

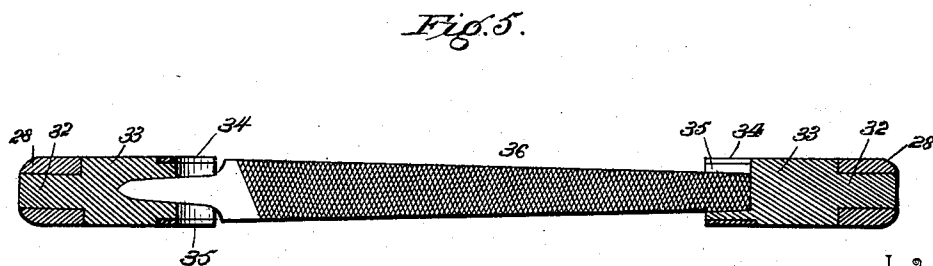
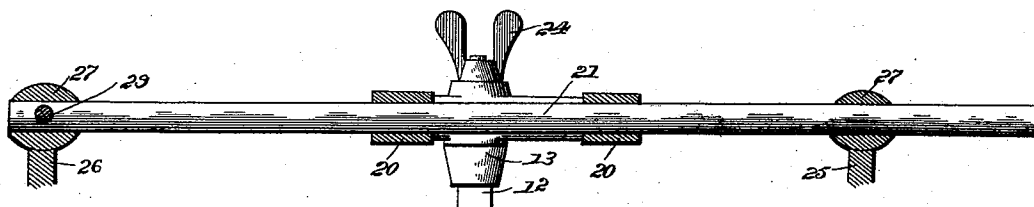
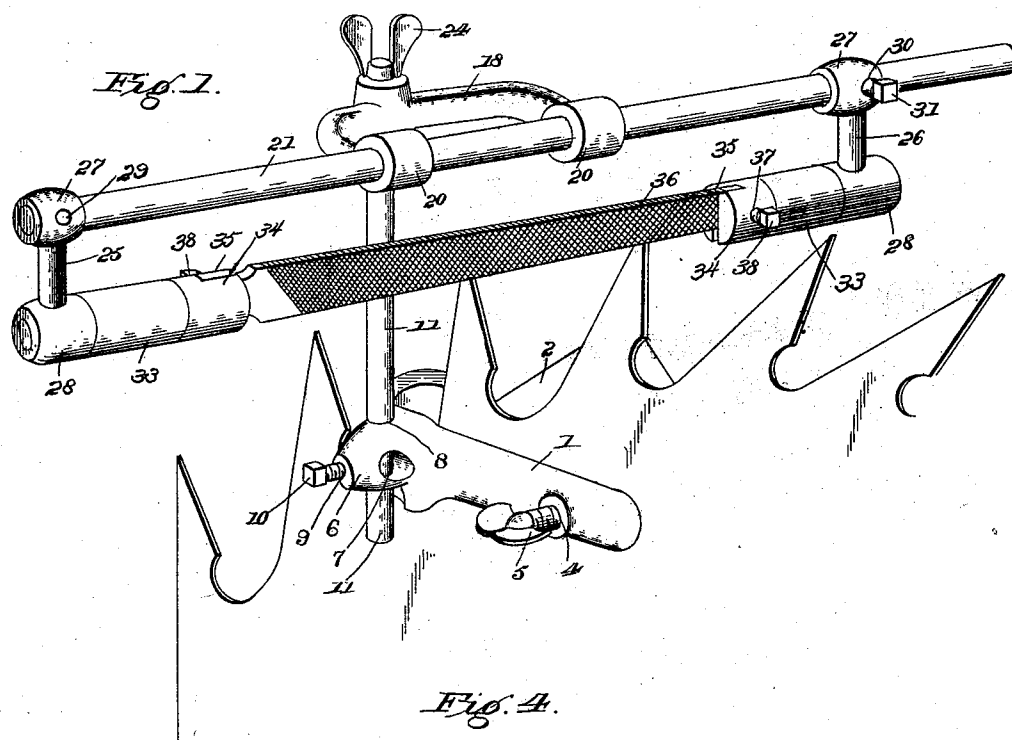
(No Model.)

2 Sheets—Sheet 1.

J. C. JOHNSON.
SAW FILING MACHINE.

No. 506,698.

Patented Oct. 17, 1893.



Inventor

James C. Johnson

Witnesses

J. C. Johnson

By his Attorneys.

W. S. Duval

C. A. Knowlton

(No Model.)

2 Sheets—Sheet 2.

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Fig. 2.

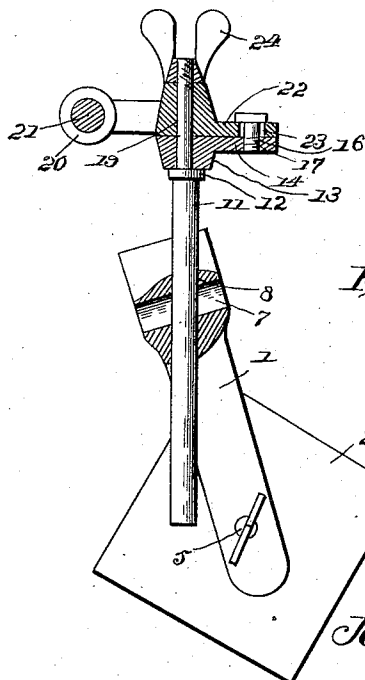
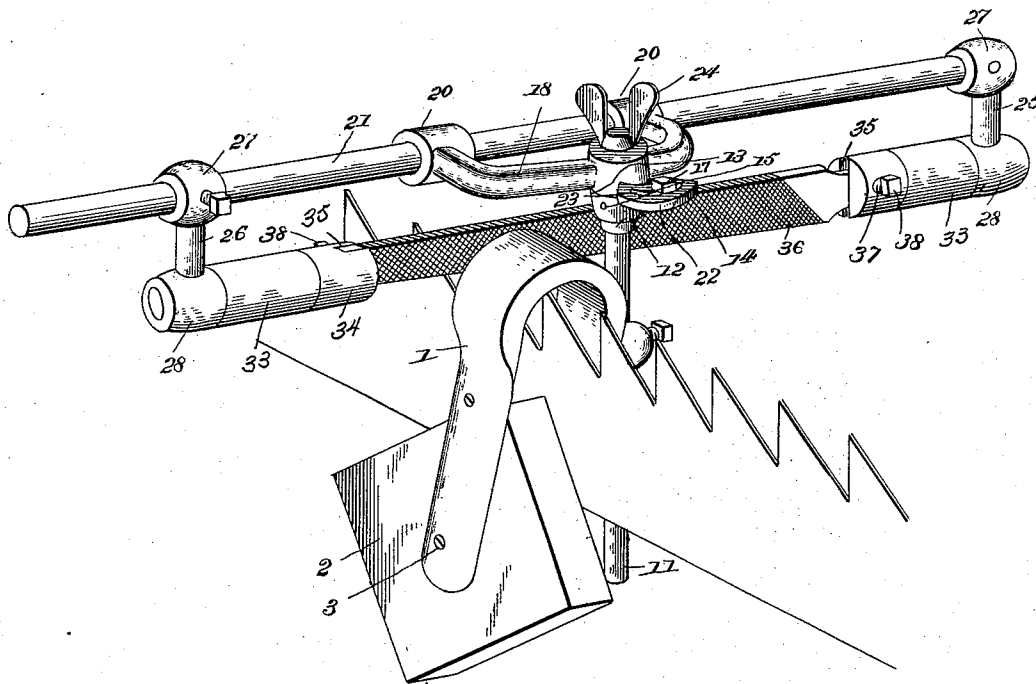


Fig. 3.

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UNITED STATES PATENT OFFICE.

JAMES C. JOHNSON, OF FULTON COUNTY, KENTUCKY.

SAW-FILING MACHINE.

SPECIFICATION forming part of Letters Patent No. 506,698, dated October 17, 1893.

Application filed July 5, 1893. Serial No. 479,612. (No model.)

To all whom it may concern:

Be it known that I, JAMES C. JOHNSON, a citizen of the United States, residing in Fulton county, Kentucky, but temporarily located at Baird, in the county of Sunflower and State of Mississippi, have invented a new and useful Saw-Filing Machine, of which the following is a specification.

My invention relates to improvements in saw-filing machines, and to that particular class thereof designed to be operated by hand.

The objects of my invention are to provide a machine adapted to carry or support at proper angles with either a cross-cut, circular, or other saw, a file for operating upon the teeth thereof, and to support the same during the reciprocations across the teeth; and furthermore, to so construct the machine as to adapt it to be readily converted from a machine adapted for operating upon a circular saw to one for operating upon a cross-cut or other style of saw, or vice versa.

With these and other objects in view, the invention consists in certain features of construction hereinafter specified and particularly pointed out in the claims.

Referring to the drawings:—Figure 1 is a perspective view of a saw-filing machine embodying my invention, the same being in position upon a circular saw. Fig. 2 is a similar view, the same being in position upon a cross-cut saw. Fig. 3 is a vertical transverse sectional view through the U-shaped saw-clamp and swiveled yoke. Fig. 4 is a longitudinal sectional view through the reciprocating rod and the yoke bearings. Fig. 5 is a similar view through the handles for supporting the file.

Like numerals of reference indicate like parts in all the figures of the drawings.

I employ in the practice of my invention a U-shaped clamp 1, the same being constructed of brass or other metal, and being of such width as to exceed that of a saw. To one of the terminals of the U-shaped clamp a wooden block 2 is secured through the medium of a screw 3. The opposite terminal is provided with a threaded perforation 4, through which extends a binding-screw 5. The block bears against one side of the saw-blade and the binding-screw the other, so that as will be apparent the clamp is readily adjustable at

any suitable angle upon the saw or may be secured in any adjusted position so as to project rigidly therefrom.

At one side the U-shaped clamp is provided with a protuberance 6, and said protuberance is provided with a transverse bore 7 and a substantially vertical bore 8 disposed at nearly a right angle to the bore 7. A transverse perforation 9 communicates with the two bores at their point of intersection, and a binding screw 10 is threaded in the perforation 9 and adapted to bear upon a cylindrical standard 11 when the same is passed through either one of the bores 7 and 8. The standard 11 as before stated is cylindrical and is provided near its upper end with an annular integral boss 12. A collar 13 is mounted upon the standard immediately above and rests upon the boss 12, and from said collar there projects a radial arm 14. The collar is secured rigidly upon the standard by a rivet 15. The outer end of the arm 14 is provided with a threaded opening 16, and in the same is mounted a clamping screw 17.

Mounted upon the collar 13 and swiveled loosely on the standard is a U-shaped yoke 18, the same having an intermediate eye 19 for the reception of the standard. The outer ends of the terminals of the yoke are provided with transversely aligning bearings 20, in which is mounted for reciprocation a cylindrical rod or shaft 21. At that side of the eye 19 opposite which the terminals or bearing arms 18 are located, a segmental plate 22 is formed and projects over the arm 14 of the collar below. This segmental plate has a curved concentric slot 23 in which rides the shank or body portion of the screw 17, the head of said screw overlapping the edges of the slot 23 and being designed to bind thereon. Above the yoke the upper end of the standard is provided with a thread, and upon this is mounted a clamping thumb-nut 24.

Suspended from the opposite ends of the shaft 21 is a pair of supporting arms 25 and 26, each of which terminates at its upper end in a bored head 27, which receives the shaft 21, and at its lower end in a bored head 28. The bored head of the arm 25 is riveted as at 29 to one end of the shaft 21, while the head of the remaining arm 26 is mounted loosely for adjustment upon the shaft 21, and is pro-

vided at one side with a transverse perforation 30 through which is introduced a binding screw 31. Thus it will be seen that the arm 26 may be adjusted at any point along the shaft 21 and with relation to the arm 25.

Let into the bores of the heads 28 of the two arms are the outer tenoned ends 32 of a pair of handles 33. The handles at their inner ends are provided with ferrules 34 and in conjunction with said ferrules the handles are provided with slots 35 formed at one side. These slots are in transverse alignment and receive the opposite ends of the file 36. Each ferrule has an opening 37 at one side and a binding screw 38 is threaded in each opening and is designed at its inner end to impinge upon the exterior of the file. This completes the construction of the filing machine, and its operation is as follows:—It will be understood that in order to adapt the machine for the various lengths and styles of files which are employed, the adjustability of the arm 26 is provided. In the introduction of the file the arm 26 is loosened, as are also the set-screws which extend through the handles. After sliding the arm 26 a suitable distance from the companion arm 25, the shank of the file is introduced into one of the handles, after which the arm 26 is moved forward so that the handle receives the remaining end of the file. The binding-screws are now operated upon so as to bind the arm 26 to the shaft 21 and the file within the handle.

In Fig. 1 I have illustrated the machine as applied to a circular saw, and in position for operating upon the teeth of the latter. It will be seen that when in this position the U-shaped clamp is turned to a substantially horizontal position, and in that case the standard 11 is run through the transverse, though now vertically disposed bore, and may be raised and lowered and secured in any of its vertical adjustments by means of the binding screw which projects into the protuberance at the side of the clamp. Having ascertained the proper height for the head which carries the file, it is next necessary to adjust said head at a proper angle with relation to the axis of the saw or the bevel to be produced. This is readily secured by loosening the thumb-nut 24 and swinging the yoke to any suitable point permissible by the presence of the slot 23 formed in the segmental plate. When the proper adjustment has been obtained the nut 24 is retightened and the operation of filing is the same as practiced by other machines. It will be seen that the file, together with its arms 25 and 26 may be swung up or down and will be held at any desired angle, so that the bevel will not vary from the beginning to the end of the operation.

When it is desired to employ the machine upon cross-cut, hand-saws, and the like, the parts are given the position shown in Fig. 2, wherein it will be seen that the clamp is inverted and slipped over the upper edge of the saw, which necessitates the removal and

reinsertion in the vertical bore of the standard 11, the adjustment of the standard, and a tightening of the binding-screw that supports the same. Again the head is adjusted so that the file may conform to the proper bevel of the teeth and the operation is the same. In such operation the opposite handles are grasped by the operator and the file reciprocated back and forth, its weight being sufficient in connection with the weight of the hands of the operator, to cause the same to feed in the direction it is filing and thus always be maintained directly to its work.

I do not limit my invention to the precise details of construction herein shown and described, but hold that I may make such variations therein as are within the knowledge of the skilled mechanic.

Having described my invention, what I claim is—

1. In a saw-filing machine, the combination with a U-shaped clamp having bores disposed at angles to each other, of a standard arranged removably therein, a binding screw passed through the clamp into the bores at their point of intersection, a swiveled yoke arranged upon the upper end of the standard and above a stop thereon, and provided with bearing eyes, a thumb-nut threaded on the upper end of the standard and adapted to be clamped upon the yoke, a reciprocating shaft, and file-carrying arms supported thereby, substantially as specified.

2. In a saw-filing machine, the combination with a U-shaped clamp, a standard rising therefrom and having a stop near its upper end, a yoke provided with bearings swiveled upon the upper end of the standard, a thumb-nut threaded on the upper end of the standard and bearing on the yoke, a shaft mounted for reciprocation in the bearings, and file-carrying arms carried by the shaft, substantially as specified.

3. In a saw-filing machine, the combination with the U-shaped yoke, the standard rising therefrom, a collar secured rigidly upon the standard and provided with a radial arm, of a yoke swiveled on the standard above the collar and having its terminals provided with bearings, a segmental slotted plate extending from the yoke and over the arm, a screw located in the slot of the plate and outer end of the arm, a shaft mounted for reciprocation in the bearings of the yoke, and file-carrying arms supported by the shaft, substantially as specified.

4. In a saw-filing machine, the combination with the saw-embracing yoke carrying clamping devices and having transverse and vertical bores, and a threaded perforation communicating therewith, of a binding-screw for the perforation, a cylindrical rod removably mounted in one of the bores and adapted to be impinged upon by the binding-screw, a boss formed upon the shaft, a collar mounted upon the shaft above the boss, a U-shaped clamp having an intermediate eye swiveled

on the standard above the collar and having a segmentally shaped concentrically slotted plate, a headed screw passed through the slot and into the arm of the collar, a rod mounted
5 for reciprocation in the bearing eyes of the yoke, a thumb-nut upon the upper end of the standard bearing on the yoke, arms carried by the shaft and adapted to support a saw-file, substantially as specified.

10 5. In a saw-filing machine, the combination with the clamp, the standard, a shaft-supporting head, and a reciprocating shaft, of arms having upper and lower bores mounted on the shaft and depending therefrom, one of
15 said arms being adjustable, opposite handles tenoned to fit the lower bores and having their front ends provided with recesses for receiving the files, and binding-screws passed

through the walls of the recesses and adapted to bear on the file, substantially as specified. 20

6. In a saw-filing machine, the U-shaped clamp 1 having the block 2 secured to one of its terminals, and a binding-screw 5 mounted in its other end, a projection 6 formed on the clamp, and formed with bores 7 and 8, a
25 binding-screw 10, the standard 11, and the saw-filing devices carried by the standard, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in
30 the presence of two witnesses.

J. C. JOHNSON.

Witnesses:

W. D. LESTER,
F. D. STEPHENS.