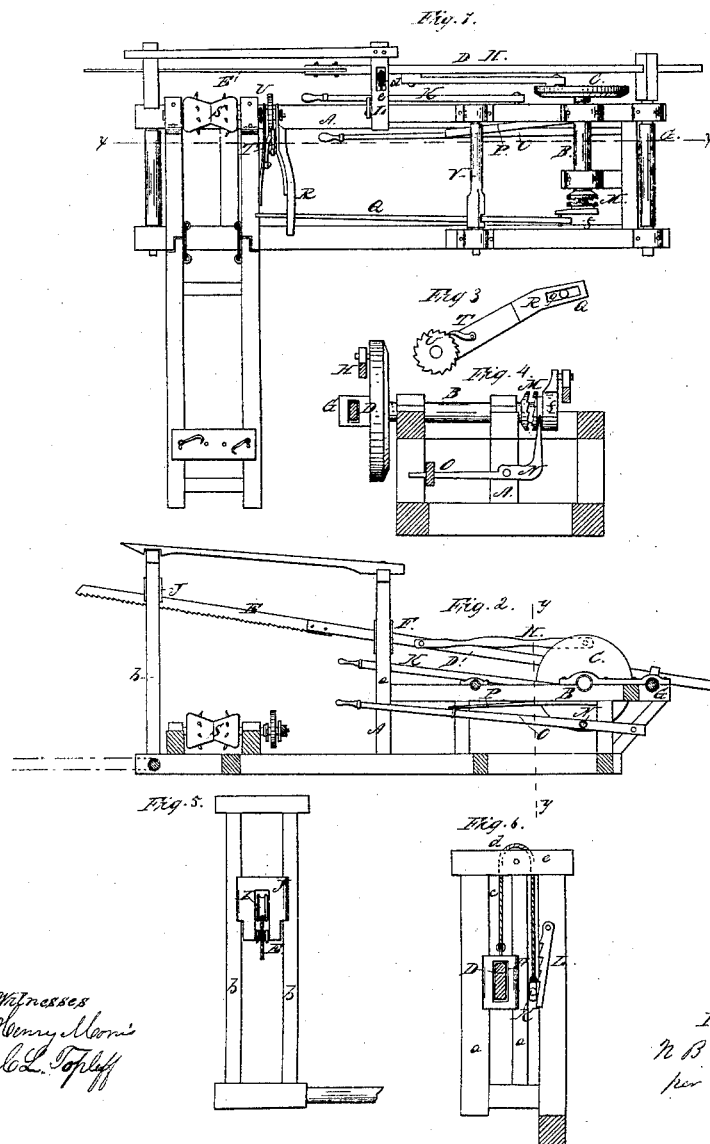


N. B. Brown,

Drag Saw,

No. 45,580,

Patented Dec. 27, 1864.



Witnesses  
Henry Mann  
C. L. Topple

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# UNITED STATES PATENT OFFICE.

N. B. BROWN, OF ANTWERP, NEW YORK.

## IMPROVEMENT IN SAWING-MACHINES.

Specification forming part of Letters Patent No. 45,580, dated December 27, 1864.

*To all whom it may concern:*

Be it known that I, N. B. BROWN, of Antwerp, in the county of Jefferson and State of New York, 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 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, Sheet No. 1, is a plan or top view of my invention; Fig. 2, a side sectional view of the same, taken in the line *x x*, Fig. 1; Fig. 3, a detached side view of the lever-pawl and ratchet pertaining to the feed mechanism; Fig. 4, Sheet No. 2, a transverse vertical section of the invention, taken in the line *y y*, Fig. 2; Figs. 5 and 6, detached views of the saw-guides.

Similar letters of reference indicate like parts.

This invention relates to a new and improved machine for sawing wood transversely with the grain, and is more especially designed for sawing logs into pieces of requisite length for fuel.

The invention is an improvement on a sawing-machine for which Letters Patent were granted to me September 15, 1863, and the advantages will be hereinafter set forth.

A represents a framing, which may be constructed in any proper manner to support the working parts, and B is a shaft placed transversely on the framing, and having a crank-pulley, C, at one end of it.

D is a bar, having a saw, E, attached to one end of it. This bar D passes through a guide, F, which is fitted and allowed to slide freely up and down between uprights *a a*. The rear part of the bar D passes through a mortise in a rock-shaft, G, and is allowed to slide freely therein. The saw-bar D is connected by a pitman, H, to the pulley C.

I is a grooved roller, which is fitted within a sliding block, J, placed between uprights *b b*. (See Fig. 5.) This roller rests or bears on the back of the saw E, and serves as a guide for the latter. The guide F has a cord, *c*, at-

tached to it, and this cord passes over a pulley, *d*, in a cross-piece, *e*, at the tops of the uprights *a a*, and is connected to a lever, K, which may be retained at different points by a notched bar, L. (See Fig. 6.)

On the end of the shaft B, opposite to that where the crank-pulley C is keyed, there is placed loosely a crank, *f*, which may be secured to the shaft B, when desired, by means of a clutch, M. (Shown clearly in Fig. 4.) This clutch is operated by a bent lever, N, having a lever, O, connected to one end of it, against which a spring, P, bears, said spring having a tendency to keep the crank *f* connected with the shaft B.

Q is a connecting-rod, one end of which is fitted on the crank *f*, and the other end passes through an oblong slot, *g*, in an arm, R, which is placed loosely on one of the journals of a toothed roller, S, which feeds the log to the saw. (See Fig. 1.) The arm R has a pawl, T, attached to it, said pawl engaging with a ratchet, U, on the journal of roller S, the rod Q passing loosely through a rock-shaft, V, in the framing A.

From the above description it will be seen that when the shaft B is rotated a reciprocating motion will be given the saw E, and the log will be fed to the saw through the medium of the rod Q, actuated by the crank *f*, the arm R, pawl T, and ratchet U, and while the log is thus being fed to the saw the latter may be elevated above the log and retained in an elevated state by adjusting the lever K. The log-feeding mechanism is rendered inoperative at any time by disconnecting the crank *f* from the shaft B.

Thus by this simple arrangement the shaft B may be operated continually while the machine is in use, it not being necessary to stop it at the termination of each cut, as is the case with other machines. The saw E is also kept firm or stiff, it being prevented from whipping or bending, and will admit of being run with greater speed than usual.

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

1. The arrangement of the saw-bar D, connecting-rod H, crank-pulley C, rock-shaft G,

and lever K, connected with the guide F by the cord *c*, substantially as and for the purpose herein set forth.

2. The arrangement of the crank *f* on shaft B, clutch M, actuated by the levers N O, rod Q, rock-shaft V, arm R, pawl T, ratchet U, and roller S, all substantially as and for the purpose specified.

3. In combination with the saw-bar D and

saw E, the double guideways *a a b b*, gliding gates F J, and roller I, arranged and employed in the manner and for the purposes specified.

N. B. BROWN.

Witnesses:

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