

(Model.)

2 Sheets—Sheet 1.

T. J. BARRON.
GIN SAW FILING MACHINE.

No. 250,485.

Patented Dec. 6, 1881.

Fig. 1.

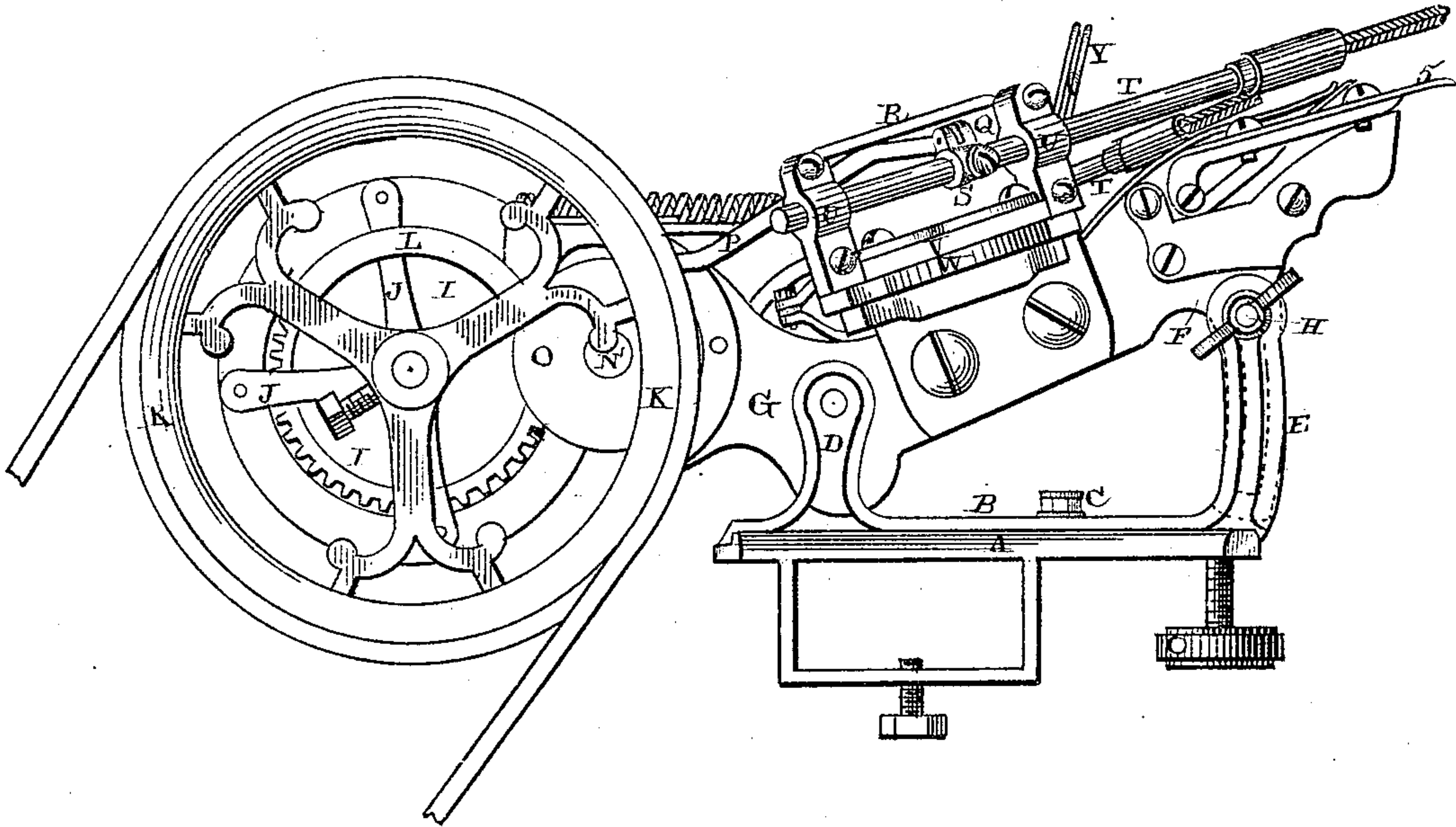
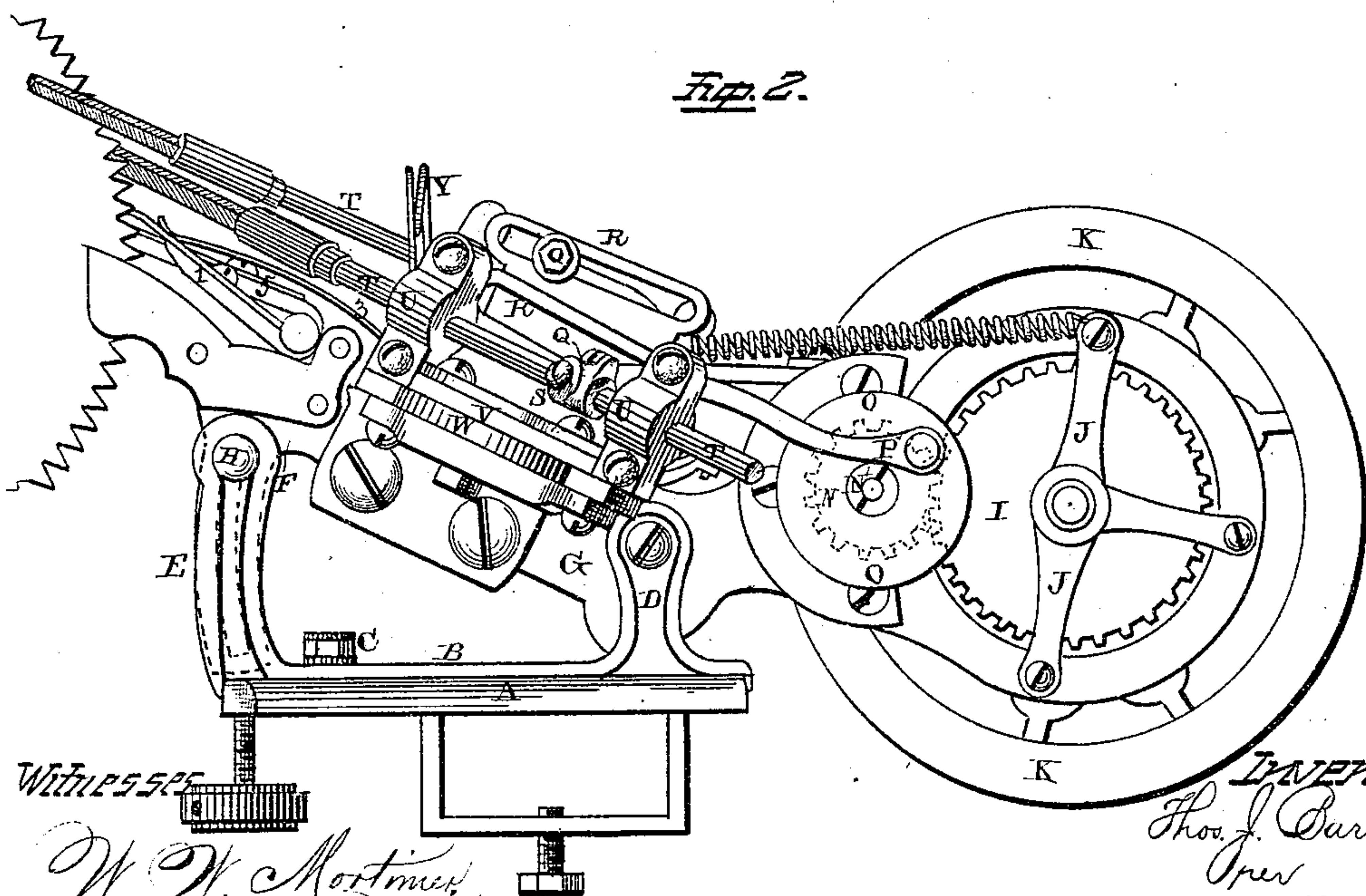


Fig. 2.



Witnesses

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F. A. Lehmann
Att'y

(Model.)

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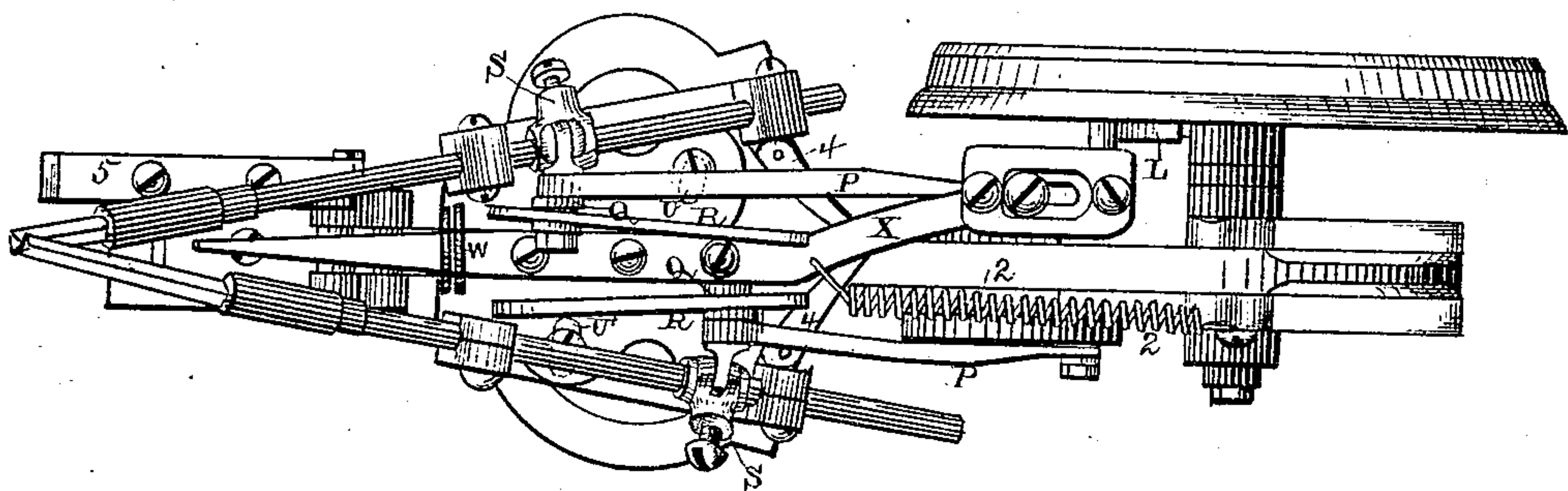
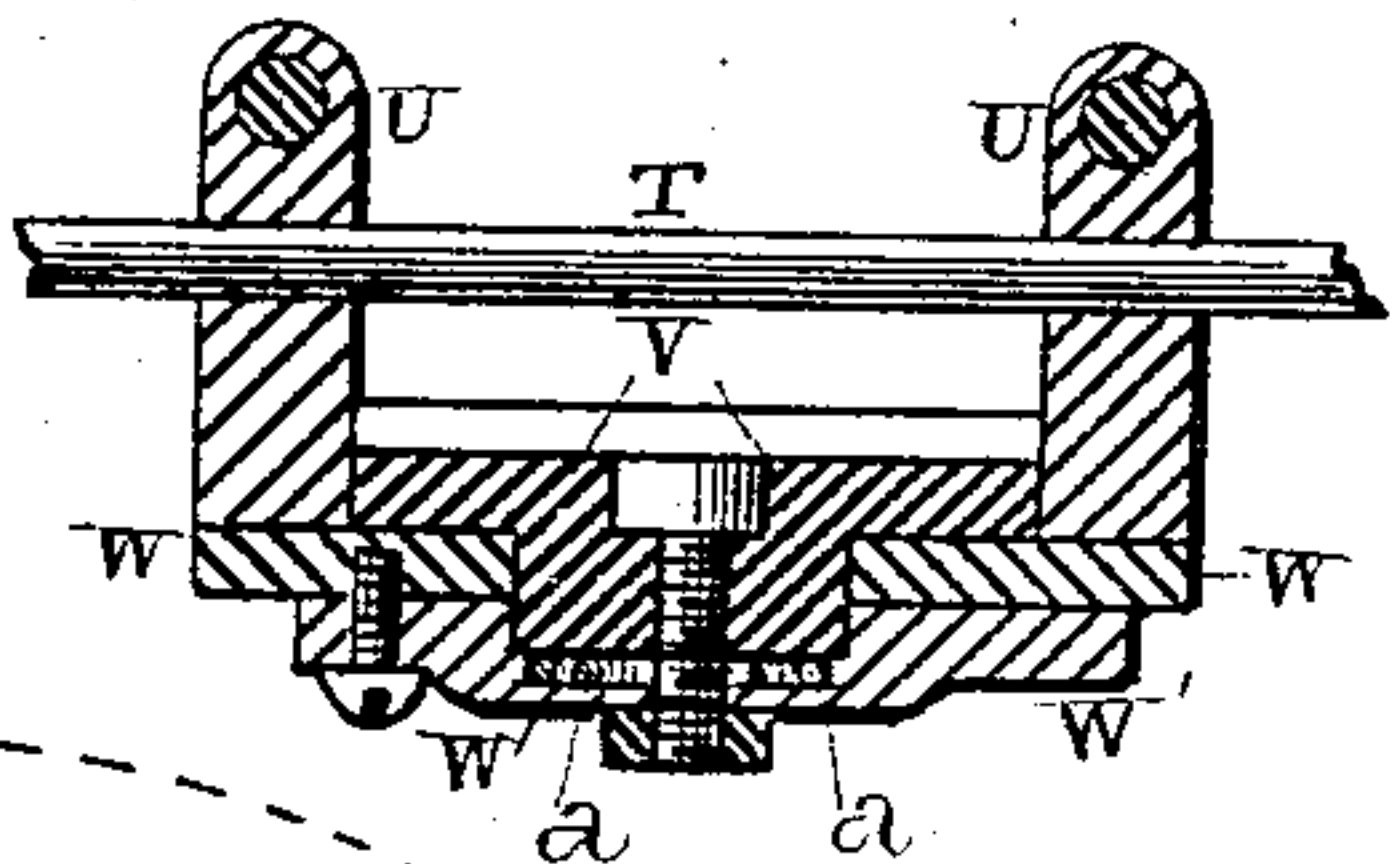
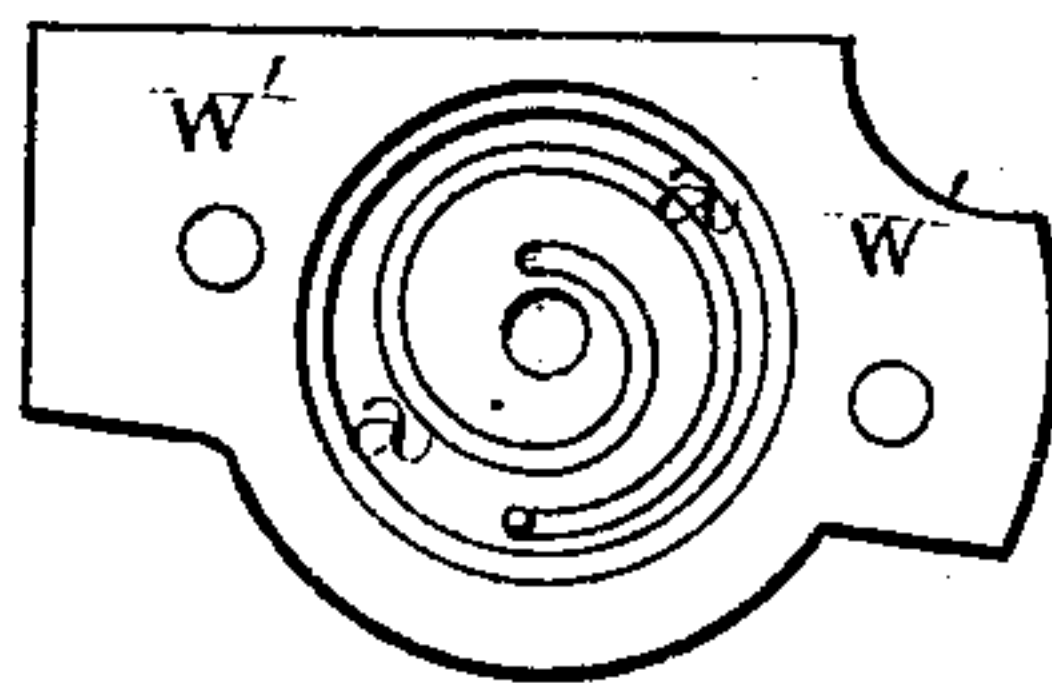


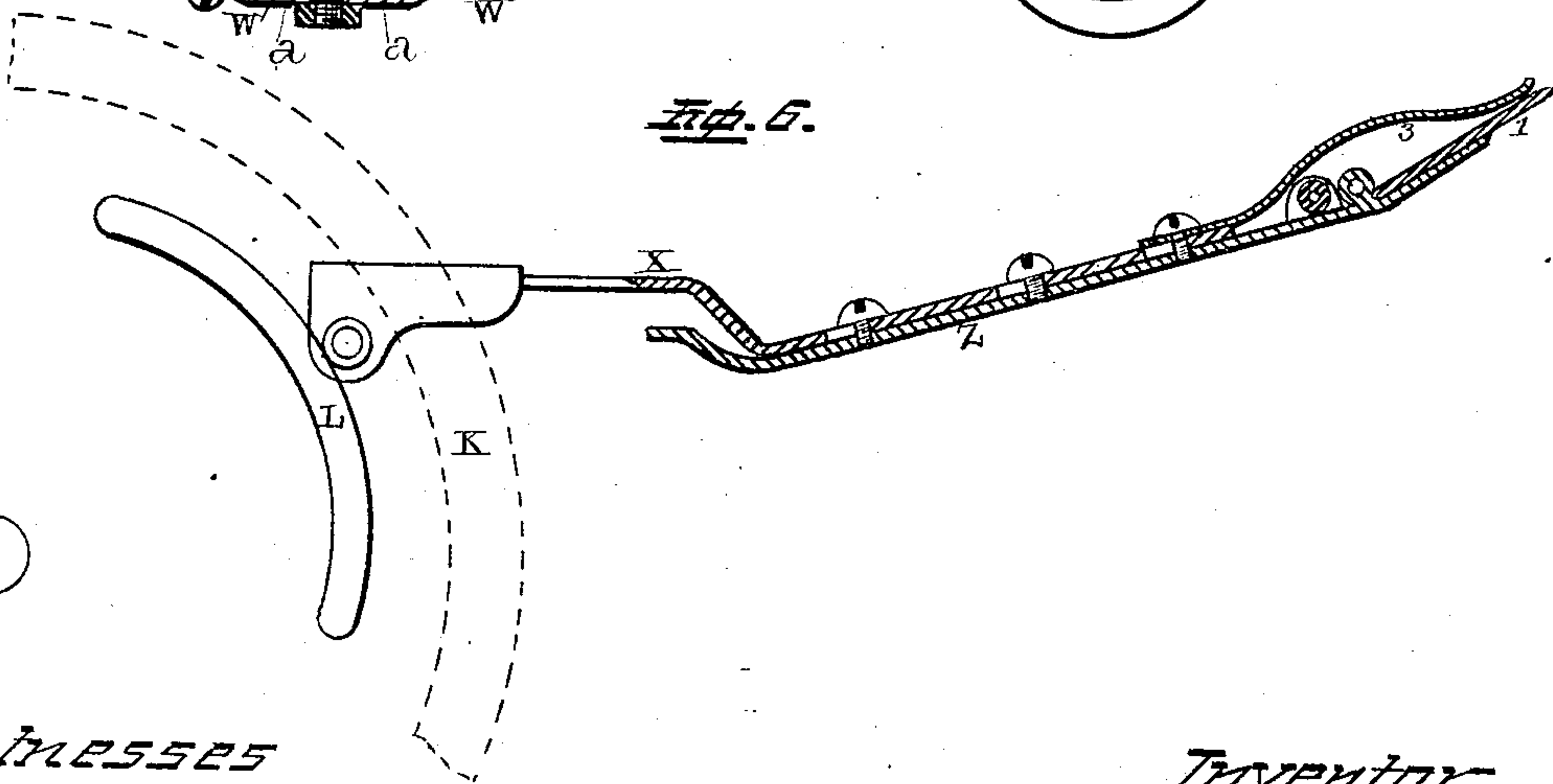
Fig. 4.



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Witnesses

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UNITED STATES PATENT OFFICE.

THOMAS J. BARRON, OF NEWNAN, GEORGIA.

GIN-SAW-FILING MACHINE.

SPECIFICATION forming part of Letters Patent No. 250,485, dated December 6, 1881.

Application filed July 25, 1881. (Model.)

To all whom it may concern:

Be it known that I, THOMAS J. BARRON, of Newnan, in the county of Coweta and State of Georgia, have invented certain new and useful Improvements in Cotton-Gin-Saw-Filing Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in gin-saw-filing machines; and it consists, first, in pivoting the frame of the machine, near its center, upon a sliding carriage, so as to give the files both a vertical adjustment, and to move the machine back and forth to accommodate it to different-sized saws; second, in the combination of the file-rods, suitable bearings which have a horizontal vibrating movement, and a mechanism for operating the rods back and forth and partially revolving the bearings at regular intervals for the purpose of moving the files out of contact with the saw while the saw is being fed forward; third, in the arrangement and combination of parts, whereby a rapidly-operating, cheap, and efficient machine is produced for filing gin-saws of all sizes.

Figures 1 and 2 are side elevations of a machine embodying my invention, taken from opposite sides. Fig. 3 is a plan view of the same. Figs. 4, 5, 6 are detail views of different parts of the machine.

A represents a casting, which has a suitable opening made through it to allow the guiding-bar, upon which the machine is placed, to pass through. The machine is to be fastened in any desired position upon this bar by means of a set-screw, which passes through the casting from the under side. The top of this casting has a dovetailed groove made in it, and in this groove is placed a sliding bed-plate, B, which can be secured in any desired position by means of suitable set-screws, C, which pass through the slot in the top of the plate down into the casting A. Rising from the top of this bed-plate B are the two standards D, between which the frame of the machine is pivoted for the purpose of allowing the files to be adjusted vertically, and thus adapting the ma-

chine to saws of different sizes or to have the files operate at any desired angle upon the saw-teeth; also, rising from the inner end of the bed-plate are two other standards, E, which are considerably taller than the two D, and between the standards E a long slotted arm, F, of the frame G moves. Passing through these standards E E and a slot in the arm F is the set-screw H, which serves to clamp the two standards tightly together at their upper ends against the sides of the arm F, and thus hold the frame G in any position to which it may be adjusted. It is only necessary to loosen this screw H, adjust the frame G to any desired angle, and then tighten the screw, and the frame will be securely held in position. This frame G has a suitable opening made through its outer end, inside of which is placed the toothed wheel I, the driving-shaft of which is journaled in suitable bearings in the supports J, which are secured to opposite sides of the frame. On the outer end of the shaft of the toothed wheel I is secured the large driving-wheel K, which is adapted to be operated either by hand or by a belt. Secured to the inner side of this large driving-wheel is a cam, L, which serves to operate the feed and to turn the bearings of the file-rods partially around at the same time.

The toothed wheel I meshes with a pinion, N, which is placed in any suitable opening in the frame, and which pinion is secured to the shaft N', which is journaled in suitable bearings secured to opposite sides of the frame, and which shaft has either a crank or a wheel, O, secured to each of its ends. Connected to each of these wheels O by means of a wrist-pin is a connecting-rod, P, which has its other end fastened to a slide, Q, which moves in a slot in the guide R. There are two of these guides R, one of which is placed above the other, so that one file may operate slightly above or in advance of the other. The two slides Q have their outer ends pivoted to suitable clamps, S, which are secured to the file-rods T, and as these file-rods are placed at an angle to the guides R in which the slides move, it will readily be seen that the file-rods are caused to partially rotate as they are moved back and forth, so as to enable the files to sharpen the edges of

the teeth of the saw. These guides R are provided with slots U', so that they can be adjusted back and forth upon their bearings for the purpose of giving the files a greater or less twist, as may be necessary.

The two bearings U, in which each file-rod moves, rise upward from opposite ends of the plate V, which is pivoted upon a bracket, W, upon the frame G. Each one of these plates V has a circular extension formed on its under side, so as to fit in a corresponding recess made in the top of the bracket W, and is held in place by a suitable bolt. Between the bearings on the inner ends of the plates V is placed a suitable spring, Y, which serves to return the two plates V to position after they have been drawn partially around by the same movement which feeds the saw forward. Also, placed in the bottom of the recess in the top of the plate W' is a coiled spring, a, which has one end fastened to the plate and the other to the bracket. The whole tension of this spring a is exerted in holding the bracket in such a manner that the files are pressed against the saws. These springs act in connection with and assist the spring Y. These plates V are thus pivoted upon the bracket W for the purpose of allowing the inner ends of the file-rods to be moved inward toward each other, and thus move the two files out of contact with the saw while the saw is being fed forward another tooth. As the large driving-wheel K is made to rotate, the cam L, that is secured to its side, strikes against a small friction-roller that is secured to the rear end of the slide-rod X, which is slotted at its rear end, so that it can move freely back and forth over a screw which acts as a guide to keep the bar always in position. This bar X is curved downward at its center, as shown, and is fastened by suitable screws to a rod, Z, which has the flat plate 1 secured to its inner end. Fastened to this bar X is a coiled spring, 2, which serves to pull the bar back into position after it has been forced forward by the cam L. To the front end of the bar is secured a suitable spring, 3, which serves to keep the feed-plate 1 pressed against the saw.

To the end of the bar Z which is nearest to the driving-wheel K are secured the two links 4, which serve to unite the bar with the two pivoted plates V. As the bar X is forced forward by the cam L the bar Z is forced forward at the same time, and as the bar Z moves forward the two links force the outer ends of the plates V outward, and this outward movement moves the inner ends of the file-rods inward toward each other, so as to force the files out

of contact with the saw. At the same time that the files are forced out of contact with the saw the forward movement of the bar Z forces the feed-plate 1 against the saw, so as to feed the saw forward another tooth.

Pivoted upon the same rod as the feed-plate 1 is a supplemental feed-plate, 5, which may be placed upon either side of the feed-plate, and which serves to catch in the teeth of the next gin-saw, and thus assist in forcing the saws around. Both of these feed-plates are pivoted so as to have a sufficient play to allow their outer ends to slip from one tooth of the saw to the other. The saw which is being filed catches in a slot or groove which is made in the inner end of the frame G, and by means of which the saw is prevented from vibrating while the files are at work upon it.

It will be seen from the above description that it is only necessary to attach the machine upon the guide-bars in front of the saws and then move the frame G either forward or back by means of the sliding bed-plate B, and give the frame the proper inclination, so as to operate to the best advantage upon the saws. This double adjustment enables the machine to operate equally well upon saws of all sizes.

Having thus described my invention, I claim—

1. The combination of the casting A, having a hole through it to receive the guiding-bar, and having a dovetailed groove made in its top, with the sliding bed-frame B, which is provided with the standards D E, between which the arm G is held, substantially as shown.

2. In a gin-saw-filing machine, the combination of the partially-rotating bearings V, the file-rods T supported thereon, suitable springs for returning the bearings to place after being moved, and a mechanism for reciprocating the file-rods, substantially as described.

3. The combination of the driving-wheel K, provided with the cam L, the rod or bar X, the spring Y, the rod Z, the connecting-links, and the pivoted plates V, provided with bearings for the file-rods, substantially as set forth.

4. The combination of the slotted guides R, the slides Q, and the file-rods with suitable clamps connected to the rods and the slides, whereby as the rods are moved back and forth they are given a twisting movement, substantially as specified.

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

THOMAS J. BARRON.

Witnesses:

R. A. JOHNSON,
W. A. MITCHELL.