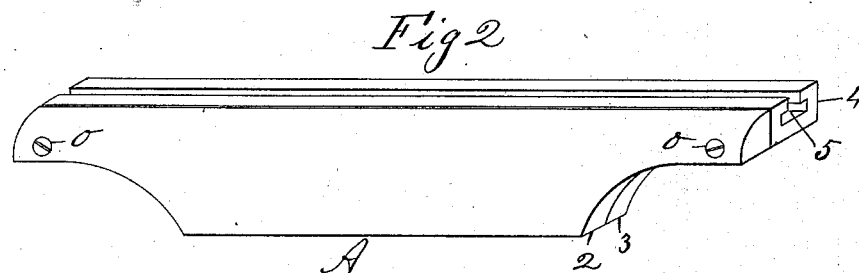
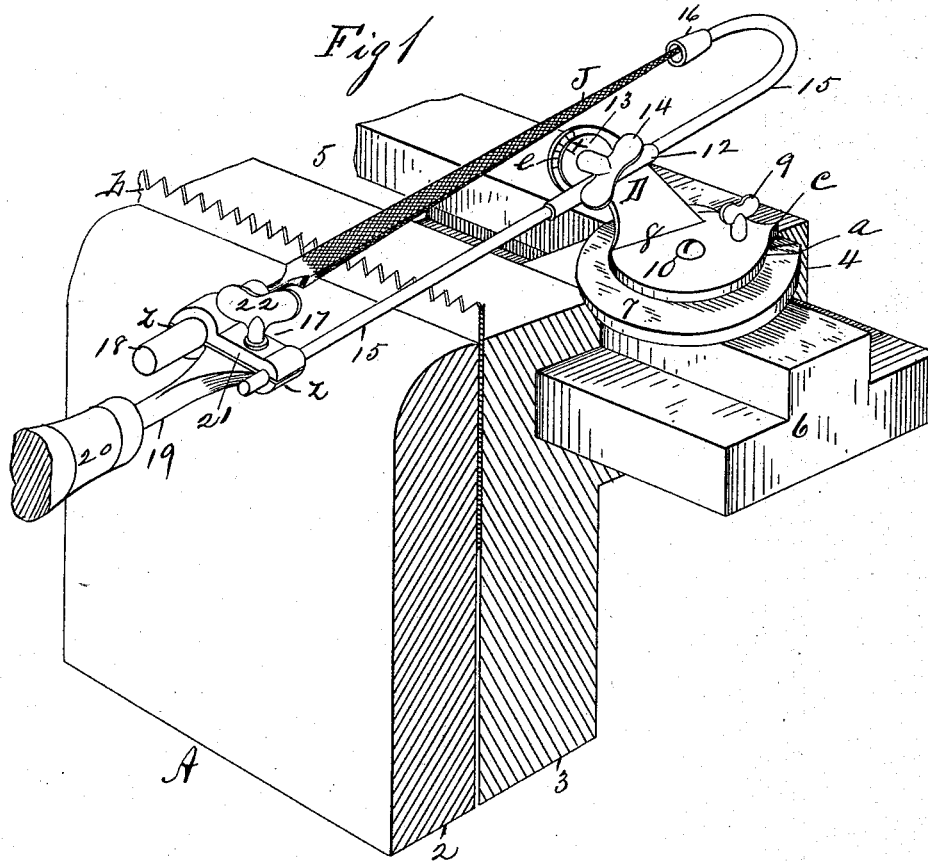


(No Model.)

E. D. EATON.
SAW FILING DEVICE.

No. 384,829.

Patented June 19, 1888.



Witnesses,
Wm H Chapin
L W Chamberlain

Inventor,
Edwin D Eaton
By his Attorneys *Chapin & Co*

UNITED STATES PATENT OFFICE.

EDWIN D. EATON, OF SPRINGFIELD, MASSACHUSETTS.

SAW-FILING DEVICE.

SPECIFICATION forming part of Letters Patent No. 384,829, dated June 19, 1888.

Application filed October 17, 1887. Serial No. 252,562. (No model.)

To all whom it may concern:

Be it known that I, EDWIN D. EATON, a citizen of the United States, residing at Springfield, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Saw-Filing Machines, of which the following is a specification.

This invention relates to machines for filing saws, the object being to provide an improved device for holding and operating the ordinary three-cornered file for filing saws which are used for various purposes; and the invention consists in the peculiar construction and arrangement of the saw-clamp, together with file holding and guiding devices, all as hereinafter fully described, and pointed out in the claims.

In the drawings forming part of this specification, Figure 1 is a perspective view of a portion of a saw-clamp, showing a part of a saw therein, and file holding and guiding devices constructed according to my invention. Fig. 2 is a perspective view of the saw-clamp entire.

In the drawings, A is the saw-clamp, consisting of the two ordinary wooden strips 2 and 3, excepting that the latter, which occupies the rear side of the clamp when said clamp is put into a vise, whereby it is held when a saw is being filed, has a projecting rib, 4, on its rear side, having the longitudinal under-cut groove 5 therein. A block, 6, (see Fig. 1,) of either wood or metal, preferably of the former, having a form in cross-section corresponding to the form of the said groove 5 in the clamp, is adapted to slide freely in said groove from end to end of the clamp. A swivel-stand base, 7, of substantially circular form, is fixed on the top of said block 6, the under side of which is on or above the plane of the saw-clamp at each side of said groove 5, and said base 7 has several graduating-marks *a* made on its upper surface. A swivel-stand, 8, having a circular base and having an upright arm, D, thereon, is attached by a screw, 10, to said base 7, whereby the swivel-stand may be turned on the latter in either direction—that is to say, to the right or to the left. A pin, 9, passes through the base of said swivel-stand and enters perforations in the base 7, whereby the said swivel-stand is maintained in such posi-

tion as it may be turned to. A projecting finger, *c*, is formed on the border of the base of said swivel-stand and extends over that portion of the base 7 on which are formed the aforesaid graduating-marks *a*, said finger aiding in swinging the swivel-stand accurately to certain positions on the base 7, as indicated by said marks thereon, and the pin 9 serving to retain said stand in said position or positions.

A tubular metallic swivel, 12, is rigidly fixed to a metallic flange, 13, and the swivel and its flange are pivoted to the side of the arm D of the swivel-stand by a thumb-screw, 14, passing through said flange and into said arm, the latter and the base of the swivel-stand being also made of metal by casting or otherwise. A series of graduating-marks, *e*, are made on the side of said arm D adjoining the border of said flange 13, and on the latter is an indicating-mark, *x*. By means of said graduating-marks *e* and the indicating-mark *x* on said flange the swivel 12 is adjusted to various degrees of incline relative to the upper edge of the saw-clamp, and is secured in such position or positions by the screw 14.

A file-holder is provided which is adapted to operate and be operated with the above-described swivel-stand and supporting devices, consisting of a metallic frame, 15, constructed from a rod of cylindrical form having one end bent upon itself, as shown in Fig. 1, which bent end is provided with a socket, 16, to receive and hold the tip end of the file, and the opposite end of said frame is passed through the swivel 12, in which it has a free longitudinal movement, and is secured in a clamp, 17, as shown. A file-shank receiver, 18, preferably of wood, of cylindrical form, has a socket in one end to receive the end of the shank of the file J, and is also secured in said clamp 17. Said clamp 17 consists of a handle portion, 19, having a handle formed thereon integral therewith or having a handle, 20, attached thereto, said handle portion, which is constructed of metal, either wrought or cast, having laterally-extending lips *z z* thereon and a clamp-plate, 21, fitting thereon, whose ends cover said lips *z*, and between the latter and said plate are formed grooves to receive the end of the saw-frame 15 and said shank-receiver 18. A

thumb-screw, 22, serves to secure the clamp-plate 17 on said handle portion 19, thereby constituting a clamp for holding the saw-frame and the said shank-receiver. By means of the said clamp, constructed as described, the latter is adjustable longitudinally on the frame 15, and the receiver 18 permits a like adjustment thereon for the purpose of bringing the clamp to such positions as will permit of inserting a longer or shorter file in the file-holder.

The operation of the above-described devices in filing the saw is as follows: By reference to Fig. 2 it is seen that a screw, *o*, is placed in each end of the saw-clamp. Said screws serve to hold the saw *b* in the position in the clamp shown in Fig. 1 while the clamp is being placed in a vise on a bench in the usual way preparatory to filing a saw. The said saw-filing devices are adapted to file hand and other similar saws, and by the use thereof persons entirely unskilled in the art can easily and correctly operate the device for saw-filing, the construction thereof being simple, its operation easily understood, and it can be constructed at a nominal cost, the device providing ample means for filing a saw evenly and of uniform bevel and pitch. The saw being placed in the clamp, as shown, and a file being attached to the holder, as described, and illustrated in Fig. 1, the swivel-stand 8 is so turned on the base 7 as to direct the file-frame 15, when given a longitudinal motion in the swivel to operate the file, in the required direction of movement at an angle to the saw-teeth, and the swivel 12 is so adjusted on the arm D as to direct the said frame in such an inclined direction relative to the side of the saw as may be desirable to produce the required cut on the teeth. In fact the above-described construction of the saw-frame-supporting devices permits of swinging said frame and file in a vertical or horizontal plane and at any desired variation therefrom to produce the proper direction of cut of the file upon the saw-teeth, and when once the devices have been adjusted, as aforesaid, to give the proper direction to the movement of the file they need not be readjusted until a saw is to be filed the form of whose teeth or the shape of the cut given thereto by the file requires said readjustment. It will be seen that when once

the saw-holder and its supporting parts have been adjusted, as described, said holder and the block 6 are moved together from end to end of the clamp A to file one tooth after another of the saw; but said adjustment compels the file to follow corresponding movements with every succeeding tooth filed, thereby producing absolute uniformity in the file-cut, and when the saw has been filed by the movement of the file and its supporting parts toward one end of the clamp the holder 8 is rotated on its base to turn the file in the oppositely-inclined direction and the parts are moved again to the opposite end of the clamp, filing the opposite edges of the teeth of the saw, thus completing the operation.

What I claim as my invention is—

1. A saw-filing machine consisting of a saw-clamp, A, having a longitudinal groove, 5, therein, a block, 6, capable of a free sliding movement in said groove, a file-holder consisting of the frame 15, having a socket on one end to receive the tip of the file, a file-shank receiver, 18, a clamp, 17, having a handle thereon holding said receiver and capable of attachment to and of longitudinal adjustment on said frame, a swivel-stand, 8, pivotally connected to said block, and a swivel, 12, pivotally attached to said stand, in which said frame has a free longitudinal movement, substantially as set forth.

2. In combination, the frame 15, having a socket on one end to receive the tip of the file, the file shank receiver 18, and the clamp 17, holding said receiver, having a handle thereon and capable of attachment to and of longitudinal adjustment on said frame, substantially as set forth.

3. The swivel stand 8, the swivel 12, having the flange 13, and the screw 14, combined with the frame 15, having a free longitudinal movement in said swivel, and a socket, 16, thereon to receive the tip of the file, the file-shank receiver 18, and the clamp 17, holding said receiver, having a handle thereon and capable of attachment to and of longitudinal adjustment on said frame, substantially as set forth.

EDWIN D. EATON.

Witnesses:

H. A. CHAPIN,

G. M. CHAMBERLAIN.