E. Guyer,

Reciprocating Saw Mill.

No. 34,684. Patented Mar. 18, 1862.

Fig. 3.

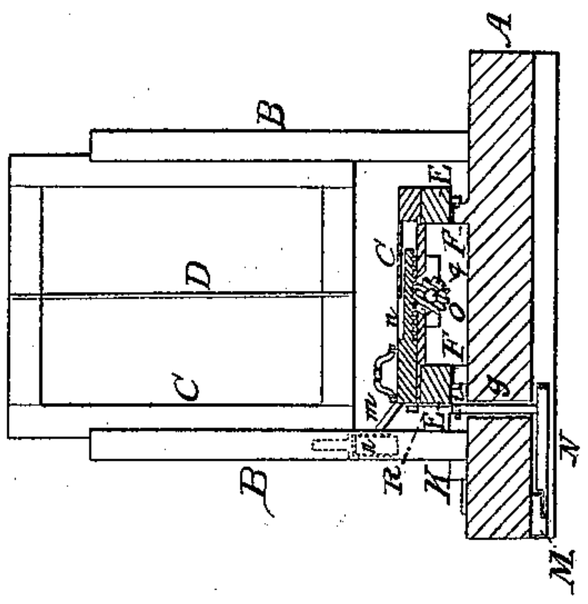


Fig. 4

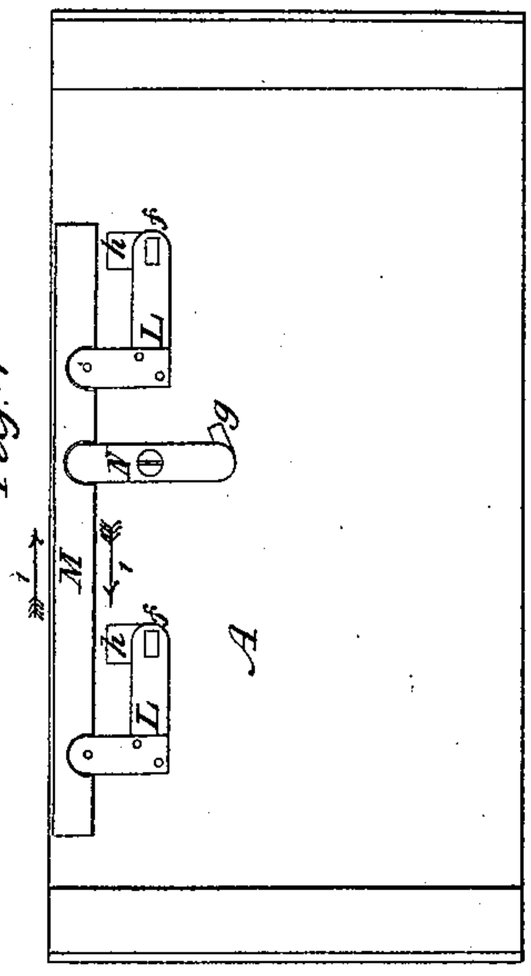


Fig. 1

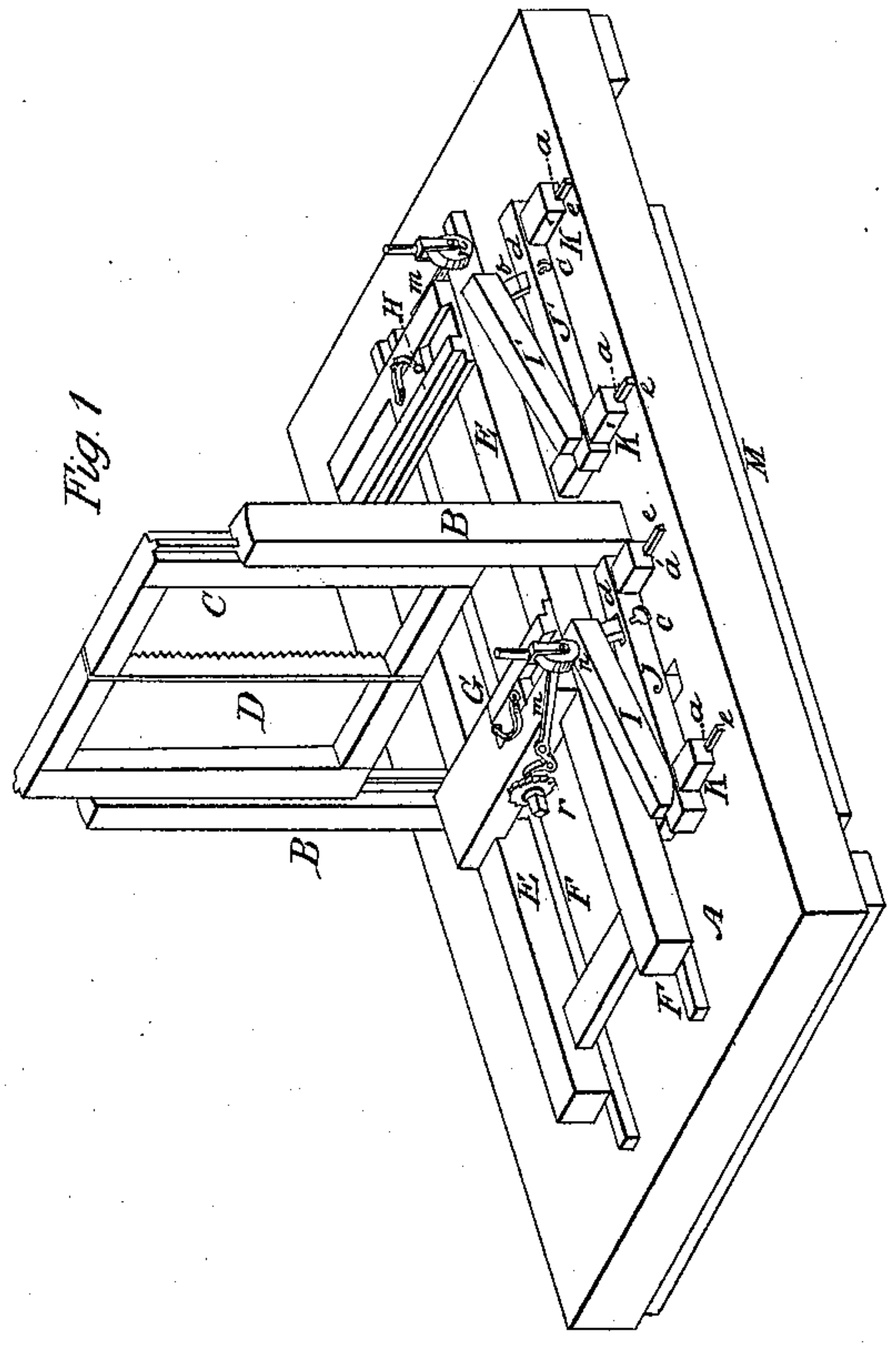
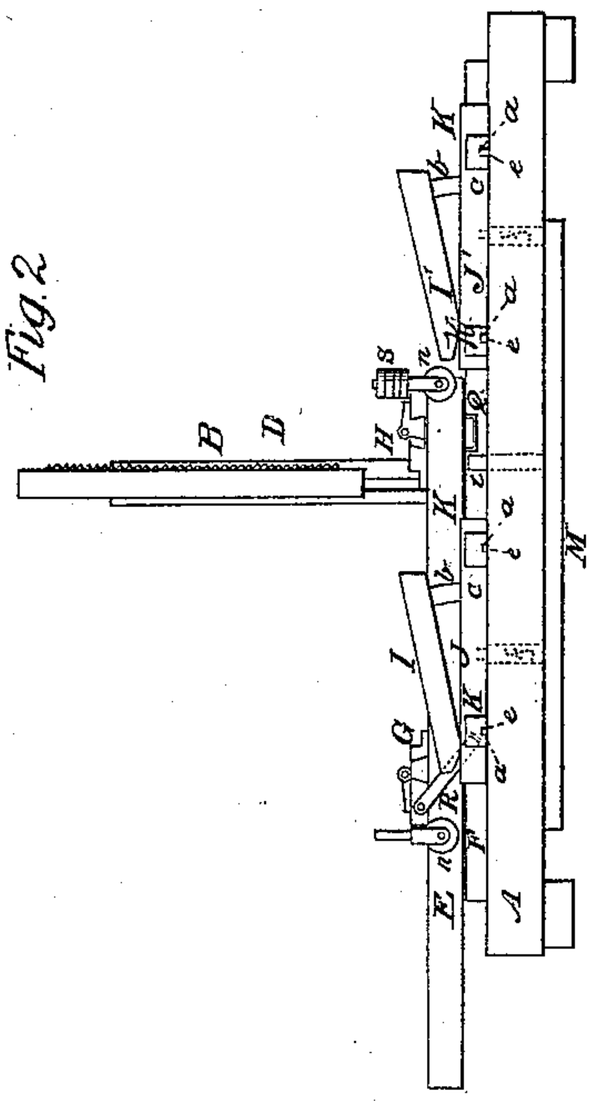


Fig. 2



Witnesses
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UNITED STATES PATENT OFFICE.

EARL GUYER, OF WOLCOTT, VERMONT.

IMPROVEMENT IN SAW-MILLS.

Specification forming part of Letters Patent No. **34,684**, dated March 18, 1862.

To all whom it may concern:

Be it known that I, EARL GUYER, of Wolcott, in the county of Lamoille and State of Vermont, have invented a new and useful Improvement in Self-Setting Head and Tail Blocks for Saw-Mills; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a perspective view of a saw-mill with my improved setting attachment applied to it. Fig. 2 is a side view of the same. Fig. 3 is a vertical transverse section of the mill through one of the setting-blocks. Fig. 4 is an inverted plan of the mill.

Similar letters of reference in the several figures indicate corresponding parts.

The nature of my invention consists in a combination of two or more incline rails, the attachments of a saw-mill carriage, and a lever arrangement, whereby each end of a log of timber to be sawed is moved automatically on the carriage at right angles to the motion of the carriage, and also the incline rails adjusted out of the way to admit the gigging back of the carriage.

With my invention a separate shaft for the feed motion of the head-block can be used, and also a separate shaft for the tail-block, and thus the head-block is independent of the tail-block in its motion, and a positive force is employed for operating each, and while this is so the two incline rails are moved in and out at proper intervals by the carriage traversing back and forth.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

A represents the foundation of a saw-mill; B, the saw-frame; C, the saw-sash; D, the saw; E, the carriage; F F, the rails of carriage; G, the head-block, and H the tail-block, of the carriage. In all respects these parts are substantially similar to those commonly used in saw-mills, excepting in some details of construction rendered necessary in order to apply my improvement.

I I′ are inclined rails hinged at one end to bars J J′, which have transverse shoes K K′ attached to their respective ends, said shoes being grooved on their under side, as shown at *a*. The other end of each of the rails is supported on the bars by means of an arm *b* and set-screw *c*, the lower end of said arm playing freely in a slot *d* of the bar, but retained firm after being set by the screw *c*. The rails thus constructed are arranged one at the head and the other at the tail of the saw-mill, or about in the relation to each other shown, the shoes of the rail-bars fitting snugly over guides *e e* of the flooring of the mill and sliding on the same in a direction at right angles to the direction in which the carriage travels.

L L are elbow-levers arranged on the under side of the flooring of the saw-mill. Each of these levers has a vertical pin *f* extending up from its upper side and connecting with the bars of the inclined rails, as shown. The two elbow-levers are connected by means of a longitudinal rod M, which is arranged to reciprocate in a direction indicated by the arrows, No. 1. This motion is produced by means of a centrally-pivoted lever N, one end of which fits in a socket of the rod and the other end bends up and forms a right angle, the said end passing vertically through a curved slot *g* and terminating above the flooring of the saw-mill, as at *i*. The curved slot *g*, as also the two straight slots *h h*, in which pins *f f* play, being of sufficient length to permit the necessary extent of adjustment of the inclined rails.

The head and tail blocks are each provided with a rack-and-pinion feeding device *o p*, and on the shaft *q* of the pinion of the head-block a ratchet-wheel *r* is arranged. A similar ratchet-wheel is also arranged on the shaft of the pinion of the tail-block.

To the front of the head-block and to the rear of the tail-block is pivoted a lever-pawl *m*, which has a roller *n* on its outer end, said roller having a bracket arranged above it, on which annular weights are placed, as shown at *s*, Fig. 2.

On the side of the carriage E two trips Q R are arranged at such distances apart and at such points that one of them trips the end *i* of the lever N just at the moment that the log is sawed through and the other just at the moment that the carriage has finished its return movement.

The operation is as follows: The log being adjusted to the head-blocks and dogged, the carriage travels forward until the slab is cut

off. This movement of the carriage causes the trip Q to strike the end *i* of the lever N, and thus cause said lever to move the rod in a manner to cause it to move the elbow-levers. The movement imparted to the elbow-levers causes the inclined rails to move toward the carriage and in line with the rollers of the lever-pawls. The carriage, therefore, in its return movement causes the rollers of the lever-pawls to ascend the incline rails, and while this ascension is occurring the pawl ends of the lever-pawls are forcing against the teeth of the ratchet-wheels of the head and tail blocks, and by this means the head-block and tail-block are moved and the log set to a position for a second cut of the saw through it. The amount of set, of course, is according to the inclination of the rails. When the rails have been traveled their full length, the rolls drop down behind the highest ends thereof, from which position they escape as soon as the rails are moved laterally out of line with them, this movement of the rails being produced by the trip R striking the end *i* of the lever N. The trip R comes into action just as the carriage finishes its return movement. The operation of automatically setting the head-block and tail-block thus continues till the log is sawed up.

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

The combination of the inclined rails I I′, lever arrangement L L M N, and attachments *m n r* Q R of the carrriage E, substantially as and for the purposes set forth.

EARL GUYER.

Witnesses:
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