(No Model.) 4 Sheets—Sheet 1.

C. L. RUEHS.

SANDPAPERING MACHINE.

No. 489,093. Patented Jan. 3, 1893.

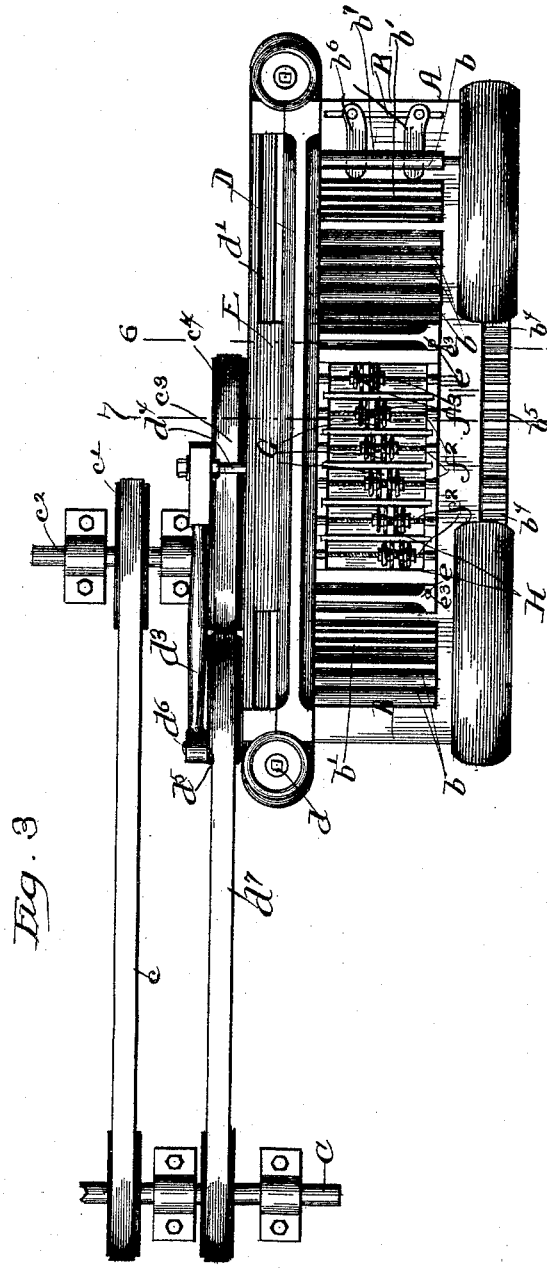

Fig. 3.

Fig. 2.

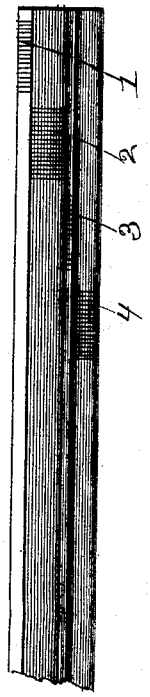

Fig. 1.

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by Wilkinson, Grimley & Burton.

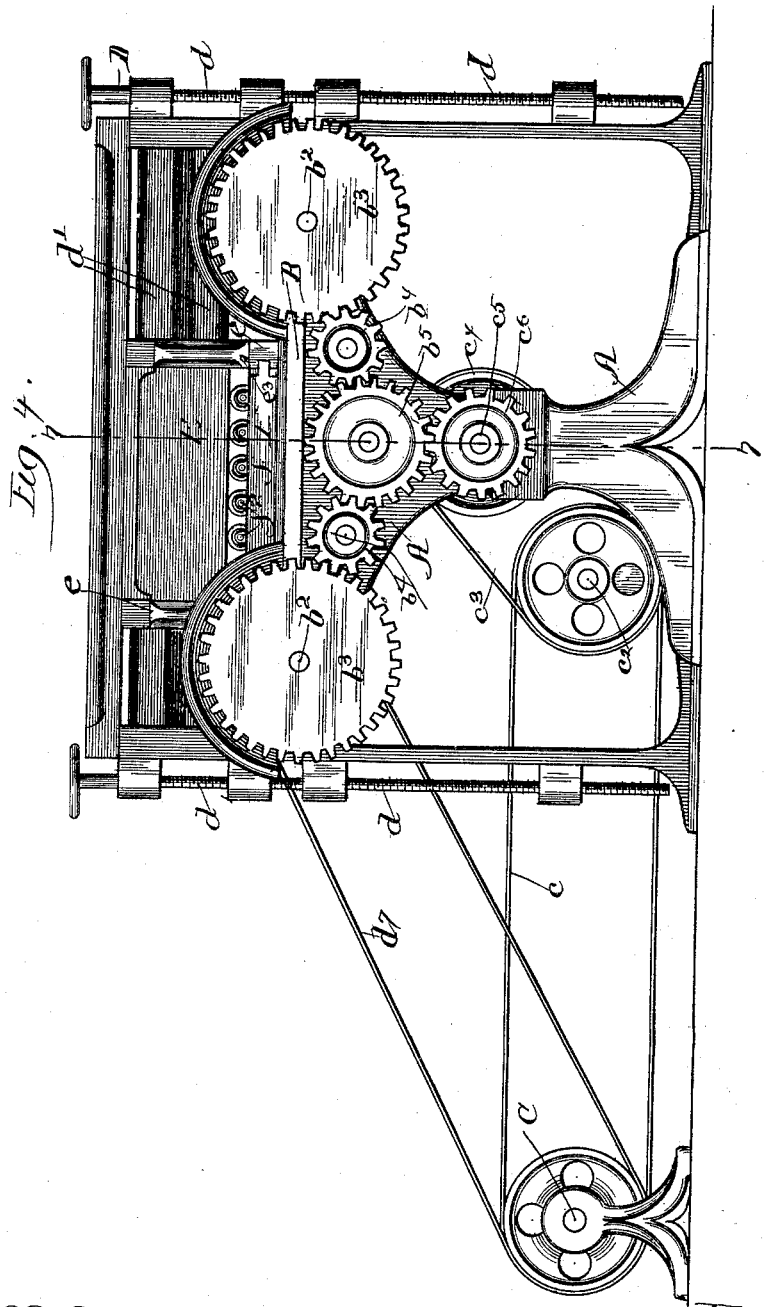
Attys

(No Model.) 4 Sheets—Sheet 2.

C. L. RUEHS.

SANDPAPERING MACHINE.

No. 489,093. Patented Jan. 3, 1893.



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(No Model.) 4 Sheets—Sheet 3.

C. L. RUEHS.

SANDPAPERING MACHINE.

No. 489,093. Patented Jan. 3, 1893.

Fig. 6.

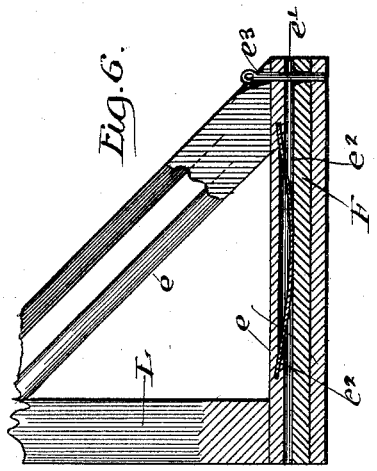
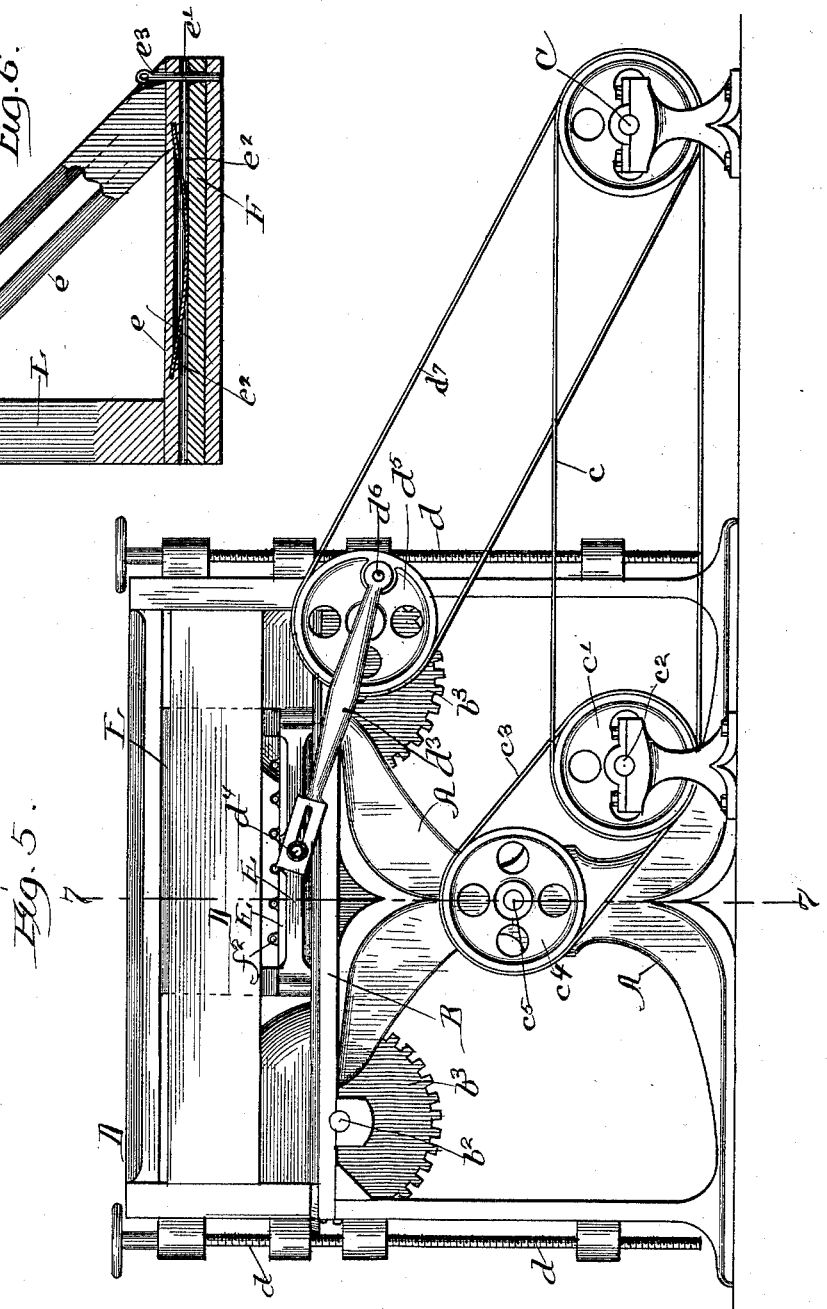


Fig. 5.



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(No Model.) 4 Sheets—Sheet 4.

C. L. RUEHS.

SANDPAPERING MACHINE.

No. 489,093. Patented Jan. 3, 1893.

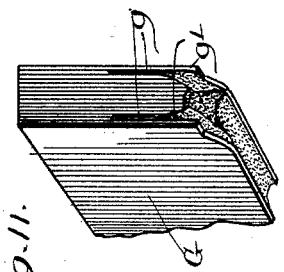

Fig. 11.

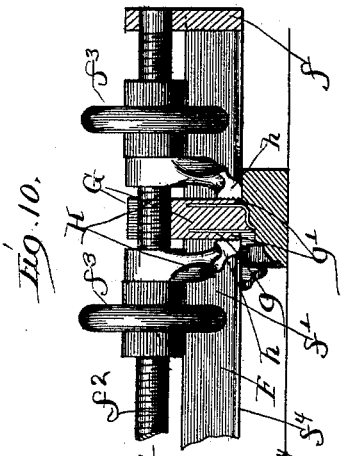

Fig. 10.

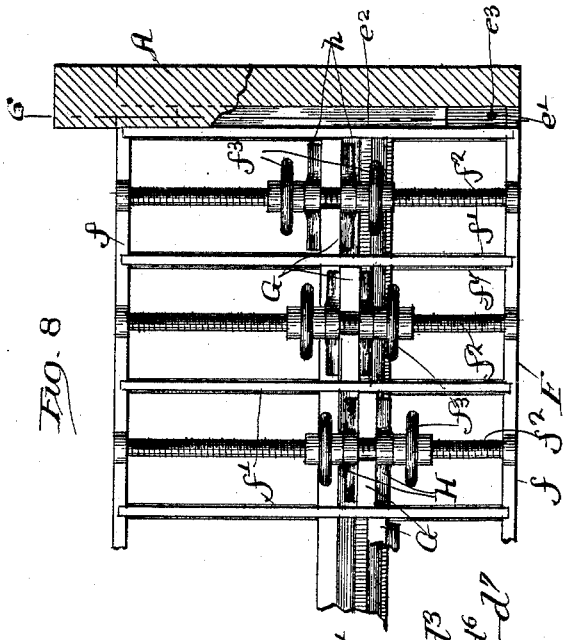

Fig. 8.

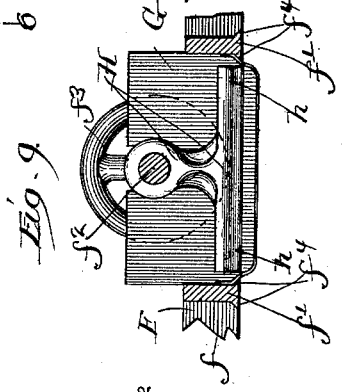

Fig. 9.

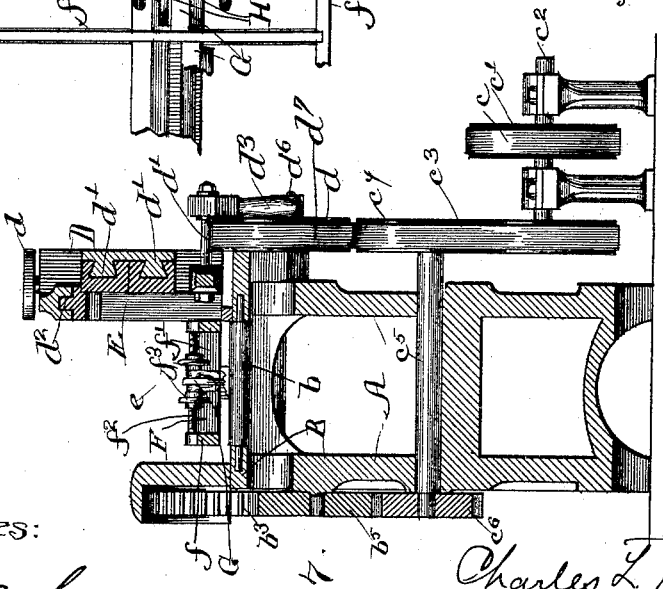

Fig. 7.

Witnesses:

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Inventor.

Charles L. Ruehs

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UNITED STATES PATENT OFFICE.

CHARLES L. RUEHS, OF CHICAGO, ILLINOIS.

SANDPAPERING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 489,093, dated January 3, 1893.

Application filed July 27, 1892. Serial No. 441,363. (No model.)

To all whom it may concern:

Be it known that I, CHARLES L. RUEHS, a citizen of the United States of America, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Sandpapering-Machines, of which the following is a specification.

My invention relates to certain improvements in a machine designed to sandpaper such irregular surfaces as are found upon moldings, the purpose being to avoid rounding off the sharp corners at which the different curves which the surfaces contain meet. In sandpapering molding by hand, it is almost impossible to avoid rounding off the corners more or less, and thereby marring the sharpness and beauty of the design. In sandpapering the same by machinery, it is still more difficult to save the corners. The improvements disclosed herein, however, I believe to be capable of putting as smooth and perfect a finish upon the wood as is possible without the slightest danger of rounding off or destroying the contour of the raised portion of the work.

While I have also made numerous minor and incidental improvements, I believe the main portion of my invention to consist in the arrangement of polishing blocks or surfaces in gangs or series, each of which blocks is appropriated to and designed to work upon so much of the molding as can be covered without passing over any of the sharp raised corners. This will be more clearly understood from the description below, in which the preferred form of my invention is set forth at length and in detail.

The drawings presented herewith contain eleven figures, of which

Figure 1 is a plan of a piece of molding; Fig. 2 a cross-section thereof; Fig. 3 a plan of a complete machine; Fig. 4 a side elevation of the same; Fig. 5 a similar elevation upon the other side; Fig. 6 a sectional detail in line 6—6 of Fig. 8; Fig. 7 a cross-section in line 7—7 of Figs. 3, 4 and 5; Fig. 8 a detail plan upon an enlarged scale; Figs. 9 and 10 sectional details; and Fig. 11 a perspective of a block for holding sandpaper.

In general, the machine consists as shown, of a stout frame A, (see Figs. 3, 4, 5 and 7,) supporting a bed B, bearing a series of anti-friction rollers b, and feed-rollers b', upon shafts b^2, bearing gears b^3, rotated by a driving shaft C, through the belt c, pulley c', the shaft c^2, the belt c^3, the pulley c^4, the shaft c^5, the gear-wheel c^6, and the loose gears b^5, b^4, b^4. The frame A carries by means of adjusting screws d, a second frame D, which may be raised or lowered by means of said adjusting screws, and which is provided with guides d', d', d^2, (see Fig. 7) upon which runs a sliding frame E, reciprocated longitudinally of the machine by means of a pitman d^3, pivoted to the sliding frame by means of a pin d^4, and also to a pulley d^5, by means of a wrist pin d^6. This pulley d^5, is run by means of a belt d^7, from a pulley upon the driving shaft C. The frame E, carries laterally extending brackets e, containing grooves e', (see Figs. 6 and 8,) in which a horizontal frame F, is supported and pressed downward by means of springs e^2, e^2. The horizontal frame is held in place by means of pins e^3, and consists of longitudinal bars f, cross-bars f', and screw-threaded rods f^2, arranged laterally across the frame and between the cross-bars f'. The screw-threaded rods are provided with nuts f^3, and a series of blocks G, each shaped to conform to a portion of the surface of the molding, are clamped between these nuts by means of washers H, which extend downward and laterally to embrace the greater portion of the lower edges of the blocks. Sandpaper is secured upon the lower edges of the blocks G, by means of saw kerfs g, which receive the edges of the paper, and thin lips g', which are clamped upon these edges by means of the washers h. At the ends of the blocks the sandpaper is folded upward and held in place by means of flanges f^4, upon the lower edges of the cross-pieces f'.

In using the machine, the molding to be sandpapered (see Figs. 1 and 2) is divided up laterally into the portions 1, 2, 3 and 4, none of which, it will be observed, contains a raised edge. A block G, is shaped to each of these portions, and its working surface covered with sandpaper, as shown in Fig. 11. These blocks are then set up in the frame F, and adjusted laterally of said frame so as to

strike the proper portion of the molding as it passes through the machine. The molding is then fed through guides b^6, and beneath a roller b^7, and as it advances over the feed-rollers b', it passes under the blocks G, in the reciprocating frame F. The frame, F, is made sufficiently long to receive blocks enough for the widest moldings, and in case it should be desired, a number of the narrower ones may be fed through at once.

It is hardly necessary to call attention to the impossibility of any rounding of corners with this machine because of the fact that the sandpaper is never bent over a raised corner, but instead thereof, whenever such a corner is encountered, the paper leaves the molding at the proper angle, and another piece of paper takes up the work at the angle of the next face.

I claim as new and desire to secure by Letters Patent:—

1. The combination in a machine of the class described, of the reciprocating frame F, containing the cross-bar f', having the flanges f^4, and the paper carrying blocks G, laterally adjustable in said frame and having the ends of the sandpaper held upward by means of the flanges f^4; substantially as described.

2. In a machine of the class described, the combination with the reciprocating frame F, of the rods f^2, nuts f^3, blocks G, and washers H; substantially as described.

3. In a machine of the class described, the combination with the reciprocating frame F, bearing the cross-bars f', of the laterally adjustable blocks G, containing the saw kerfs g, and provided with clamping devices for holding the edges of the sandpaper therein; substantially as described.

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Witnesses:
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CHAS. O. CHEVEY.