Grandy & Morse,

Grinding File-Blanks.

No. 39,992. Patented Sep. 15, 1863.

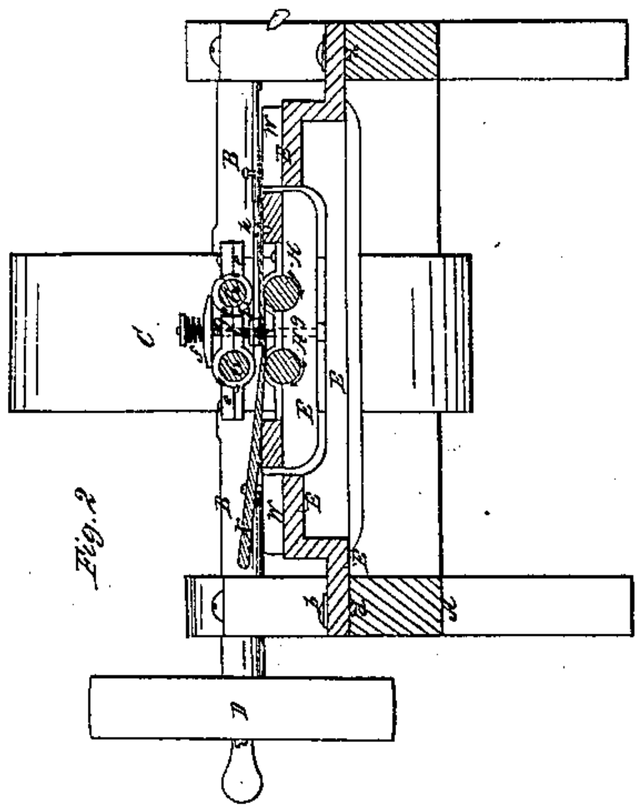

Fig. 2

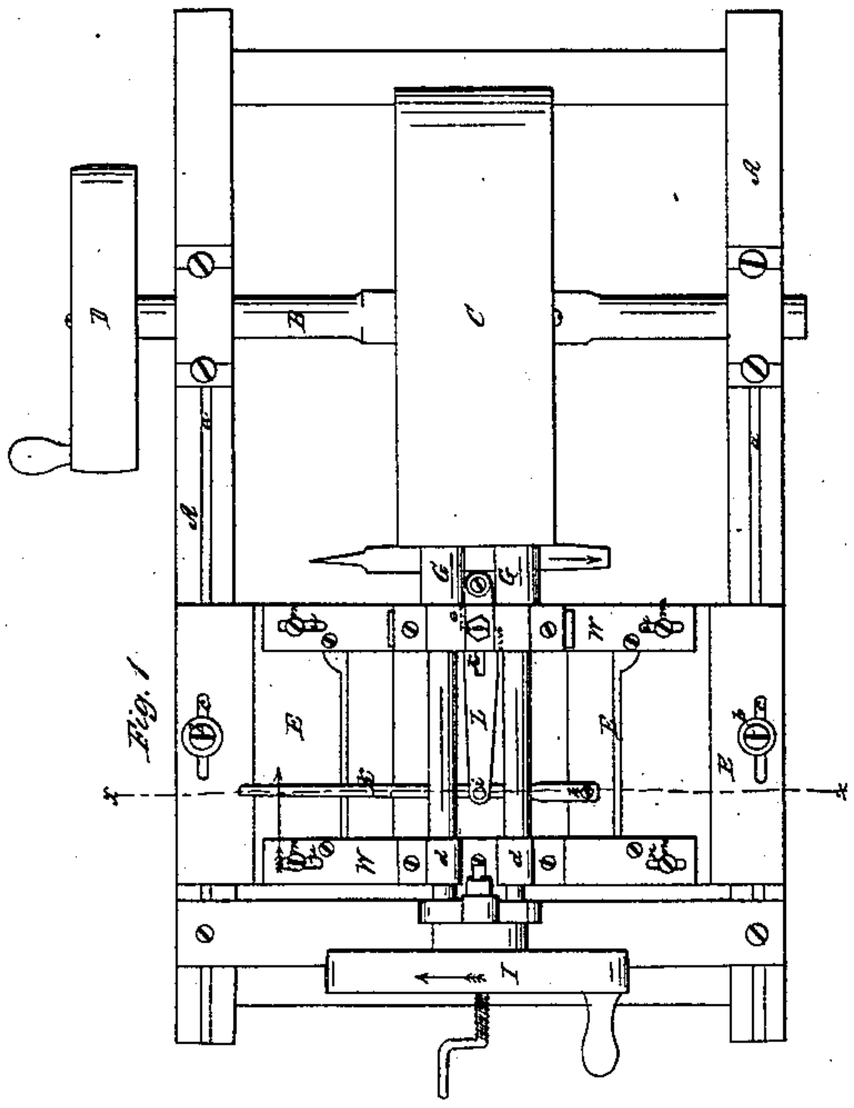

Fig. 1

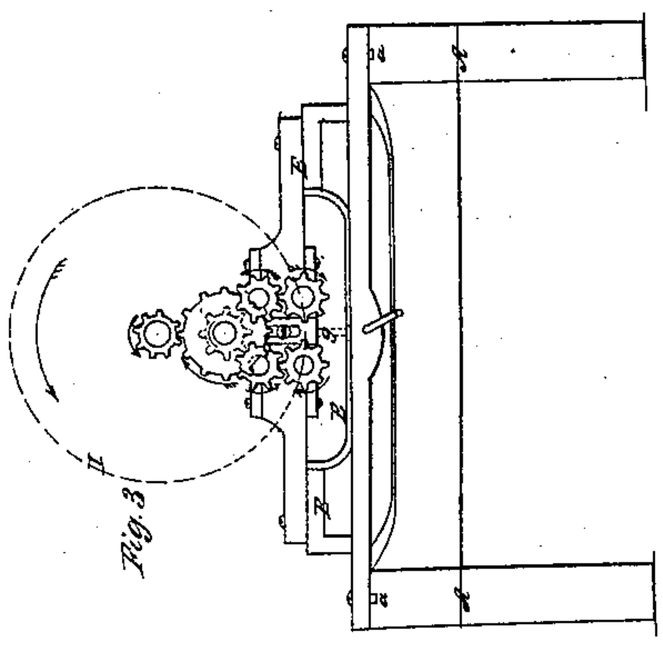

Fig. 3

Witnesses;
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Inventors;
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UNITED STATES PATENT OFFICE.

H. E. GRANDY, OF BALLARDVALE, AND SARGENT O. MORSE, OF MEDFORD, MASSACHUSETTS, ASSIGNORS TO THE WHIPPLE FILE MANUFACTURING COMPANY.

IMPROVED MACHINERY FOR GRINDING THE EDGE OF FILE-BLANKS.

Specification forming part of Letters Patent No. **39,992**, dated September 15, 1863.

To all whom it may concern:

Be it known that we, H. E. GRANDY, of Ballardvale, in the county of Essex, and SARGENT O. MORSE, of Medford, in the county of Middlesex, both in the State of Massachusetts, have invented an Improved Machine for Grinding the Edges of File-Blanks, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a plan of our improved machine; Fig. 2, a section on the line *x x* of Fig. 1; Fig. 3, a front view showing the gearing by which the rolls G and H are driven.

Our machine is designed to grind the edges of blanks for files or rasps after they are forged or rolled, and is constructed and operated as follows: The shaft B, which carries the grindstone C, runs in bearings upon the frame-work A, and is driven by power applied to the pulley D. E is a carriage, which rests upon the side timbers of the frame-work, upon which it may be adjusted, so as to regulate the distance between the end of the feed-rolls and the grindstone, being guided by the ways *a* and held in place by the screws *b*, which pass through the slots *c* in the carriage and enter the side timbers of the frame-work. The file-blank to be ground is traversed, with its edge in contact with the face of the grindstone, by the feed-rolls G H, which run in bearings in the transverse rails W of the carriage E, and are connected together and with the driving-wheel I by gears, as seen in Fig. 3, so as to feed the blank through in the direction of the arrow, Fig. 1. The lower rolls, H, run in fixed bearings, and the upper rolls, G, run at one end in the fixed bearings *d*, and at the other end in the loose boxes *e*, which are held in place horizontally by the pin *g*. The rolls G are pressed down toward the lower rolls by the spring *f*, the pressure of which is regulated by a nut upon the screw *g*. The ends of the upper rolls nearest to the grindstone are thus free to rise and fall to accommodate any thickness of blank which may be passed between the rolls. The rolls being revolved in the direction of the arrows, Fig. 2, by the driving-wheel I and gears, Fig. 3, the file-blank is traversed across the face of the grindstone as required. K is a lever pivoted to the carriage at *h*. To this lever is pivoted at *i* an arm, L, which is guided by means of a pin passing through the slot *k*. This arm carries at its outer end a roll, *l*, which bears against the edge of the file-blank, and thus, as the operator presses the lever in the direction of the arrow, Fig. 1, the edge of the blank as it passes through between the rolls is kept constantly in contact with the grindstone. The transverse rails W are adjusted so as to bring the roll *l* opposite the center of the stone by means of the screws *m* and slots *u*, and as the grindstone is worn away the carriage is moved up to it by the screw *p*, which passes through the frame-work and bears against the carriage, the screws *b* being loosened to permit the carriage to move.

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

The feed-rolls G and H and the presser-roll *l*, operated by the lever K and arm L, or their substantial equivalents, in combination with the grindstone C, constructed, arranged, and operating substantially as set forth.

H. E. GRANDY.
SARGENT O. MORSE.

Witnesses:
P. E. TESCHEMACHER,
N. W. STEARNS.