F. M. CARNAHAN.

Sawing-Machine.

No. 168,226. Patented Sept. 28, 1875.

Fig 1

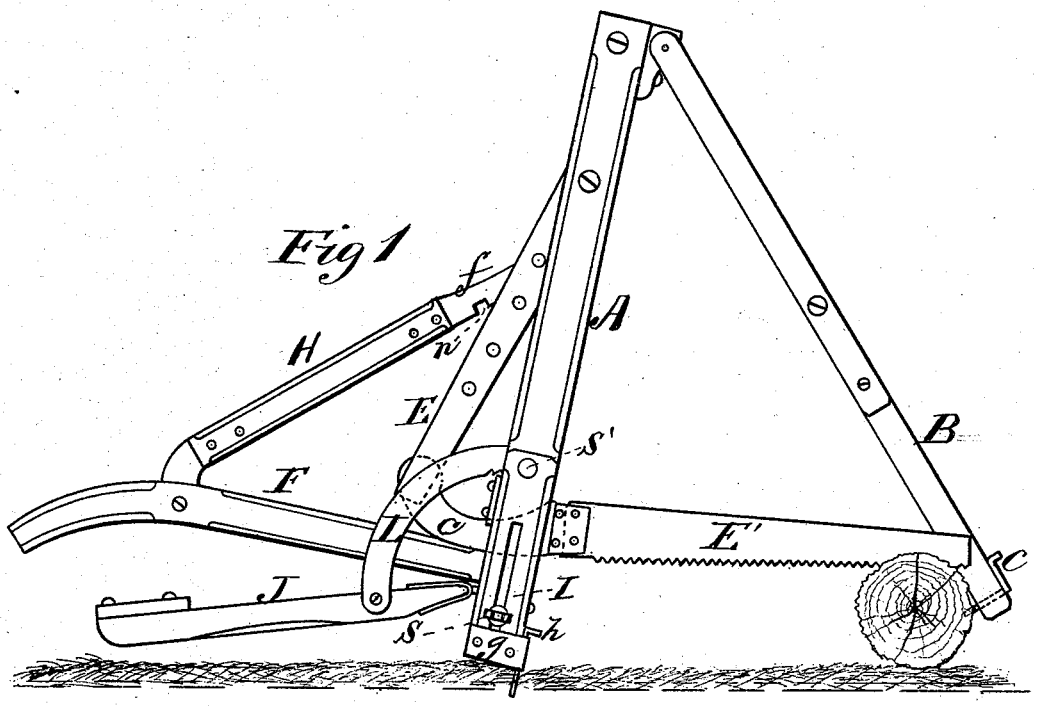
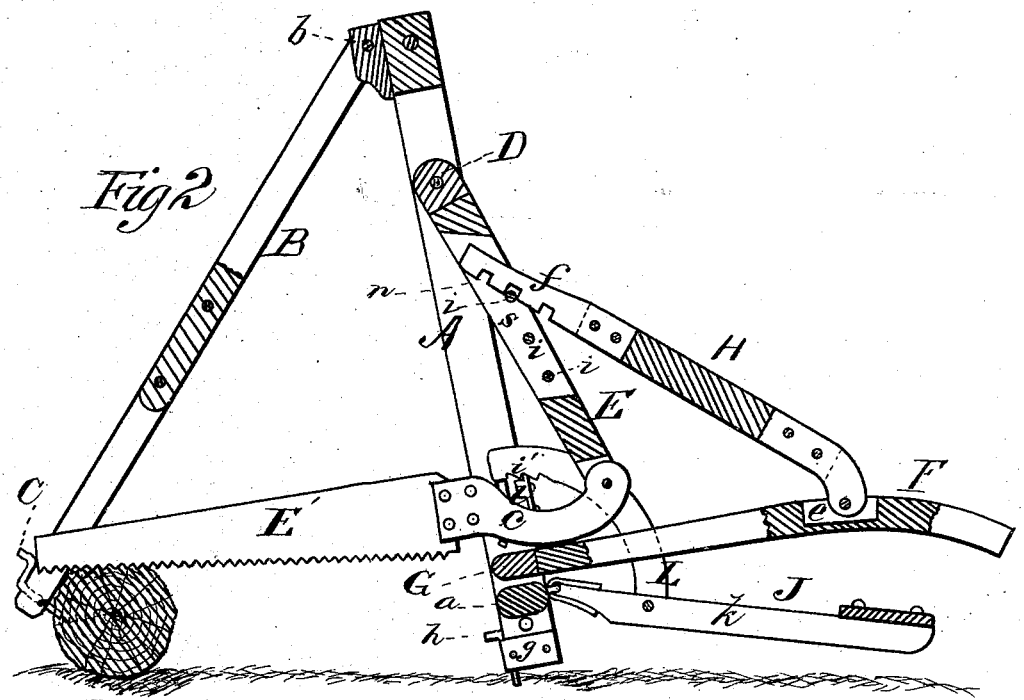


Fig 2



WITNESSES

Eugene W. Johnson

E. H. Bates

INVENTOR

Francis M. Carnahan,

Chipman Frauenthal & Co,

ATTORNEYS

UNITED STATES PATENT OFFICE.

FRANCIS M. CARNAHAN, OF ADRIAN, MICHIGAN.

IMPROVEMENT IN SAWING-MACHINES.

Specification forming part of Letters Patent No. **168,226**, dated September 28, 1875; application filed August 21, 1875.

To all whom it may concern:

Be it known that I, FRANCIS M. CARNAHAN, of Adrian, in the county of Lenawee and State of Michigan, have invented a new and valuable Improvement in Sawing-Machines; 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 representation of a side elevation of my sawing-machine, and Fig. 2 is a vertical longitudinal sectional view of the same.

This invention has relation to improvements in mechanical devices which are designed for operating cross-cut or drag saws; and the nature of the invention consists in the arrangement and novel construction, in connection with a crosscut-saw, of a gin—a vertically-vibrating rod, to which the saw is pivoted, depending from the apex of the gin—an operating-lever, and a connecting-rod, whereby the operation of severing a log is greatly facilitated, and a single operative is enabled to do the work of two, as will be hereinafter more fully explained and claimed.

In the annexed drawings, the letter A designates the main beams of my improved gin or supporting-derrick, which beams are rigidly secured together at their point of convergence, and are connected near their lower ends by a beam or bar, *a*. B represents a crotched leg, pivoted at *b* to the upper ends of beams A, the lower end of which is provided with two or more spaced perforations, through which a spike, C, is designed to be forced into a log, thus preventing the same from rolling, and affording the part A adequate support. D represents a horizontally-arranged rock-shaft, having its bearings near the apex of beams A, into which is mortised a rod, E, of suitable length. E′ is a crosscut-saw of the usual construction, which is provided with a shank, *c*, of curved form, by means of which it is pivoted in the lower furcated end of rod E. This rod is caused to vibrate vertically, thus transmitting a curvilinear reciprocating movement to the saw by means of a vertically-vibrating operating-lever, F, which is mortised into a rock-shaft, G, having its bearings near the lower ends of beams A, through the medium of a connecting-rod, H, one end of which is pivoted in a recess, *e*, of lever F, and the other detachably and adjustably secured to rod E. This adjustment is secured by the following means: The free end of connecting-rod H is provided with a flat metallic prolongation, *f*, the lower edge of which is provided with spaced notches *n*, and this prolongation is adapted to be passed through a longitudinal slot, S, in pendent rod E, which slot is traversed, after the manner of the rungs in a ladder, by metallic rods *i*, which are sufficiently spaced to admit prolongation *f* between them.

The object of this adjustment is to increase or lessen the length of the stroke of the saw, as the necessities of each particular case may require.

In order to adjust the gin in a vertical position, whatever be the inequalities of the soil, I use equalizer-blocks I, which are adjustably clamped against the lower ends of beams A by means of set-screws S′ passing through suitable perforations and slots in the said beams and blocks. By this means, the log being in a horizontal position, the saw will be in a plane vertical to the long axis thereof, and the kerf will be vertical. I am also able, by inclining the log, to produce a kerf at an angle to the length of the log, and to produce any desired bevel.

In order that the triangular frame A A may not slip during the operation of sawing, the lower ends of equalizer-blocks I are provided with a metallic band, *g*, between which and the said blocks a flat-headed bolt, *h*, is passed. This bolt is adapted to be forcibly driven into the ground, and will then hold the gin or supporting-frame in position. In order to prevent these bolts from casually escaping from the ground a vertically-vibrating treadle, J, hinged in any suitable manner to the brace *a*, is employed. The lateral bars *k* of this treadle are each provided with a vertically-vibrating and, preferably, curved segmental arm, L, the under side of the free end of which is provided with teeth *i′*, adapted to be hooked over a suitable metallic catch, *l*, on the beams A.

When the arms L are hooked over catches

l, the operative, by pressing upon the platform of the treadle during the operation of the saw, will transfer the weight thus applied to the beams A of the gin, and will hold bolts *h* to their engagement with the soil.

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

1. The gin A B, vibrating supporting-rod E, connecting-rod H, and vertically-vibrating operating-lever F, in combination with a crosscut-saw, E′, substantially as specified.

2. The combination, with the saw E′ and operating-lever F, of the connecting-rod H, having notched prolongation *f*, and the slotted supporting-rod E, having spaced rods *i*, substantially as specified.

3. The vibrating and adjustable treadle J, having notched vibrating arms L, in combination with the saw-supporting frame A, substantially as specified.

4. The frame A and equalizing-blocks I, in combination with the holding-bolts *h*, adapted to be driven into the ground, substantially as specified.

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

FRANCIS M. CARNAHAN.

Witnesses:
R. B. ROBBINS,
THOS. H. GREENLY.