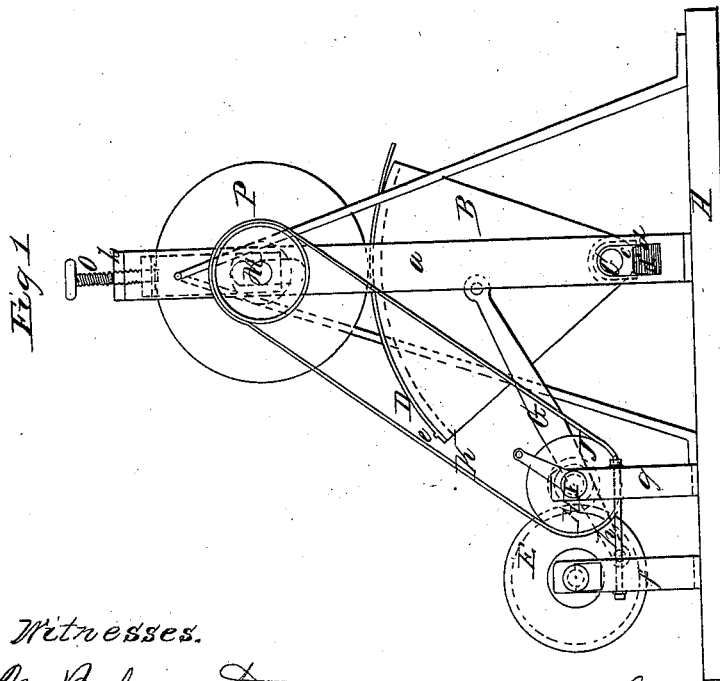
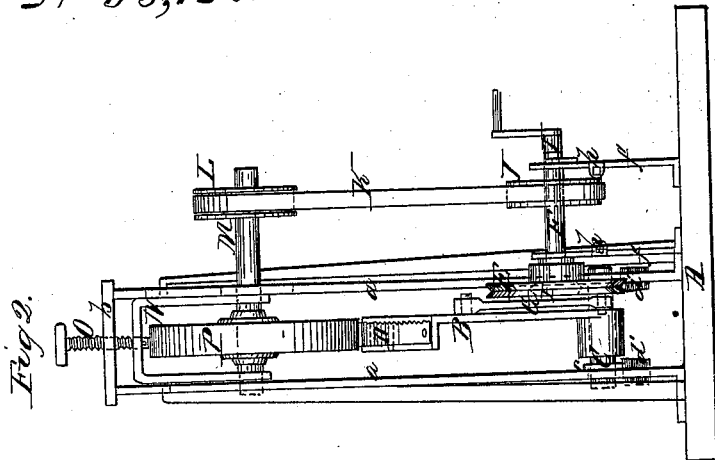


J. Crookes,

Grinding Saws.

N^o 53,120.

Patented Mar. 13, 1866.



Witnesses.

*J. W. Blount
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UNITED STATES PATENT OFFICE.

JOSEPH CROOKES, OF ST. LOUIS, MISSOURI.

IMPROVED SAW-GRINDING MACHINE.

Specification forming part of Letters Patent No. 53,120, dated March 13, 1866.

To all whom it may concern:

Be it known that I, JOSEPH CROOKES, of the city and county of St. Louis, State of Missouri, have invented a new and Improved Machine for Grinding Saws; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side view of my invention; Fig. 2, an end view of the same.

Similar letters of reference indicate like parts.

This invention relates to a new and improved machine for grinding reciprocating saws, so that they will be of a uniform thickness throughout their entire length.

The invention consists in the employment or use of an oscillating bed in connection with an adjustable grindstone arranged in such a manner that the work may be done very expeditiously and in a perfect manner.

A represents the bed or base of the machine on which two uprights, *a a*, are secured, and connected at their upper ends by a cross-bar, *b*. B is a segment or quadrant-shaped bed fitted at its lower end on a shaft, C, the bearings *c* of which are in slots *d* in the lower parts of the uprights, *a a*, and rest upon india-rubber or other springs *d'*, placed in the lower parts of the slots *d*. This bed B works between the uprights *a a*, and upon its periphery or curved edge the saw D, to be operated upon, is secured, one end of the saw being attached to the bed by a screw or rivet, *e*.

E is a crank-pulley keyed on a shaft, F, which has its bearings in uprights *f f*, attached to the bed or base A. The bed B is connected to the crank-pulley E by means of a rod, G, and the periphery of said crank-pulley is grooved in V form to receive the periphery of a pulley, H, on a shaft, I, the latter having its bearings in uprights *g g*, attached to the bed or base. These uprights *g g* are connected with the uprights *f f* by means of screw-rods *h*, and by means of these rods *h* the pulley K may be kept in close contact with the crank-pulley E, so as to produce sufficient friction to drive or rotate the latter.

On the shaft I there is keyed a pulley, J, around which a band, K, passes, said band also passing around a pulley, L, on a shaft, M, the bearings of which are in a frame, N, fitted between the uprights *a a* and supported by a screw, O, which passes through the cross-bar *b*. By turning this screw the frame N may be raised and lowered.

On the shaft M there is secured a grindstone, P, which is directly over and in line with the bed B. The shaft M passes through oblong slots in the uprights *a a*, said slots admitting of the vertical adjustment of the shaft M and grindstone.

From the above description it will be seen that by rotating the shaft I motion will be communicated to the crank-pulley E, and the bed B will be oscillated from said pulley by the rod G. The grindstone P is at the same time rotated by the band K, and said stone operates upon the saw as the latter is moved back and forth with the bed B, the stone operating upon nearly the whole length of the saw. The grindstone is properly adjusted to act upon the saw by turning the screw O. When one side of the saw is ground true it is reversed and the opposite side operated upon. The band K may be kept in a perfectly taut state under all adjustments of the grindstone by means of an idle or friction roller applied to it.

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

1. The oscillating bed B, in combination with the adjustable grindstone P, arranged and operated by means substantially as and for the purpose herein set forth.

2. The crank-pulley E and friction-pulley H, in connection with the rod G, and the band K, passing over the pulleys J L on the shafts I M, all arranged, substantially as shown and described, for operating the bed and grindstone from one and the same driving-shaft I.

JOSEPH CROOKES.

Witnesses:

C. H. HEINRICH,
JOSEPH W. BRANCH.