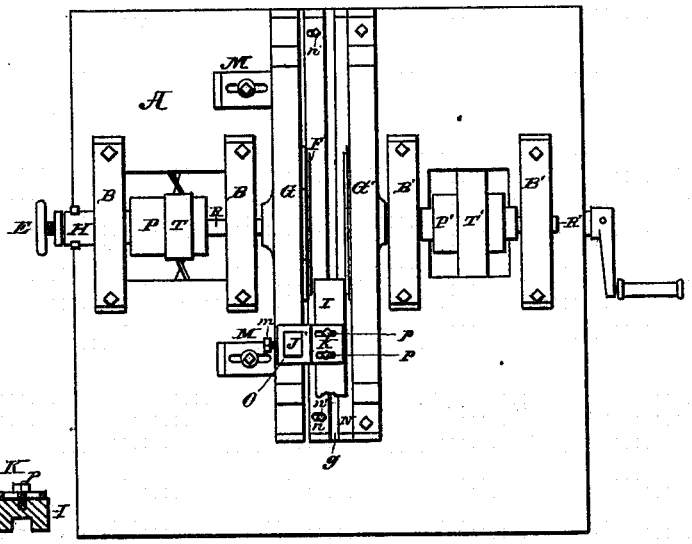
W. CARLISLE.

Sandpapering Machine.

No. 213,807. Patented April 1, 1879.

Fig: 1.



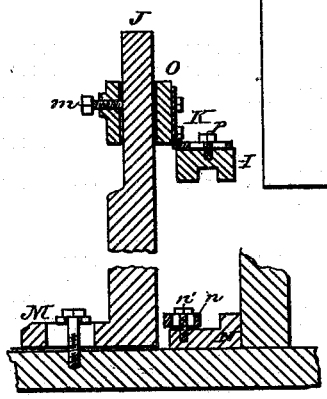


Fig: 2.

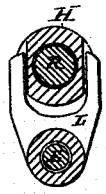
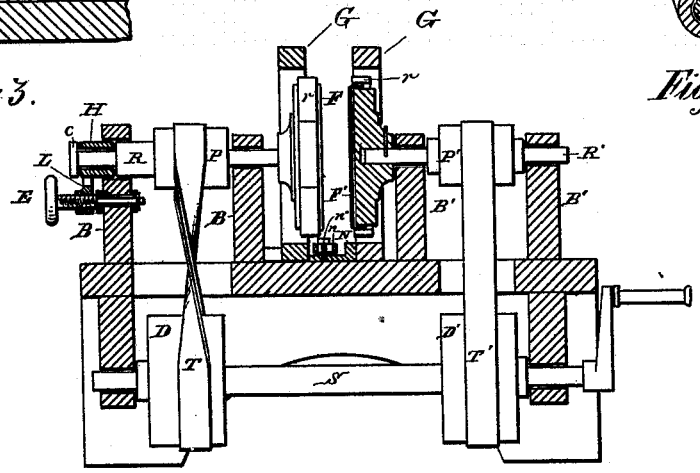


Fig: 3.

Fig: 4.



WITNESSES

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UNITED STATES PATENT OFFICE

WILLIAM CARLISLE, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN SANDPAPERING-MACHINES.

Specification forming part of Letters Patent No. **213,807**, dated April 1, 1879; application filed October 23, 1878.

To all whom it may concern:

Be it known that I, WILLIAM CARLISLE, of the city of Chicago, in the State of Illinois, have invented certain new and useful Improvements in Sandpapering-Machines; and I hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to that class of sandpapering-machines adapted to operate on both sides of a panel at the same time; and it consists in an arrangement and construction of the parts hereinafter described, to allow of the position of one of the polishing-wheels being readily changed, to suit circumstances, without affecting the guides, and in certain details of construction, which will be hereinafter more fully set forth.

In the drawings, Figure 1 is a top or plan view of the machine. Fig. 2 is a central transverse vertical section thereof; and Figs. 3 and 4 are views of details, enlarged.

A is a table, supported at convenient height for use by a person standing. B B and B′ B′ are parallel standards rising from the table A, and supporting in appropriate bearings the two arbors R and R′, arranged in the same axial line. At the inner or proximate ends of these arbors are fixed two face-wheels, F and F′, having the face of one parallel with that of the other. Each wheel is provided with a circumferential rim or hoop, *r*, circular or polygonal as the case may be, by which sand-paper is firmly and smoothly held to cover the face of the wheel. One wheel is adjustable toward the other by the longitudinal adjustment of its arbor in its bearings.

In the drawings, R is shown to be thus adjustable by means of the sleeve H, fitted between a shoulder upon the arbor and an outer collar, *c*, pinned to the arbor. The sleeve H is also shown as adapted to slide backward and forward closely in the outer standard, B, and as constituting, in fact, the outer bearing of the arbor. It has a vertical groove on each side, as more clearly shown in Fig. 4, entered by the two arms of the carrier L. The carrier is worked by the set-screw E, fixed to the outer standard, B, as seen in Fig. 2, so that by its rotation the sleeve H and the arbor R may be longitudinally adjusted at pleasure.

The two arbors R and R′ are driven in opposite directions by the common driving-shaft S, located beneath the table, through the belts T and T′, one of which is twisted, as shown.

As general guides for the stuff being finished as it is passed between the sandpapering-wheels F and F′, vertical pieces G G′ are secured to the table, as clearly shown in Figs. 1 and 2. These pieces rise above the rotating face-wheels, for the purposes of greater strength, and to more perfectly inclose the working-surfaces, which are further hooded, in use, to confine the dust. One piece, G, is adjustable on the table by means of the slotted foot-brackets M M, so that its inner face may be held nearly flush with the face of the corresponding wheel, F.

G′ is permanently set in the same relation with the unadjustable face-wheel F′. As more specific guides for the panels being finished, the rabbeted strip N is fixed between the guide-pieces G and G′, and a laterally-adjustable strip, *n*, is secured thereto by screws *n′ n′*, so as to form with N the variable groove *g*, in which slides the reduced edge of a raised panel.

A corresponding edge-guide is provided for the upper reduced edge of the panel in the grooved strip I. This strip is both removable and laterally adjustable by means of the screws *p p*, by which it is held to the angle-piece K. For this upper edge-guide it is more convenient to change the strip I than to regulate an adjustable groove in the strip, as in the case of the lower one, N, for the few thicknesses of panels made in even extensive works. A guide having an adjustable groove may, however, be used in this position. The strip I is vertically adjusted by means of the head O, to which the angle-piece K is firmly attached. This head is fitted to slide freely on the vertical post J, and is set at any desired point by means of the clamp-screw *m*.

By this arrangement of the adjusting devices the polishing-wheel F can be adjusted without changing the position of the guides, which will be found very advantageous; or, by turning the screw E backward, the wheel F may be moved away from the other wheel, so as not

to operate on a panel passing through the guides, where only one side of it requires finishing.

The face-wheels F and F′ are set so far above the table A, and are of such size, that they will embrace the entire width of the raised face of panels for which the machine is intended, so that both surfaces are entirely finished by a single passage of the panel through the machine.

The carrier L, instead of being a separate piece, forked or otherwise, engaging the sleeve H to carry it inward or outward by the action of the screw E, may be cast solid with the sleeve; so, instead of making the sleeve the bearing, the latter may be permanent in the standard B, and the forked carrier L may be made to propel the arbor longitudinally by working in a circumferential groove in the arbor.

In order that the face-wheels F and F′, rotating in opposite directions, as described, may not act to advance or retard the passage of the panel between them, but may, in this respect, counteract each other, they should be of equal diameter and rotated at the same speed, unless the middle line of the panel passes over the center of the wheel-surface, in which case variations in these particulars would make no difference with the feed; but the wheels being made large enough for the widest panels, in ordinary cases the panel is mainly below the center of the wheel-surfaces. A variation in the speed of the wheels can in this case obviously be made to give any rapidity of self-feed. Provision for such variation is not herein shown, since little power is required to feed the stuff through the finisher, and with the equal speed obtained by the common shaft S, having drums D and D′ of equal diameter, and the equal pulleys P P′, panels and other stuff of width no greater than the height of the upper margin of the wheels may be finished with no effect upon the feed from the finishing-wheels.

Having thus described my invention, I claim and desire to secure by Letters Patent—

1. In a sandpapering-machine, the combination of two finishing-wheels, one running in fixed bearings and the other adjustable laterally, with a set of upper and lower guides adjustable independently of the wheels, substantially as described.

2. In a sandpapering-machine, the combination of a finishing-wheel revolving in fixed bearings and a finishing-wheel adjustable laterally, with the sliding bearing H and screw E, substantially as described.

3. In a sandpapering-machine, the combination of the strips N *n* with the grooved strip I, arranged to guide the panel between the two finishing-wheels, or hold it in contact with one of them, substantially as described.

4. In a sandpapering-machine, the combination, with the guide N *n*, of the standard J, sliding head O, angle-piece K, and guide I, all constructed and arranged substantially as described.

In testimony that I claim the foregoing as my invention I affix my signature in presence of two witnesses.

WILLIAM CARLISLE.

Witnesses:
M. E. DAYTON,
JESSE COX, Jr.