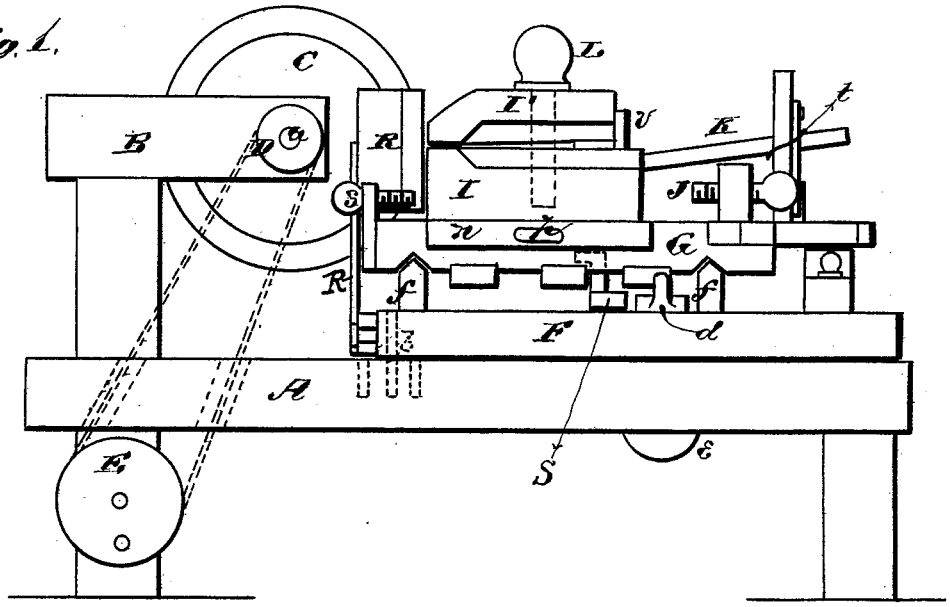
2 Sheets—Sheet 1.

W. M. WATSON.
Saw-Sharpener.

No. 204,402. **Patented May 28, 1878.**

Fig. 1.



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2 Sheets—Sheet 2.

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Fig. 2.

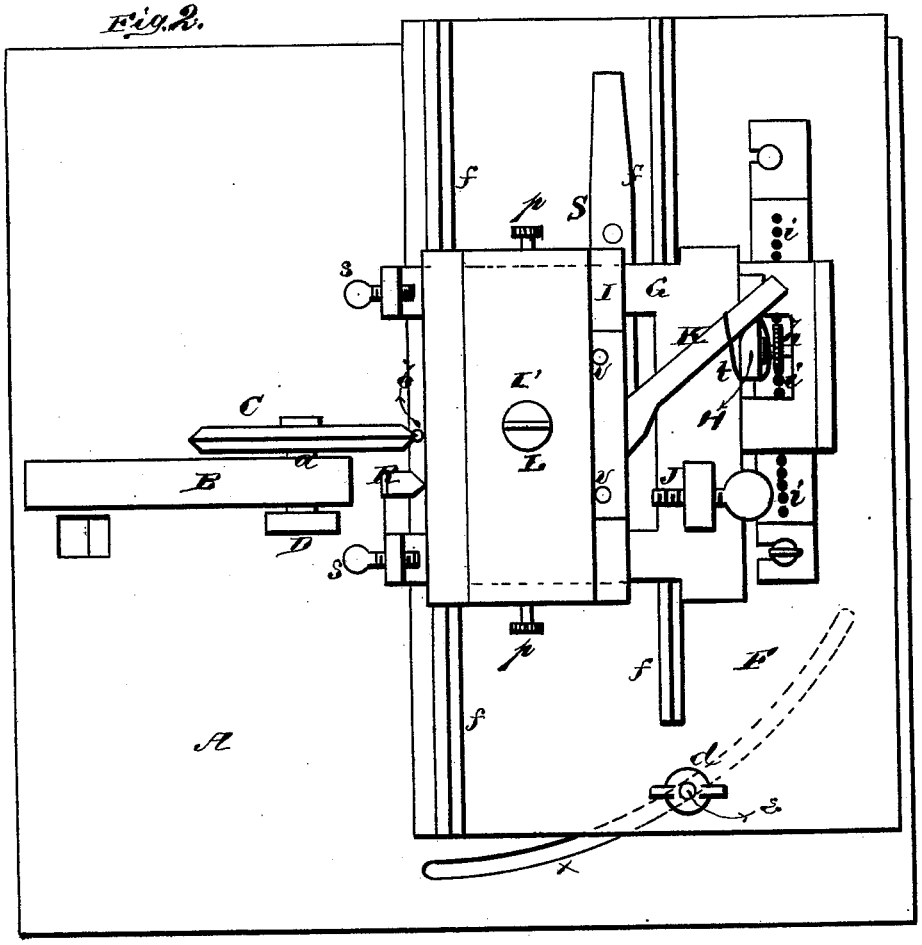
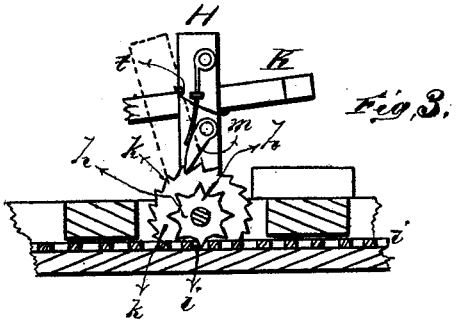


Fig. 3.



WITNESSES
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UNITED STATES PATENT OFFICE.

WILLIAM MEDD WATSON, OF TONICA, ILLINOIS.

IMPROVEMENT IN SAW-SHARPENERS.

Specification forming part of Letters Patent No. **204,402**, dated May 28, 1878; application filed February 23, 1878.

To all whom it may concern:

Be it known that I, WILLIAM M. WATSON, of Tonica, in the county of La Salle and State of Illinois, have invented a new and valuable Improvement in Handsaw-Sharpeners; and I 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, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a side view of my handsaw-sharpener. Fig. 2 is a plan view, and Fig. 3 is a detail view of the feeding mechanism.

The nature of my invention consists in certain improvements in a machine for sharpening saws, as will be hereinafter more fully set forth.

The annexed drawing, to which reference is made, fully illustrates my invention.

A represents the bed of the machine, upon which is a frame, B, and through the same is passed an arbor, *a*, carrying upon one end the emery-wheel C and upon the other end the pulley D. This pulley is to be connected by a belt with a pulley, E, underneath, from which the emery-wheel will thus receive its rotary motion, either by foot-treadle or other suitable means.

On the bed A is a platform, F, pivoted by a bolt or pivot, *b*, placed immediately under the cutting-edge of the emery-wheel C—that is to say, vertically from the same; otherwise the center line would be changed in sliding the carriage along. In the bed are made three holes for adjusting the pivot of the platform. The platform is adjusted at any angle desired, and held by means of a bolt, *e*, and thumb-nut *d* thereon, the bolt passing through a curved slot, *x*, in the bed, as shown in the drawings.

On the platform F are guides or ways *f f*, upon which moves a carriage, G. The carriage is moved by means of a pinion, *h*, working in a stationary rack, *i*, attached to the platform, said pinion being mounted in the carriage, and its shaft or arbor provided with a ratchet-wheel, *k*, into which takes a spring-dog, *m*, pivoted on the side of a lever, H, placed loosely upon the pinion-arbor at the side of the ratchet-wheel.

On the carriage G is the saw-clamp I I′, movable thereon at right angles with the line of motion of the carriage. The lower part I of the clamp has side flanges *n n*, with set-screws or pins *p p*, for guiding and holding the clamp on the carriage.

At the front of the carriage are set-screws *s s*, for stopping the forward movement of the clamp when the proper depth is obtained for the teeth.

At the back of the carriage is a set-screw, J, set as the different-sized saw-teeth require, to stop the sliding clamp when pulled back, so as not to drive the carriage too far ahead or stop too short.

The lower part I of the clamp is provided with an inclined handle, K, which comes in contact with the lever H, which is turned on its pivot, and by the backward movement of the clamp said handle turns the lever H to feed the carriage forward just so far as the stop or set-screw J will permit. In other words, the backward movement of the clamp feeds or moves the carriage forward, the extent of such movement being regulated by the set-screw J.

A spring, *t*, is attached to the lever H in such a manner that the forward movement of the clamp allows the lever to be drawn back.

The two parts I I′ of the clamp are provided with guides *v v*, as shown, to keep the upper and lower part parallel and in their proper places when tightened with the set-screw L.

On the front edge of the platform F is a spring-guide, R, for placing the saw properly, and if the feed goes wrong the operator may detect it before the tooth is spoiled.

The carriage feeds only one way, and when it is to be moved back the lever-lock catch S, which holds it to the ways *f*, can be turned to one side and the carriage lifted up, or the pawl may be raised out of the ratchet-wheel.

The emery-wheel C can be readily taken off and another substituted when the shape of the tooth or other work requires. If a circular saw is to be sharpened, the carriage is taken off and another one, with center post to bolt the saw to, is put on.

To joint or even the saw-teeth, a smooth-faced emery-wheel is put on and the rack taken out, and the saw passed back and forth until true.

The pivot-platform may be dispensed with, and the emery-wheel and post B be swiveled instead.

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

1. The combination, with the platform, carriage, and rack and pinion, as described, the saw-clamp and handle to operate the feed, substantially in the manner as set forth.

2. The combination of the platform, carriage, saw-clamp, rack and pinion, (the said rack being removable,) and the levers K and H, substantially as set forth.

3. In a handsaw-sharpener having an emery-wheel, the pivoted platform F, having attached thereto a spring-guide, R, moving therewith, in combination with a saw-clamp, for the purpose set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

WILLIAM MEDD WATSON.

Witnesses:
CHESTER DRYER,
A. CURTISS.