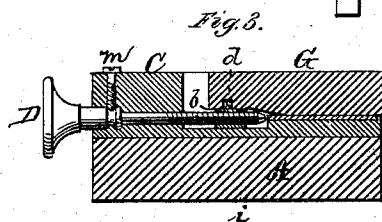
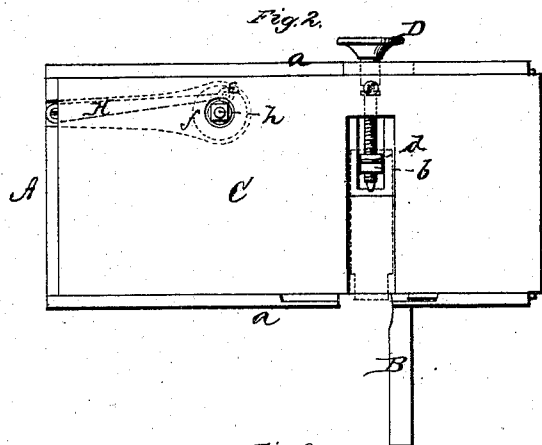
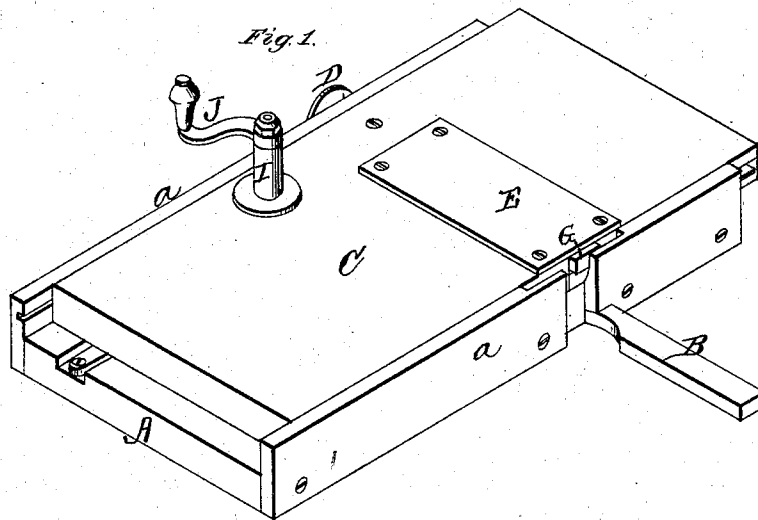


C. WILLARD.
Saw-Sharpening Devices.

No. 137,644.

Patented April 8, 1873.



Witnesses
John A. Ellis
Wm. H. Ellis

Inventor
Charles Willard
Per
J. M. Alexander & Co.
Attys

UNITED STATES PATENT OFFICE.

CHARLES WILLARD, OF BARTONSVILLE, VERMONT.

IMPROVEMENT IN SAW-SHARPENING DEVICES.

Specification forming part of Letters Patent No. **137,644**, dated April 8, 1873; application filed February 15, 1873.

To all whom it may concern :

Be it known that I, CHARLES WILLARD, of Bartonville, in the county of Windham and State of Vermont, have invented certain new and useful Improvements in Device for Sharpening Saws; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon which form a part of this specification.

The nature of my invention consists in the construction and arrangement of a device for sharpening circular saws, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a perspective view of my device. Fig. 2 is a plan view of the same with the plate covering the emery-block removed, and Fig. 3 is a transverse vertical section taken through the emery-block in Fig. 2.

A represents a bed-plate, provided with a guide-arm, B, extending on one side at right angles; and along each side of the bed-plate is a grooved guide or way, *a*, between which a table, C, slides, said table having projecting plates or guides to fit in the grooves on the ways *a a*. Transversely through one side of the table C passes a screw, D, which extends through an elongated slot in the way *a* on the side opposite to that on which the arm B projects. This screw D passes through a nut, *b*, placed in a transverse groove in the table, so that by turning the screw the nut is moved back or forth, as desired. On the upper side of the nut *b* is a flange, *d*, which fits into a corresponding groove made in the under side at or near the inner end of the emery-block G. The block is placed in a transverse groove made in the table C and in the guide *a* immediately in front of the arm B. A plate, E, fastened to the upper side of the table, holds the emery-block down in its place in the groove on the table. By the use of the screw D the emery-block G is thus moved-out or in, as occasion may require. In a recess in the bed-plate A is pivoted one end of a bar or pitman, H, the other end of which is attached to a wrist-pin, *e*, on a disk, *f*, placed in a circular recess on the under side of the table C.

This disk *f* is attached to the lower end of a shaft, *h*, which passes up through the table C and through a hollow post attached to the same; and on the upper end of said shaft *h* is secured a crank, J. By turning this crank the table C with the emery-block G obtains a reciprocating motion. A screw, *m*, passing through the table C into a circumferential groove on the screw D, as shown in Fig. 3, prevents said screw from moving either out or in while being turned.

The machine is first put before the saw running at full speed, with the guide-arm B running out from the saw-table so as to be close to the saw-plate; and spurs *i* projecting from the under side of the table will hold the machine fast in its place. The emery-block G in the table C is then, by means of the screw D, set up to the teeth of the saw, and then the crank J turned, which moves the table with the emery-block in such a manner as to cause the saw to grind itself round and sharpen itself true.

The sides of the teeth may be ground, as well as the front of the teeth, by passing the emery-block by the sides of them.

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

1. A saw-sharpening device in which an emery-block runs back and forth during the operation, and the saw continually revolving, substantially as herein set forth.

2. The combination of the screw D, nut *b* with flange *d*, and the groove in the under side of the emery-block G for setting said block, substantially as herein set forth.

3. The combination, with the stationary bed-plate A and sliding table C, of the arm or pitman H, wrist-pin *e*, disk *f*, shaft *h*, and crank J, substantially as and for the purposes herein set forth.

4. The combination of the bed-plate A with arm B and ways *a*, the sliding table C, screw D, nut *b* with flange *d*, emery-block G, crank J, disk *f*, and arm H, all constructed and arranged substantially as and for the purposes herein set forth.

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

Witnesses: CHARLES WILLARD.

L. M. READ,

C. W. FAIRBROTHER.

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