(No Model.) 2 Sheets—Sheet 1.

G. McCORMICK.

SAWING MACHINE.

No. 385,469. Patented July 3, 1888.

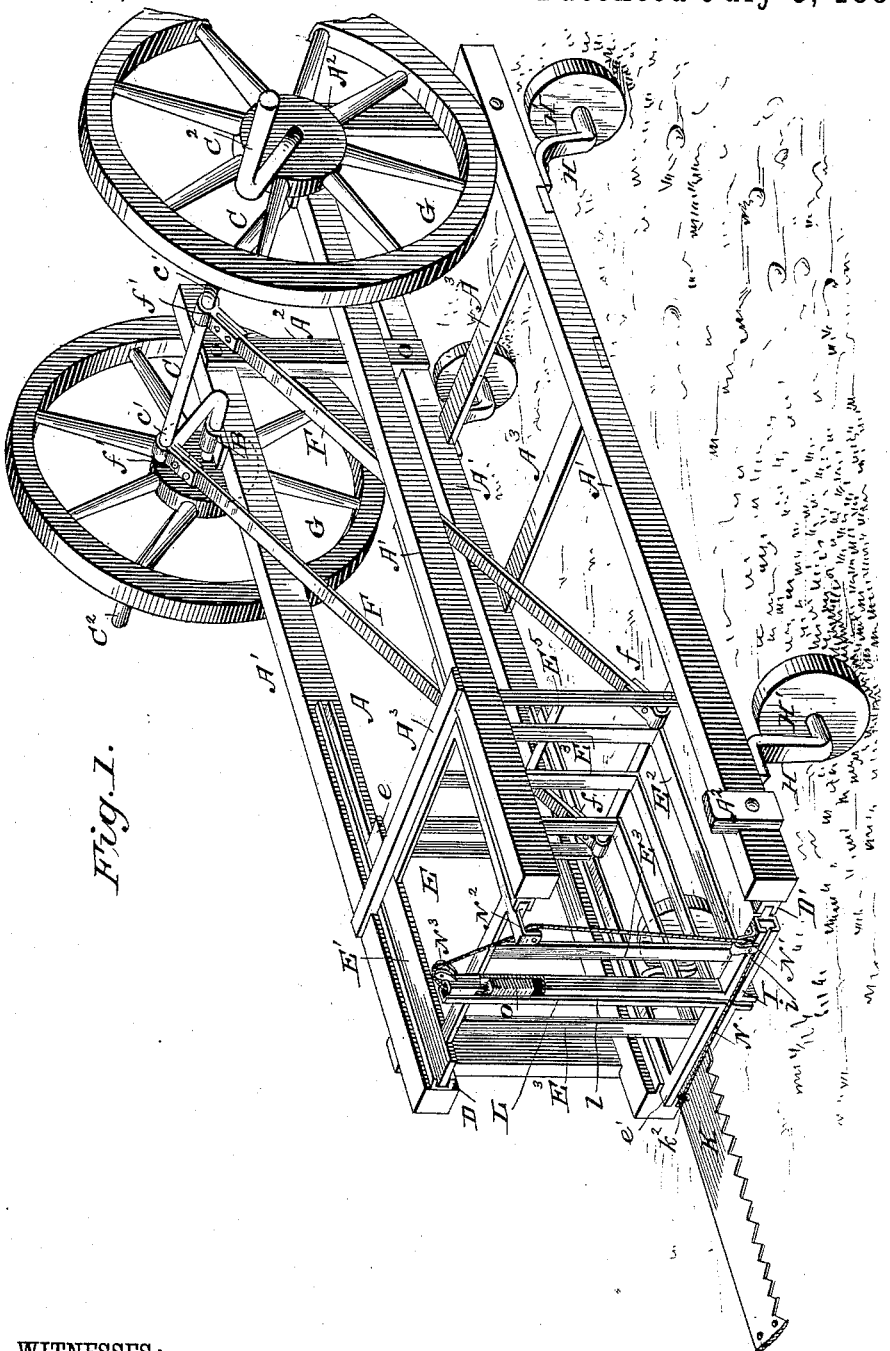

Fig. 1.

WITNESSES:

Fred G. Dieterich.

Geo. C. Kenyon.

INVENTOR:

George McCormick.

BY Munn & Co

ATTORNEYS.

N. PETERS, Photo-Lithographer, Washington, D. C.

(No Model.) 2 Sheets—Sheet 2.

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Fig. 2.

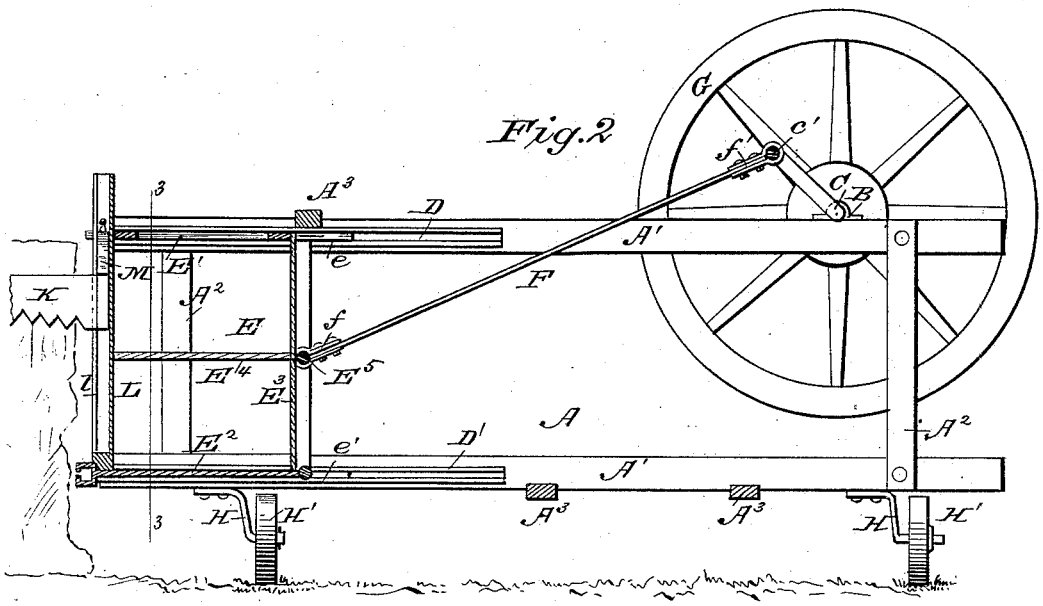


Fig. 3.

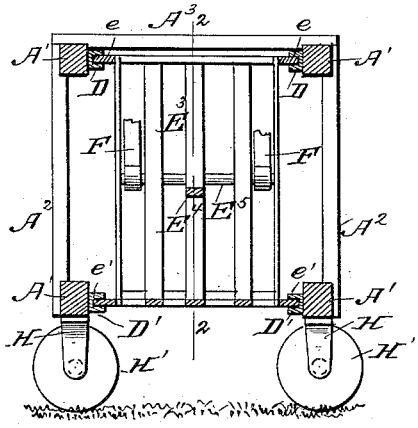
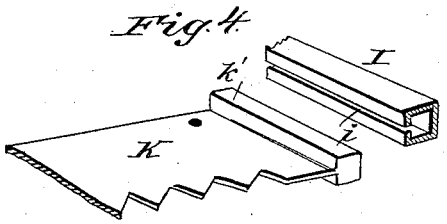


Fig. 4.



WITNESSES:

Fred G. Dieterich.

Jason C. Kenon.

INVENTOR:

George McCormick

BY Munn & Co

ATTORNEYS.

N. PETERS, Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

GEORGE McCORMICK, OF WASHINGTON, DISTRICT OF COLUMBIA.

SAWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 385,469, dated July 3, 1888.

Application filed June 3, 1887. Serial No. 240,140. (No model.)

To all whom it may concern:

Be it known that I, GEORGE McCORMICK, of Washington city, in the District of Columbia, have invented a new and useful Improvement in Sawing-Machines, of which the following is a specification.

My invention has for its object to provide a machine for sawing down trees and cutting the felled timber into pieces, and which is also adapted for resawing the pieces into proper length for fire-wood.

My invention consists in the peculiar construction, combination, and arrangement of parts, hereinafter fully described, having reference particularly to the means for operating the saw for placing it in proper position and adjusting it either horizontally or vertically to produce either a horizontal or a vertical cut.

In the accompanying drawings, Figure 1 is a perspective view. Fig. 2 is a longitudinal vertical sectional view on the line 2 2, Fig. 3. Fig. 3 is a section on the line 3 3, Fig. 2. Fig. 4 is a detail view.

A rectangular frame, A, having side pieces, A′, posts A^2, and cross-pieces A^3, securely joined together, has bearings B at one end to support a crank-shaft, C, and has guides D D′, secured horizontally to the bottom and top of the opposite end of said frame, which supports a rectangular sliding frame, E. The sliding frame E is designed to support and carry the saw K either in a horizontal or in a vertical position, and is composed of a horizontally-located rectangular upper frame, E′, having guide-plates *e* upon its sides, a similar lower frame, E^2, having guide-plates *e′* upon its sides, which are reciprocated, respectively, within the guides D D′, and upright bars E^3, connecting the upper frame, E′, with the lower frame, E^2. An intermediate cross bar or brace, E^4, connects one of the forward upright bars with the opposite rear upright bars, E^3, and a cross-bar, E^5, is secured horizontally to the rear upright bars, E^3, midway of their length, the ends of which are connected by straps *f* with the forward ends of connecting-rods F, the rear ends of which are connected by straps *f′* with the crank *c′* of the crank-shaft C at the rear end of the machine. Crank-handles C^2 upon the outer ends of the crank-shaft C provide means for rotating the shaft C and driving the saw, and balance-wheels G upon the shaft C, between the crank-handles C^2 and the side pieces, A′, of the frame, give to the saw a uniform and easy reciprocating movement.

The frame A is supported upon crank-axles H and wheels H′, of suitable size to permit the machine to be easily drawn along from one position to another and for giving to the frame and saw the proper elevation.

A tubular saw-guide, I, of square cross-section, receives a square-shaped butt-block, *k′*, upon the end of the saw-blade K, to hold it in a horizontal position and prevent the outer end of the saw from dragging in the cut, and the forward side of the saw-guide I is slotted at *i* to allow the blade of the saw to pass through it. A similar tubular saw-guide, L, held vertically to the forward end of the sliding frame E, is slotted at *l* to receive the saw-blade and hold the butt-block *k′* of the saw in a vertical position when the saw is used for cross-cutting fallen timber or fire-wood. The weight of the saw will be sufficient to feed it to its work when reciprocated in its vertical position, or additional weights may be added, as shown at M, when required.

When the saw is placed horizontally to cut standing timber, a cord, N, is attached to an eye, k^2, upon the butt-end of the saw and is passed over pulleys N′ N^2 upon the frame and over pulley N^3, journaled to the upper end of the vertical tubular saw-guide L, and is attached to a weight, O, which is held within the tubular guide L, to fall therein and draw the saw across the forward end of the sliding frame within the tubular saw-guide I, and thus feed the saw horizontally as the work is done.

Either two or four men may be employed to operate the machine to do rapid work, and a double machine may be used to advantage in some instances—that is to say, a machine similar to the one last described may be placed at each end of the saw, as shown in Fig. 4 of the drawings, and the saw thus worked from both ends, the advantage of this mode of operation being mainly to cut in either direction with equal force and effect and to prevent the weight of the saw at one end from dragging in the cut.

The connection between the crank-shaft and

sliding frame is such that the full force of the men operating the cranks is directly applied to the sliding frame and to the saw without the intervention of cogged or other gearing.

The operator may stand erect and without unnatural exertion apply the power to the saws and operate them at any point from the surface of the ground upward.

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

1. In a sawing-machine for cutting both standing and fallen timber, the combination, with the rectangular supporting-frame, of the rectangular sliding frame provided at its forward end with a horizontal tubular saw-guide and with a vertical tubular saw-guide, a saw adapted to fit either of said guides, and a crank-shaft and pitman for reciprocating the sliding frame and saw, substantially as described.

2. In a sawing-machine, in combination with the supporting-frame, the sliding frame having a horizontal tubular guide, and a vertical tubular guide, the saw adapted to fit said guides, a cord attached to the saw, held in the horizontal guide, passing over pulleys on the sliding frame, and a weight supported to move upon the tubular guide, substantially as described.

GEORGE McCORMICK.

Witnesses:
SOLON C. KEMON,
CHAS. A. PETTIT.