

N. G. ROSS.

Saw-Filing and Setting-Machines.

No. 142,585.

Patented September 9, 1873.

Fig. 1.

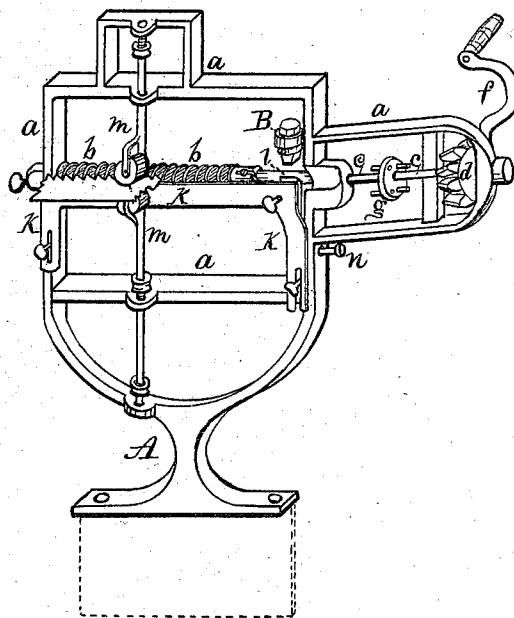
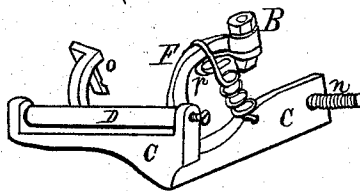


Fig. 2.



Witnesses.
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NOBLE G. ROSS, OF MITCHELLVILLE, IOWA.

IMPROVEMENT IN SAW FILING AND SETTING MACHINES.

Specification forming part of Letters Patent No. **142,585**, dated September 9, 1873; application filed January 27, 1873.

To all whom it may concern:

Be it known that I, NOBLE G. ROSS, of Mitchellville, in the county of Polk and State of Iowa, have invented a Saw Filing and Setting Machine, of which the following is a specification:

The object of my invention is to provide a machine for filing and setting a saw by simply placing the saw in position and turning the crank. It consists in mounting a screw-shaped file and a hammer in a frame and connecting them with gearing or driving mechanism, in the manner hereinafter fully set forth.

Figure 1 of my drawing is a front elevation and miniature perspective view, illustrating the construction and operation of my invention.

A is the base or foot of the metal frame. It may be flat, with holes in the ends to bolt it on a bench, or it may have a shoulder and extend downward, as indicated by dotted lines, so that it can be fastened in a mortise or in a vise. *a a a* is a cast-metal frame, which may vary in size and also in design. *b b* is a screw-shaped file. Its diameter and length, and the size and angle of the threads, and space between the threads, may vary to suit various forms and sizes of saw-teeth. It is pivoted by a set-screw at the left end, and coupled with a shaft at its right end. *c c* is the shaft. It has bearings in the side extension of the frame. *d* is a bevel-gear wheel, rigidly attached to the right end of the shaft, and matches a corresponding wheel attached to the crank-handle *f*. The side extension of the frame inclines rearward far enough to bring the outside edge of the wheel *d* out of the way of the saw, which must pass in a straight line with the file *b b*. *g* is an adjustable collar, with pins extending laterally, placed on the shaft *c c* to perform the functions of a cam-wheel in moving the hammer which sets the saw-teeth. B is a hammer. The manner of connecting it is illustrated in Fig. 2. *k k k* is a rest, upon which the edge of the saw is held in contact with the screw-file. It is raised and lowered by means of set-screws in slots, and carries the anvil *l*, upon which the teeth rest when struck by the hammer. *m m* are

holders, in the form of casters, mounted upon bearings on the frame, with nuts to raise and lower, and set-screws to lock them. The saw passes between them, and is kept in proper position by them, as represented by the section of the saw-blade held between the wheels of the holders.

Fig. 2 illustrates the manner of forming and mounting the hammer B.

C C is a metal frame, secured to the rear side and inside of the frame *a a a* by means of the screw *n*. D is the elbow of the arm F, which carries the hammer B, and is pivoted in the frame C C. *o* is a crooked finger or projection from the part D, and engages the collar or cam-wheel *g*. A coil-spring or its equivalent is connected with the arm F and frame C C, and serves to make the hammer strike and to regulate its force. Turning the crank causes the cam *g* to lift the finger *o*, and thereby the hammer B. The time and number of the strokes of the hammer can be regulated and adapted to different saws by the number of pins in the collar or cam-wheel *g*. *p* is a spring that causes the hammer B to rise instantly after striking.

To operate my machine, place the saw-blade between the holders *m m*, in such a manner that the teeth will fit against the screw-file *b b*. Turn the crank, and allow the screw-file to move the saw. Every revolution of the file will sharpen the teeth on one side, and at the same time move the saw, so that every alternate tooth is brought under the striking hammer. When a right-hand screw-file is first used to finish one side, a left-hand screw-file must be substituted to file and set the other side.

I claim as my invention—

The combined saw filing and setting machine composed of the frame *a a a*, the file *b b*, the shaft *c c*, the cam *g*, the driving mechanism *d f*, the adjustable rest *k k*, the holders *m m*, and the hammer B, substantially as described, and for the purposes specified.

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Witnesses:

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