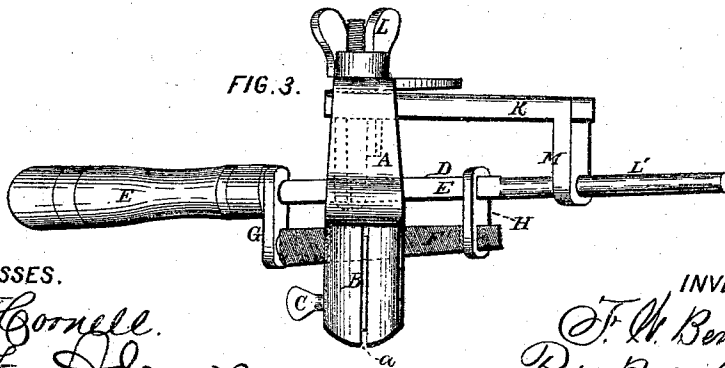
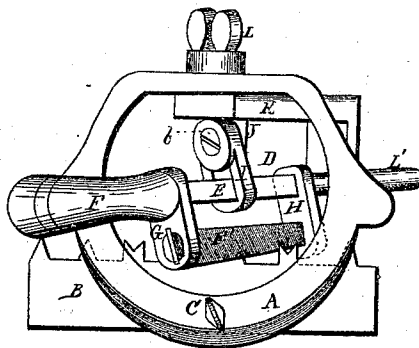
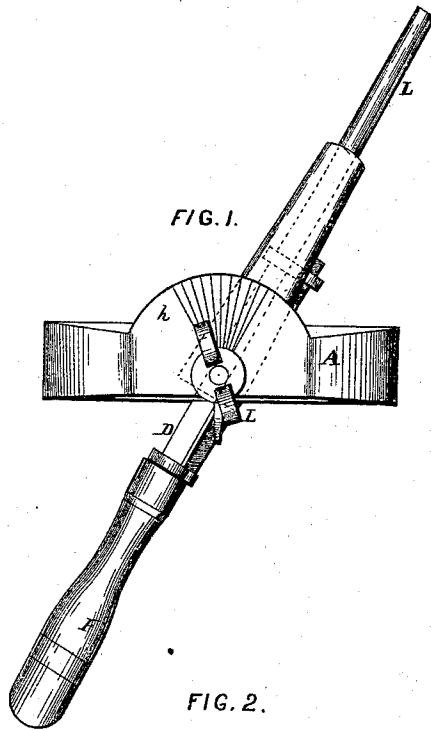


F. W. BENJAMIN.
SAW FILING-MACHINE.

No. 171,968.

Patented Jan. 11, 1876.



WITNESSES.

H. Cornell.
S. F. Adams

INVENTOR.

F. W. Benjamin.
Per. Burridge & Co.
Atty.

UNITED STATES PATENT OFFICE.

FRED. W. BENJAMIN, OF SHEFFIELD, OHIO.

IMPROVEMENT IN SAW-FILING MACHINES.

Specification forming part of Letters Patent No. **171,968**, dated January 11, 1876; application filed August 4, 1875.

To all whom it may concern:

Be it known that I, FRED. W. BENJAMIN, of Sheffield, in the county of Ashtabula and State of Ohio, have invented new and useful Improvements in Saw-Filing Machines, of which the following is a description, reference being had to the accompanying drawings making a part of this specification, in which—

Figure 1 is a plan view of the machine. Fig. 2 is a front view. Fig. 3 is a side view.

Like letters of reference refer to like parts in the several views.

This invention is a machine for filing saws, and which consists of a clamp for holding the saw, and a handle, whereby the file is held, for filing the same. Of the invention the following is a more complete description:

The clamp referred to consists of a ring, A, or frame, circumferentially through the lower half of which is cut a slot, *a*, Fig. 3, of a width equal to the thickness of a saw, and in which the saw B is held while being filed, as shown in Fig. 2, and which is secured therein by a thumb-screw, C. The file is held in a frame, D, consisting of a back, E, secured in a handle, F. The heel of the file, F', is held in a hanger, G, depending from the back of the frame. The point of the file is held in the same manner by a hanger, H, also depending from the back. Said frame and saw are suspended in the ring A, above referred to, by a slotted hanger, I, Fig. 2, through which the back of the said frame passes. Said hanger is pivoted to a lug, J, depending from the arm K, secured to the upper half of the ring by a thumb-screw, L. The outer end L' of the said frame is rounded, forming a guide, passing through a hole in the end of a lug, M, Fig. 3, depending from the end of the arm K, and whereby the saw-frame is guided and partially suspended in the ring, as will be seen in the drawings.

The practical operation of the above-described machine is as follows: The saw to be filed is secured in a saw-clamp, such as are used for holding saws while being filed. The ring A is then placed on the edge of the saw,

as shown in Fig. 2, in which B is the saw. The file-frame is next adjusted in the ring, so as to bring the file to the bevel of the tooth, as will be seen in Fig. 1. The frame is then secured by the thumb-screw L. The file is set to the angle of the tooth by turning, or partially turning, the frame, so as to bring the file to the proper angle, and is thus secured by the pivotal set-screw *b*, whereby the slotted hanger I is secured to the arm K, as above described.

The file on being properly adjusted, the filing is done by manipulating the file, in the ordinary way, by the handle F. One tooth being filed, the ring is then loosened and moved along to the next, and thereto secured by the screw C, and so on until all the teeth are filed. The file is then adjusted to the opposite face of the teeth, which are then filed in the same manner.

The particular bevel to which the teeth are to be filed may be obtained by the scale *h* on the top of the ring A.

By the use of this scale both basils of the teeth can be filed to the same angle, thereby causing the saw to cut more freely and smoother than were the teeth filed at variable angles.

This improvement is intended especially for crosscut-saws, for the filing of which a flat file is generally used; but a three-sided file can be successfully used for filing other classes of saws in this machine.

As an improvement upon the patent granted to me February 9, 1875, No. 159,631,

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

The herein-described saw-filer, consisting of the slotted ring or clamp A, file-frame D, adjustable hanger I, pivoted to the lug J, arm K, having a lug, M, and thumb-screw L and set-screw C, substantially as and for the purpose set forth.

FRED. W. BENJAMIN.

Witnesses:

J. H. BURRIDGE,
A. F. CORNELL.