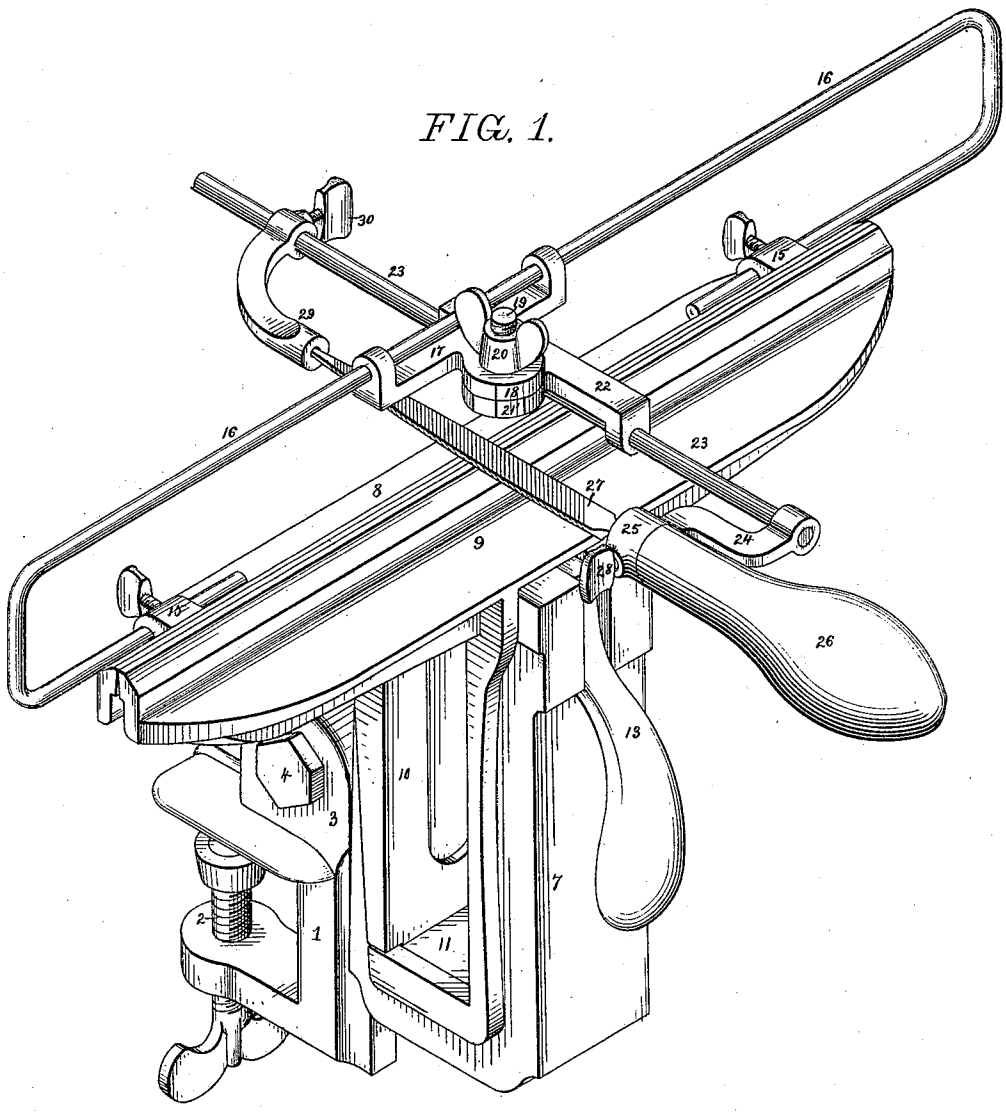
(No Model.) 2 Sheets—Sheet 1.

T. S. DISSTON.

SAW SHARPENING DEVICE.

No. 510,846. Patented Dec. 12, 1893.

FIG. 1.



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THE NATIONAL LITHOGRAPHING COMPANY.
WASHINGTON, D. C.

(No Model.) 2 Sheets—Sheet 2.

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FIG. 2.

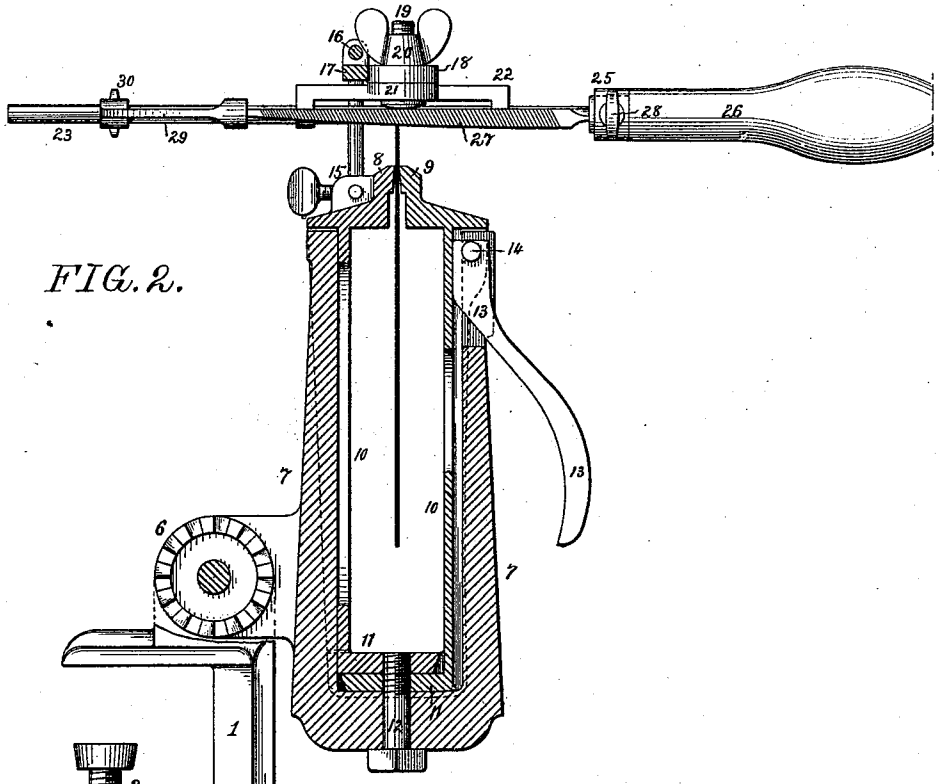
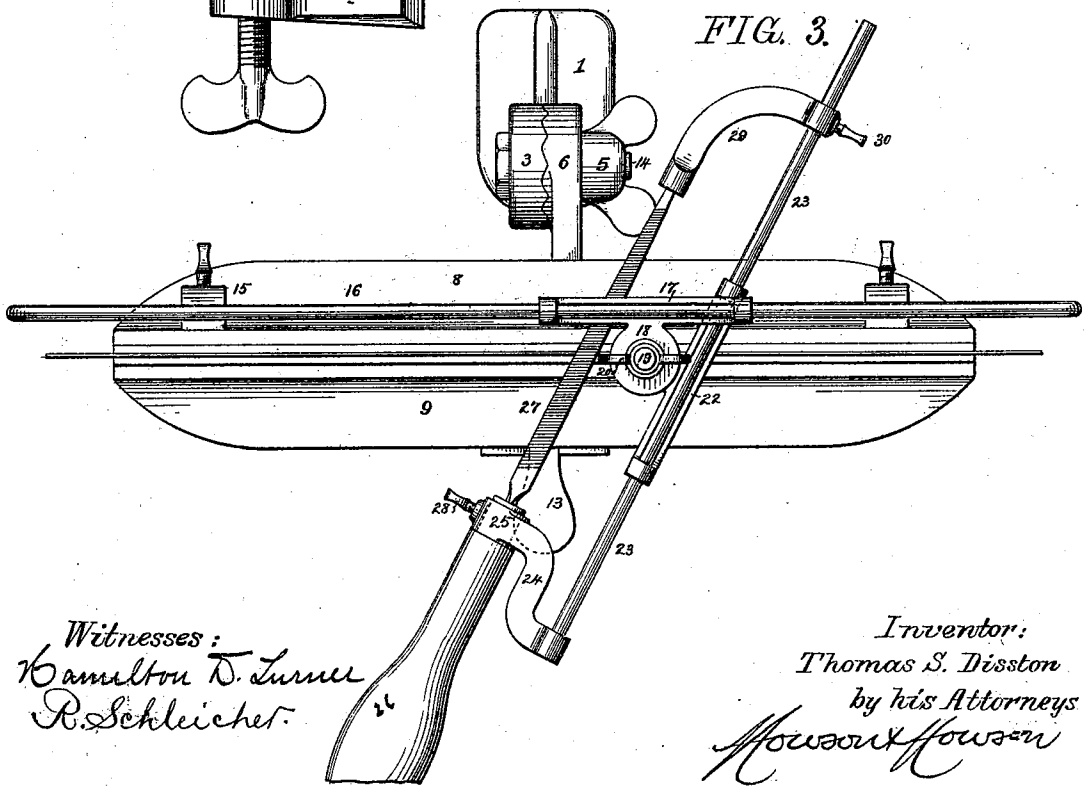


FIG. 3.



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UNITED STATES PATENT OFFICE.

THOMAS S. DISSTON, OF HADDONFIELD, NEW JERSEY, ASSIGNOR TO THE HENRY DISSTON & SONS, INCORPORATED, OF PHILADELPHIA, PENNSYLVANIA.

SAW-SHARPENING DEVICE.

SPECIFICATION forming part of Letters Patent No. 510,846, dated December 12, 1893.

Application filed September 21, 1893. Serial No. 486,088. (No model.)

To all whom it may concern:

Be it known that I, THOMAS S. DISSTON, a citizen of the United States, and a resident of Haddonfield, Camden county, New Jersey, have invented certain Improvements in Saw-Sharpening Devices, of which the following is a specification.

The object of my invention is to construct a saw sharpening device which can be cheaply manufactured and has abundant provision for all needed adjustments of the file as well as for the convenient operation of the same and its rapid shifting from tooth to tooth, the machine also having provision for quickly clamping and releasing the saw and for holding the same at different inclinations in respect to the vertical.

In the accompanying drawings:—Figure 1, is a perspective view of a saw sharpening device constructed in accordance with my invention. Fig. 2, is a transverse section of the same, partly in elevation; and Fig. 3, is a plan view.

A clamp 1 having upper and lower jaws and having, in the lower jaw, a set screw 2, carries the operative parts of the device and provides a means whereby the latter may be firmly secured to the edge of a table or bench. The clamp 1 is provided with an upwardly projecting lug 3 to which is secured by means of a transverse bolt 4 and thumb nut 5 a lug 6 projecting from the back of a U-shaped frame 7 which carries the jaws 8 and 9 whereby the saw blade is clamped. Each of these jaws has a vertical leg 10 with edge flanges embracing the corresponding leg of the U-shaped frame 7 so as to prevent lateral displacement of the clamping jaws and each of the vertical legs 10 has at the bottom a base block 11, these base blocks being rigidly clamped to the bottom or connecting portion of the U-shaped frame 7 by means of a bolt 12. The upper portion of the outer leg of the frame 7 is slotted for the reception of the cam lever 13 which is hung to a transverse pin 14 and acts upon the upper portion of the vertical leg 10 of the front clamp 9 so that by manipulating the lever 13 said clamp may be moved toward the clamp 8 so as to firmly grip the saw blade between the two, the leg 10 having such elasticity as to cause the outward movement of the clamp 9 and the release of the saw blade as soon as the lever 13 is turned so as to permit such movement. To lugs 15 on the rear clamp 8 are secured the opposite ends of a longitudinal yoke 16 parallel with the clamps 8 and 9 and upon this yoke is mounted, so as to be free both to move longitudinally and to swing thereon, a slide 17 which has a projecting lug 18 to which is secured, by means of a bolt 19 and thumb nut 20, a lug 21 projecting from a transverse guide frame 22, which has bearings for a rod 23 free both to slide and to turn in said bearings. One end of the rod 23 has an arm 24, terminating in a ring 25 to which is adapted the ferrule end of the handle 26 of the file 27, so that the file handle can be turned in the ring 25 and can be secured in position after any desired adjustment by means of a thumb screw 28, or other suitable clamping device.

The outer end of the file is adapted to a socket in an arm 29 which can be adjusted to and fro on the rod 23 and can be secured in position after adjustment by means of a set screw 30 in order to permit of the use of files of different lengths.

The yoke 16 consists of a simple round wire, bent first downward and then inward at each end, these reversed ends being adapted to the lugs 15, the construction being extremely light and cheap.

The operation of the device is as follows:—The saw blade being properly secured in the clamps 8 and 9 the file is properly adjusted in order to act upon the teeth of the same, the transverse angle of the file being varied by turning the guide frame 22 on the swinging slide 17 so as to make either a right hand bevel, a left hand bevel, or a square cut across the tooth. The file can then be turned and secured in position in its bearings so as to suit the angle of the gullet and the sharpening then proceeds in the usual way, the file carrying rod 23 sliding in the bearing frame 22 as the file is being moved back and forth across the saw. As soon as the tooth has been properly filed, the file is lifted as is readily permitted by the pivot rod 22 and is then moved forward into position for acting upon

the next tooth, the slide 17 moving on the yoke 16 to the desired extent. Owing to the fact that the slide 17 can swing freely on the yoke 16 the end of the file can be tipped either upward or downward as may be desired, in fact, the file can be handled with almost the same freedom as a file which is simply held in the hand, the only restraint upon the file being that which prevents it from assuming any other than the proper angle in respect to the saw.

The saw blade may, if desired, be held in a position inclined in respect to the vertical by shifting the position of the lug 6 of the frame 7 in respect to the lug 3 of the securing clamp 1, the adjoining faces of the said lugs 3 and 6 being toothed or serrated as shown in Figs. 2 and 3 so as to prevent accidental displacement of the lugs after they are once properly adjusted in respect to each other.

Having thus described my invention, I claim and desire to secure by Letters Patent—

1. The combination of the saw clamp with a longitudinal yoke, a slide free to move longitudinally and to swing thereon, a transverse guide frame, means for pivoting said frame to the slide so as to permit horizontal angular adjustment, a file carrying rod free to slide and to turn in bearings on said guide frame, arms projecting from said rod and a file carried by the outer free ends of said arms, substantially as specified.

2. The combination in a saw sharpening device, of a saw clamp, a longitudinal yoke, a slide free to move longitudinally and to swing on said yoke, a transverse guide frame pivoted to said slide so as to permit horizontal angular adjustment, a rod free to slide and to turn in bearings on said frame, two arms carried by said rod, one having a socket for the point of the file and the other a ring in which the file handle is mounted, means for securing the handle to said ring, and means for adjusting one of said arms from and toward the other, and for securing it in position after adjustment, substantially as specified.

3. The combination in a saw sharpening device, of the clamps, the file carrier, transverse guide frame and traversing slide, with a guide yoke for said slide consisting of a wire having downwardly bent ends terminating in reversed portions secured to lugs on one of the clamping jaws, substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

THOS. S. DISSTON.

Witnesses:
FRANK E. BECHTOLD,
WILLIAM A. BARR.