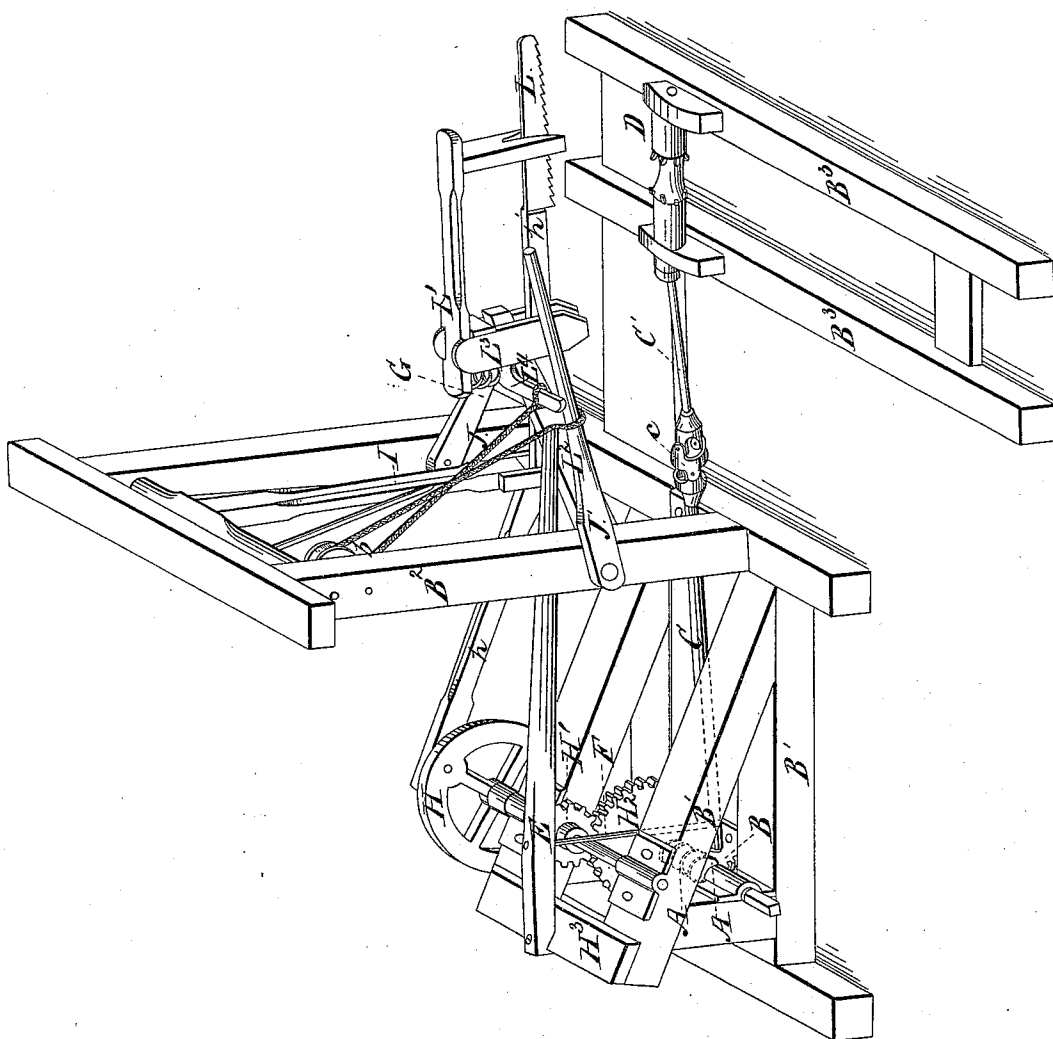


*J. Frey,  
Drag Saw.*

*N<sup>o</sup> 46,460.*

*Patented Feb. 21, 1865.*



*Witnesses.*

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# UNITED STATES PATENT OFFICE.

JOSEPH FREY, OF BATTLE CREEK, MICHIGAN.

## IMPROVEMENT IN SAWING-MACHINES.

Specification forming part of Letters Patent No. 46,460, dated February 21, 1865.

*To all whom it may concern :*

Be it known that I, JOSEPH FREY, of Battle Creek, in the county of Calhoun and State of Michigan, have invented a new and useful Improvement in Sawing-Machines; and I do hereby declare the following to be a full and exact description of the same, reference being had to the accompanying drawings, which form a part of this specification, and represent a perspective view of the sawing-machine embodying my invention.

This invention consists in a sawing-machine, consisting, essentially, of a guide-frame of peculiar construction used in connection with a system of levers for raising and lowering the same, and with a tumbling-shaft, worm-shaft, and adjusting-lever for throwing the feed roller in and out of gear, all as will be hereinafter described.

In order that others skilled in the art to which my invention appertains may be enabled to fully understand and use the same, I will proceed to describe its construction and operation.

In the accompanying drawings, B' B' B<sup>2</sup> represent frames which support the several operating parts, and B<sup>3</sup> B<sup>3</sup> are the log ways in which the feed-roller D is journaled.

L is the saw, which has a reciprocatory movement imparted to it by a crank-wheel, H, through the medium of arms h h', which are jointed to each other and to a bar, I, which is pivoted to the upright frame B<sup>2</sup> and oscillates as the arms h h' are advanced and retracted. L<sup>2</sup> is a frame, pivoted to the frame B<sup>2</sup>, and having attached to its loose end a guide, L<sup>3</sup>, for the driving-arm h'.

L' is the saw-guide pivoted between suitable lugs on the guide L<sup>3</sup>, and G is a spiral spring situated beneath the inner end of the guide L'. The spring G acts to press the guide L' down upon the saw, and, as the latter, together with the frame L<sup>2</sup> and its appurtenances, falls by gravitating as the kerf

in the log deepens, the action of the spring G serves to constantly brace the saw and hold it to its work.

J is a rope passing over a small pulley, b, and attached at its respective ends to an arm, L<sup>4</sup>, and lever J'. By the depression of the lever the saw L is thrown up to permit the log to be moved under it by the roller D.

Upon the shaft of the crank-wheel H is a gear-wheel, F', which, meshing with the teeth of another gear-wheel H<sup>2</sup>, rotates a worm A.

B is a cog-wheel secured upon the end of a rod, C; and F is a rod attached to the rod C and a lever, E, which lever has its fulcrum at H.

C' is a rod connected to the roller D and to the rod C, the latter connection being made by a universal joint at c.

By raising the loose end of the lever E the operator can easily throw the cog B into gear with the worm A, which will produce the rotation of the rods C C' and feed-roller D. The cog B, having been retained in gear with the worm A until the log has been moved to proper position to be submitted to the action of the saw, the operator permits the lever E to fall, so as to allow the cog B by gravitation to fall to a position out of connection with the worm A, when the rotation of the feed-roller D ceases and the movement of the log is arrested.

Having thus described my invention, the following is what I claim as new and desire to secure by Letters Patent:

The arrangement, in a sawing-machine, of the saw L, guide L', saw-frame L<sup>2</sup>, spring G, levers E L<sup>4</sup> J', pitman h, crank-wheel H, worm A, rod f, pinion B, tumbling-shafts C C, and roller D, the whole constructed and operating substantially as herein set forth.

JOSEPH FREY.

Witnesses:

L. V. KELLOGG,  
SIMEON BAKER.