W. M. BROWN.

Saw-Filing Machine.

No. 214,878. Patented April 29, 1879.

Fig. 1.

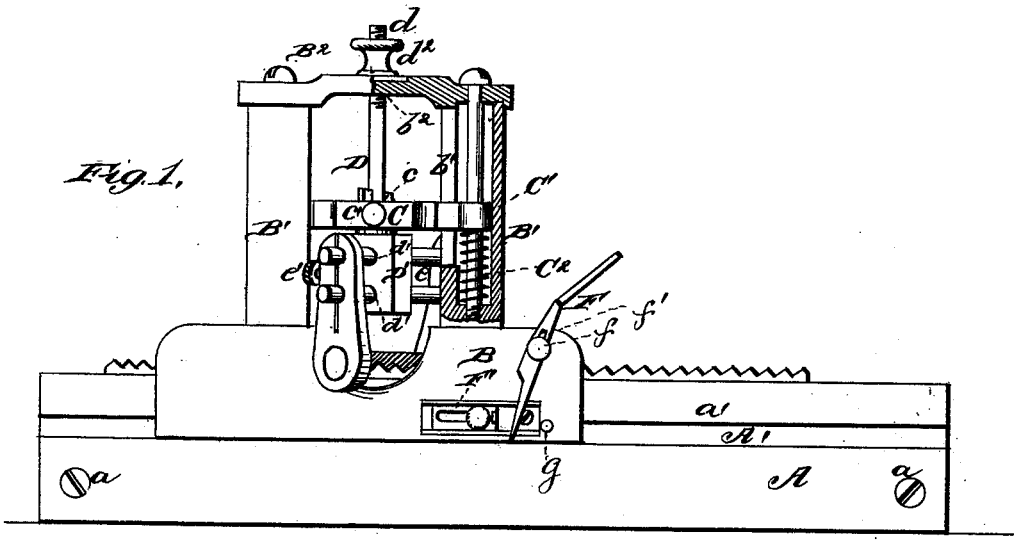
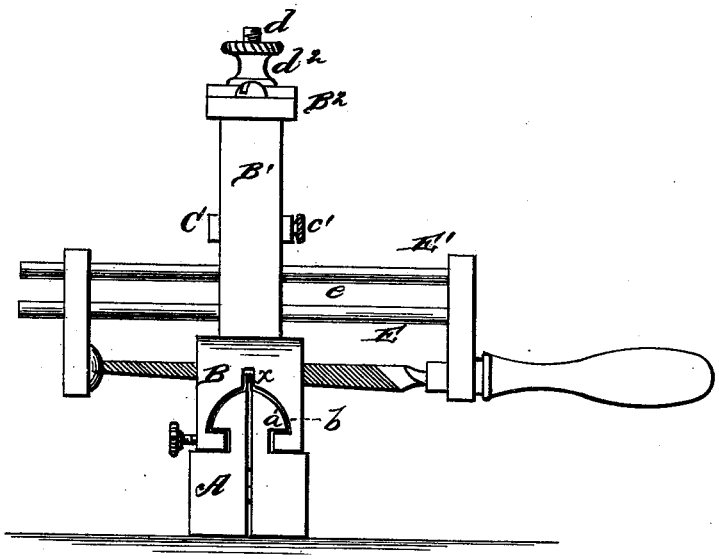


Fig. 2.



WITNESSES

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UNITED STATES PATENT OFFICE.

WILLIAM M. BROWN, OF MARINETTE, WISCONSIN.

IMPROVEMENT IN SAW-FILING MACHINES.

Specification forming part of Letters Patent No. **214,878**, dated April 29, 1879; application filed February 15, 1879.

To all whom it may concern:

Be it known that I, WILLIAM M. BROWN, of Marinette, in the county of Oconto and State of Wisconsin, have invented certain new and useful Improvements in Saw-Filing Machines; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

My invention relates to a saw-filing machine having features of adjustment; and the novelty consists in the construction and arrangement of parts, as will be more fully hereinafter set forth.

The object of this invention is to furnish a combination of mechanism wherewith a saw may be sharpened, the teeth having the same pitch and the same height, and the points thereof being left straight longitudinally.

In carrying out my invention, I employ a clamp governed by set-screws, which clamps form a base having guideways and a dovetail tenon, upon which traverses a carriage carrying the saw. This carriage is formed of a base, two standards, and a top cross-bar. The standards furnish guideways for a vertically-adjustable block, which carries the file-frame shaft, as shown. This frame may be adjusted at will by means of a male and female screw, which passes through the top cross-bar. The vertical shaft carries a block, through the perforations in which the file-frame reciprocates, turning as on a pivot when released by the set-screw operating in slots. A hand-lever, pivoted to the base of the carrier, operates upon a roughened metal plate, or other proper device, upon the guideways of the clamps, and serves to feed the carriage along in its traverse a certain given distance each time the lever is operated. The distance may be adjusted, much or little, by a gage governed by a thumb-screw, and having an abutting head. This gage is set in and secured to the base of the carriage, and the length of each feed-motion may be adjusted to suit the teeth of the saw to be sharpened. The carriage-base has a dovetail longitudinal mortise, which receives the tenon of the clamps, and a longitudinal slot, through which the saw-teeth pass.

Figure 1 of the drawings is a representation of a longitudinal, and Fig. 2 is an end, view.

Referring to the drawings, A represents the clamp-base, made of two pieces, and governed by set-screws *a*, having guideway A′ and tenon *a′*, of dovetail form, as shown. Between these clamps the saw is confined, teeth upward.

B represents the carriage-base; B^1, two standards, each having a guideway, b^1, and a cross-bar, B^2, at the top, perforated at b^2. The standards B^1 are pierced longitudinally, and a screw-rod, passing through the parts B^2 B^1, enters a threaded socket in the base B, and secures the whole together. The base B has a dovetail mortise, *b*, to receive the tenon *a′*, and a kerf or slot, *x*, through which the saw-teeth pass.

C represents a guide-block, perforated at the center at *c*, to receive a vertical shaft, governed by a thumb-screw, *c′*, and having perforated ears C^1, which operate within the standards around the securing-rod. Spiral springs C^2, within the standards, exert a constant upward force upon this guide-block C.

D represents a vertical shaft, threaded at *d*, and having a block, D′, perforated at d^1, as shown, held in proper position by the thumb-screw *c′*. The shaft passes through the guide-block C and cross-bar B^2, where it is adjustably secured by thumb-nut d^2.

E represents the file-frame, having round bars *e*, which operate through the block D′, the clamp end E′, and set-screw *e′*. This frame may be turned at will, and the file is susceptible of being turned in the handle at will, being controlled by set-screws, as shown.

F represents a slotted lever pivoted to the base B, so as to be adjustable. F′ represents an adjustable gage, against which said lever abuts, and by means of which the stroke of the same may be regulated.

The operation of this portion is as follows: After the file has been operated between two of the teeth, the carriage B must be moved to permit the next tooth to be filed. The set-screw *f* should be loosened, and the foot of the lever F made to rest against the pin *g*, the gage F′ having been previously set to permit

the foot of the lever F to move a distance equal to the length of the base of the teeth of the saw in the clamp. Then, by drawing upon the lever F from left to right, the carriage B, carrying the frame B^1 B^2, &c., will be moved the requisite distance to bring the file to its appropriate place; and after the gage F′ has been once properly set, it is only necessary to loosen the set-screw *f*, adjust the lever against the pin *g*, and draw upon the lever F, as before, to move the carriage B, as before stated, and insure uniformity in the size of the saw-teeth.

The operation of the invention is obvious.

I claim—

1. The base B, hollow standards B^1, and cross-bars B^2, in combination with the guide-block C *c*, having perforated ears C^1, screw-rod, spiral springs C^2, and the shaft D, threaded at *d* and having nut d^2, as and for the purpose specified.

2. The combination of the adjustable shaft D *d*, file-frame E, block D′, and thumb-nut d^2 with the guide-block C and carriage-frame B B^1 B^2, as set forth.

3. The slotted lever F, as shown, combined with the adjustable gage F′, the carriage, and the clamp-base, as and for the purpose described.

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

WILLIAM MERRILL BROWN.

Witnesses:

AMOS HOLGATE,

H. O. FAIRCHILD.