W. J. Wells.

Drag Saw.

No. 54,046. Patented Apr. 17, 1866.

Fig. 2.

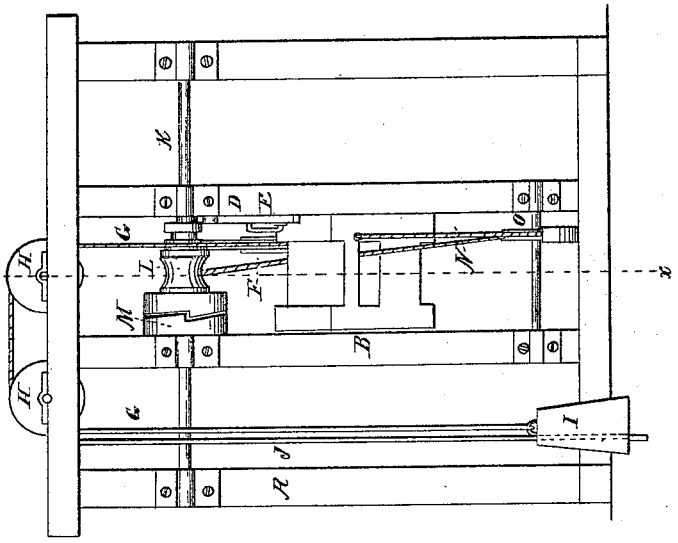
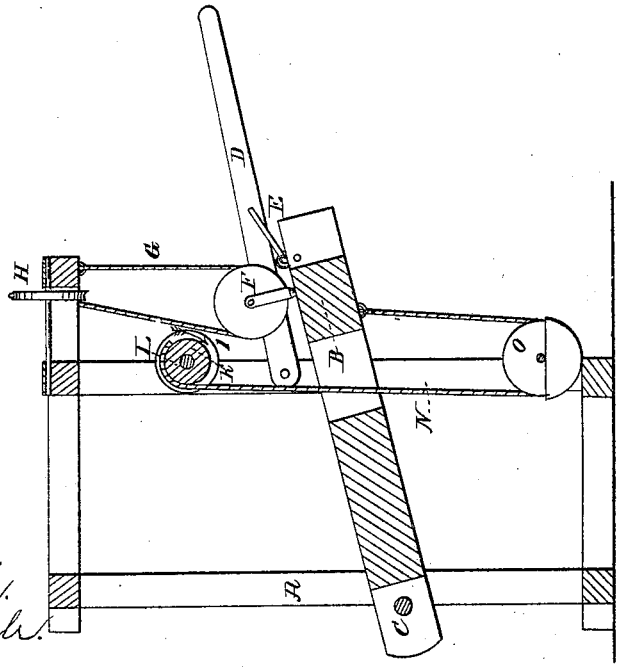


Fig. 1.



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UNITED STATES PATENT OFFICE.

W. J. WELLS, OF DELAWARE, OHIO.

IMPROVEMENT IN SAWING-MACHINES.

Specification forming part of Letters Patent No. **54,046**, dated April 17, 1866.

To all whom it may concern:

Be it known that I, W. J. WELLS, of Delaware, in the county of Delaware and State of Ohio, 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 my invention, taken in the line *x x*, Fig. 2; Fig. 2, a front elevation of the same.

Similar letters of reference indicate corresponding parts.

This invention relates to a new and useful improvement in a sawing-machine for which Letters Patent were granted to me bearing date September 20, 1864. The present improvement relates to a means for elevating the saw after it performs its cut, whereby the original machine is materially simplified and a saving of time effected in the sawing operation.

A represents a frame which supports the working part of the machine, and B is the frame to which the saw is attached, said frame working on a rod, C, as a center.

D is a lever, which is connected to the frame B by a link, E, and is designed for pressing the frame B down and feeding the saw to its work by hand, when necessary, so that the machine will be entirely under the control of the operator. The link E, it will be seen, will fully admit of the lever D and frame B moving in a curvilinear direction on their respective centers.

F is a pulley attached to the saw-frame B, and G is a rope, one end of which is attached to the frame A above the saw-frame B, and passes underneath the pulley F and over the pulleys H H on the frame A, and has a weight, I, secured to it, which works on a guide-rod, J. This weight, it will be seen, has a tendency to keep the saw-frame B elevated.

K is a shaft placed horizontally in the frame A, and having a concave pulley, L, placed loosely upon it, said pulley being connected with and disconnected from the shaft K by means of a clutch, M. This concave pulley L has a rope, N, attached to it, said rope passing down around a pulley, O, at the bottom of the frame A, and extending upward to the saw-frame B, to which it is attached, as shown clearly in Fig. 1.

From the above description it will be seen that when the shaft K is rotated in the direction indicated by arrow 1 the rope N will be wound upon the concave pulley L and the saw-frame B moved down and the saw fed to its work; and it will further be seen that when the saw completes its cut, by disconnecting the pulley L from shaft K through the medium of the clutch M the weight I will throw up the frame B and saw, so that the latter will be ready for a succeeding cut.

There is an important feature connected with the operation of the concave pulley L, which consists in the variation of the speed of the feed-movement of the saw, so that said movement will be commensurate or proportionate to the work of the saw during the whole transverse cut made by the latter. The saw has but little work to perform during the commencement of the cut. The work gradually increases as the saw approaches the center of the log, and gradually decreases from the center downward until the cut is completed. Hence at first a quick feed-movement may be given the saw, said movement gradually decreasing in speed until the saw reaches the center of the log, and then gradually increasing until the cut is completed. This variation in the speed of the feed-movement of the saw is obtained by the varying diameter of the pulley L caused by its concave periphery, the rope N at the commencement of the operation being wound up at one side of the pulley, where it is largest in diameter, and gradually approaching its center or smaller diameter, at which time the saw will be at the center of the log, where its work is greatest, the rope then, as it is wound up, approaching the opposite end of the pulley on a gradually increasing diameter.

This invention is extremely simple and efficient and may be applied at a small cost, materially reducing the cost of the construction of the machine.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

The arrangement of the shaft K, pulley L, clutch M, rope G, and weight I, as and for the purposes specified.

W. J. WELLS.

Witnesses:

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