No. 891,807. PATENTED JUNE 23, 1908.

R. S. BROWN.

FILE CLAMP AND GUIDE.

APPLICATION FILED OCT. 2, 1905.

Fig. 1.

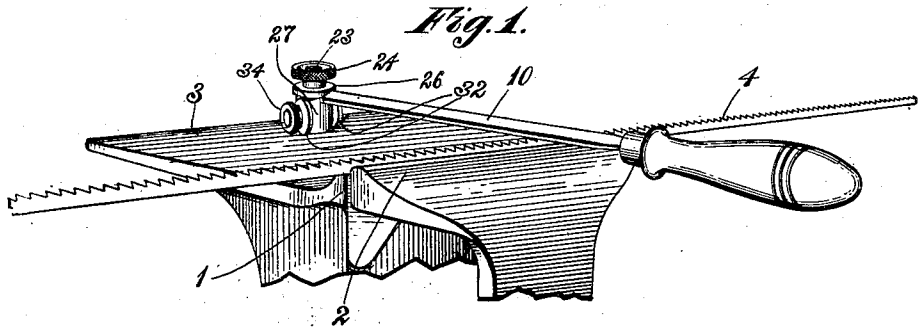


Fig. 2.

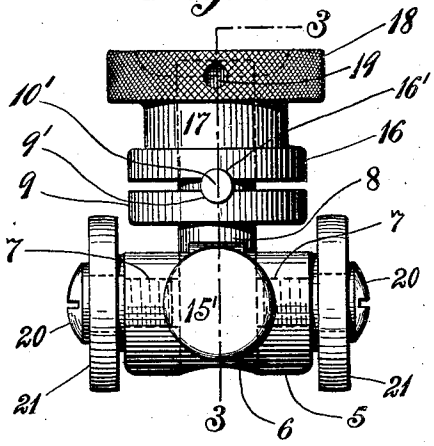


Fig. 3.

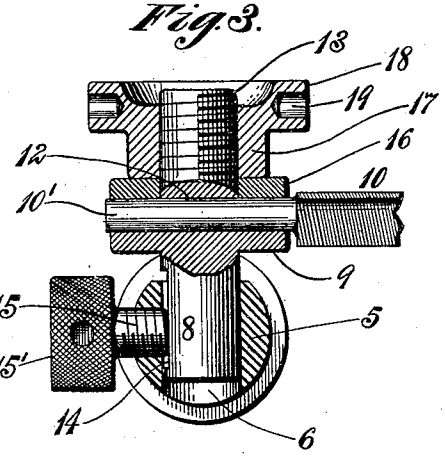


Fig. 4.

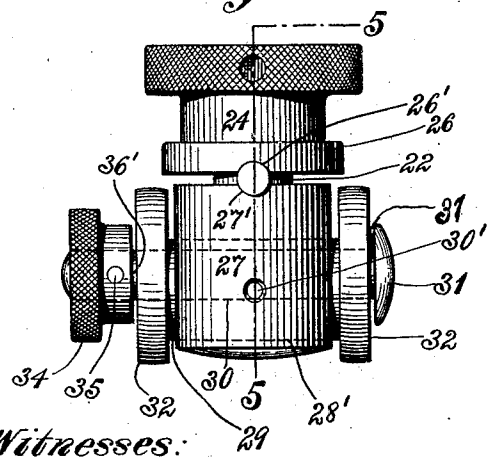
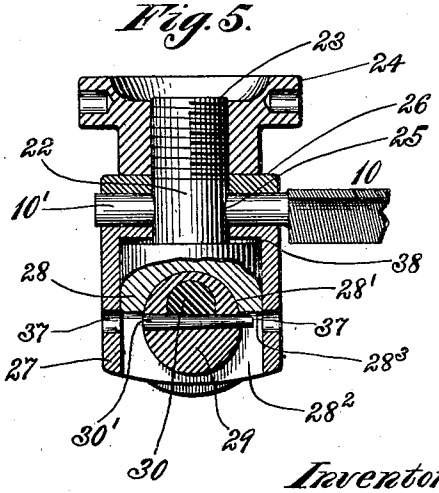


Fig. 5.



Witnesses:

H. E. Anderson.

S. S. Grotta.

Inventor:

Robt. S. Brown,

By his Attorney,

Wm. H. Hodgett

THE NORRIS PETERS CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

ROBERT S. BROWN, OF NEW BRITAIN, CONNECTICUT, ASSIGNOR TO THE NEW BRITAIN MACHINE COMPANY, OF NEW BRITAIN, CONNECTICUT, A CORPORATION OF CONNECTICUT.

FILE CLAMP AND GUIDE.

No. 891,807. Specification of Letters Patent. Patented June 23, 1908.

Application filed October 2, 1905. Serial No. 281,067.

To all whom it may concern:

Be it known that I, ROBERT S. BROWN, a citizen of the United States, residing at New Britain, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in File Clamps and Guides, of which the following is a specification.

This invention relates to clamps to be applied to the ends of files of the kind more especially employed in sharpening the teeth of saws, and it has for its object the provision of a device of the character mentioned which will be of simple construction, and reliable in operation.

A further object of the invention is the provision of a clamp for the saw-sharpening file, which will be composed of but few parts, and will be capable of vertical adjustment to enable the clamp in which the file is secured to be set at the desired height for properly positioning said file to the saw.

Other objects of the invention will be hereinafter stated.

In the accompanying drawings, Figure 1 is a perspective representation of part of a saw-clamp, and a table extending laterally therefrom, showing my improved device in use thereon. Fig. 2 is an enlarged side elevation of the preferred form of a file-holding clamp and guide which may be employed. Fig. 3 is a longitudinal vertical section on line 3, 3 of Fig. 2. Fig. 4 is an enlarged side elevation of a modified form of file-clamp and guide; and Fig. 5 is a longitudinal vertical section taken on line 5—5 of Fig. 4.

Referring to the drawings, the numeral 1 designates the fixed jaw of a saw-clamp, and 2 the movable jaw thereof. Projecting from the fixed jaw 1 is a flat surface or table 3, and located between the jaws is a section of a saw 4, (for instance, a band-saw) as illustrated in Fig. 1.

Referring now to Figs. 2 and 3, the numeral 5 designates a block or carrier, which is provided with a vertical perforation 6 and with two internally-threaded sockets 7 in its ends at right angles to said perforation 6. (See dotted lines in Fig. 2.) In the vertical perforation 6 is mounted the lower smooth end of a bolt 8, said bolt being provided with an intermediate circular flange 9, grooved at 9′ to receive the rounded end 10′ of a file 10. Adjacent to the top of the flange 9 the bolt 8 is perforated at 12, said perforation registering with the grooves 9′ in flange 9, and through said perforation the end 10′ of the file 10 is passed, as illustrated in the sectional view Fig. 3. Above the flange 9 the bolt is threaded at 13, and below said flange the smooth barrel of the bolt is flattened at 14. A screw 15 having a knurled head 15′ is threaded into the block or carrier 5, and the flat end of said screw engages the surface 14 of the bolt and serves to clamp said bolt firmly in position. Slipped upon the bolt above the flange 9 is a washer 16 grooved at 16′ to receive the rounded end of the file, and in engagement with the threaded portion 13 of said bolt is a nut 17 having a knurled head 18 provided with openings 19 for the reception of a tool for manipulating the nut. Threaded in the sockets 7 in the ends of the carrier or block 5 are screws 20 having journals adjacent to the under sides of their heads upon which antifriction wheels 21 are mounted. It is frequently necessary to adjust the position of the file vertically in order that it may be properly located with relation to the saw, and this may be readily accomplished in the construction shown by releasing the screw 15 and moving the bolt 8 vertically up or down in the perforation 6 in the block or carrier 5, and subsequently re-tightening said screw rigidly to clamp the bolt in the desired position. In this form of the invention the rounded end of the file is passed through the perforation in the bolt, and is received in the grooves 9′ of the circumferential flange 9. Washer 16 is then slipped over the bolt and its grooves 16′ receive the upper surface of the rounded end of the file. By now manipulating the nut 17 said washer 16 will be forced tightly against the end of the file, and said end will be clamped in place.

In the modification illustrated in Figs. 4 and 5 the bolt is designated by 22, is threaded at 23 to receive a nut 24, and is perforated at 25, the end 10′ of the file being passed through said perforation. Above the perforation 25 a washer 26 is provided, said washer being grooved at 26′ to fit upon the rounded tip 10′ of the file. A shell 27 is perforated in its top to receive the stem of the bolt and has grooves 27′ registering with the perforation in the bolt for the reception of the file-tip. At its lower end the bolt is enlarged to form a chambered head or carrier 28 for a purpose hereinafter stated, and

in a perforation 28′ of said head is mounted an eccentric 29, the latter being secured to a shaft 30 by means of a key or pin 30′ as illustrated in Fig. 5. This shaft 30 passes through the walls of the shell 27, and is provided at one end with a head 31, and adjacent to said head with a journal 31′ upon which one of the wheels or rollers 32 is mounted. To separate the rollers 32 from the shell 27, the ends of the eccentric 29 extend slightly beyond the sides of the shell as shown in Fig. 4. At its end opposite the head 31 the shaft 30 is provided with a knurled sleeve 34 keyed thereto by a pin 35, and adjacent to the inner end of said sleeve is a journal-surface 36′ upon which the other roller 32 is mounted, said roller being separated from the shell by the end of the eccentric, as stated.

Openings in the wall of the shell enable a tool to be inserted for the purpose of driving in or out the pin 30′. In this form of the invention the end of the file is clamped between the grooved top-surface of the shell 27 and the washer 26, and vertical adjustment of the bolt 23 and its head 28 within the shell is effected by turning the shaft 30 and the eccentric 29 keyed thereto. After the desired adjustment has been made the nut 24 is turned to clamp the parts firmly in position against movement.

As illustrated in Fig. 5 a vertical slot 28^2 is formed in the head 28 to permit of the passage of the projecting end of the key or pin 30′, said end serving as a stop to limit the turning movement of the shaft and eccentric in either direction by engaging the upper wall 28^3 of the slot 28^2.

As will be observed the head of the bolt 22 is so located in the shell 27 that a space 38 is left between said head and the inner side of the top of the shell,—this construction permitting of a slight vertical play of the bolt.

In the operation of this form of the invention by grasping the knurled head 24 the shaft 30 and eccentric 29 are turned, thereby either raising or lowering said shaft and the wheels or rollers 32 journaled thereon, and thus adjusting the height of the entire device with relation to the support on which it travels. After the desired adjustment has been made the nut 24 is tightened, thereby forcing the washer 26 against the file-tip 10′, and pulling up the head 28 of the bolt within the shell 27, thus binding the eccentric in the openings of the shell through which it passes, and locking the parts against movement.

In either form of the invention by making the vertical adjustment described files of various sizes may be employed for sharpening saw-teeth differing in pitch. These saw-teeth will require for sharpening purposes files of different kinds as regards the character of their teeth, and the difference of measurement between the center of any file employed and its lowest point will indicate the depth of the gullet of the tooth. By adjusting the device vertically in either way described partial variations in the location of the center of the file due to the rotation of the same to obtain a difference in the "hook" of the teeth may be readily accommodated.

Due to its rounded and reduced end 10′ the file may be readily rotated on its seat to change the angle of its surface in use, and then again rigidly clamped in place by the means described.

In both forms of the invention it will be seen that a perforated, vertically adjustable bolt is employed, and that like nuts and washers are used for clamping the file rigidly in position.

Changes may be made in many details of the invention, which is not limited to the precise devices shown and described.

Having thus described my invention, what I claim is—

1. A file guide and clamp comprising a bodily movable carrier, and a file supporting bolt one of which is vertically adjustable to vary the height of the file, the carrier being perforated for the passage of the bolt.

2. The combination, with a transversely perforated block, of trunnions projecting from the ends of said block; antifriction devices journaled on said trunnions; a vertically adjustable bolt mounted in the perforation of the block; means for clamping said bolt in position after adjustment; and means for clamping a file to said bolt.

In testimony whereof I affix my signature in presence of two witnesses.

ROBERT S. BROWN.

Witnesses:

FLORA STRONG,

THEODORE E. BEHNKE.