(No Model.) 2 Sheets—Sheet 1.

R. BAUER.

SAW FILING MACHINE.

No. 534,419. Patented Feb. 19, 1895.

Fig. 1.

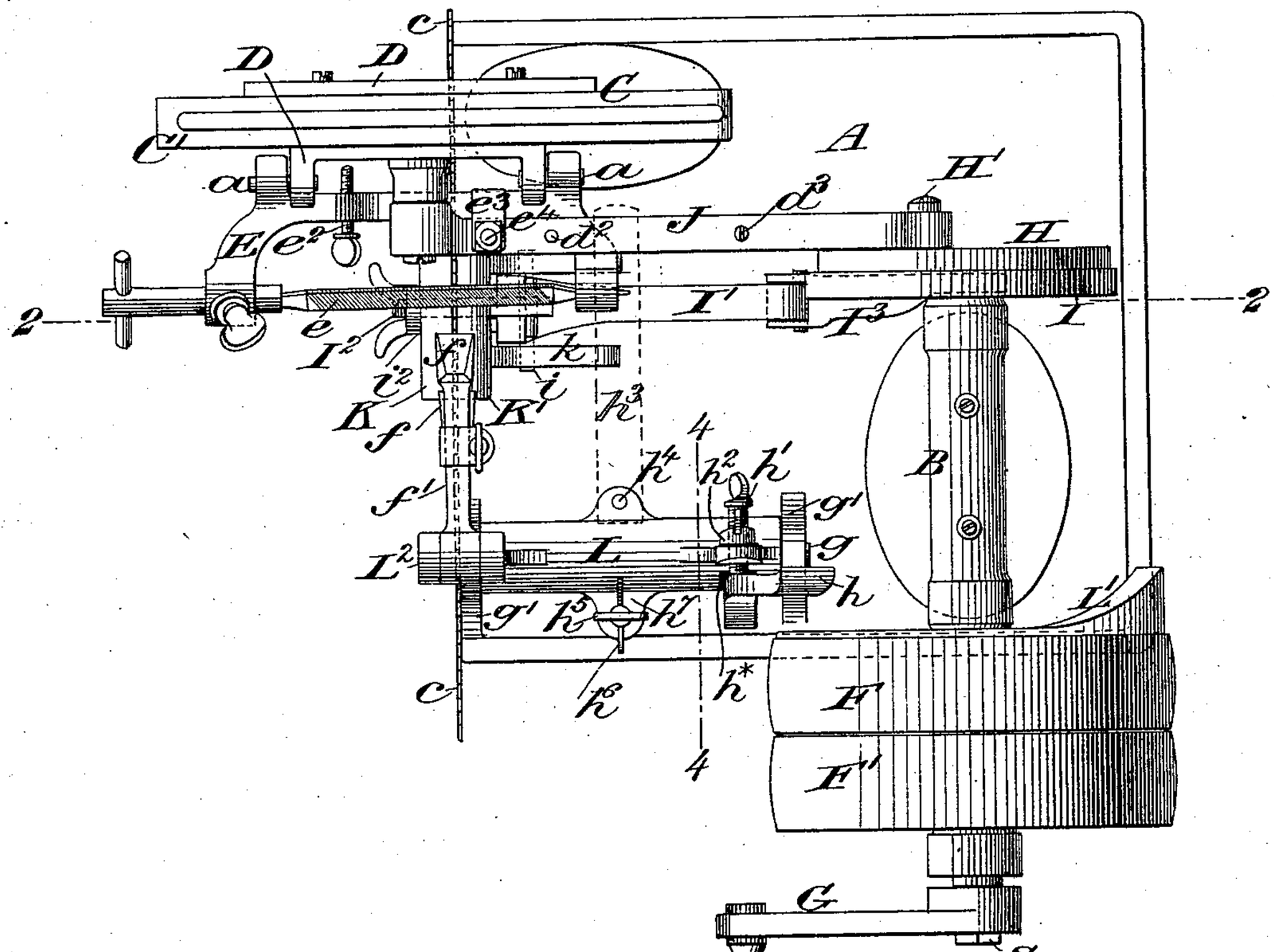
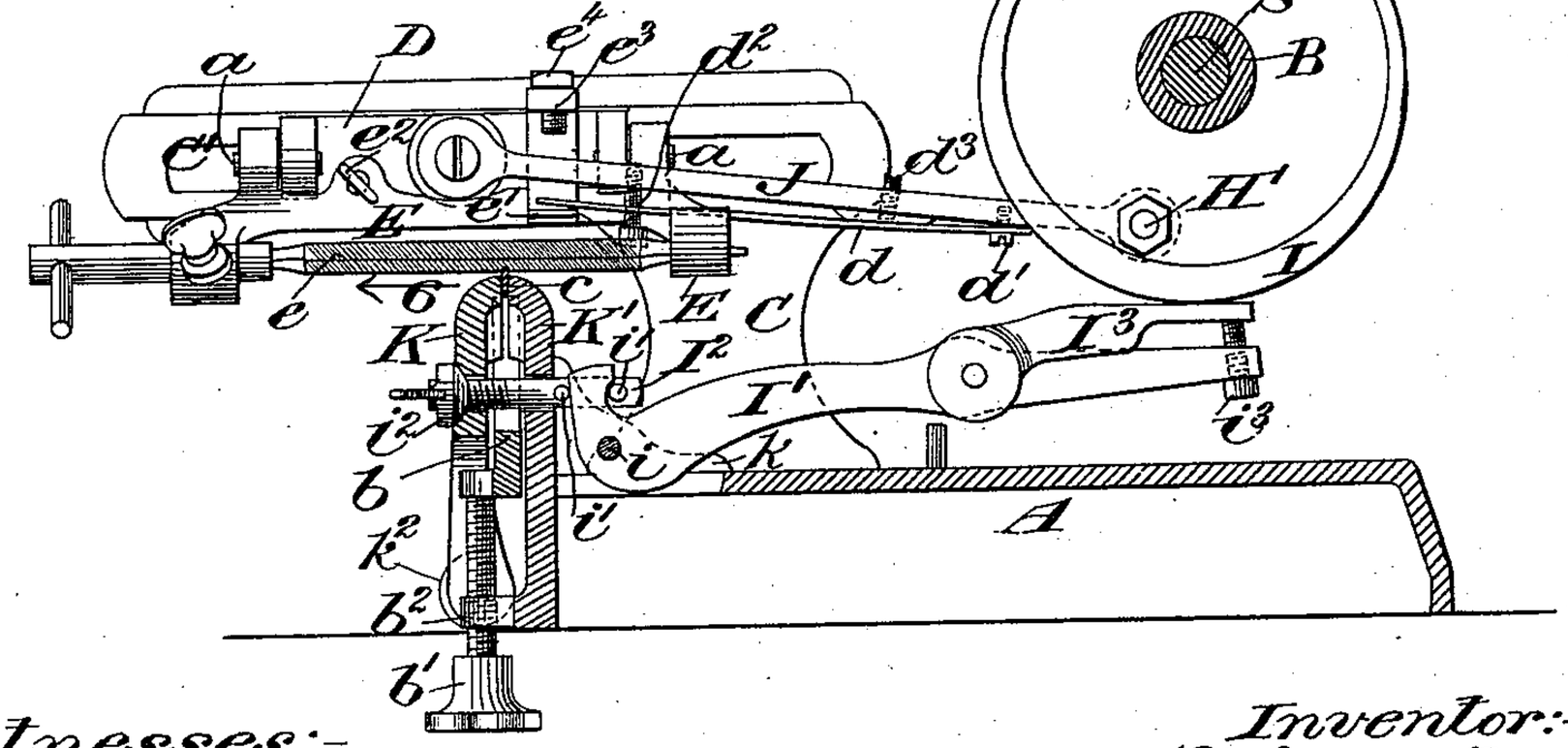


Fig. 2.



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C. L. Sundgren

Inventor:-
Richard Bauer
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(No Model.) 2 Sheets—Sheet 2.

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Fig. 3.

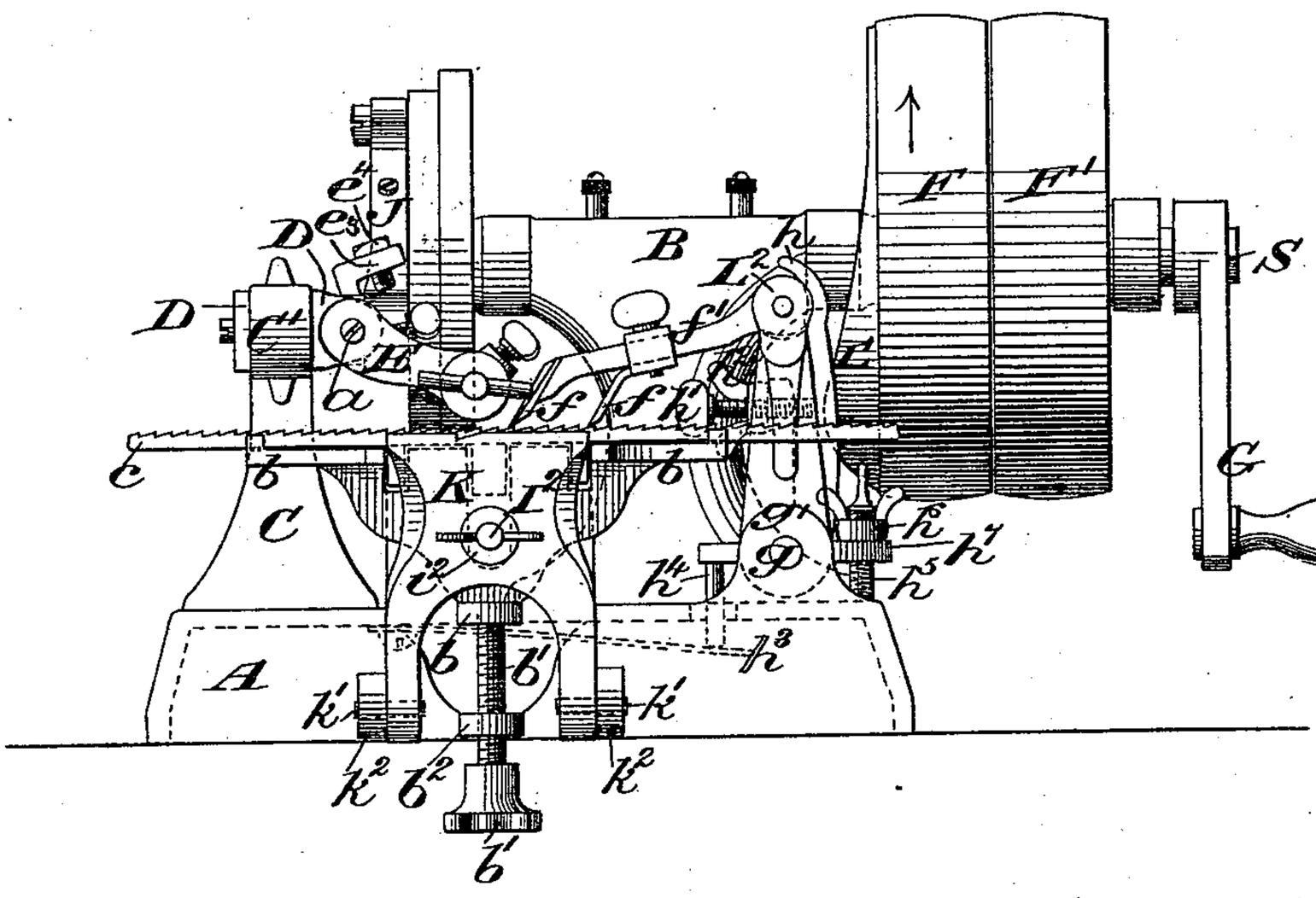


Fig. 5.

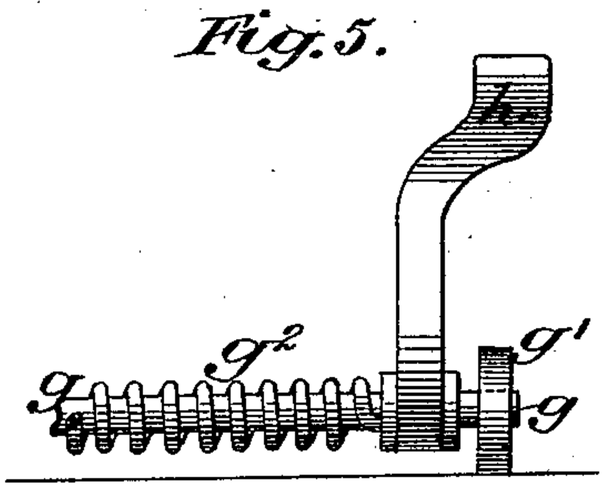
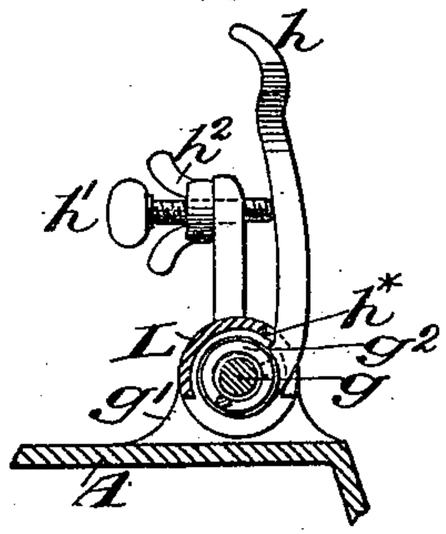


Fig. 4.



Witnesses:-
George Barry.
C. L. Sundgren

Inventor:-
Richard Bauer
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UNITED STATES PATENT OFFICE.

RICHARD BAUER, OF NEW YORK, N. Y., ASSIGNOR TO PAUL PRYIBIL, OF SAME PLACE.

SAW-FILING MACHINE.

SPECIFICATION forming part of Letters Patent No. 534,419, dated February 19, 1895.

Application filed June 28, 1894. Serial No. 515,944. (No model.)

To all whom it may concern:

Be it known that I, RICHARD BAUER, of the city and county of New York, in the State of New York, have invented a new and useful Improvement in Saw-Filing Machines, of which the following is a specification.

I will first describe my invention in detail with reference to the accompanying drawings and afterward point out its novelty in claims.

Figure 1 is a plan view of a machine embodying my invention. Fig. 2 represents a vertical section in the line 2, 2 of Fig. 1. Fig. 3 is a view taken at that end of the machine which is to the left in Figs. 1 and 2. Fig. 4 represents a section of part of the saw feed mechanism in the line 4, 4, of Fig. 1. Fig. 5 represents a detail view which will be hereinafter explained.

Similar letters of reference designate corresponding parts in all the figures.

A is a base on which are erected standards B and C. The standard B comprises a journal box in which rotates a shaft S from which motion is imparted to all parts of the machine. The standard C comprises a horizontal guide C′ which is arranged at right angles to the shaft S and in which works a reciprocating carriage D in which the file holder E is pivoted in such manner by pivots *a* as to be capable of swinging in a direction transverse to the direction of the reciprocating movement of said carriage, for the purpose of bringing down the file *e* to the proper level for filing the saw and for raising the file to a suitable height to allow the saw to pass under it to be presented to it tooth by tooth. The said shaft S is represented as furnished at one end with fast and loose driving pulleys F F′ for a driving belt and with a hand-crank G to operate the machine by hand. At the other end the shaft has a crank disk H carrying a crank pin H′ and carrying also a cam I, the said crank pin serving to give a reciprocating movement to the carriage D to produce the filing movement by means of a connecting rod J, and the cam I serving through a lever I′ to operate the movable member K of the clamp K K′ of the saw holder as will be hereinafter described. The pulley F has affixed to one side of it a cam L′ for operating the saw feeder as will be hereinafter explained.

The fixed member K′ of the clamp of the saw holder is cast with or rigidly affixed to the base A and has braces *k k* at the back which serve to support the fulcrum *i* of the lever I′. The movable member K of the clamp is pivoted at its bottom by pivots *k′* to brackets k^2 on the base A, and is connected with the lever I by a bolt I^2, the said bolt being engaged, as shown in Fig. 2, with the upwardly hooked front part of the said lever between two lateral projections *i′ i′* on the said bolt. The bolt I^2 is screw-threaded at its outer end to receive a nut i^2 by which said bolt is adjusted to regulate the closing of the members of the clamp according to the thickness of the saw.

Between the two members K K′ of the clamp of the saw holder there is a support *b* to serve as a bearing for the back of the saw *c*, the said support being prolonged on both sides of the members as shown in Fig. 3. The support *b* is adjustable higher or lower according to the width of the saw, so that it may bring the teeth to the proper height for filing, by means of a screw *b′* which screws through a lug b^2 on the base A.

The lever I′ is provided at its rear end under the cam with a pivoted toe I^3 adjustable by a set screw i^3 to regulate the movement produced by the cam I which is of such shape that it keeps the saw clamped by its action on the movable member K of the clamp during the forward or operative movement of the file which is indicated by the arrow 6 in Fig. 2, the cam being inoperative during the backward movement of the file and leaving the movable clamp member loose so that the saw merely rests upon the support *b* and is free to be moved lengthwise to present a new tooth in position for filing.

For the purpose of producing the necessary downward pressure upon the file to make it operate effectively, by the downward oscillation of the connecting rod J, a spring *d* is attached to the under side of the said rod J, by two screws *d′* d^2, the said spring bearing upon a projection *e′* (see Fig. 2) on the holder. The pressure of this spring is made adjustable by

a set screw d^3 screwing through the rod J. In order that the said spring may not press down the holder farther than is necessary an adjustable stop screw e^2 is screwed through the holder E to stop against the slide D.

For the purpose of raising the holder to lift the file clear of the teeth of the saw to allow the saw to pass clear of the file to present itself tooth by tooth, there is a projection e^3 on the holder which overlies the connecting rod J and through which is inserted a set screw e^4, the end of which is so situated over the connecting rod J that the said rod during its upward oscillation produced during its backward movement which takes place in the upper half of the revolution of the crank pin will be brought in contact with the said screw and will lift the holder.

The feeding of the saw is produced by two dogs f carried by a pawl f' which is pivoted to the arm L^2 of a rocker L which is fitted to rock on a fixed shaft g supported in bearings g' g' on the base A, the said dogs acting directly on the saw teeth like a pawl upon a ratchet. The rocker L is actuated by the cam L′ hereinbefore mentioned on the fast pulley F, but the said cam does not act directly upon this rocker but upon a loose arm h which is fitted to the shaft g and projects through an opening h^* in the rocker as shown in Fig. 4 and is adjusted to the rocker by means of a set screw h' and nut h^2 to regulate the extent of the movement of the saw produced by the action of the cam upon the rocker.

The return movement of the feeding pawl f' is produced by a spring h^3 secured under the base A and pressing upward against a projection h^4 which extends from the rocker L through an opening in the base. The backward movement of the feeding pawl is regulated by a set screw h^5 adjustable by a nut h^6 in a projection h^7 on the rocker L, the end of the screw coming to a stop by striking the base A. The loose arm h has also applied to it a spring g^2 for the purpose of pressing it back toward the cam L′, the said spring being coiled around the shaft g within the rocker and having one end connected with the arm h and the other with the shaft g as shown in Fig. 5.

The particular machine which I have herein illustrated and described as an example of my invention is organized for the filing of straight saws but every feature of this machine except the saw holder is just as well adapted for the filing of circular saws, for which purpose a different kind of saw holder will be necessary. It is not necessary to here represent this circular saw holder as it constitutes a part of the subject-matter of another applications for Letters Patent filed concurrently herewith.

What I claim as my invention is—

1. The combination in a saw filing machine, of a saw holder, a reciprocating carriage and a guide therefor, a file holder pivoted to said carriage to swing in a direction transverse to the reciprocating movement thereof, a crank shaft and a connecting rod for producing the reciprocating movement of said carriage, and a spring interposed directly between said connecting rod and the file holder for the purpose of producing pressure upon the file by the oscillating movement of said rod; substantially as herein set forth.

2. The combination, in a saw filing machine, of a saw holder, a reciprocating carriage and a guide therefor, a crank-shaft and a connecting rod for producing the reciprocating movement of said carriage, and a file holder pivoted to said carriage to swing in a direction transverse to the reciprocating movement thereof and having a projection which overlies said connecting rod and upon which said rod acts by its oscillating movement to lift the said holder; substantially as herein set forth.

3. The combination with the saw holder, of the saw feeding mechanism herein described consisting of the rocker L having an arm L^2 carrying a pawl f', the shaft g supporting said rocker, the spring h^3 for throwing back said rocker, the loose cam-actuated arm h on said shaft g, the spring g^2 for throwing back said cam-actuated arm and the adjusting screw h' between said rocker and loose cam-actuated arm, substantially as herein described.

RICHARD BAUER.

Witnesses:
FREDK. HAYNES,
GEORGE BARRY.