

I. G. RINGSTAD.
Machines for Sawing Wood.

No. 142,121.

Patented August 26, 1873.

Fig. 1.

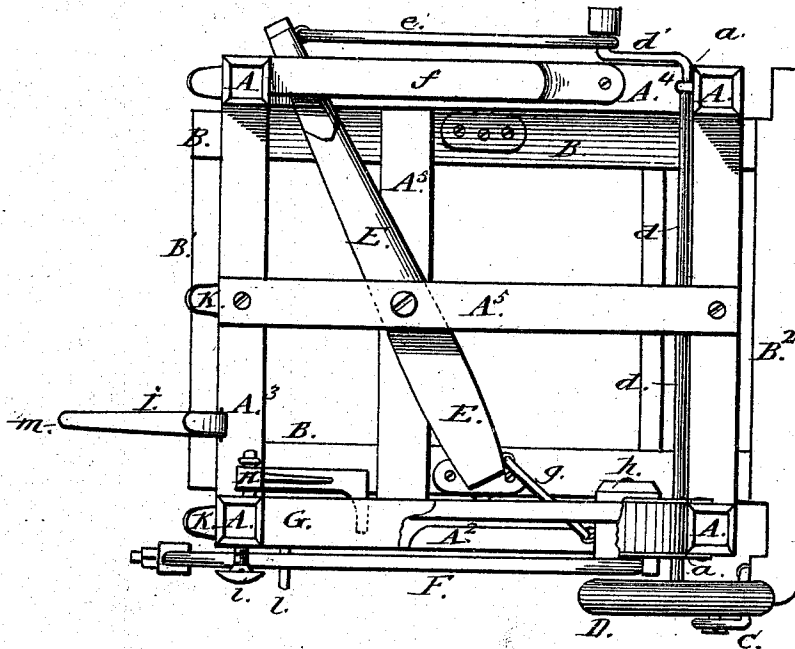
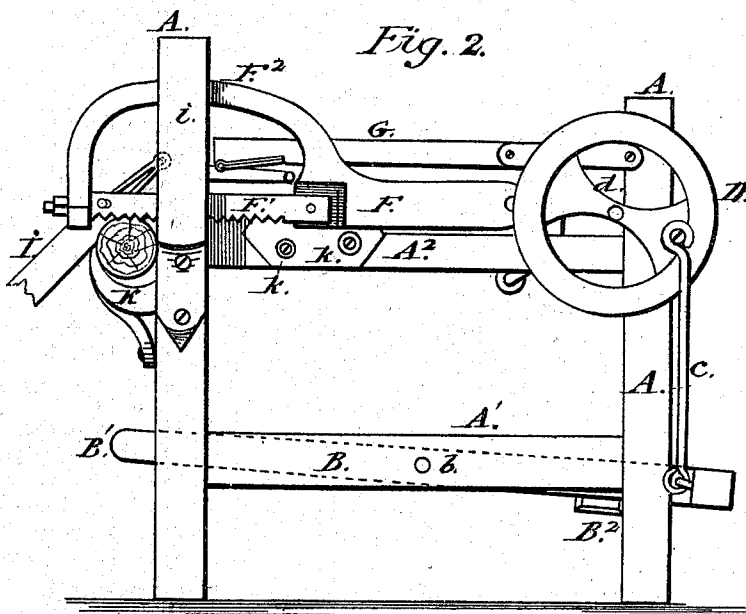


Fig. 2.



attest;
Edw. W. Dorr
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Iver G. Ringstad.
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UNITED STATES PATENT OFFICE.

IVER G. RINGSTAD, OF DECORAH, IOWA.

IMPROVEMENT IN MACHINES FOR SAWING WOOD.

Specification forming part of Letters Patent No. **142,121**, dated August 26, 1873; application filed June 28, 1873.

To all whom it may concern:

Be it known that I, IVER G. RINGSTAD, of Decorah, in the county of Winneshiek and State of Iowa, have invented certain new and useful Improvements in Machines for Sawing Wood; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification:

My invention relates to that class of machines for sawing wood that are operated by a treadle.

Figure 1 represents a top view of my said machine; and in Fig. 2 is shown a side view of the same.

In both figures similar letters of reference indicate corresponding parts.

The frame of my machine consists of four or more uprights, $A A A A$, united by cross-bars and braces $A^1 A^2 A^3 A^4 A^5$, &c., which also serve as supports for the bearings a of the shafts and levers of my machine, and for the horizontal guides, as hereinafter more fully described. B is a lever, consisting of the two lever-arms B , treadle B^1 , and cross-bar B^2 . By this combination a parallelogram-lever is formed, which is hung in bearings b in the cross-bars A^1 , as shown in the drawing. The rear cross-bar B^2 projects beyond the arm B ; and pivoted to this projection is the connecting-rod C , by which, when the treadle and lever are operated, a rotary motion is imparted to the fly-wheel D . This fly-wheel is provided with the shaft d , resting in the bearings a , and provided at the other end with a crank, d' , through which motion is imparted to the reciprocating rod e , which, in turn, moves the horizontal lever E , which is pivoted to the cross-bar A^5 . The two arms of the lever E are of unequal length, that arm being the longer which is connected with the rod e , and which moves horizontally under the guide f or its equivalent. The other shorter arm of said lever E is connected, by means of the rod g , with the slide h , through which motion is imparted to the reciprocating saw-frame F , the rear portion of which is pivoted to the said slide. The saw-frame F and saw-blade F^1

are kept in place by the lateral guide i , and the lower portion of the saw-frame rests upon the rollers $k k$, attached to and projecting from the cross-bar A^2 , when the saw is not in use, or has reached its lowest point during the operation of sawing. G is a bar, hinged to the rear upright A nearest the fly-wheel, and provided with a projecting rod, l . When this bar is raised by means of the angle-shaped lever H the rod l engages the upper portion of the saw-frame F^2 , lifting it, and with it the saw-blade F^1 , so that the blade is disengaged from the wood operated upon. By reversing the movement the bar G , projection l , and saw-frame F are again lowered. The upper portion of the saw-frame F^2 is made sufficiently heavy to cause the blade F^1 to engage the wood by the weight thereof; but if additional pressure is desirable the operator can easily effect this by grasping hold of the front part of the saw-frame and pressing this in a downward direction. The angle-shaped lever H is provided with a horizontal projection, which, when it is turned, engages with the lower side of the bar G , thus raising it, and with it the projection l and saw F , as hereinbefore set forth. I is a bar, of wood or metal, hinged to the cross-bar A^3 , which serves to hold the wood firmly in position while being sawed, and, at the same time, serves as a handle and support for the operator. $K K K$ are curved or angular brackets attached to the uprights A and cross-bar A^4 , in which the wood is placed while being operated upon.

The operation of my machine is as follows: The wood being placed horizontally in the brackets $K K K$, the bar or lever I is closed down upon it, and firmly held down, by the operator grasping hold of the handle m . At the same time the wood is placed in position the saw is raised by means of the lever H , as hereinbefore described, and is, after the wood has been placed in position, again let down, so that the blade F^1 will engage the top of the log. The saw is then set in motion by the operator working the treadle B^1 with the foot.

By the arrangement of the horizontal lever E in the manner described the power exerted by the operator on the treadle B^1 is considerably increased in its transmission to the reciprocating saw F , so that the wood placed at K

K K may be sawed with comparatively slight exertion on the part of the operator. Another advantage of my invention is that cog-wheels, pinions, and ratchets are entirely dispensed with, so that there is little or no danger of the working parts of the machine becoming choked up with sawdust. The simplicity, compactness, and durability of my machine are also important advantages not to be overlooked, and make my machine useful under circumstances where complicated machinery would be undesirable.

It will be readily observed that the treadle and lever B may be dispensed with, and the wheel D rotated by steam or other suitable means, without departing from the spirit of my invention. Nor do I limit myself to the precise details herein shown and described, provided that the spirit of my said improvements is retained; but,

Having thus described my invention, I claim as new and useful improvements in sawing-machines, and desire to secure by Letters Patent—

1. The horizontal lever E, in combination with the fly-wheel D, shaft *d*, crank *d'*, reciprocating rod *e*, connecting-rod *g*, and slide *h*, for operating the saw-frame F, substantially as and for the purpose set forth.

2. In combination with the mechanism E, D, *d*, *d'*, *e*, *g*, and *h*, the saw-frame F pivoted to the slide *h*, which imparts to it a reciprocating motion, guided by the lateral guide *i* or its equivalent, substantially as and for the purpose set forth.

3. The mechanism for lifting the saw-frame F, consisting of the bar G and projection *l*, in combination with the L-shaped lever H, arranged and operating substantially as and for the purpose set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 23d day of June, 1873.

IVER G. RINGSTAD.

Witnesses:

LEWIS ELLEPSON,
A. M. ELLISON.