

Zealous Sperry's
Saw Grinding Machine.

117827

PATENTED AUG 8 1871

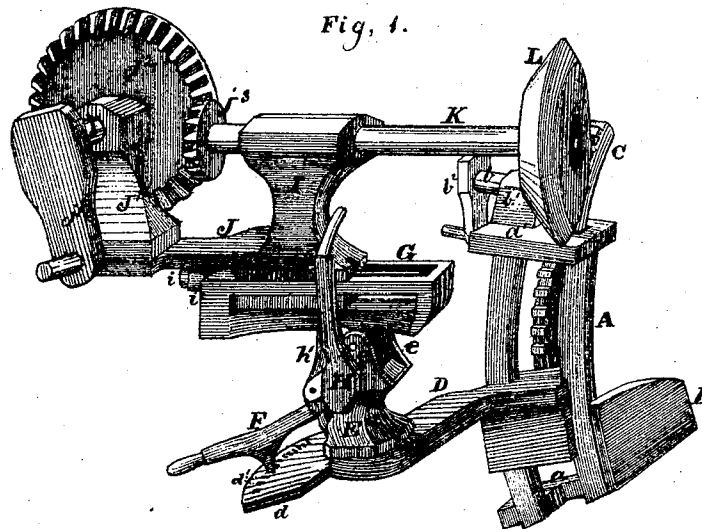


Fig. 2.

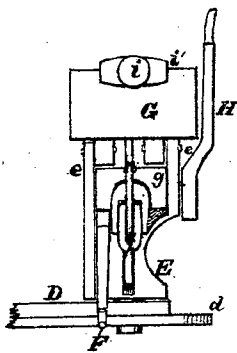
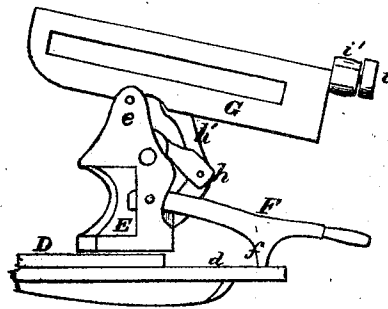


Fig. 3.



Witnesses,

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UNITED STATES PATENT OFFICE.

ZEALOUS SPERRY, OF MIDLAND, MICHIGAN.

IMPROVEMENT IN SAW-SHARPENING MACHINES.

Specification forming part of Letters Patent No. 117,827, dated August 8, 1871.

To all whom it may concern:

Be it known that I, ZEALOUS SPERRY, of Midland, in the county of Midland and in the State of Michigan, have invented a new and useful Improvement in Saw-Grinding Machines; and do hereby declare that the following description, taken in connection with the accompanying drawing hereinafter referred to, forms a full and exact specification of the same, wherein I have set forth the nature and principles of my said improvement, by which my invention may be distinguished from others of a similar class, together with such parts as I claim and desire to secure by Letters Patent.

My invention relates to machines made use of for the purpose of grinding saws; and the nature thereof consists in certain combinations and arrangements of the parts of the mechanism constituting the same, by means of which a grindstone secured upon a horizontal shaft is rendered so adjustable that it may be moved in any direction or set at any required angle, and applied to saws without detaching them from position.

In the accompanying drawing, which illustrates my invention and forms a part of the specification thereof, Figure 1 represents a perspective view of my machine, and Figs. 2 and 3 views in detail of the same.

The construction and operation of my invention are as follows: A represents a frame having the form of an arc of a circle, and fastened by means of screws or nails to the piece B, which is designed to represent a portion of a stout bench or upright frame that may be transferred from one place to another. This frame is connected and held together at top and bottom by means of the slotted transverse pieces *a a'*. C is a curvilinear toothed bar, having its lower end secured to that end of the support or table D passing through the frame A, and supplied with grooves to receive the rails of said frame and retain the end of the said table therein, and its upper end passing through the slot cut for its reception in the cap or piece *a'*, and engaging with the pinion (not shown) located upon one end of the shaft *b*, provided with handle *b²*, and having its bearings in a journal-box, *b¹*, fastened to the upper side of cap *a'*. By means of the aforesaid devices the desired height may be given to the grindstone. D designates the table or support of the machine, at and to the outer end of which is secured a semi-

circular leaf, *d*, by means of a transverse brace fastened to the under side of said table and leaf. Upon the upper side of the stationary leaf *d*, and arranged semicircularly or parallel with the outer edge of said leaf, are cut the depressions or receptacles *d'*, for the purpose hereinafter set forth. E represents an upright or vertical post of the form shown in Figs. 1 and 2, and supplied on its lower side, at the center, with a pivot passing through an aperture made in the outer end of table D, the upper portion of said post being supplied or formed with cheek-pieces or jaws *e e*, as is also one side thereof, for the reception of the pivoted arm F, which acts both as a lever and pawl for operating or revolving and holding in the required position the post E, the lower side of the arm F being constructed with a pointed projection, *f*, entering the depressions or recesses *d'* of table or leaf *d*. G designates a frame pivoted to and at right angles with the upper end of the post E by means of a pin passing through perforations cut in the jaws *e e* of post E and perforated projections secured to the under side of the said frame. The frame G is operated by means of the lever H, secured at its lower end to the projecting end of the shaft *g*—that is to say, its ends elevated or depressed, causing the grindstone to be set at any desired angle to accommodate the pitch to be given to the teeth of the saw while being ground. The shaft *g* is located within the vertical post E, and is of a crank-shape, having its bearings secured flush with its periphery and entering apertures cut in the jaws *e e* of post E, one of them projecting beyond its aperture for the purpose aforesaid. Pivoted within a recess cut in the upper side of the said shaft *g* is one end of the "knee-joint" *h*, the lower end of said joint being pivoted within a recess provided in the lower end of the vertical post E. An arm, *h'*, is pivoted at its lower end to the center of said knee-joint, and at its upper end, within an elongated slot cut in the bottom rail of the frame G, for the purpose, as is clearly apparent from the drawing, of connecting the said frame with the said knee-joint, so as to assist or cause the lever H to operate the frame marked G. I designates a vertical support or standard, having its central portion contracted and its upper and lower ends formed with flanges, beveled, as shown in Fig. 1. Cut in each side of the flange on the lower end of the support I is a groove for the reception of the top rails of frame G, the ob-

ject of which being for the purpose of allowing said support to be moved back and forth on its frame G, imparting a similar motion to the grindstone, and permitting it to be brought in contact with or disengaged from the saw to be sharpened, and placed so as to sharpen the back as well as the front of the tooth of the saw. By means of the flat-headed screw *i*, with its outer end resting in a perforation cut in the block or support *i'* fastened to frame G, and its inner end screwed into the standard I, the latter may be operated or the required direction given thereto. J designates a board, the inner end of which is secured to the standard I, which is properly cut away or recessed on the upper or beveled surface of its lower end to receive said end of board J, and resting at its center upon the support *i'* of frame G. Upon the upper side of the outer end of the said board is secured in the ordinary way an upright support or post, *J'*, which affords a bearing for the transverse shaft *j*, secured thereon by means of a journal-box. Attached to one end of said shaft is a crank or handle, *j'*, and to the other end thereof a beveled gear-wheel, *j''*, which engages with a correspondingly-beveled pinion, *j'''*, attached to one end of the elongated shaft K running at right angles with the shaft *j*, and having its bearing in a journal-box secured to the upper flanged end of post or support I. L represents the grindstone secured to the horizontal longitudinal shaft K, as seen in Fig. 1, and having the proper bevel on its face for grinding the saw either on the "back" or "front" of its tooth to be sharpened.

Instead of the ordinary grindstone an emery one may be used.

The operation of my invention will be fully understood from the foregoing description of its construction.

Having thus described my invention, I will

indicate what I claim and desire to secure by Letters Patent in the following clauses:

1. The curvilinear frame A, secured to a bench or other suitable support at one end, and supplied with the top and bottom pieces *a a'* having perforations cut through them, and curvilinear toothed bar C attached to the table D of the machine, which is supplied with grooves for the reception of the side rails of frame A, and gearing or engaging with a pinion on the shaft *b* having its bearings in an upright, *b'*, of cap-piece *a'*, secured to the frame, and operated by crank *b*, combined, arranged, and operating as and for the purpose described.

2. The employment of the pivoted arm F, in combination with the revolving vertical post E, acting both as a lever and a pawl in rotating and holding in place the said post, its projection *f* entering depressions or recesses cut in the semi-circular stationary leaf *d* secured to table D, constructed and arranged as and for the purpose described.

3. In combination with the post E, arm *h'*, the lever H, shaft *g*, knee-joint *h*, and pivoted frame G, all constructed, arranged, and operating as and for the purpose described.

4. The pivoted frame G, constructed as shown, and supplied with the operating-screw *i* and support *i'*, in combination with the vertical sliding support I, having its lower end so recessed or grooved as to receive the top rails of said frame G, constructed and operating as and for the purpose set forth.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 9th day of May, 1870.

ZEALOUS SPERRY. [L. S.]

Witnesses:

H. F. OLMSTED,
C. H. VAN DUSEN.