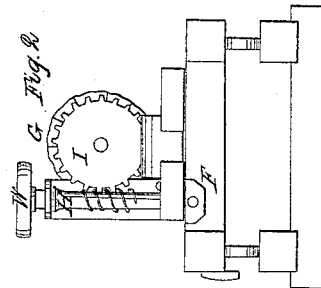
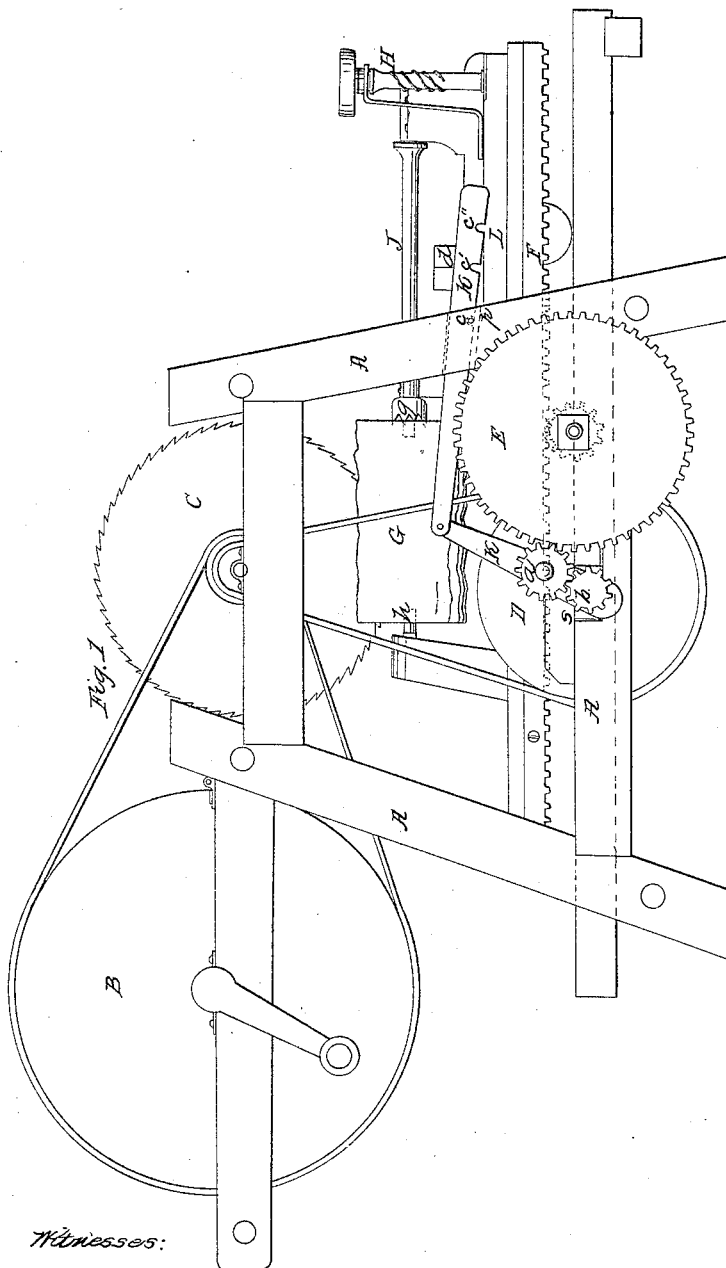


*S. F. Ames,*  
*Circular Saw Mill.*

*N<sup>o</sup> 51,282.*

*Patented Dec. 5, 1865.*



*Witnesses:*

*J. H. Phelps*  
*Edward Peck*

*Inventor*

*S. F. Ames*

# UNITED STATES PATENT OFFICE.

S. F. AMES, OF STANFORD, KENTUCKY.

## IMPROVEMENT IN SAW-MILLS.

Specification forming part of Letters Patent No. **51,282**, dated December 5, 1865.

### *To all whom it may concern:*

Be it known that I, S. F. AMES, of Stanford, in the county of Lincoln and State of Kentucky, have invented certain new and useful Improvements in Saw-Mills; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side elevation of the machine. Fig. 2 is an end view, showing more clearly a part of my invention.

Similar letters of reference indicate like parts.

This invention has for its object more particularly the sawing of small logs radially into flat rails for post-and-rail fencing, though it may be applied to other kinds of machines for cutting lumber.

The nature of my invention consists in a series of gear-wheels, whereby the log-carriage is run back and forward under the saw, so that the saw cuts through the log both ways, the change being easily and simply effected.

It also consists in an arrangement whereby the log is centered and dogged under the saw and properly turned and securely held in position while being sawed.

A is the frame, of suitable form. B is the driving-wheel. C is a circular saw.

D is a band-wheel having a short shaft resting at its center in a movable bearing, which moves in a slot in the frame, as shown at *s*, Fig. 1.

E is a cog-wheel secured on the end of a shaft resting on bearings fixed in the frame, and passing through under the log-carriage, and having on it a pinion or pinions to match in the rack under the carriage to run it back and forward under the saw.

F is the log-carriage. G is the log.

H is an upright worm-shaft secured by proper framing on the head-block to hold it secure in its place, and having on its upper end a hand-wheel, W, by which it is turned.

I is a cog-wheel fastened on the outer end of shaft J, and is turned by the worm or shaft H.

J is a shaft resting in journals placed on each end of the head-block L. This shaft supports the front end of the log, which is centered

on it and held to be rotated by dog *g*, the other end of the log being centered on pin *h*.

K is a jointed lever forked at its lower end over wheel D, and receiving one end of the short shaft of D through each end of said fork in slots made therefor. This lever is pivoted to the frame a short distance above the shaft of D. On the outer end of the shaft of D is secured the small cog-wheel *b*, and on lever K, just above and matching with *b*, is secured cog-wheel *a*. On the under side of K, at its upper end, are three notches, *c*, *c'*, and *c''*, the use of which will be hereinafter described.

L is the head-block, which rests on the front end of the carriage, and is adjusted to the length of the log and held in place by nut *d*.

The operation of the machine is as follows: By a belt from the shaft of the saw band-wheel D is set in motion, turning with it the small wheel *b*, attached to its shaft. This wheel, matching with *a*, sets it revolving also, which, in turn, engages with and operates wheel E, which, by means of pinions on its shaft, moves the carriage by working in the racks on the under side thereof. When the notch *c* on the upper end of K is engaged with pin *p*, as shown in the drawings, *a* is thrown in gear with E and sets it in motion, and through the pinions on its shaft the carriage and log are run back. When K is so placed that notch *c'* engages with pin *p*, by the motion of the lever K *a* is thrown out of gear with E, and wheel D, with its movable journal, is moved in slot *s* toward E, but not enough to throw wheel *b* into gear therewith. E is now stationary, and the log can be set for the next cut. On moving K until notch *c''* engages with pin *p*, D and its shaft are brought forward until *b* engages with E and moves the carriage and log forward. Having run the saw through the log, any suitable device may be used to throw *a* and *b* out of gear. By turning the hand-wheel W wheel I is rotated, turning the log, by means of shaft J and its dog *g*, the proper distance for the next cut, and holding it securely in place. Lever K is now set to run the log back, and the saw makes another cut, and thus the operation is continued until the log is entirely cut.

In sawing, the log is cut from the circumference radially toward the heart of the log, leaving sufficient core to hold the dogs and to keep the log together until it is all sawed. The

manner of sawing is shown in the black lines at G, Fig. 2.

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

1. Wheel D, with its movable shaft, and lever K, with wheels *a* and *b*, in combination with wheel E, when arranged, as described, to move the log-carriage of a saw-mill alternately forward and back, as described.

2. Worm-shaft H, with its hand-wheel W, wheel I, shaft J, and dog *g*, when combined and operating as described, to adjust or turn and hold securely a log while it is being cut radially, as described.

S. F. AMES.

Witnesses:

EDWARD BEBB,  
G. A. C. SMITH.