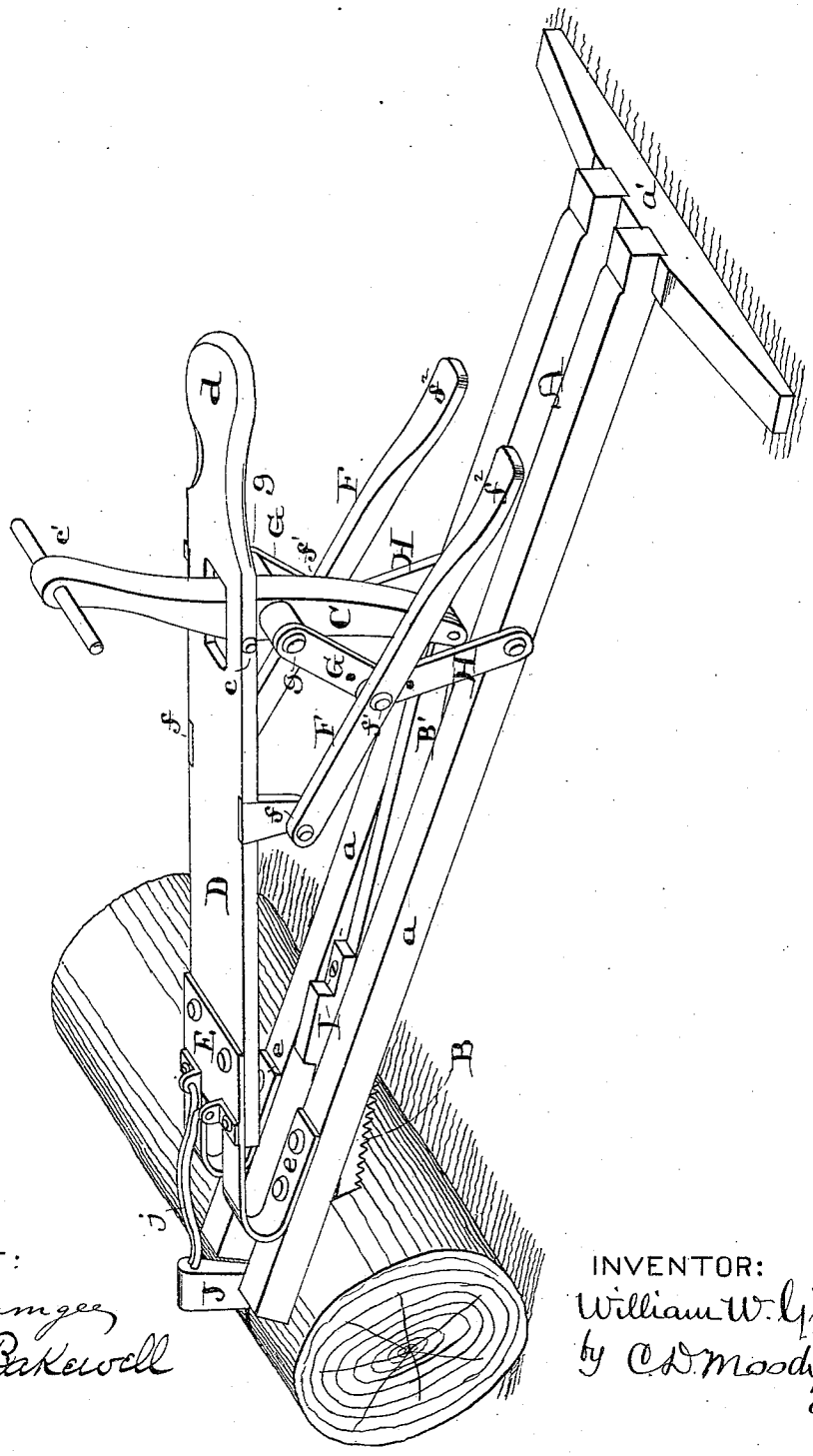
W. W. GILES.
Drag-Saw.

No. 208,472. Patented Oct. 1, 1878.



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WILLIAM W. GILES, OF ST. LOUIS, MISSOURI.

IMPROVEMENT IN DRAG-SAWS.

Specification forming part of Letters Patent No. **208,472**, dated October 1, 1878; application filed August 26, 1878.

To all whom it may concern:

Be it known that I, WILLIAM W. GILES, of St. Louis, Missouri, have made a new and useful Improvement in Sawing-Machines, of which the following is a full, clear, and exact description, reference being had to the annexed drawing, making part of this specification, where the improvement is shown in perspective and in position for sawing.

The present invention is an improved device for sawing wood or stone, and is of especial value where a long stroke has to be made.

Referring to the drawing, A represents a frame, which supports the mechanism for operating the saw. It may be of any suitable form therefor, preferably two bars, *a a*, spaced apart sufficiently to provide room for the saw and the parts immediately therewith connected, and connected at one end by the cross-bar *a'*, and at the other end as hereinafter described.

B represents the saw, having a movement in and out from the frame between the bars *a a*. The saw is attached to an arm, B', which, in turn, is pivoted to a lever, C, at the lower end of the latter.

D represents a lever, connected at its forward end with the frame A by means of a spring, E, and at its other end terminating in a seat, *d*. The lever C above mentioned is pivoted at *c* in the lever D. and at its upper end is furnished with a handle, *c'*.

F F represent pedals, which, at their forward ends *f f*, are pivoted to the lever D, and between their ends, at f^1 f^1, are pivoted to links G G, which, in turn, are, at *g g*, pivoted to the lever C. H H represent braces, which, at their lower ends, are pivoted to the bars *a a*, and at their upper ends to the pedals F F. The pedals F F at f^2 f^2 are shaped suitably for the feet of the operator to rest thereon. The spring E also serves, by means of the parts *e e*, to connect the bars *a a* at the forward ends of the latter.

I represents a removable weight, that can be attached to the saw to obtain thereby the proper pressure thereon. It can be changed for a heavier or lighter weight, as desired.

J represents a wedge, pivoted, by means of the arm *j*, to the lever D. When desired it can be thrown forward and be driven into the kerf to keep the saw from binding, and when thus inserted it also serves to hold the machine in place.

In operation, the forward end of the frame is made to rest upon the object to be cut. The operator seats himself in the seat *d*, placing his feet upon the pedals F F and grasping the handle *c'*. The weight of the operator causes the seat end of the lever D to descend, and this movement, acting through the lever C and the other parts therewith connected, causes the saw to be drawn backward. The weight of the operator is then thrown onto the pedals F F. The power is then transmitted, through the links G G, to the lever C, and the saw is moved forward again. Both of these movements can be aided by first pushing and then drawing the handle *c'*. By repeating the movements the sawing operation is maintained. The spring E takes the place of a hinge in connecting the lever D to the frame, and also aids in lifting the seat end of the lever. It also forms a very durable connection between the lever and frame, for it will be seen that the upper end of the spring is fastened to the upper side of the lever, and the lower end of the spring to the upper side of the bars *a a*. This form of connection largely prevents the vibration of the lever from causing the latter to work loose from the former, which it is apt to do when the lever is bolted directly to the frame. By this means the weight of the operator, acting alternately upon the seat *d* and the pedals F F, is sufficient to operate the saw in both directions, and the spring E and handle *c'* are not essential to its working. I preferably employ them, however, as they materially facilitate the operation.

The system of leverage, consisting of the pedals F F, links G G, lever C, and braces H H, is especially valuable, in that by means thereof the forward movement of the saw is effected by the weight of the operator acting upon the pedals.

If desired, the braces, at their upper ends, can be pivoted at the joints *g g*. The braces are adjustable as to their points of connection with the pedals.

I claim—

1. In a sawing-machine, the combination of

the frame A, lever C, lever D, pedals F F, links G G, spring E, and braces H H, substantially as described.

2. The combination, in a sawing-machine, of the lever C, lever D, pedals F F, links G G, and braces H H, substantially as described.

3. The combination of the frame A, levers C and D, spring E, pedals F F, links G G, braces H H, and handle c', substantially as described.

4. The combination, in a sawing-machine, of the frame A, lever D, arm j, and wedge J, substantially as described.

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Witnesses:
CHAS. D. MOODY,
ANDREW FITZPATRICK.

1,000 words.