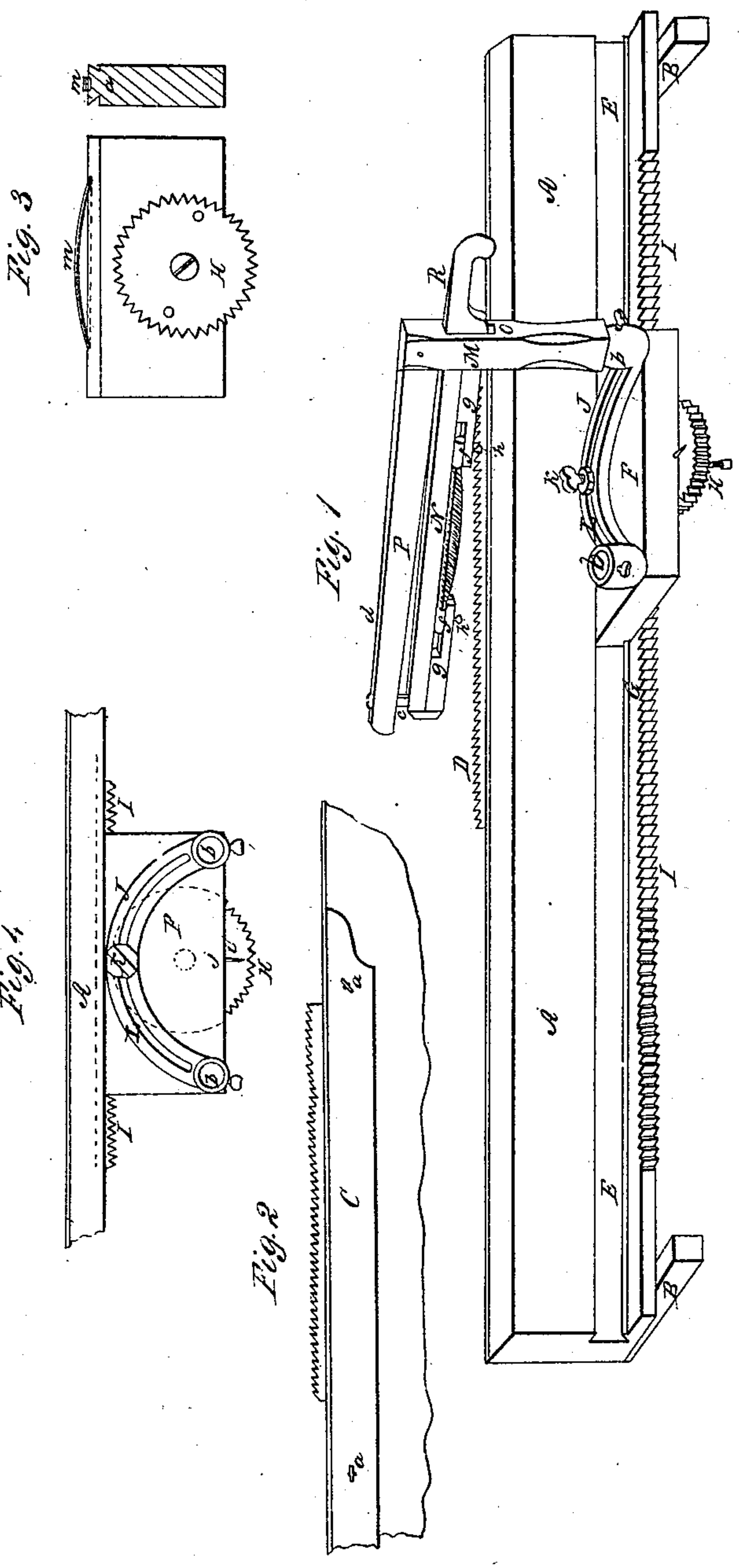


Robbins, Sherman & Bigelow,
Sharpening Reciprocating Saws.
N^o 16,695. Patented Feb. 24, 1857.



UNITED STATES PATENT OFFICE.

ARCHIBALD ROBBINS, ALANSON SHEWMAN, AND LAWSON R. BIGELOW, OF WATKINS,
NEW YORK.

SAW-FILE.

Specification of Letters Patent No. 16,695, dated February 24, 1857.

To all whom it may concern:

Be it known that we, ARCHIBALD ROBBINS, ALANSON SHEWMAN, and LAWSON R. BIGELOW, of Watkins, in the county of Schuyler and State of New York, have invented a new and Improved Machine for Filing Saws; and we do hereby declare that the following is a full, clear, and exact description of the construction and operation thereof, reference being had to the accompanying drawings, making part of this specification, and to the letters of reference marked thereon.

The same letters indicate corresponding parts in the several figures.

Figure 1, is a perspective view, showing the general form of our machine.

A A is a longitudinal frame resting on blocks at B B. The back of the upright portion has a plane surface, against which the saw-blade is secured by the clamp C Fig. 2, and tightened by the thumb screws *a, a*. The saw is held in an inverted position, with the teeth slightly above the top of the frame, as at D Fig. 1. A dove-tailed groove E E is plowed the whole length of this frame, which forms a way in which the regulating carriage, F, slides. The carriage is secured in this way by the dove-tailed tenon *a*, Fig. 3, and also has a bearing on the bed-piece G. To the under side of the carriage a toothed wheel, H, is attached which gears into the cog-rack, I I, on the side of the bed-piece. Upon the top of the carriage is an arc J, movable upon the thumb-screw K which works through the slot L. A socket *b, b*, is in each end of the arc, which receives the standard of the guide frame M.

N is the file carrier, working through the mortise O, and guided at its opposite end by the pin *c* which slides in the slot *d* of the arm P. The file, *e*, has a round wooden handle *f f* at each end, which are held in the yokes *g, g*, and secured by the screws *h, h*. These round handles admit of turning the file to a position in which its angles correspond with the teeth of the saw.

Fig. 3, is a plan-view of the underside of the carriage detached. On the back of the dove-tailed tenon is a small recess in which are bedded one or more thin bow-shaped steel springs, *m*, which press against the back of the groove, and cause the carriage to slide steadily and to adhere to the bearings sufficiently to steady the guide-frame.

Fig. 4, shows a top view of the carriage

and arc. A scale of small divisions, *i*, is placed upon the wheel, with the small point *j* to indicate its movement.

Operation: The saw being placed and secured in its position under the guide-frame, the arc J is made to slide to the proper position to bring the direction of the file at the right angle across the saw, which may be more or less obtuse as required. The position of the edge of the file, is then adjusted to the angle which the cutting edge of the tooth shall have, and secured by the screw. The thumb-screw of the socket *b* in the arc is tightened so as to prevent the standard M from turning. The operator then gives motion to the file by means of the handle R and when one tooth is filed, it is set for the next upon that side by moving the wheel H until the file is brought over it. The movement of the wheel required to set it for each tooth will be indicated by the distance the scale *i* travels under the point *j*. Having filed the teeth upon one side, the standard M is placed in the opposite socket, and turned to the same relative angle that it before had, or the saw may be taken out and its ends reversed. Different files for different kinds of work may readily be placed in the carrier, requiring but a moment's time to make the change. By this means, saws of all kinds may be filed, with a uniformity and exactness, which cannot be attained by even the most skilful hand filer, and it is obvious that too much regard cannot be paid to the uniformity of the diverse angles of the saw-teeth, since the ease, rapidity and smoothness of their cutting depend so greatly upon it. This machine may be constructed of iron, or metal and wood together, and may be used by power instead of hand if desired, as its motions are easily operated by machinery.

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

The combination and arrangement of the sliding carriage F, the index-wheel H, arc-adjuster J, and guide-frame M, operating in the manner and for the purpose herein set forth.

ARCHIBALD ROBBINS.
ALANSON SHEWMAN.
LAWSON R. BIGELOW.

Witnesses:

A. N. ACKLEY,
E. O. ALLEN.