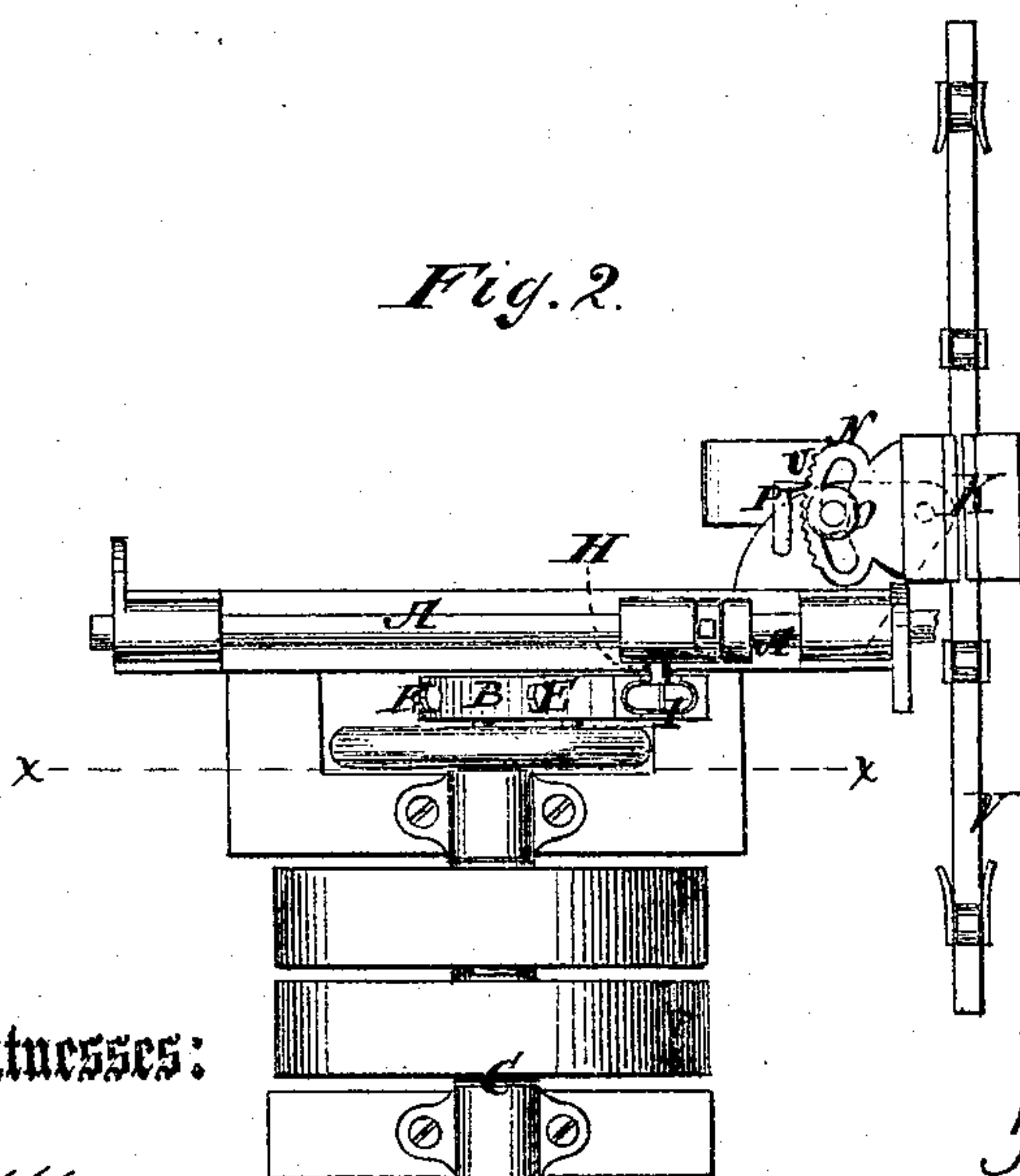
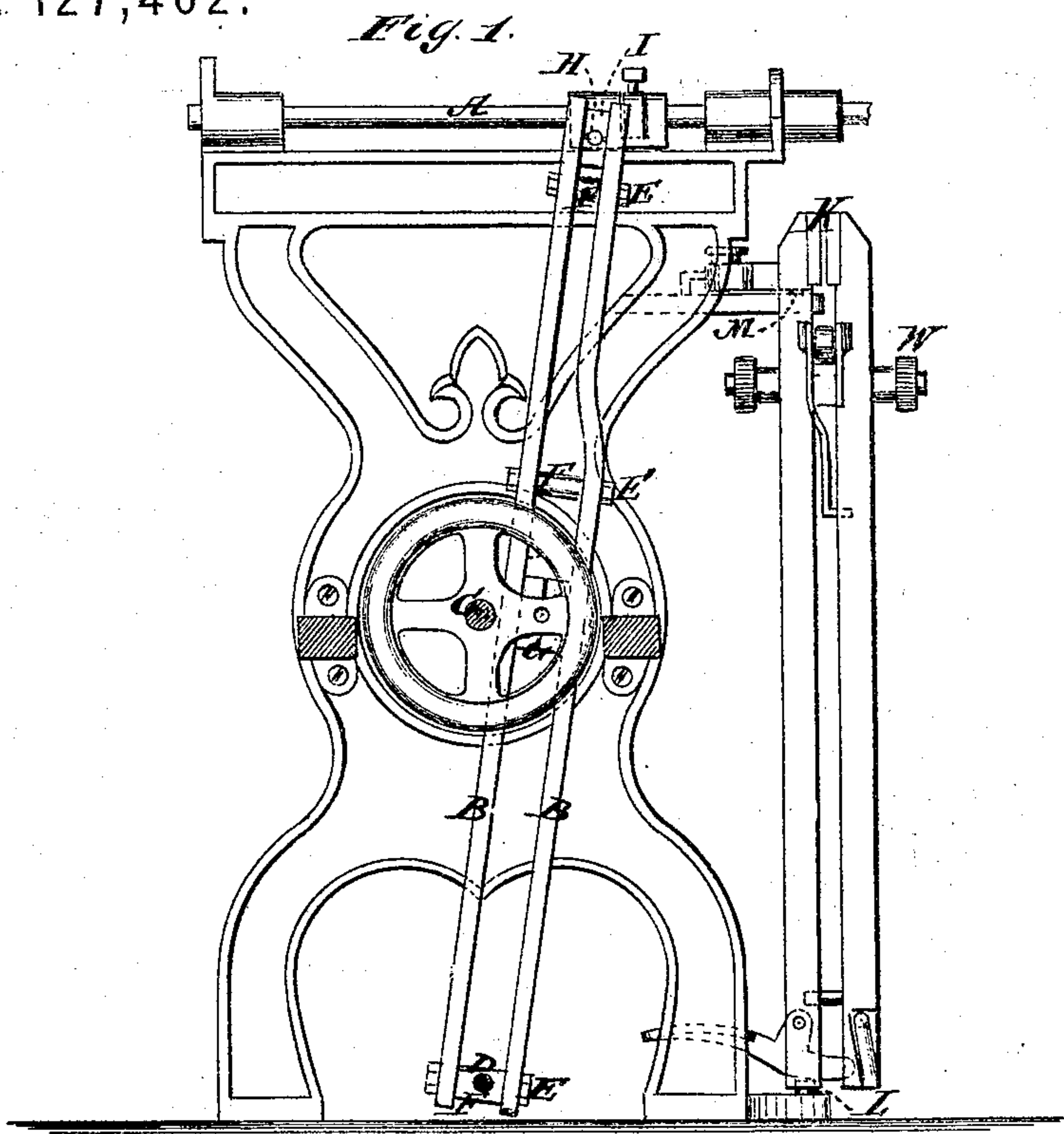


THOMAS M. CHAPMAN.

Improvement in Saw-Filing Machines.

No. 127,462.

Patented June 4, 1872.



Witnesses:

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# UNITED STATES PATENT OFFICE.

THOMAS M. CHAPMAN, OF OLDTOWN, MAINE.

## IMPROVEMENT IN SAW-FILING MACHINES.

Specification forming part of Letters Patent No. 127,462, dated June 4, 1872.

Specification describing a new and Improved Saw-Filing Machine, invented by THOMAS M. CHAPMAN, of Oldtown, in the county of Penobscot and State of Maine.

My invention consists, first, in an arrangement of driving mechanism for imparting reciprocating motion to the rod or frame by which the file is actuated, calculated to simplify and cheapen the construction, improve the action, and economize space.

Figure 1 is a sectional elevation of my improved saw-filing machine taken on the line *x* of Fig. 2, and Fig. 2 is a plan view.

Similar letters of reference indicate corresponding parts.

In the power saw-filing machines heretofore made, the reciprocating file-carrying frame, that is actuated by a reciprocating rod or slide, A, has always been connected with the crank-shaft of the driving mechanism by a connecting-rod ranging in line of the said rod A, or the file-carrying frame operated thereby, which necessitates the lengthening of the apparatus greatly, so that it occupies a great amount of ground space. Moreover, when connected in this way there is no elasticity of the parts, whereby the shocks of the changing of the frame from one direction to the other of its movement can be averted, so that the machine is subjected to great strains in several of the parts.

Now I propose to arrange the connecting-rod B, by which the motion is communicated from the driving-shaft C, perpendicular to this rod or frame A, and under it, and to arrange it so as to have the action of an inverted pendulum—that is to say, I pivot it at the lower end to the bed-piece or bottom part of the frame, as at D, connect the crank or wrist-pin above the said pivot—say near about the center—and connect the upper end to the bar or frame A, which is mounted at the top of the supporting-frame; and besides, I propose to so construct the bar that it will have considerable elasticity in the direction of its vibration, which is the same as the direction of the movement of the file-holding frame. For instance, I make the said connecting-rod of two elastic bars, B, which may be of tough straight-grained wood, capable of springing to some extent, or they may be of metal, also

capable of springing, which bars I connect together by bolts, E, with blocks or long washers F between them, and maintaining them at suitable distances for forming the connections with the wrist-pin G of the crank-shaft, and the connecting-pin H of the rod or frame A, by means of bearing-blocks I screwed on the pins between the said bars, as required by the shifting of the one relatively to the other, due to the working of the several parts on different centers or lines.

It will be seen that when the wrist-pin of the crank is moving the connection-pin in one direction, it is much nearer the pivot of the connecting-rod than when moving it in the reverse direction, and thereby moves the file-frame faster, so that by turning the driving-crank in the right direction I may have the quick motion when the file is moving back, which is one of the essential objects of this arrangement.

The said bars B are grooved in the sides upon which the upper bearing I works, and they may be for the lower one also, if preferred; but that is immaterial.

The saw-clamp or vise K is suspended on the vertical pivots L M, so as to hold the saw under the file at one side of the main frame, either at right angles to the file-frame, or at any other angle to which it may be adjusted, by swinging it on said pivots; and said clamp is provided with a notched and slotted segment, N, which moves along a clamping-bolt and nut, O, for screwing it at any point, and a pointer, P, and a notched scale, U, which determine or indicate the angle of the inclination of the said clamping-frame with the file-frame.

The clamp herein shown may be used for both long and circular saws. In the first case, the long rest V for the saw will be used; but in the other case said rest will be taken off, and the circular-saw will be pivoted on the clamp-screws W, which are fixed to be adjusted up and down along the jaws of clamp K, as required by the size of the saw.

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

1. The combination of the reciprocating file-frame A at the top of the supporting-

frame, the vertical connecting-rod B pivoted at the lower end and connected to the file-frame at the upper end, and the crank-shaft connected to said rod between the file-frame and the pivot of the said connecting-rod, all substantially in the manner described.

2. The connecting-rod, constructed of the two bars B, bolts E, and blocks F, and con-

nected to the wrist-pin of the crank, and the pin I of the file-frame, all substantially as specified.

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