

Improvement in Polishing-Machines.

Patented July 16, 1872.

The diagram illustrates a mechanical apparatus for measuring the weight of a body in air and water. A horizontal beam is supported by a central vertical pillar labeled *B*. On the left end of the beam, a cylindrical weight *G* is suspended. On the right end, a cylindrical weight *H* is suspended. A horizontal rod is positioned above the beam, with a weight *F* suspended from it. A vertical rod is also shown, with a weight *F* suspended from it. The entire apparatus is mounted on a base. The diagram is labeled with various letters: *G*, *H*, *F*, *B*, and *C*.

W. Bradford

F. Pedersen & R. Olsen
Inventors
F. Pedersen & R. Olsen
Attys

UNITED STATES PATENT OFFICE.

FREDERIK PEDERSON AND RASMUS OLSEN, OF RACINE, WISCONSIN.

IMPROVEMENT IN POLISHING-MACHINES.

Specification forming part of Letters Patent No. 128,975, dated July 16, 1872.

Specification describing certain Improvements in Polishing-Machines, invented by FREDERIK PEDERSON and RASMUS OLSEN, residing at Racine, in the county of Racine and State of Wisconsin.

This invention relates to that class of machines which are used for smoothing and polishing wood, and combine in their construction a rotating disk, the surface of which, coming in contact with the wood to be smoothed, is covered with sand-paper. Our improvement consists in supporting the spindle to which the sand-paper wheel or disk is fastened upon an adjustable bearing, so that the space between the sand-papered surface of the wheel and the rollers, by which the boards or sashes are held in contact therewith, can be regulated with exactness and rapidity to suit varying thicknesses of boards, &c., to be smoothed; and, in connection with such adjustable sand-paper wheel, we use adjustable guides between the sand-papered wheel or disk and the pressure-rollers, above it to confine the boards or other articles to be polished to a definite path in the passage through the machine.

Figure 1 is a plan view of our improved machine. Fig. 2 is a front elevation of the same. Fig. 3 is a vertical longitudinal section.

The same letters of reference are used in all the figures in the designation of identical parts.

The operating parts of the machine are mounted upon a suitable frame-work. The sand-paper wheel or disk A is made of wood, for the sake of lightness, but may be constructed of any other preferred material. As it would exert very little effect in and near the center if sand-papered there, but would, on the contrary, be liable to clog at those points, we prefer to use a disk with a central recess of considerable diameter, and also provided with radial or otherwise shaped channels extending from said recess to the periphery, in which the dust, &c., caused by the action of the sand-paper upon the wood, may be deposited, and from which it will be discharged by the centrifugal force developed by the rotation of the wheel. The surface of the wheel not occupied by this recess and the furrows is covered with sheets of India-rubber, and upon this the sand-

paper is fastened in any approved form; the backing of rubber having been found to aid materially in the preservation of the sand-paper, on account of its yielding quality. The sand-paper wheel is secured upon the vertical spindle B, which, at its lower end, turns in a sleeve secured to the frame, and is supported upon the short screw-spindle C, which is in line with the eye of the sleeve, and is carried by a nut, D, in the manner best seen in Fig. 3. By adjusting the screw-spindle C, which is provided with a head at its lower end to facilitate its adjustment, the sand-paper wheel may be elevated or depressed, and thus the distance between it and the pressure-rollers E E' be regulated in accordance with the thickness of the stuff to be polished. The pressure-rollers are carried in bearing on the free ends of stiff springs F, which will allow the rollers to yield to inequalities upon the top surface of the stuff passing through the machine. The feed-rollers G and G' and the roller H over which the articles are discharged, are also yieldingly attached to the frame-work. A guide, I, is arranged between the sand-paper wheel and the pressure-rollers upon each side of the machine, and the stuff is held steady by means of these guides, which are adjustable. The guides illustrated consist of metal rods bent at the ends, which pass through holes in the frame-work, and are fixed, when properly adjusted, by set-screws i. These guides may, however, be differently constructed, and also arranged on the frame-work in a different manner.

What we claim as our invention, and desire to secure by Letters Patent, is—

In a machine for polishing wood the combination of the pressure-rollers, adjustable guides I, sand-paper wheel and its spindle, and the adjustable screw C, substantially as and for the purpose specified.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

FREDERIK PEDERSON.
RASMUS OLSEN.

Witnesses:

CHARLES J. CHIPMAN,
J. H. STAHR.