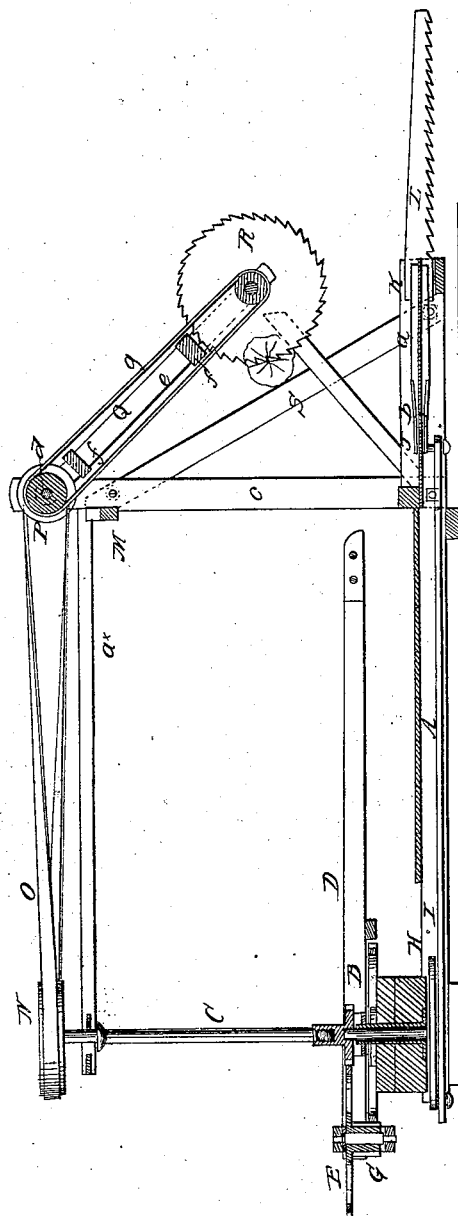


E. Totman,
Circular Saw.

N^o 46,833.

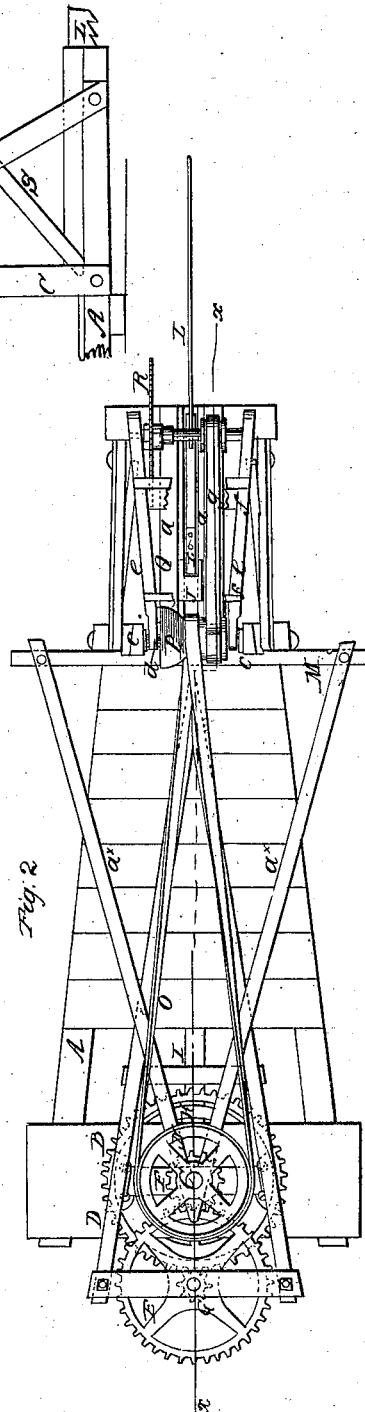
Patented Mar. 14, 1865.

Fig. 1.



Witnesses:
Thos. Ditch
E. L. Copley

Fig. 2.



Inventor
E. Totman
Jm. Munroe
Attorney

UNITED STATES PATENT OFFICE.

EDSELL TOTMAN, OF COLUMBUS, PENNSYLVANIA.

IMPROVEMENT IN SAWING-MACHINES.

Specification forming part of Letters Patent No. 46,833, dated March 14, 1865.

To all whom it may concern:

Be it known that I, EDSELL TOTMAN, of Columbus, in the county of Warren and State of Pennsylvania, have invented a new and Improved Sawing-Machine; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those 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 sectional view of this invention, taken in the line *x x*, Fig. 2; Fig. 2, a plan or top view of the same; Fig. 3, a side view of a portion of the same.

Similar letters of reference indicate like parts.

This invention consists in combining a reciprocating and a circular saw in such a manner that a sawing-machine may be obtained for sawing either large or small logs, and the machine easily changed, so as to be used in either capacity, as may be desired.

The invention is designed for sawing logs transversely with the grain, such as are commonly termed "cross-cut" sawing-machines.

A represents a horizontal framing, having at one end a fixed master-wheel, B, through which a vertical shaft, C, passes centrally, a horizontal frame, D, being placed loosely on the shaft C, to one end of which the horse or other draft-animal is attached, said frame D serving as a sweep and also serving as a support for a portion of the driving-gear, consisting of a wheel, E, which gears into a pinion, F, on the shaft C, and also consisting of a pinion, G, below E, and on the same shaft, and which gears into the fixed master-wheel B. By this arrangement it will be seen that motion is communicated to the shaft C as sweep or frame D is rotated. On the lower end of the shaft C there is a crank-wheel, H, to which one end of a pitman, I, is attached, the opposite end of said pitman being connected to a slide, J, which works between guides *a a*, on the framing A, and has a bar, K, attached to it by a hinge or joint, *b*. This bar K has a saw, L, secured to it, and it will be seen that as the sweep or frame D is rotated a reciprocating motion is imparted to the saw, the latter being allowed to feed itself to its work by its own gravity, in consequence of the bar K being connected to the slide J by the hinge or joint *b*. This reciprocating saw L is used for sawing large logs. The mechanism for sawing small logs is composed of the following

parts. On the horizontal framing A there is placed an upright framing, consisting of two standards, *c c*, one at each side of A, and connected at their upper ends by a cross-bar, M. To the cross-bar M, near its ends, there are secured two horizontal bars, *a a*, which are connected together at their outer ends, and serve as a support for the upper part of the shaft C. On the upper part of the shaft C there is keyed a pulley, N, around which a belt, O, passes, said belt also passing around a pulley or drum, P, on a shaft, *d*, between the upper part of the standards *c c*, and on this shaft *d* there is fitted a swinging frame, Q, composed of two bars, *e e*, connected by cross-rods *f*. In the lower end of this swinging frame Q there is a circular saw, R, which is driven by a belt, *g*, from the pulley or drum P, and below the swinging frame there is a buck or horse, S, designed for holding the wood or small logs to be sawed by the saw R. The circular saw, it will be seen, feeds itself to its work by its own gravity in connection with that of the frame Q.

Thus, it will be seen, that by this simple arrangement I obtain a machine which may be used for sawing either large or small logs; and this is a great advantage, for in sawing small logs the circular saw works much more rapidly than the reciprocating saw, and, consequently, if the latter were used for sawing small logs the work would be done comparatively slow, for a rapid movement of the reciprocating saw would not answer for sawing large logs—the saw would not only be liable to heat but also to "kink" or bend and be broken.

It is not, of course, designed to use more than one saw at once. The belt O may be cast off from the pulley N when the reciprocating saw is used, or the framing which supports the circular saw, as well as the swinging frame Q, may be entirely removed, and also the buck or horse S.

I do not claim separately or in the abstract any of the parts herein shown and described; but

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

The sawing-machine hereinbefore described, consisting of the frame A, shaft C, pulleys N P, swinging frame Q, crank-wheel H, pitman I, and saws R L, constructed and arranged as specified.

Witnesses: EDSELL TOTMAN.

G. Cady,
Hawley Davis.