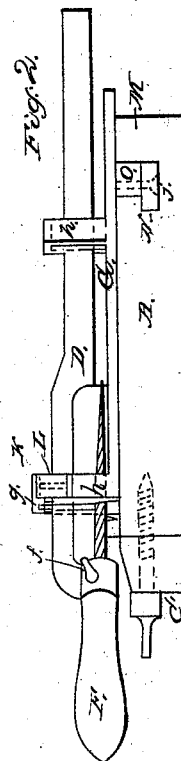
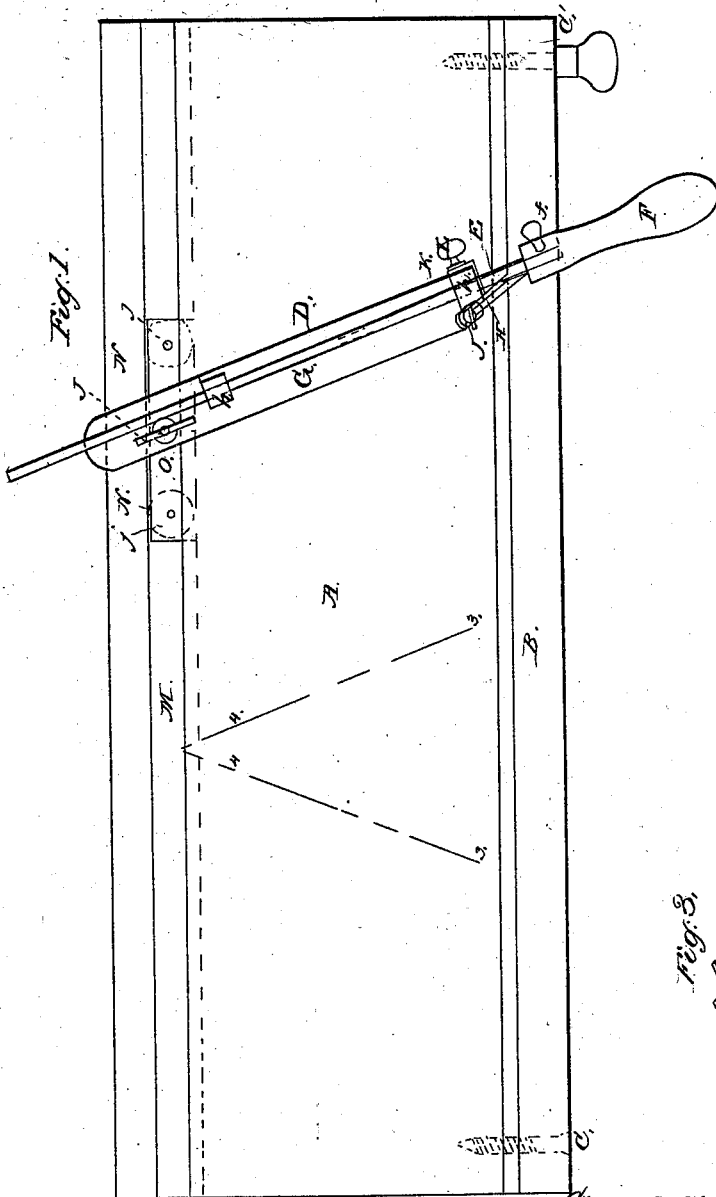


Fraser & Hinchman,
Sharpening Reciprocating Saws.
N^o 54,709. Patented May 15, 1866.



Witnesses.

Stacy and
Samuel Brown Jr.

Inventors.
Charles P. Fraser & Charles C. Hinchman

By Their Attorney,
Stephen W. Stick.

UNITED STATES PATENT OFFICE.

CHARLES P. FRAZER, OF ALLOWAYSTOWN, AND C. C. HINCHMAN, OF
CLARKSBOROUGH, NEW JERSEY.

IMPROVED SAW-FILING MACHINE.

Specification forming part of Letters Patent No. 54,709, dated May 15, 1866.

To all whom it may concern:

Be it known that we, CHARLES P. FRAZER, of Allowaystown, Salem county, and State of New Jersey, and CHARLES C. HINCHMAN, of Clarksborough, Gloucester county, and State of New Jersey, have invented a new and useful Improvement in Apparatus for Sharpening Saws; and we do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a plan or top view of the apparatus. Fig. 2 is an end elevation of the apparatus. Fig. 3 is a perspective view of the adjustable guide K.

Like letters in all the figures indicate the same parts.

Our invention is an improvement on the one for which a patent was issued to the above-named Charles P. Frazer on the 28th day of November, 1865, and will be understood by the following description.

A is a bed-plate, which is fastened down to a table or bench in any convenient manner. Against the front edge of this table the saw is held to be sharpened by means of the clamp B. C and C' are screws by which the clamp is secured against the saw. (See Figs. 1 and 2.) The screw C' has a thumb-handle for the purpose of operating the screw expeditiously, for loosening and tightening the said clamp B.

D is a sliding bar, into which the file E is placed, there being a hole in the front end of its bowed part, into which the journal *d* of the handle F is placed, there being a conical hole, *c*, at the other end of the bow, which receives the tail end of the file E. There is a set-screw, *f*, which holds the handle firmly in position when adjusted to the angle of the teeth of the saw. The said sliding bar D is guided by means of the slots *g g* in the uprights *h h* of the reversible swivel G, which rests upon the bed-plate A, and is held at its proper angle by means of the thumb-screw *i*, arranged as hereinafter described.

H is an adjustable finger held securely on the swivel G by means of the thumb-screw J. The object of the finger is to regulate the movement of said swivel by placing it between the teeth of the saw successively during the filing of the same.

K is a guide for regulating the lowest position of the sliding bar D, and consequently the depth of the cuts of the file to make the teeth of the saw of even length, it being adjustable beneath the bar, and held securely against the front upright, *h*, of the reversible swivel G by means of the thumb-screw L. The under edge of the bow part of the bar is curved to correspond to the curvature of the file to secure uniformity in the action of the latter. The said guide K is shown detached in Fig. 3.

At the rear edge of the bed-plate A there is a longitudinal groove, M, which is enlarged at the bottom to receive the friction-wheels N N, which turn on the pivots *j j* that project from the under side of the sliding tongue O, to which the swivel G is secured by means of the thumb-screw *i*, above described. The said tongue O is a little narrower than the groove M, so as to move freely therein, the friction-wheels N N only bearing against the sides of the groove.

The operation is as follows: The saw being placed between the front edge of the bed-plate A and clamp B and firmly secured by means of the screws C and C', and the swivel G being placed to correspond to one of the angle-lines 3 4 on the bed-plate A, it is held firmly to suit said angle by tightening the thumb-screw *i*. Then the finger H is set to come between two of the teeth of the saw near the file E, which is between the first two at one end of the saw. The first tooth of the saw is then filed by pushing the sliding bar D backward and forward in the slots *g g* of the uprights *h h* until the under side of the bow part of the bar bears upon the guide K. The operator then raises the handle F and moves the swivel G forward until the finger H is brought two teeth forward and is allowed by the descent of the handle to rest between the teeth, and then the third tooth is filed in like manner as the first, and so on in succession every other tooth is filed, the wheels N N running in the longitudinal groove M to guide the swivel G as it is moved along, so as to give uniformity to the angle of the teeth. When the other end of the saw is reached, every other tooth being filed in manner to correspond to the set of teeth, the swivel G is turned to correspond to the other angle-line 3 4, and then a like operation is carried on to file the fellow teeth to those already filed.

Having thus fully described the construction and operation of our improved apparatus for sharpening saws, what we claim therein as new, and desire to secure by Letters Patent, is—

The combination of the reversible swivel-plate G, file-carrier D, groove M, tongue O, and clamp B, the whole being constructed and arranged in relation to each other substantially as described, and for the purposes specified.

In testimony whereof we have hereunto set our hands and affixed our seals this 19th day of February, 1866.

CHARLES P. FRAZER. [L. S.]
C. C. HINCHMAN. [L. S.]

Witnesses:

STEPHEN USTICK,
JOHN WHITE.