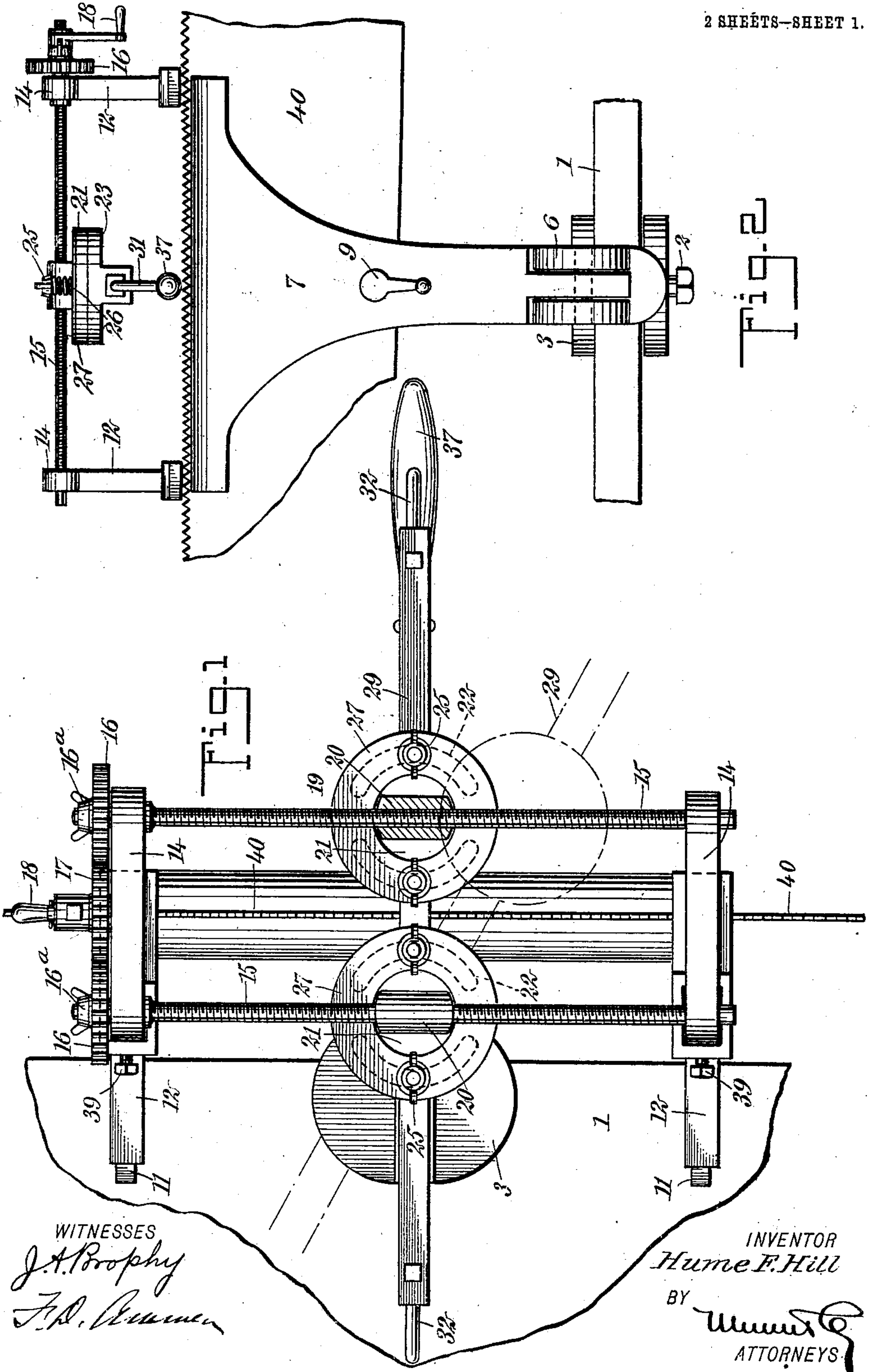


H. F. HILL.
SAW FILING DEVICE.
APPLICATION FILED NOV. 19, 1907.

903,721.

Patented Nov. 10, 1908.

2 SHEETS—SHEET 1.



WITNESSES
J. A. Brophy
J. H. Dummer

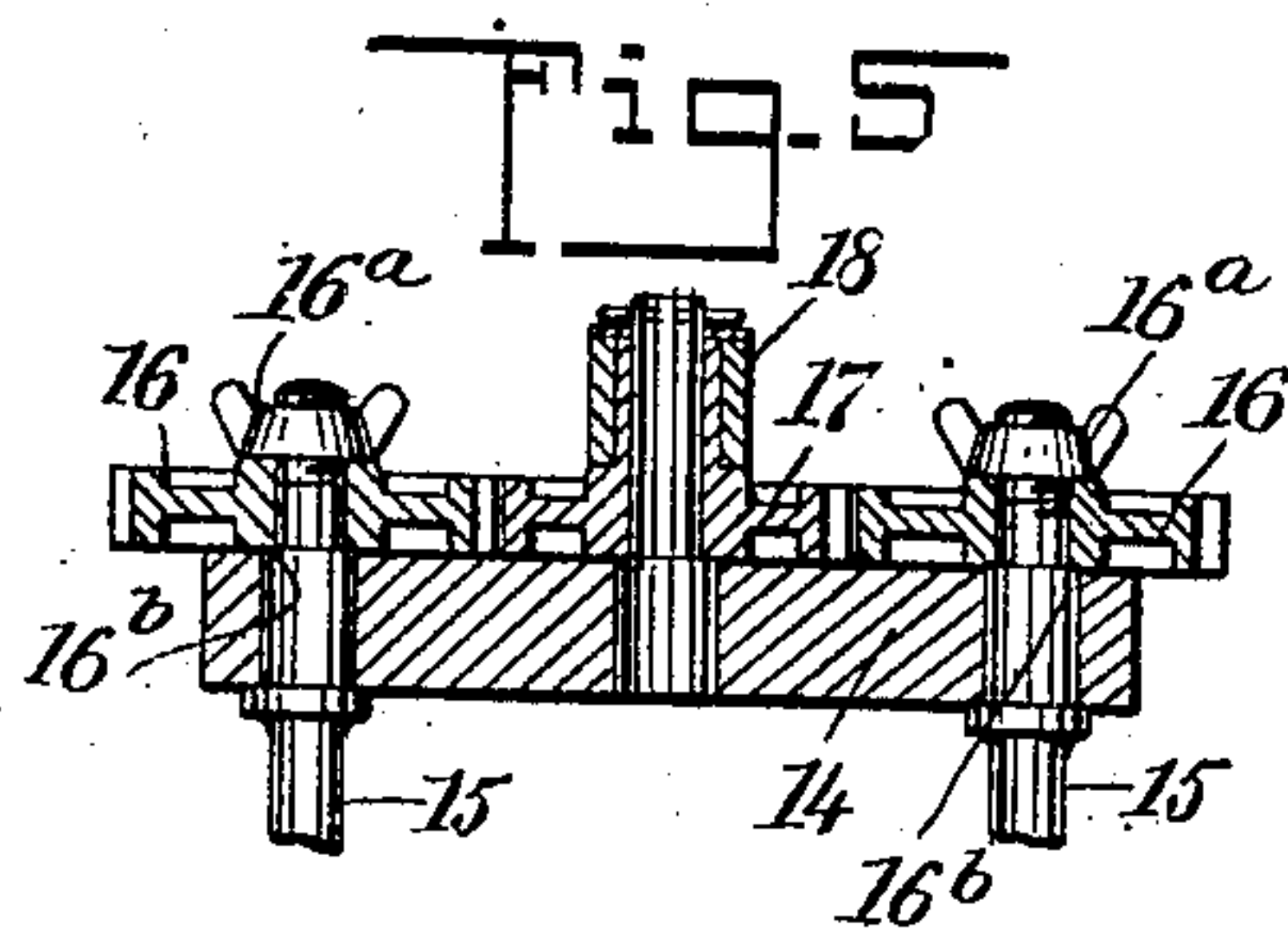
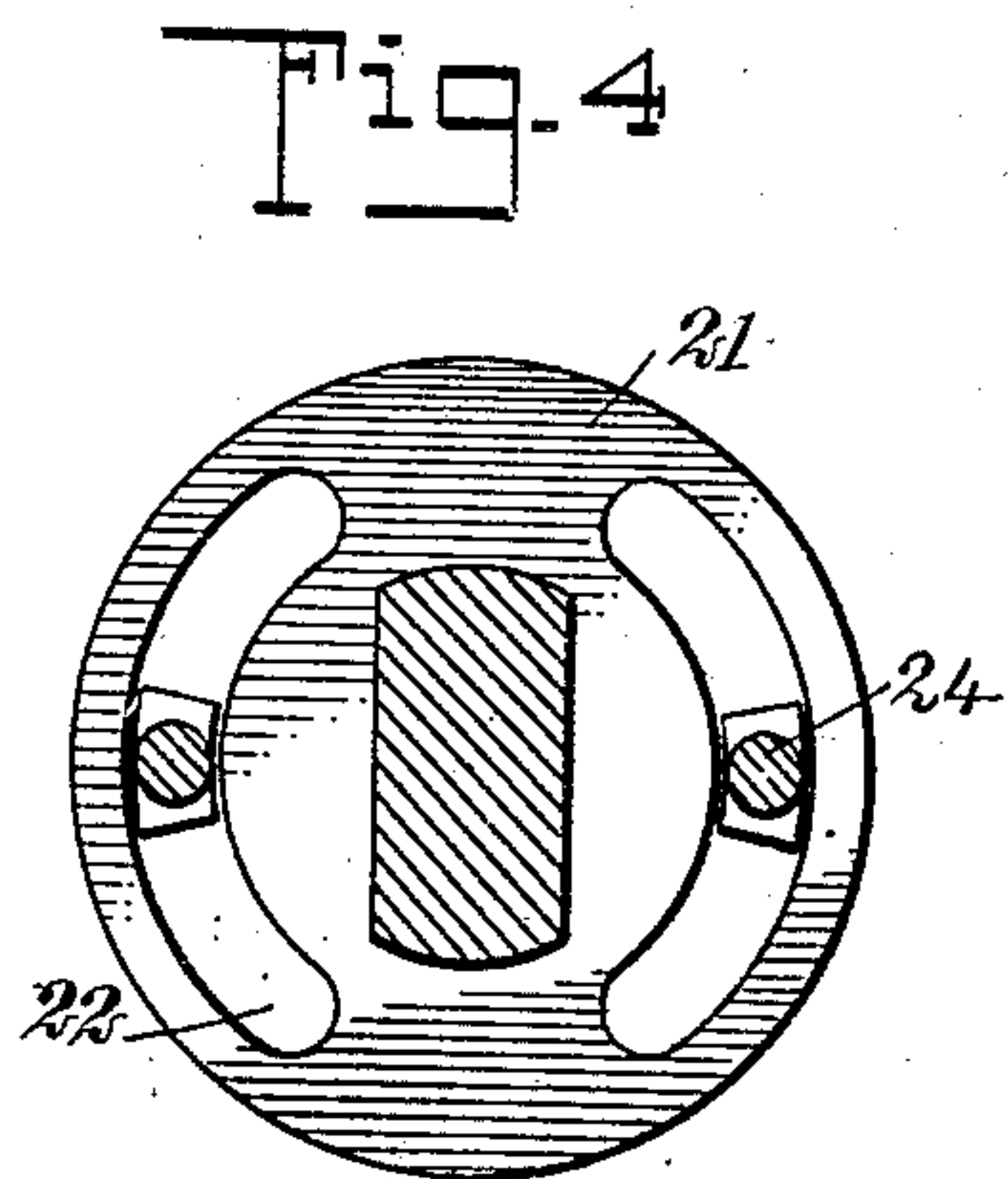
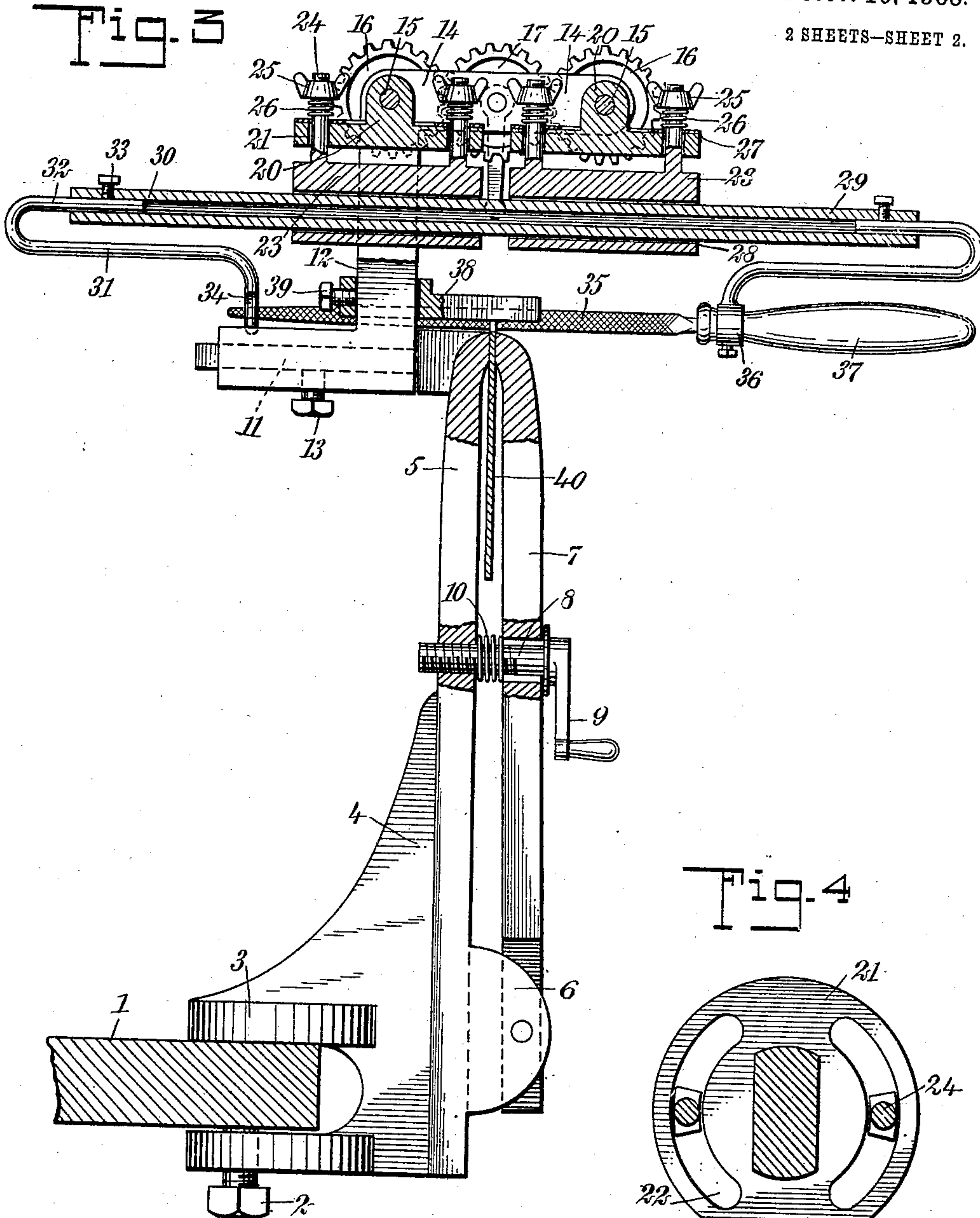
INVENTOR
Hume F. Hill
BY *Wm. F. Hill*
ATTORNEYS

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WITNESSES
J. A. Prophy
J. D. Sumner

INVENTOR
Hume F. Hill
BY *Wm. H. Hill*
ATTORNEYS

UNITED STATES PATENT OFFICE.

HUME F. HILL, OF SCOTIA, CALIFORNIA.

SAW-FILING DEVICE.

No. 903,721.

Specification of Letters Patent.

Patented Nov. 10, 1908.

Application filed November 19, 1907. Serial No. 402,878.

To all whom it may concern:

Be it known that I, HUME F. HILL, a citizen of the United States, and a resident of Scotia, in the county of Humboldt and State of California, have invented a new and Improved Saw-Filing Device, of which the following is a full, clear, and exact description.

This invention relates to saw-filing devices, and the object of the invention is to produce a device of this class which can be readily set up in position on an ordinary work bench, and which will operate to guide the saw in the filing operation, the arrangement being such that the file may be advanced by a simple movement from one end of the saw to the other as the operation progresses, and the file is constantly maintained in a fixed relation of inclination with respect to the blade, so that the edge given to the teeth will be uniform.

The invention consists in the construction and combination of parts to be more fully described hereinafter and particularly set forth in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan of the device constructed according to my invention, showing a portion of the table to which the device is attached; Fig. 2 is a front elevation of the device showing a portion of the table and a portion of a saw-blade held in the device; Fig. 3 is a vertical section through the saw-blade and the device, certain parts being shown in elevation and partly broken away; Fig. 4 is a horizontal section taken through a swivel head which constitutes a feature of the invention; and Fig. 5 is a section illustrating the means for driving the feed screws which advance the file from one end of the saw to the other.

Referring more particularly to the parts, 1 represents the top of the table or work bench, to which the device is represented as attached by means of a suitable clamping screw 2, the edge of the table being received between flanges 3 as shown in Fig. 3. These flanges 3 are formed integrally upon a main bracket 4, which bracket is formed with a vertically disposed jaw 5. On its forward or outer side and at its lower end, the bracket 4 is provided with ears 6, which enable a

movable jaw 7 to be pivotally attached to the fixed jaw, as shown. A clamping screw 8 is provided, which is mounted by means of threads in the fixed jaw 5, and is adapted to be turned by a crank 9 so as to clamp the movable jaw 7 against the fixed jaw.

Disposed around the screw 8, I provide a coiled spring 10 which tends to hold the movable jaw away from the fixed jaw in a well understood manner. The upper portions of the jaws 5 and 7 are elongated as illustrated in Fig. 2, and at or near its ends the jaw 5 is provided with rearwardly projecting arms 11 of reduced dimension, and on these arms sliding brackets 12 are adapted to be clamped adjustably by suitable clamping bolts 13 as shown. These brackets 12 have upwardly disposed horizontal extensions or arms 14, which are disposed opposite to each other as shown most clearly in Fig. 1, and in these arms 14 parallel feed screws 15 are mounted. At one end these feed screws project as illustrated in Fig. 5, and have rigidly attached thereto gear wheels 16, which gear wheels mesh with a driving gear 17, which is disposed between them and is adapted to be rotated by means of a crank 18. The thread of the two screws 15 is of the same character. Movable mounted on the feed screws 15 there is provided a filing frame 19. This frame comprises a pair of nut heads 20, which have threaded bores receiving the threads of the screws 15, so that when the screws are rotated the nut heads will advance like a nut upon a bolt. The nut heads 20 are formed with disk-shaped bodies 21 therebelow, as illustrated in Fig. 4, the said disk bodies or disks being provided with circumferentially disposed slots 22. Below these disks 21, file guides 23 are provided, which consist of disks having studs 24 on their upper sides which pass up through the slots 22 as illustrated. The upper extremities of these studs 24 are threaded so as to receive wing nuts 25 which screw down upon coiled springs 26. These springs thrust upon the upper sides of rings 27 laid upon the upper sides of the disks 21, and provided with openings through which the studs 24 pass. The guides 23 are formed below with horizontal guide openings 28 which are in alinement as shown, so as to form a guide for a bar 29. This bar 29 is preferably of square form, and fits the openings 28 nicely. In the ends of the bar 29 sockets 30 are formed,

which receive file holders 31; said file holders being formed of wire and having shanks 32 which are received in the sockets as shown, and clamped therein by bolts 33. The lower
 5 portion of one of these file holders is formed with an eye 34 which receives the end of the file 35, while the opposite holder is formed with a ring 36 which clamps the handle 37 of the file, as illustrated. On the brackets
 10 12, gages 38 are adapted to be clamped in any adjusted position by means of a suitable clamping bolt 39, and these gages project across the jaws 5 and 7; they are adapted to be engaged by the teeth of the saw blade 40
 15 when it is placed between the jaws. In this way they operate as gages to bring the saw blade to the proper height.

The disks 21 and the guides 23, by reason of the slot connections therebetween, constitute swivel heads permitting the position of the guides 23 to be changed when desired. As illustrated in Fig. 3, the guides 23 are disposed directly opposite each other, and in this position they will guide the file in a
 25 plane at right angles to the plane of the saw.

It should be understood that normally the springs 26 operate to hold the guides 23 in an elevated position, at which time the file 35 is disposed above the level of the teeth of
 30 the saw.

In applying the file to the saw, the handle 37 and file are normally raised; the handle and the file are then seized and depressed into the position shown in Fig. 3. In this
 35 way the springs 26 become compressed and the file moves down into engagement with the teeth. Where the saw teeth are to be given an angle or set, the nut-heads 20 are not disposed opposite to each other as illustrated in Fig. 1, but one of the nut-heads is
 40 disposed in an advanced position with respect to the other, so that the bar 29 will be disposed in an inclined position, as indicated by the dotted lines in Fig. 1. In order to
 45 move one of the nut heads along its feed-screw so as to bring about this relation, it is only necessary to loosen one of the wing-nuts 16^a which clamp the gears 16 against shoulders 16^b on the screws 15; this gear will then
 50 slip, whereupon one of the screws will stand still while the other rotates, so as to shift the nut-head which it carries to any desired position. After the nut-head is shifted as described, the loosened thumb-nut may be
 55 tightened so that the screws will thereafter move in unison. It should be understood that the two gear-wheels 16 are of the same diameter, so that an equal amount of rotation is given to each screw. As soon as the
 60 file 35 is released, the springs 26 will raise it so that when the crank 18 is rotated, the file will advance to the next tooth. In this way the file is guided throughout the saw-setting operation, and can be readily ad-
 65 vanced along the blade as the operation pro-

gresses. Evidently, the jaws 5 and 7 constitute a convenient vise for holding the saw.

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

1. In a saw-filing device, in combination, a pair of supporting brackets, feed screws connecting the same, nut heads mounted on said feed screws, guide heads depressibly supported from said nut heads, means for
 75 normally holding said guide heads in an elevated position, and means for supporting a file from said guide heads.

2. In a saw-filing device, in combination, supporting brackets, gages attached to said
 80 brackets and adapted to be engaged by the teeth of the saw blade to determine the position thereof, a file frame, means for advancing the same longitudinally of said vise, means for depressibly supporting a file in
 85 said file frame, and means for normally holding said file frame in an elevated position.

3. In a saw-filing device, in combination, supporting brackets, disks supported between said brackets, means for advancing said
 90 disks, said disks having circumferentially disposed slots formed therein, guide heads having studs extending upwardly through said slots, springs tending to hold said guide heads in an elevated position, and a bar slid-
 95 ing through said guide heads and adapted to support a file.

4. In a saw-filing device, in combination, supporting brackets, a pair of feed screws mounted in said brackets, nut heads mounted
 100 on said feed screws, swivel heads formed at said nut heads, means for guiding a file at said swivel heads, gear wheels carried by said feed screws, a gear wheel disposed therebetween and meshing with the same for ro-
 105 tating said feed-screws simultaneously, and thumb-nuts for making said first-named gear-wheels tight or loose on said screws.

5. In a saw-setting device, in combination, supporting brackets, feed screws connecting
 110 said brackets, nut heads mounted on said feed screws and having disk bodies with circumferentially disposed slots therein, guide heads disposed beneath said disk bodies and having upwardly projecting studs passing
 115 through said slots, nuts on said studs, coiled springs below said nuts, disposed around said studs and normally holding said guide heads in an elevated position, a guide bar guided through said guide heads, means for
 120 supporting a file from said guide rod, and means for rotating said feed screws in unison.

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

HUME F. HILL.

Witnesses:

JAS. J. HUNNACUTT,
 ARTHUR N. GRAHAM.