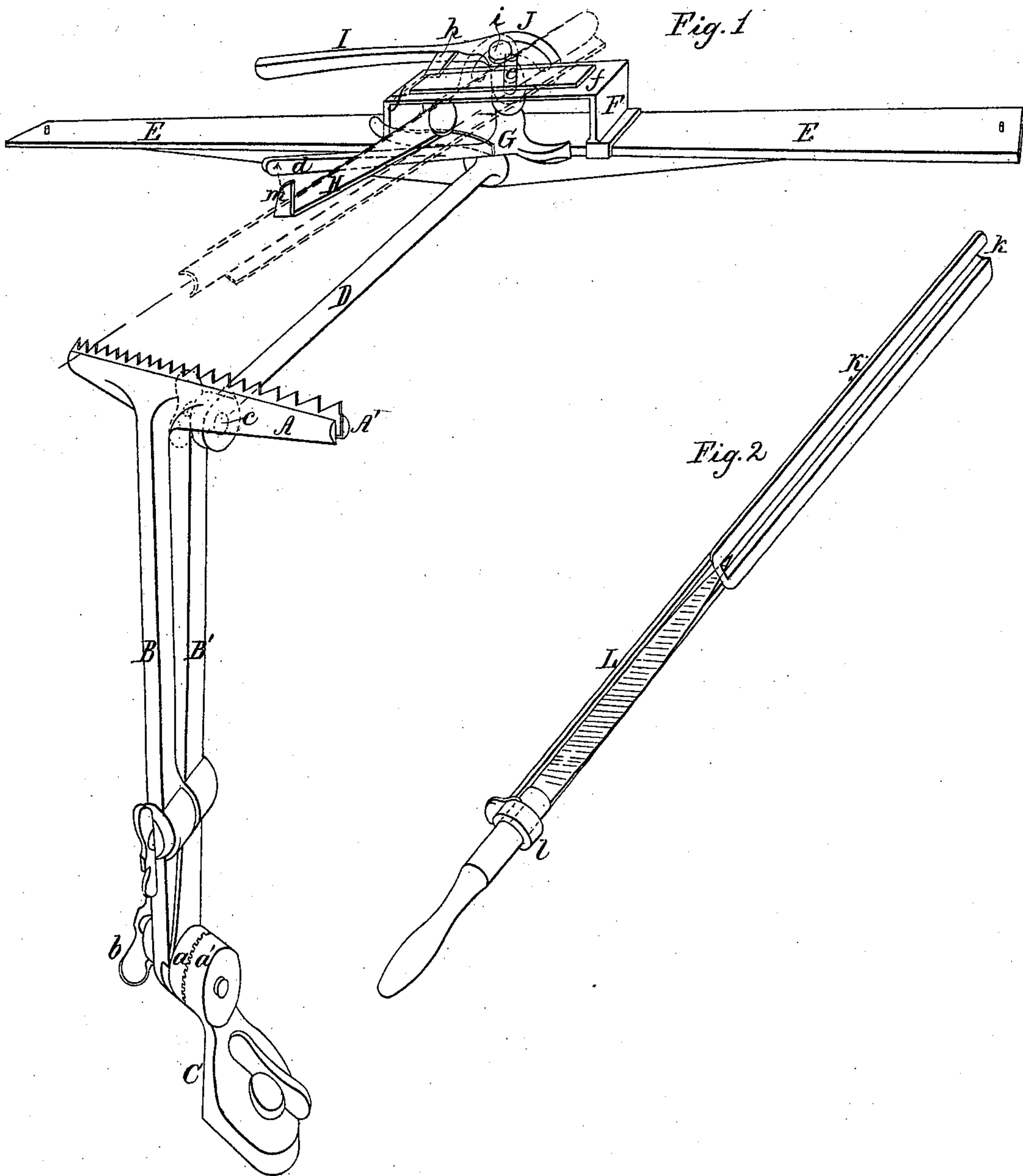


*G. W. Rathbun.*

*Saw Sharpener.*

*N<sup>o</sup> 87,289.*

*Patented Feb. 23, 1869.*



*Witnesses*  
*Orville Beckham*  
*Chas. W. Greaves*

*Inventor*  
*George W. Rathbun*



# United States Patent Office.

GEORGE W. RATHBUN, OF NORTH PROVIDENCE, RHODE ISLAND.

Letters Patent No. 87,289, dated February 23, 1869.

## IMPROVEMENT IN MACHINE FOR FILING SAWS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, GEORGE W. RATHBUN, of North Providence, in the county of Providence, and State of Rhode Island, have invented a new and useful Improvement in Apparatus for Sharpening Saws; and I do hereby declare that the following specification, taken in connection with the drawings making a part of the same, is a full, clear, and exact description thereof.

Figure 1 is a view, in perspective, of the apparatus.  
Figure 2 is a view of the file-holder.

My invention is intended to provide a means for sharpening a saw, so that all the teeth can be filed to the same pitch and angle of cut, without involving any more skill than is required to adjust and then follow the guidance of the apparatus.

A A' are jaws of a suitable vise, or clamp, for holding firmly the saw-plate.

These jaws are attached to the arms B B', of convenient length, when the apparatus is attached to a bench, to bring the saw-plate to the height required for the workman.

These arms are, at the point where they are pivoted together, so connected by a clutch-face, *a*, and clamp-screw *b*, to the face of a corresponding clutch, *a*, upon a standard-block, C, that they can be adjusted to stand at any preferred angle.

The standard-block, too, is held to the bench by a clamp-nut passing through its foot-piece, to allow of further adjustments in the position of the apparatus to the operator.

From the inner arm B' projects a brace, D, which is pivoted thereto at *c*, and held by a clamp-nut.

To the opposite end of this brace is secured firmly a guide-bar or plate, E, the top surface of which is planed smooth, and its edges are parallel with each other.

Upon this guide-bar the following devices are mounted.

A carriage or frame, F, is fitted to the guide-bar by means of keepers, so that it can be slid along the bar, and it can be retained at any point thereon by means of a spring friction-finger, G, worked by the lever *d*.

From the top of the carriage F a stud-pin, *e*, projects, which pin, extending also downward beneath the top plate of the carriage, furnishes a fulcrum for the friction-finger, before mentioned.

Upon this same pin, also, as a fulcrum, is placed an indicating finger-bar, H.

This bar, whose front end is turned up, as seen at *m*, is limited as to the extent of the arc through which it can be moved by means of a stop, *h*, projecting from the side of the lever I, which lever is pivoted also to the stud-pin *e*, and, by means of a clamp-nut, *i*, passing through a slotted quadrant-plate, J, which terminates the shorter arm of the finger-bar H, can be secured at different angles with such bar H, and consequently limit, according to such angle, the arc through which the plate or bar H can be moved.

The device for holding the file consists of a straight-edged bar, K, furnished with a longitudinal channel, *k*, into which channel it is intended that the end of the stud-pin *e*, projecting above the top plate *f*, shall enter.

A shank, L, of a length equal to that of the file to be used, and furnished with a collar, *l*, forms a part of the holder, as seen at fig. 2.

A temper-screw, inserted in the collar, and made to operate against the ferrule of the handle of the file, holds the file in position, the point of the file resting in a hole in the end plate of the channelled bar K, as shown.

Let it be supposed, now, that the saw-plate has been clamped in the jaws A A', and the apparatus adjusted with reference to the intended angle of cut and pitch to be given to the tooth, as follows:

The guide-bar E is raised or lowered to the desired elevation, and the carriage F is moved along the bar, until the file, placed in the first notch of the saw-plate, with the straight-edged bar K, resting on the top of the carriage, (the stud-pin *e* being entered into the channel *k*,) stands at the desired angle with the plate. The tooth is then carefully sharpened.

When this has been done, the file-holder is then allowed to rest in the position in which it will then be, and the finger-bar H is brought so that the side of its bent-up end *m* will bear lightly against the edge of the straight-edged bar K of the holder.

The lever I is now moved so that its projecting stop *h* will bear against the side of the carriage-frame. It is then clamped fast to the quadrant-plate upon the end of H.

It is now evident that the file can be shifted to the next, or any other tooth, and the carriage being moved along until the side of the turned-up end of the bar H touches the side of the straight-edged bar K of the holder, and at the same time the stop *h* on the lever I is brought up against the carriage-frame, such tooth will, upon working the file, be dressed identically with the first, or pattern tooth, without any special care being given to the work.

After the true position of the file has been indicated by the finger-bar H, it need not, during the sharpening of the tooth, continue to rest against the edge of the bar K of the file-holder, but may be moved away therefrom, until the angle of the next tooth requires to be indicated.

It is also obvious, without further explanation, that all the positions in which the file and saw-plate must be placed, in order to sharpen a saw for any variety of cut, can be accommodated by this apparatus.

What I claim as my invention, and desire to secure by Letters Patent, is—

An apparatus for uniformly dressing the teeth of a saw, which consists of holding-jaws, or clamps, A A', for the saw-plate, a carriage, F, sliding on a suitable guide, E, attendant indicatory bar, H, and adjustable stop *m*, in combination with a suitable file-holder, substantially in the manner herein shown and described.

I also claim the file-holder, consisting of the straight-edged bar K, shank L, and collar *l*, in combination, substantially as described, for the purposes specified.

GEORGE W. RATHBUN.

Witnesses:

JOHN D. THURSTON,  
CHAS. W. GREENE.