(No Model.) 3 Sheets—Sheet 1.

T. O'CONNOR.

SAW SHARPENING MACHINE.

No. 302,766. Patented July 29, 1884.

FIG. 1.

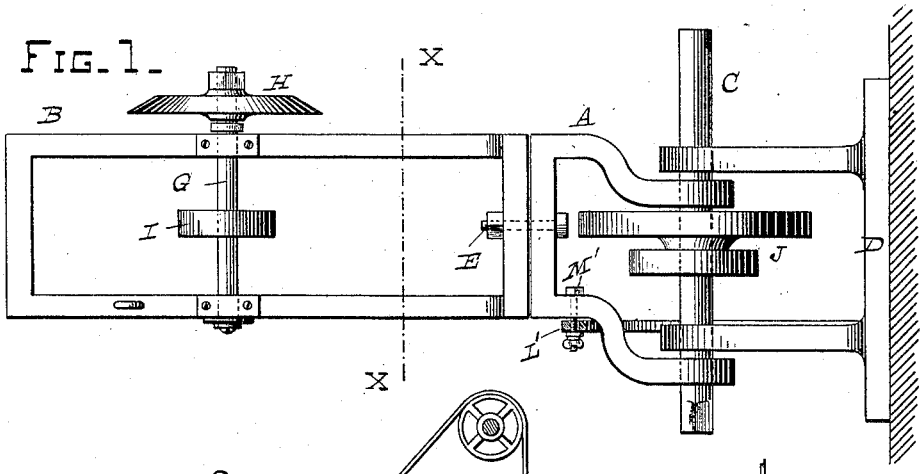


FIG. 2.

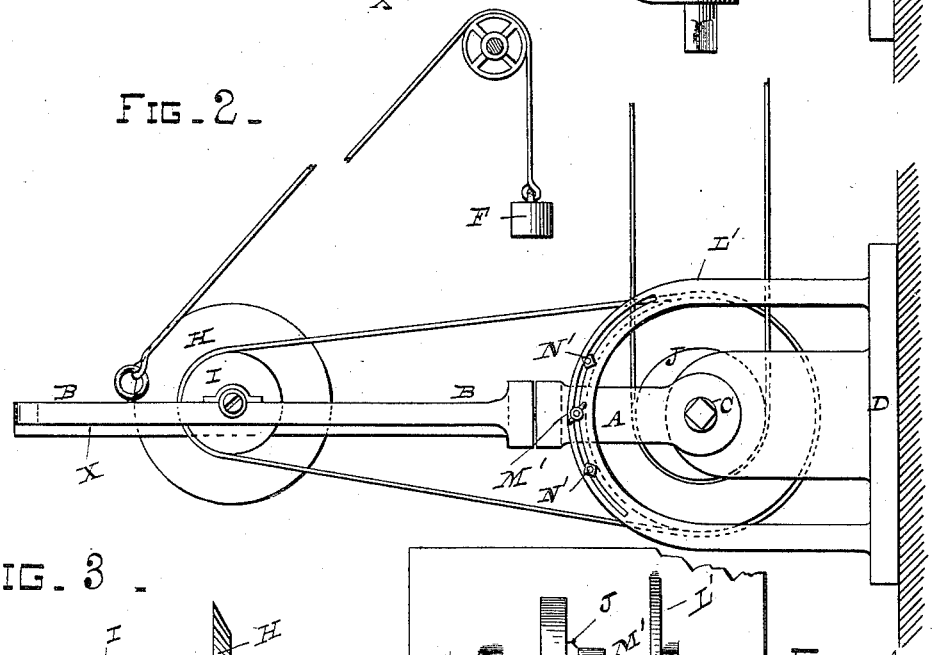
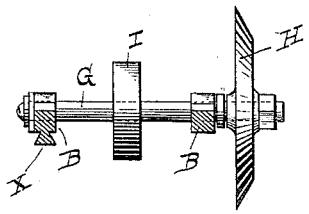


FIG. 3.



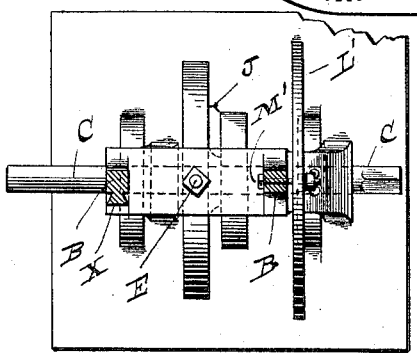


FIG. 4.

WITNESSES.

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FIG. 5.

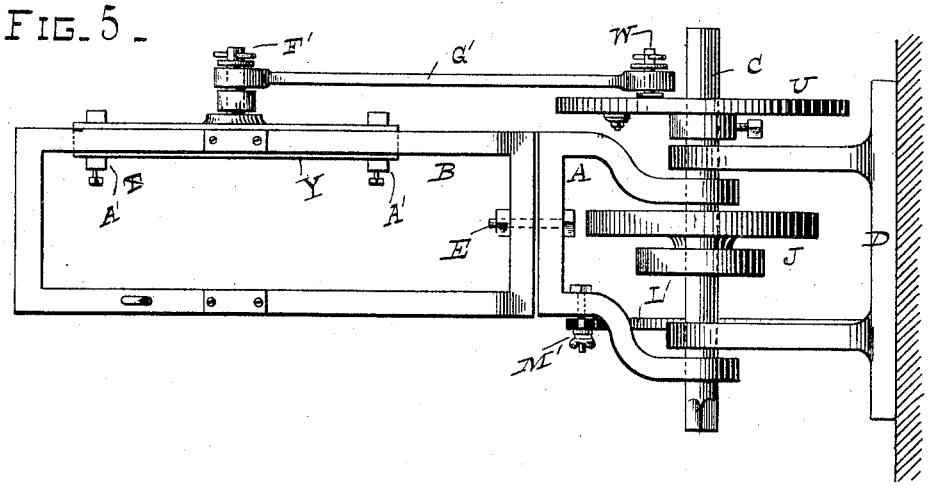


FIG. 6.

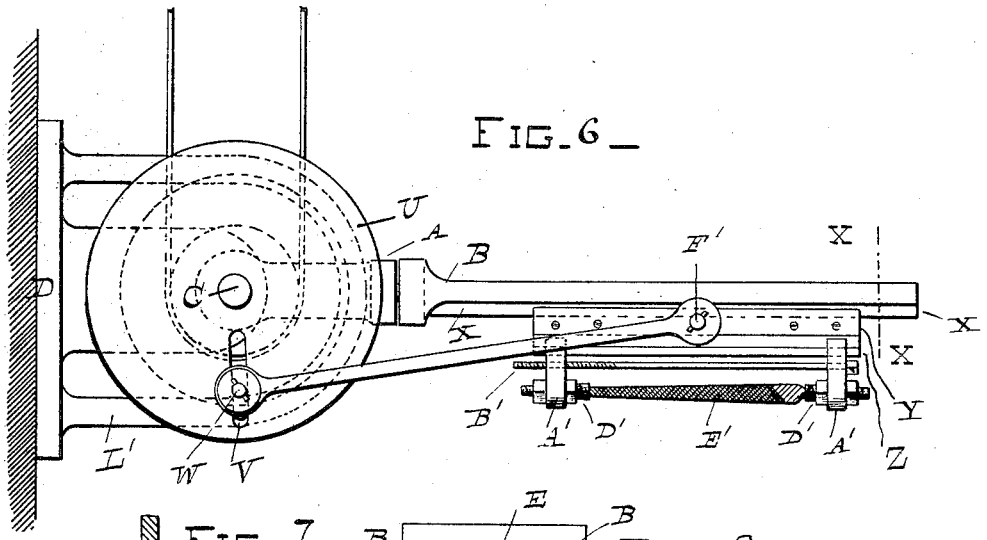


FIG. 7.

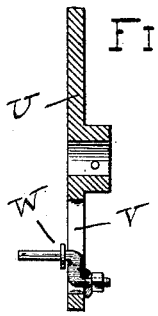
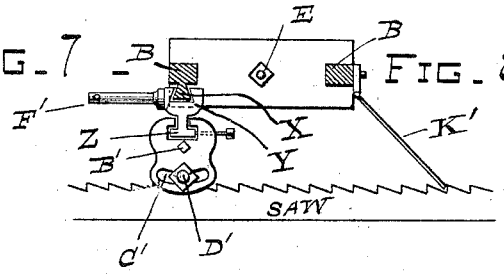


FIG. 8.



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SAW SHARPENING MACHINE.

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FIG. 9.

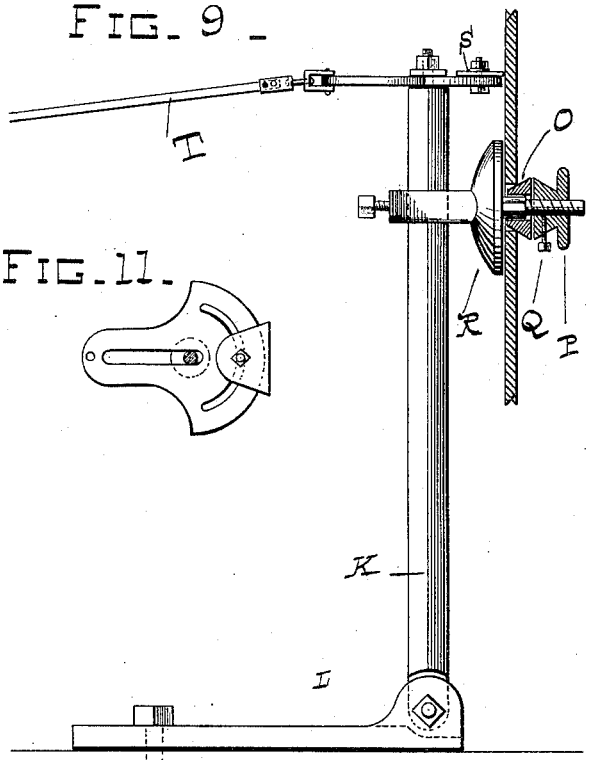


FIG. 10.

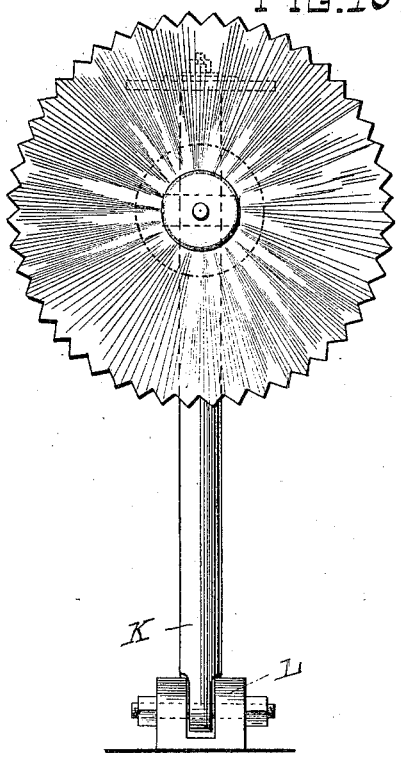
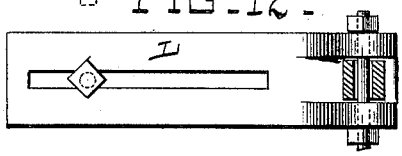


FIG. 11.

FIG. 12.



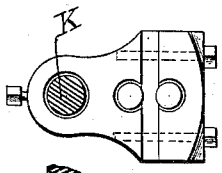


FIG. 13.

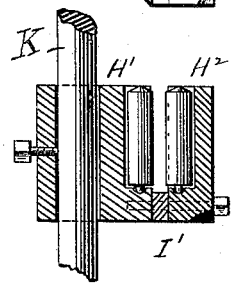


FIG. 14.

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UNITED STATES PATENT OFFICE.

THOMAS O'CONNOR, OF SAN FRANCISCO, CALIFORNIA.

SAW-SHARPENING MACHINE.

SPECIFICATION forming part of Letters Patent No. 302,766, dated July 29, 1884.

Application filed December 3, 1883. (No model.)

To all whom it may concern:

Be it known that I, THOMAS O'CONNOR, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented a new and useful Saw Gummer and Filer Combined, of which the following is a specification.

My invention relates to improvements in saw gummers and filers combined; and the object of my invention is to provide a machine which may be converted at will into either a gumming or a filing machine; and it further consists in certain details of construction and arrangement which will more fully appear hereinafter.

In the accompanying drawings, Figure 1 is a top view of my improved gumming-machine. Fig. 2 is a side view of the same. Fig. 3 is a cross-section taken on line *x x* of Fig. 1, looking to the left. Fig. 4 is a cross-section on line *x x*, looking to the right. Fig. 5 is a top view of the machine, showing the gumming-wheel removed and the saw-filing attachment substituted therefor. Fig. 6 is a side view of the device shown in Fig. 5. Fig. 7 is a sectional view of the file-driving disk. Fig. 8 is a section taken on line *x x*, Fig. 6. Fig. 9 is a side elevation of the saw-rest. Fig. 10 is a front view of the saw-rest. Fig. 11 is a plan view of the saw-rest plate. Fig. 12 is a top view of the base-block of the saw-rest. Fig. 13 is a plan view, and Fig. 14 is a vertical section, of a saw-rest for band-saws.

Similar letters of reference are used to indicate like parts throughout the several figures.

The frame-work which carries the operative mechanism is made in two parts, A and B, as shown in Fig. 1, the part A being loosely journaled upon a shaft, C, which in turn is loosely journaled in the wall-plate D. The two portions A and B of the frame-work are pivoted together by a set-bolt, E, which permits of the forward portion of the frame being tilted sidewise to any desired angle, and the whole frame may be adjusted to any vertical angle by moving the said frame upon the shaft C, to which it is pivoted. The frame and the operating mechanism is counterpoised by the balance-weight F, attached to a cord passing over a pulley and made fast to the forward end of the frame B, as shown in Fig. 2. Near the forward end of the frame B, I journal in suitable bearings the removable shaft G, upon one end of which is fastened the emery or gumming wheel H. Upon the shaft or axle G, I key a pulley, I, driven by a belt-connection with the double pulley J, keyed upon the shaft C, which is the drive-pulley for the whole mechanism. (See Figs. 1 and 2.)

The saw-rest for holding circular saws consists of a post, K, attached by a set-bolt to a base-plate, L, which in turn is clamped to the table by a set-bolt passing through a slot cut in the said base-plate. The saw-clamp can be adjusted to any height upon the post K by means of a suitable set-bolt, as shown in Fig. 9. This clamp is provided with a projecting screw-threaded mandrel having its inner end made octagonal or square, and of a size smaller than the mandrel-hole in the saw. Over this squared portion of the mandrel I place the cone-shaped plug O, which is forced into the mandrel-hole by a screw-plug, P, which may be clamped at any point by a set-screw, Q. The bearing-plate R is secured upon the top of the post K by screw-threaded bolt and nut, as shown, the said bolt passing through a longitudinal slot cut in the bearing-plate and by means of which the horizontal projection of the bearing-plate can be regulated. The front edge of the bearing-plate is made semicircular in plan, and is also provided with a semicircular slot through which is passed a set-bolt for the purpose of clamping an auxiliary or second bearing-plate S at any desired point upon the curved edge of the main plate. The outer face or edge of this auxiliary plate is made straight, so as to afford a firmer support to the blade of the saw. To the rear of the main bearing-plate I attach, by a swivel-joint, the stay-rod or brace T, which is extended backward from the post to the wall or any convenient point upon the workman's bench.

From the forgoing it will be seen that I am enabled to provide a saw-gummer of cheap and simple construction and not liable to get out of order, and one in which the saw may

be set at any desired angle of inclination and at any height; and, furthermore, that by means of the pivoted and jointed frame carrying the gumming-wheel I am enabled to incline the said wheel at any desired angle for the purpose of operating upon saw-teeth having a greater or less under-cut.

When it becomes necessary to convert the machine into a saw-filer, I remove the gumming-wheel and its shaft from the frame, and clamp or key upon the shaft C the plate-wheel U, having a radial slot, V, cut therein, in which is clamped the wrist-pin W at any desired point along the slot.

Upon the under side of the left-hand side bar of the frame B there is formed a dovetail, X, over which is slid the file-carrier Y, and along which it is reciprocated. The lower portion of the file-carrier is made with a double-flanged rib, Z, or of an inverted-T shape, for the purpose of receiving the plates A′ A′, which are clamped at any desired point along the rib by set-bolts, and are furthermore braced and stayed by a tension-bolt, B′. The lower portion of these plates A′ A′ are provided with a transverse slot C′, within which is clamped the self-centering tool-holders D′ D′, which carry the file E′. A wrist-pin, F′, is formed upon the carrier Y, which receives one end of the connecting-rod G′, leading from the plate-wheel U, as shown in Fig. 6, and by this means the reciprocation of the file is produced when the driving-shaft and pulleys are rotated.

For filing band-saws, I remove the circular-saw clamp from the post and replace it by the device illustrated in Figs. 13 and 14, which represents a saw-rest made in two portions, H′ H², separated from each other by a narrow plate, I′, so as to leave a sufficient space to receive the saw-blade. Friction-rollers J′ J′ are placed within this opening, and bear against the blade of the saw and keep it from binding upon the sides of the saw-rest.

Upon the right-hand side of the frame B, I attach the hinged pawl-feeder K′, (see Fig. 8,) which is a plain bar of metal having its lower end resting in the saw-teeth, and as the frame is raised by the operator to clear the file from a tooth, the feeder will be drawn back a short distance, and when the device is lowered to file the next tooth, the action of lowering will cause the saw to be moved forward the distance of one tooth.

In order that the vertical play of the frame A B may be regulated, I attach to the wall-plate D a semicircular slotted arc, L′, and pass a set-bolt, M′, from one of the sides of the frame A, through the said slot. Set-bolts N′ N′ are then placed in the slotted arc, above and below the bolt M′, for the purpose of limiting the rise and fall of the said frame A, as it is tilted up and down by the hand of the operator.

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

1. In a combined saw gummer and filer, the combination of the plate D, having slotted arc L′, the shaft C, the pivoted frames A B, connected by set-bolt E, and the set-bolts M′ N′ N′, for adjusting the frame, substantially as described.

2. In a combined saw gummer and filer, the combination of the pivoted and adjustable frames A B, the latter having a dovetail, X, the shaft C, having pulley J and slotted wheel U, provided with a wrist-pin, W, the reciprocating file-carrier, Y, fitted to the dovetail X, and having wrist-pin F′ and the connecting-rod G′, substantially as described.

3. In a combined saw gummer and filer, the combination of the adjustable frame B, having dovetail X, the reciprocating file-carrier Y, fitted to said dovetail, and provided with a double-flanged rib Z, the clamping-plates A B having slots C′, the tension-bolt B′, self-centering tool-holders D′ D′, and file E′, substantially as described.

4. In a combined saw gummer and filer, the combination, with the pivoted frames A B, of the saw-feeder K′, hinged to the side of the frame B, substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand and seal.

THOMAS O'CONNOR. [L. S.]

Witnesses:
WILMER BRADFORD,
CHAS. E. KELLY.