C. D. MOORE.

Improvement in Jig Saws.

No. 118,041. Patented August 15, 1871.

Fig 1.

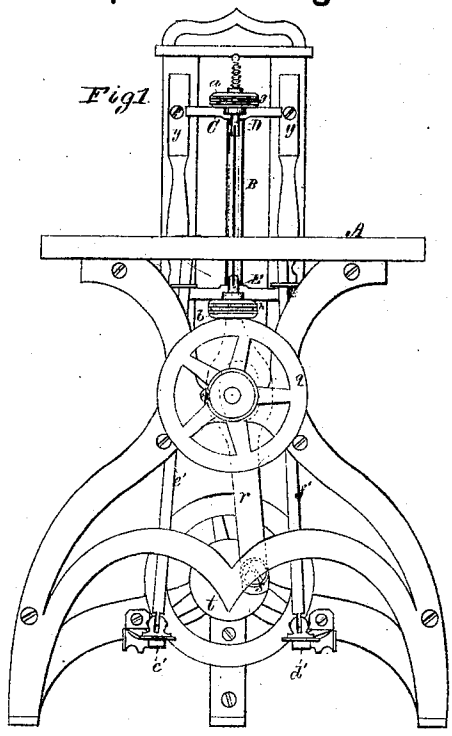


Fig 2.

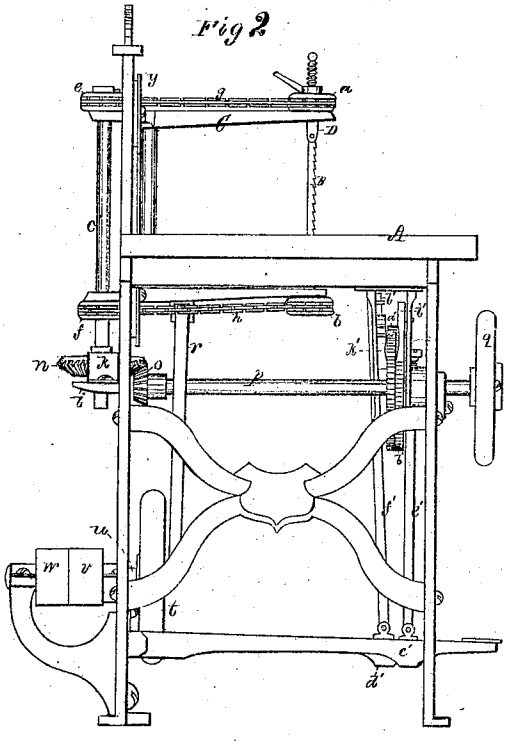
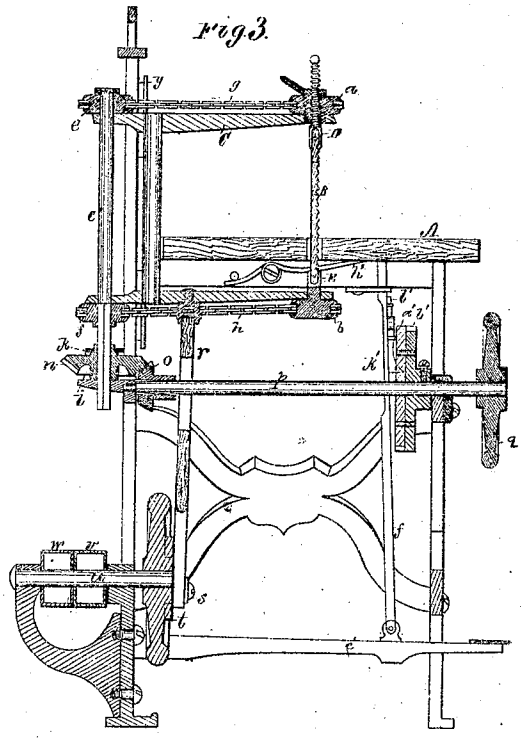


Fig 3.



Witnesses

S. N. Piper

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UNITED STATES PATENT OFFICE.

CHARLES D. MOORE, OF LAWRENCE, MASSACHUSETTS.

IMPROVEMENT IN JIG-SAWS.

Specification forming part of Letters Patent No. 118,041, dated August 15, 1871.

To all whom it may concern:

Be it known that I, CHARLES D. MOORE, of Lawrence, of the county of Essex and State of Massachusetts, have made a new and useful invention having reference to Jig Sawing-Machines; and do hereby declare the same to be fully described in the following specification and represented in the accompanying drawing, in which—

Figure 1 is a front elevation, Fig. 2 a side view, and Fig. 3 a vertical and central section of a jig-saw and its frame as provided with my invention.

This sawing-machine has some of the characteristics of that described in Letters Patent No. 101,300, dated March 29, 1870, and granted to me—that is to say, it is provided with a mechanism to enable the saw while in vertical play to be revolved more or less horizontally to enable long boards to be sawed by it to advantage. In my patented machine the mechanism for so revolving the saw was operated by the hand of a person applied to the crank of a hand-wheel. Thus, while such operation was being carried into effect, one hand only of the operative was left free to hold and guide or manipulate the work or board.

In my present machine I not only have retained such a means of so actuating the saw, but I have combined with it two pedals and certain other mechanical devices by which the saw may be revolved by the foot of the operative applied to either pedal, thereby leaving both of his hands free to move and guide a board or article while it may be in the act of being sawed. Instead, also, of having the prismatic shaft of the saw-revolving mechanism stationary, except in being capable of being revolved horizontally, as is the case in my patented machine, in my present machine it is pivoted in and to the saw-frame or carrier and plays up and down with it, the prismatic part of the shaft being movable in the bevel-gear, by which the said shaft is revolved, all of which is productive of important advantage.

In the drawing, A denotes the frame or table for supporting the work or board while in the act of being sawed. The saw B is supported indirectly within a separate frame or carrier, C, and directly by two spindles, D E, which are disposed in a vertical line with the saw and applied to the carrier C, so as to be capable of being revolved therein. Each of the said spindles carries one of two wheels or pulleys, *a b*, around which and two other such wheels, *e f*, fixed on the shaft C′, arranged and pivoted in the saw-carrier, as shown, two endless chains, *g h*, work. That part of the shaft which extends below the lower of the wheels *e f* is prismatic and goes through a corresponding aperture in the bevel-gear *n*, which is supported on and by a bracket or shelf, *i*, and an arched bar, *k*, arranged thereon, as shown. A bevel-pinion, *o*, fixed upon a shaft, *p*, arranged as and provided with a hand-wheel, *q*, as represented, engages with the gear *n*. There is pivoted to the saw-frame or carrier C a slotted connecting-rod, *r*, whose lower part turns on a crank-pin, *s*, extended from a fly-wheel, *t*. The said wheel is carried by a driving-shaft, *u*, arranged and provided with a fast pulley, *v*, and a loose pulley, *w*, all as represented. On revolving the said shaft *u* a reciprocating vertical movement will be imparted to the said carrier, supported between and by vertical guides *y y*, arranged as shown. The shaft *p* is furnished with two ratchet-wheels, *a′ b′*, below which there are disposed, as represented, two pedals, *c′ d′*. From these pedals rods *e′ f′* extend upward, and at their upper ends they are connected to lifting-springs *g′ h′* projecting from the table-top. One of these rods carries an impelling-pawl, *i′*, to work in one ratchet-wheel, there being to the other rod a draw-pawl, *k′*, to engage with the other of such ratchet-wheels. Each rod is to be provided with a spring, *l′*, to keep its pawl up to its ratchet-wheel.

On applying the foot to one pedal and pressing it downward the saw will be turned in one direction, its revolution in the opposte way being effected by the foot of the attendant applied to the other pedal so as to depress it. By having the prismatic shaft pivoted to the said frame and to play through the driving-gear of such shaft there results but about half the friction which follows from having the shaft movable through its driving-pulleys. When the pedals are at their highest positions the pawls will be so raised out of action with respect to these ratchets as to enable the shaft *p* to be revolved by mandrel power applied directly to its hand-wheel.

I claim, therefore, as my invention in the said jig-saw machine—

The combination of the pedals *c′ d′*, the rods

e' f', the pawls i' k', the ratchets a' b', and the springs g' h', or their mechanical equivalents, with the hand-wheel shaft p, the gears n o, the prismatic shaft c, the pulleys e f a b, the endless chains g h, applied to the saw and its carrier C and to the table or frame of the machine, all being substantially as described, whether such shaft p be provided or not with a hand-wheel, as set forth.

CHAS. D. MOORE.

Witnesses:
R. H. EDDY,
J. R. SNOW.