(No Model.)

E. BERGLIND & A. REUTERDAHL.

POLISHING MACHINE.

No. 529,102. Patented Nov. 13, 1894.

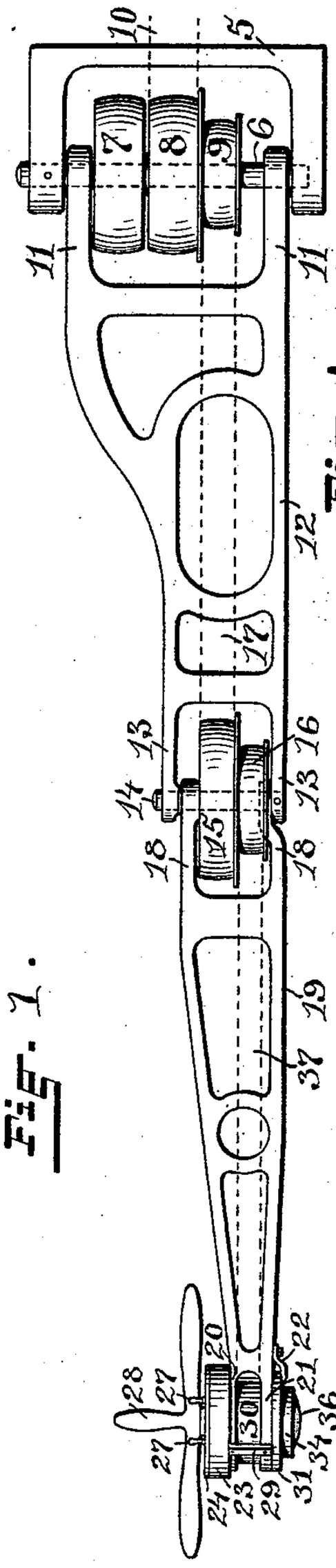

Fig. 1.

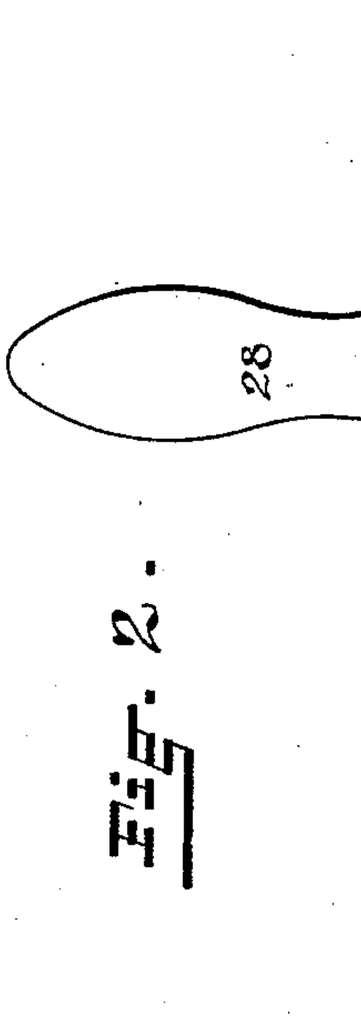

Fig. 2.

Fig. 4.

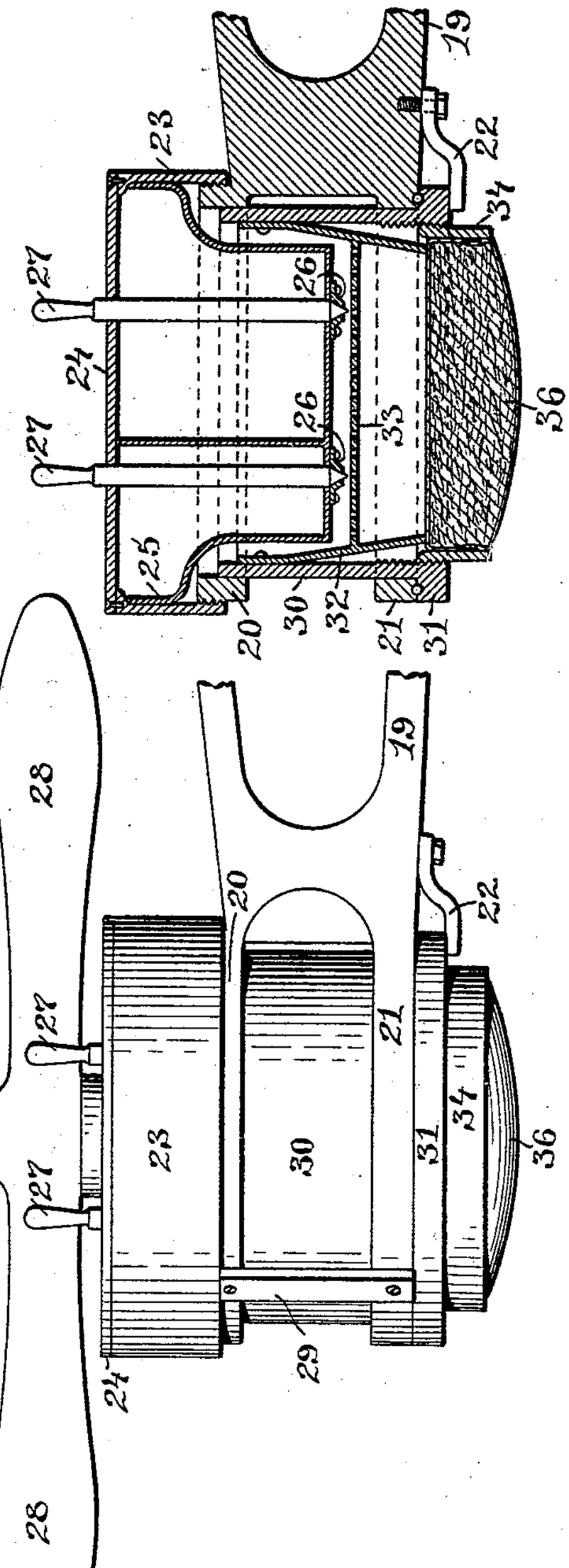

Fig. 3.

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UNITED STATES PATENT OFFICE.

ERIK BERGLIND AND ARVID REUTERDAHL, OF PROVIDENCE, RHODE ISLAND.

POLISHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 529,102, dated November 13, 1894.

Application filed August 17, 1894. Serial No. 520,563. (No model.)

To all whom it may concern:

Be it known that we, ERIK BERGLIND and ARVID REUTERDAHL, of Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Polishing-Machines; and we hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification.

This invention has reference to improvements in polishing-machines which are particularly adapted for polishing wood.

The object of the invention is to provide a machine by means of which wood may be more perfectly polished than by hand and in less time.

The further object of the invention is to so construct a machine of this nature that the action, on the wood, of the hand polishing will be followed, but at an increased speed.

The invention consists in the combination with the arm formed of a plurality of members pivotally secured together and furnished with belt-pulleys and belts, of the peculiar reservoir secured at the free end of one of the members, and the novel polishing device journaled in vertical bearings below the reservoir.

The invention likewise consists in such other novel features of invention and combination of parts as may hereinafter be more fully described and pointed out in the claims.

Figure 1 represents a side view of the improved polishing-machine. Fig. 2 represents an enlarged view of the outer end of the arm with the reservoir, the manipulating handles and the polishing device. Fig. 3 represents a vertical sectional view of the same. Fig. 4 represents a cross-sectional view of the ring to which the polishing pad is secured.

Similar numerals of reference designate corresponding parts throughout.

In polishing wood it is found that two motions of the polishing pad are necessary, viz., a rapid rotation to apply the polish and finish the wood and at the same time a reciprocation which carries the pad over the surface to insure an even polish. To perfectly polish wood the pad should not be removed from contact therewith until the whole surface has been polished as this results, if done by a person not particularly skilled, in creating spots of polish thereon. To avoid this removal of the pad it is necessary to so construct the polisher that a supply of polish with a thinning fluid may be delivered to the pad from time to time under the control of the operator.

In the drawings 5 represents a bracket which may be secured to a wall or to any other ordinary support. In the bracket arms is secured the vertical shaft 6 and on this shaft are journaled the pulleys 7, 8 and 9, the pulleys 8 and 9 being secured together. On the pulley 8 is a driving-belt 10 by means of which rotation is imparted thereto from any usual driving mechanism.

On the shaft 6 are pivoted the arms 11—11 of the swinging member 12 having at its outer end similar arms 13—13 in which the vertical shaft 14 is fastened on which are journaled the pulleys 15 and 16 secured together, the pulleys 9 and 15 being connected by the belt 17. On the shaft 14 are pivoted the arms 18—18 of the outer member 19 so that this outer member may have a compound swinging movement. The free end of this member 19 is furnished with the bearing-rings 20 and 21 the outer surface of the ring 20 being screw-threaded, while pivoted to the under surface of the arm adjacent to the ring 21 is the finger 22.

To the bearing-ring 20 is removably secured the rim 23 furnished with a cover 24 through which one or more perforations are formed. To the rim 23 is secured the reservoir 25 divided into a series of compartments by vertical partitions. Each of these compartments has in its bottom a valved outlet 26 by means of which the flow of polishing fluid or thinning liquid, such as alcohol, may be governed by the operator. In the drawings the valves are formed by the plugs 27—27 which extend through the perforations in the top 24. To this top is secured the handle 28 by means of which the reciprocation of the polishing device may be accomplished.

The bearing-rings 20 and 21 are braced together by the cross-bar 29 and journaled in these rings is the sleeve-pulley 30 having at

its lower end the shoulder 31 of enlarged outer diameter which is supported by the pivoted finger 22 when not in rotation. To the upper inner surface of this sleeve-pulley 30 is fastened the strainer-cup 32 which gradually contracts toward its lower edge and is furnished with the perforated strainer-plate 33 located about midway between the top and bottom of the strainer cup.

The interior surface of the sleeve-pulley 30 is screw-threaded at its lower portion. Removably secured therein is the pad-ring 34 having the saw-blade 35 secured to its inner surface for the purpose of securing the outer layer of cloth, usually coarse linen, forming the pocket and polishing surface for the pad 36.

When preparing the pad and securing it in place the outer linen layer is first secured to the saw-blade 35 while the ring 34 is removed from the machine. The inner portion of the pad is now formed of a strip of woolen material wound in a flat roll and inserted within the ring 34. This ring is then screwed into the sleeve-pulley 32 until the pad is brought into contact with the lower edge of the strainer-cup which, bearing on the pad, tends to stretch the outer layer by consolidating the woolen portion. The plug, controlling the outlet from the chamber or compartment containing the polishing material, is now lifted and a portion of this material is allowed to flow on to the pad being thinned by the thinning material when necessary.

In place of the pad 36 a pumice or other grinding material may be used, or this material may be used in a powdered form by dipping the pad 36 in a vessel containing a supply of the same.

When the machinery is started the pulleys 8 and 9 will be caused to rotate by the drive-belt, this rotative motion being imparted through the belts 17 and 37 and through the pulleys 15 and 16 to the sleeve-pulley 30 to give the necessary rotation to the polishing pad the reciprocation of the same over the wood being caused by the operator grasping the handles 28 and moving the polishing device over the wood, this being facilitated by the construction of the arm formed by the pivoted-members 12 and 19.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. In a polishing-machine, the combination with an arm formed by a series of members pivotally secured together, of a reservoir secured to the outer end of the arm, outlets in the lower portion of the reservoir, valves for governing said outlets, a sleeve journaled to rotate around the reservoir, a polishing device removably secured to the lower portion of the sleeve, a strainer secured within the sleeve, and means for imparting rotation to the sleeve.

2. The combination with the bracket 5, the shaft 6 secured therein, the pulleys 7, 8 and 9 rotatable on the shaft, the member 12 having the arms 11—11 pivoted on the shaft 10, and the arms 13—13 in which the shaft 14 is secured, the pulleys 15 and 16 rotatable on this shaft, the member 19 having the arms 18—18 pivoted on the shaft 14, and the bearing-rings 20 and 21 at the outer end of this member, of the compartmental reservoir 25 secured to the ring 20 and furnished with openings 26—26, the plug-valves 27—27 for closing these openings, the sleeve 30, journaled in the bearing rings, having a screw-thread on its inner surface, the finger 22 pivoted to the member 19 for engaging the sleeve, the strainer-cup 32, having the strainer 33, secured to the sleeve and surrounding the lower portion of the reservoir, the ring 34 adjustably secured in the lower portion of the sleeve and provided with the saw-blade 35, the polishing device removably secured to said saw blade, and belts for driving the sleeve 30 carried on the various pulleys, as described.

In witness whereof we have hereunto set our hands.

ERIK BERGLIND.
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Witnesses:
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