on the frame, 3 a journal for the spindle 4, and 5 a wire wheel carried by the spindle. The spindle is driven from any convenient source of power (not shown).

A platform 6 is arranged on the frame and this carries an adjustable support 7 which is hinged between ears 8 on the platform and an adjusting screw 9 is provided at the opposite end of the support by means of which the support may be raised and lowered for adjustment relatively to the wheel. The screw 9 has a hand wheel 10 for convenient manipulation of the screw 9.

A guide 11 is in the form of a tube 12 adapted to receive a rod 13. These may be in comparatively short lengths. The guide is clamped in a slot 11*a* on a block 11*b* carried by the support through the action of a screw 11*c* operating through an ear 11*d* on the support. The guide tube 11 is cut away under the brush making a guide 14 of cylindrical outline and trough shaped, the open part of the trough being exposed to the brush. A water delivery opening 15 is provided in the bottom of the trough-shaped portion which is directly opposite the brush, as indicated in dotted lines in Fig. 2. This opening 15 is supplied through a hose 16 from a pipe 16*a*, the pipe being controlled by a valve 17.

As the rods 13 are advanced through the tube they reach the trough-shaped portion. The pressure of the water is sufficient to overcome the thrust of the brush and to float the rod. The brush in its action spins the rod, but at the same time has a greater surface movement than the rod so as to polish the same. The water not only lifts and floats the rod for this action, but forms a vehicle for carrying away the material which is loosened from the rod. The wheel is in skewed relation to the rod and tends to resist the forward feeding of the rod. Consequently the operator in feeding the rods 13 into the opening 12 can control the speed at which the material moves past the brush. As the rod is completed it drops off the end of the trough-shaped guide into a chute 18 and from the chute into a receptacle as 19.

The device is particularly useful in removing the particles loosened through a pickling operation and if the metal polished or cleaned is iron the receptacle 19 is usually supplied with water so that the material may be held for a short period without the starting of rust.

What I claim as new is:—

1. In a rod cleaning or polishing machine, the combination of a rotatable brush; a guide for the article to be cleaned opposing the rotatable brush; and means introducing fluid under pressure to the guide in position to act on the article to be cleaned on the guide in opposition to the thrust on the rotatable brush.

2. In a rod cleaning or polishing machine, the combination of a rotatable brush; a guide of trough-shape opposing the rotatable brush; and means introducing fluid under pressure to the trough and acting on the article to be cleaned in the trough in opposition to the thrust of the rotatable brush.

3. In a rod cleaning or polishing machine, the combination of a rotatable brush; a work guide opposing the rotatable brush; and means introducing fluid under pressure to the guide in position to act on the article to be cleaned on the guide in opposition to the thrust on the rotatable brush, the rotatable brush being skewed to the guide and having a direction of rotation opposing the forward movement of the article to be cleaned.

4. In a rod polishing or cleaning machine, the combination of a rotatable brush; a work guide in the form of a tube terminating in a trough-shaped end opposite the rotatable brush; and means introducing fluid under pressure to the trough-shaped guide and in position to act on the article to be cleaned in opposition to the thrust of the rotatable brush.

In testimony whereof I have hereunto set my hand.

HUGH C. LORD.