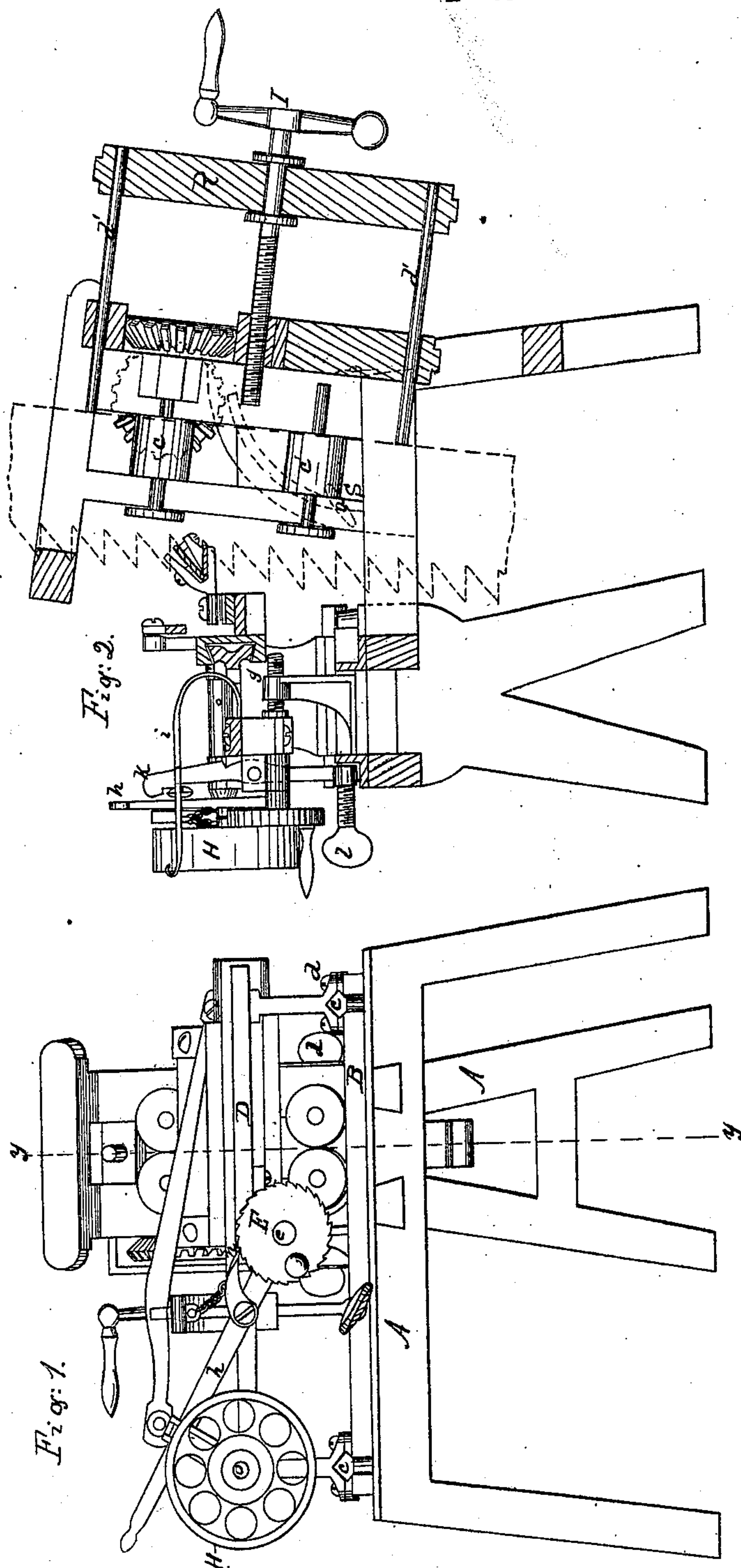


C. P. Case.
Saw Filing Mach.

Sheet 1 - 2 Sheets.

N^o 92266.

Patented Jul. 6. 1869.



Witnesses

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A. L. Hyman

Inventor

Charles P. Case

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Fig. 3.

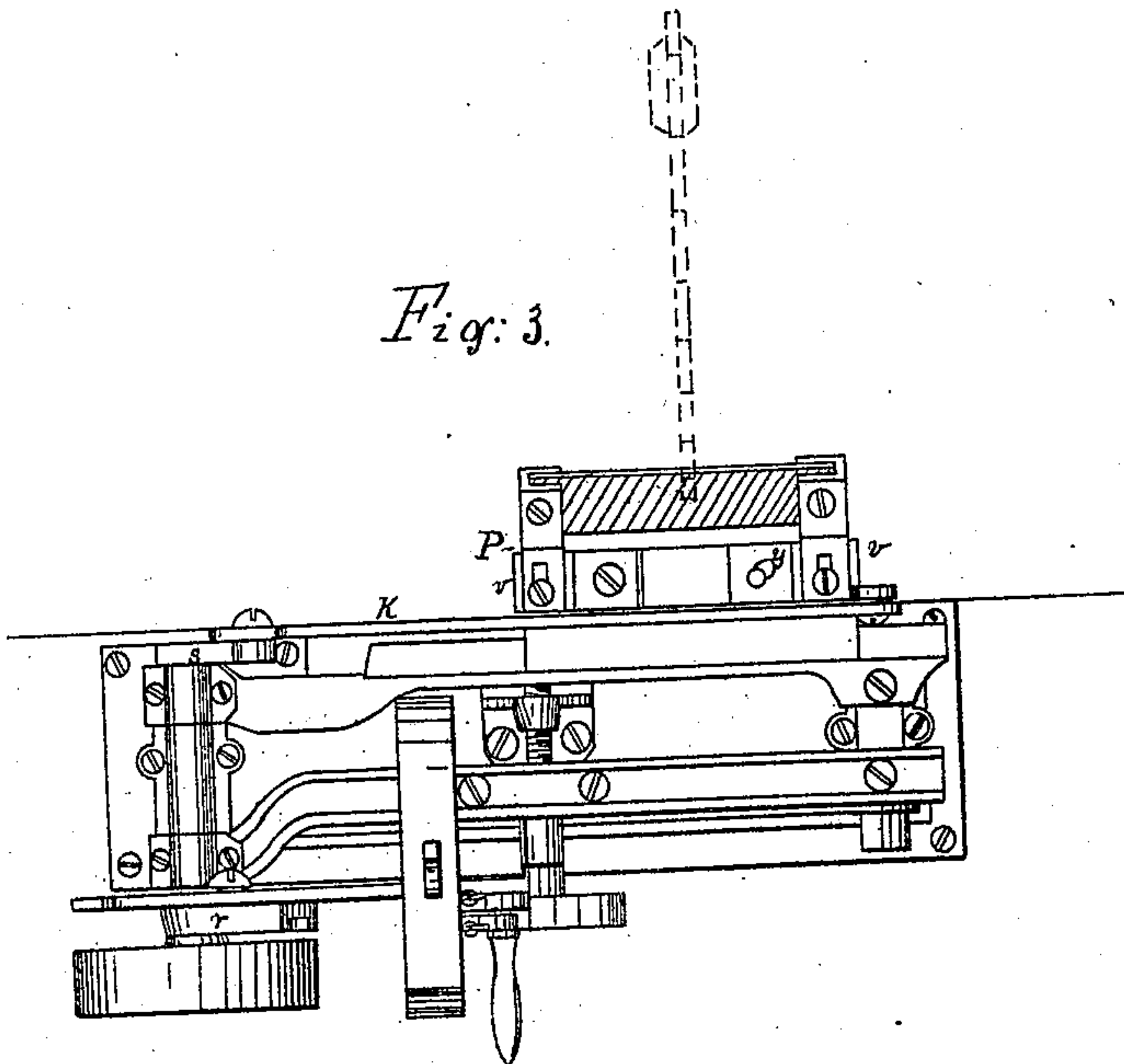
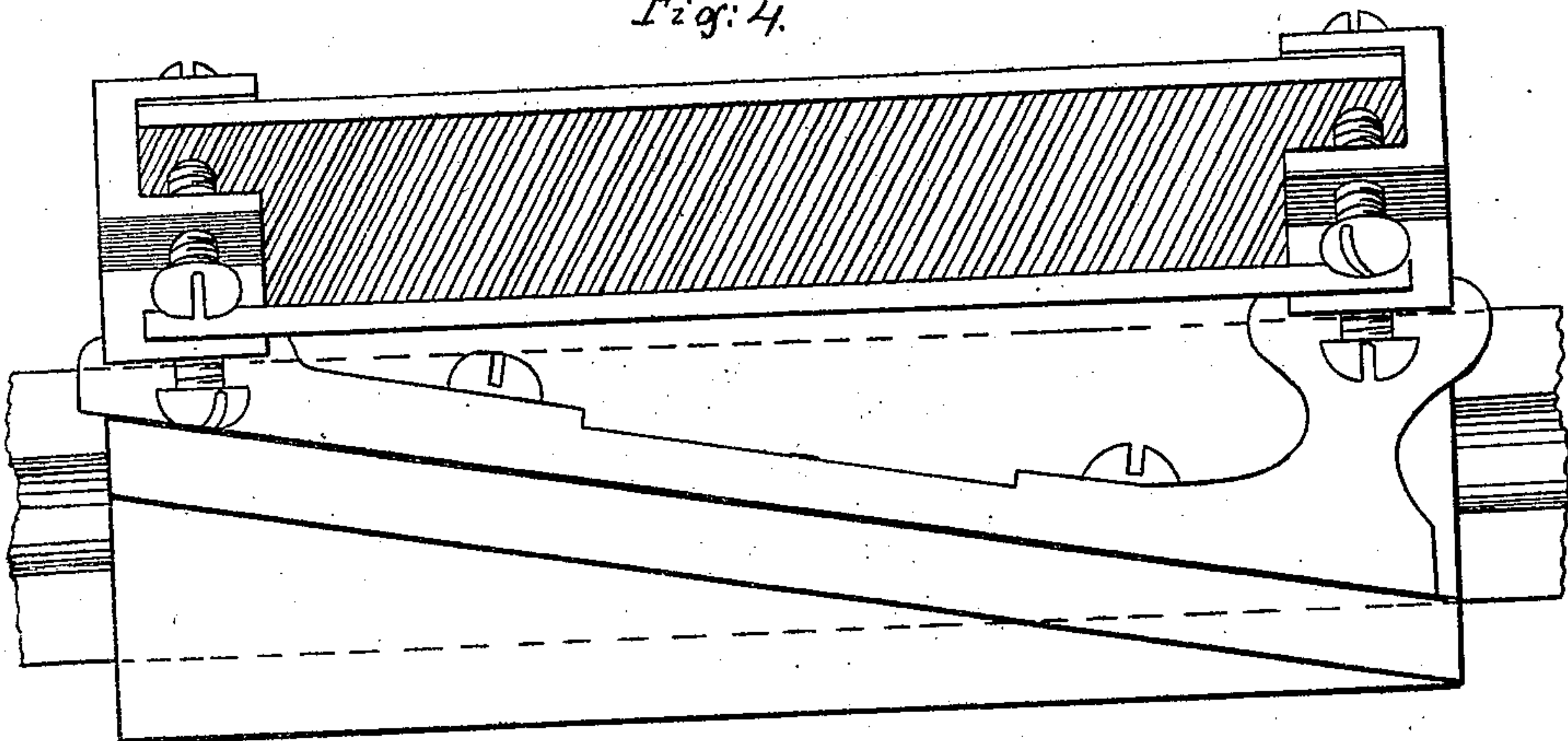


Fig. 4.



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CHARLES P. CASE, OF TROY, PENNSYLVANIA.

Letters Patent No. 92,266, dated July 6, 1869

IMPROVEMENT IN SAW-FILING MACHINE.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, CHARLES P. CASE, of Troy, in the county of Bradford, and State of Pennsylvania, have invented a new and valuable Improvement in Saw-Filing Machine; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a front view of my invention.

Figure 2 is a sectional view through line *yy* of fig. 1.

Figure 3 is a top view, showing machine applied to circular saw.

Figure 4 is a view of file-holder and slide.

My invention relates to devices for filing mill-saws; and

It consists mainly in constructing and arranging means whereby the teeth of either straight or circular saws may be filed with perfect accuracy, and with great despatch, either by a belt or gear from machinery, or by hand-power.

The letter *A* of the drawings represents a frame constructed of an L-form, as shown on fig. 1, upon the front or longitudinal part of which I attach the hollow bed-plate *B*, and cross-heads *c*, in the manner represented.

Resting and arranged to slide upon these cross-heads *c* is the frame *D*. It is adjusted and attached to said cross-heads by means of sliding boxes, which clasp said cross-heads, and are united to said frame by means of screws, as shown at *d* in fig. 1.

The letter *E* represents a ratchet-wheel connected with the shaft *e*, which said shaft has a screw cut on its rear end, that works in a thread cut in the head of a standard at the point *g*. This crank-pinion and shaft furnish means by which the frame *D* is moved back and forth upon the cross-heads *c*. It is drawn forward by means of the crank, and is moved rearward usually by means hereinafter mentioned.

The letter *h* represents a lever, attached at its front or lower end to the shaft *e* by means of a sleeve-head, while its rear or top end rests loosely upon the shaft *o*, described hereafter.

The letter *i* represents a spring attached to the front bar of frame *D*, and is slotted to receive and hold the lever *k*, as shown.

The lever *k* is pivoted to an arm extending from the front side of frame *D*. It is notched near its top, as shown in fig. 3, to adapt it for work in the side of the slot in spring *i*, in which it rests. The office of these notches, in combination with the spring *i*, lever *h*, and set-screw *l*, next mentioned, is to raise, lower, and regulate the pawls *n*, as hereinafter set forth.

Letter *l* is a thumb-screw, arranged as shown.

The letters *n* represent pawls affixed to the side of lever *h*, and they are united with the spring *i* by means of chains or cords, as shown. These pawls actuate the ratchet-wheel *E*, and in conjunction with the devices heretofore and hereafter described, serve to move the frame *D* rearward, and feed the files to the saw. By using two pawls I am enabled to move the pinion half a notch at each revolution of the machinery, and I may move it still more slowly by the use of additional pawls.

The letter *H* represents a band-wheel, to which I sometimes apply a crank for hand use.

The letter *o* represents a shaft, to which the wheel *H* is connected. This shaft rests upon the frame *D*, in suitable journals, and serves as the working-shaft of the machine.

The letter *r* is an arm extending from the front side of shaft *H*, inside its wheel, and letter *s* is an arm attached to the rear end of said shaft at the rear of the frame *D*.

The arm *r* has a catch or pin near its upper end, which, at each revolution of shaft *H*, serves to raise the top end of lever *h*, and thereby operate the pawls above described.

The letter *K* represents a pitman, attached at one end to arm *s*, and at the other to the filing-frame *P*, in the manner shown. I attach to the rear side of frame *D* a sliding frame, which moves longitudinally thereon, and which I call the filing-frame. It is attached to frame *D* by grooves and flanches, or by any other suitable means, my object being to give it easy play, and arrange it for lubrication in the best possible manner. It is marked *P* on the drawings.

The letters *v* represent arms attached to the rear side of frame *P*, and are made adjustable thereon by means of slots and set-screws, as shown in fig. 4.

In the arms *v*, and in the manner represented on fig. 4 and 3, I attach two files by means of suitable set-screws. They are placed in an angular position with each other, and thereby adapted to work upon both the top and bottom of a saw-tooth at the same time.

The plate by which the frame *P* is united to frame *D* has slotted openings for screws, as shown at *y* on fig. 3. The object of this device is to give the file-frame a lateral movement, and thereby to relieve the files from the saw-tooth at each return movement of the pitman. It must be observed that the screws are not attached so firmly in the slots *y* as to prevent this lateral movement of the file-holder.

The above and foregoing devices are intended more particularly for filing circular saws, although they are susceptible of use for many other purposes.

To file an upright saw, I make use of the devices shown on the right-hand portion of fig. 2, and which are partially represented on fig. 1. They consist mainly

in a hinged frame, adjustable at any desired angle, and removable at will, in which an upright saw may be securely held and adjusted vertically, or sidewise, and thereby brought to the files above mentioned in any desirable manner.

The letter R represents the hinged frame attached to the rear end of frame A.

The letters S are plates attached to frame A, and extending upward by the sides of frame R, and having cut in them respectively slots corresponding to segments of circles.

The letters *a'* are thumb-nuts, arranged to work in the slots last above mentioned, and secure the frame P in the position desired.

The letters *c'* represent a series of rollers, operated by the bevelled pinion-gear shown on fig. 2.

The saw to be filed is placed, and is held between these rollers *c'* in the manner shown on said fig. 2, and it is moved forward at will by means of the pins *d'*, that rest against its back, and are operated by means of the screw and crank marked T.

The saw is moved up or down by means of the crank and bevelled gear operating the rollers *c'*.

One great advantage secured by the mode of adjustment provided by the circular slots and thumb-nuts in the plates S is, the operator can adapt the position of the saw to the shape in which he desires to form the tooth, and thereby adapt it to the kind of timber in which he desires to use such saw.

By means of the screw and crank T, the pins *d'*, thumb-screw *l*, (which operates to lift the pawls from their ratchet,) and the other devices mentioned for holding an upright saw firmly in place, I am enabled to keep such saw properly gauged by the filing-process alone, and thereby secure another important advantage.

The L-portion of frame A is dovetailed into the main frame, and thereby made removable at will. This device is essential, for the reason that, in filing circular saws the L-portion should be entirely detached.

Between the lever K and the front side of the frame, and resting upon the arm in which said lever is pivoted, I affix a block of solid India rubber, that serves as a spring to aid the movements of said lever. I sometimes also place similar blocks of India rubber between the rollers *c'* and the frame thereof, or upon the journals of said rollers, to aid in the movements of the same.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The frame D, ratchet-wheel E, pawls *n*, levers *h* and *k*, set-screw *l*, spring *i*, and arm *v*, when constructed and arranged to operate substantially as and for the purposes set forth.

2. In combination with the foregoing devices, the frame P, with its double saws, as described, arranged to operate substantially as specified.

3. The frame R, with its rollers *c'*, slotted plates S, thumb-nuts *a'*, pins *d'*, crank and screw T, and bevelled gear, as described, constructed and arranged to operate substantially as and for the purposes specified.

4. The above-described machine for filing saws, both on the upper and lower side of a tooth, at one operation.

In testimony that I claim the above, I have hereunto subscribed my name, in the presence of two witnesses.

CHAS. P. CASE.

Witnesses:

JAMES P. GREVES,
A. G. HEYLMUN.