

J. H. J. HINCKE.

Improvement in Sawing-Machines.

No. 129,226.

Patented July 16, 1872.

Fig. 1.

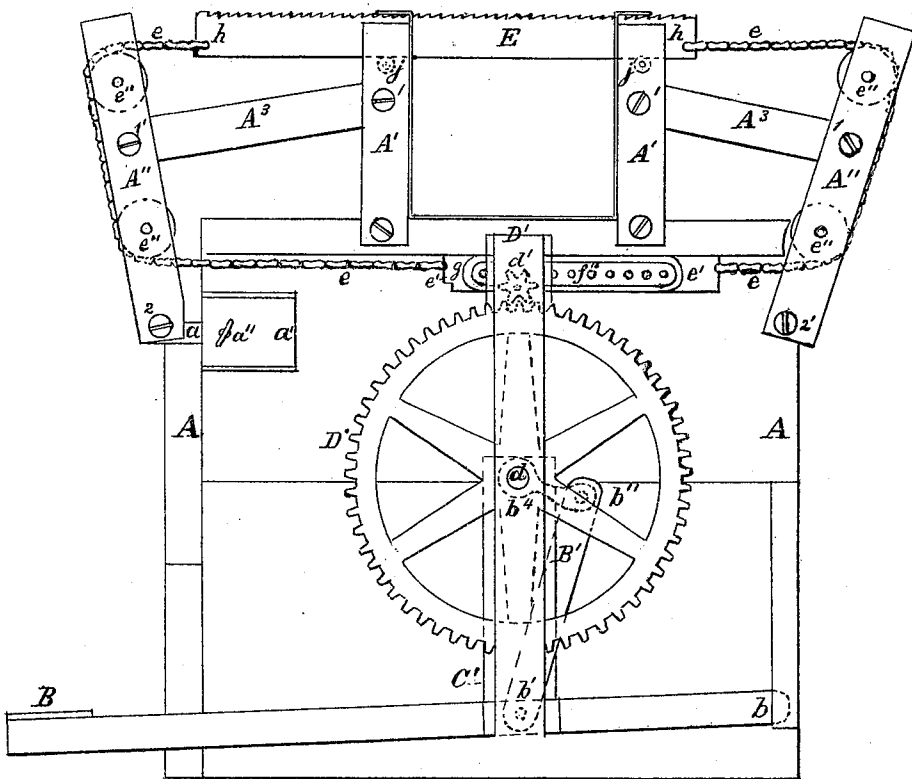
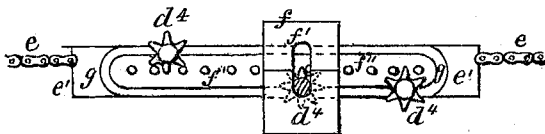


Fig. 4.



Witnesses:

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Inventor:

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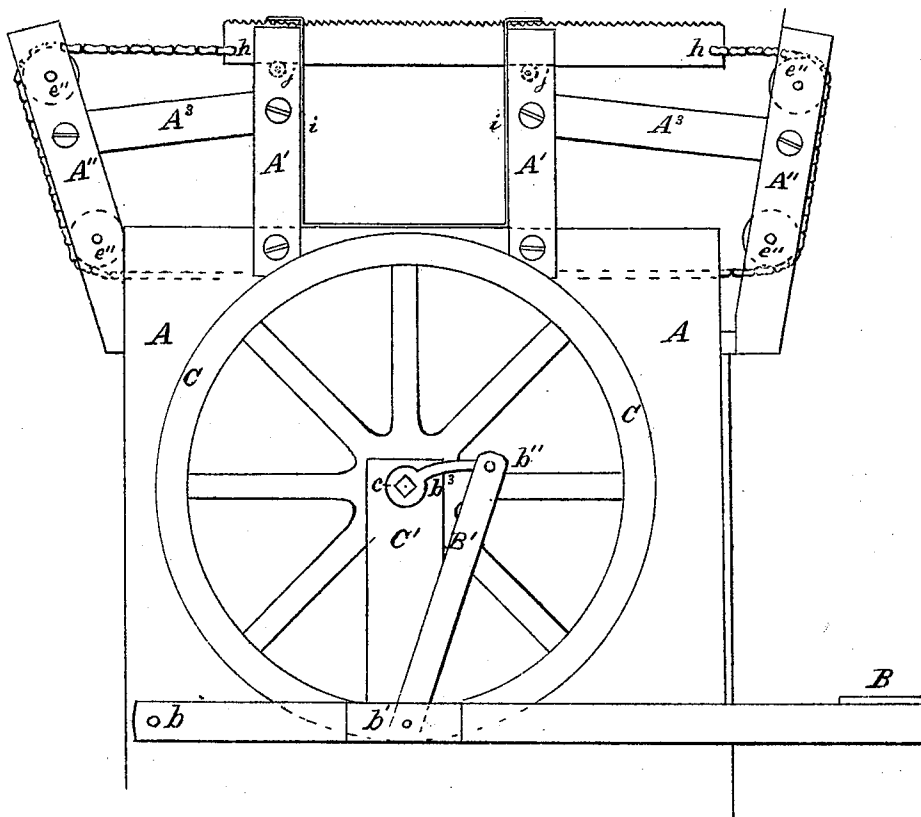
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Fig. 2.



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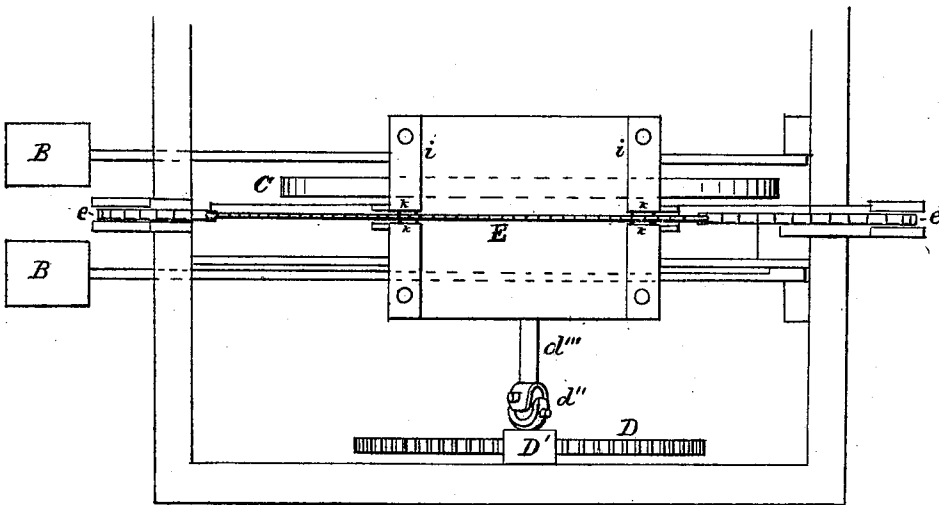
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Fig. 3.



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UNITED STATES PATENT OFFICE.

JOHN H. J. HINCKE, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN SAWING-MACHINES.

Specification forming part of Letters Patent No. 129,226, dated July 16, 1872.

I, JOHN H. J. HINCKE, of Boston, in the county of Suffolk, in the State of Massachusetts, have made certain Improvements in Machines for Sawing-Wood, of which the following is a specification:

The object of this invention is to introduce into use a machine for sawing wood into short lengths, and worked by hand-power; and it consists in the construction and arrangement of the parts of the machine, as will be more fully hereinafter described.

In the drawing, Figure 1 is a view of one side of the machine. Fig. 2, a view of the opposite side; Fig. 3, a top or plan view; and Fig. 4, enlarged view of some of the parts.

A is the support to the operating parts of the machine. A' are uprights in pairs on the main supports A for the purpose of guiding and keeping the saw straight between the pairs. A'' A'' are uprights in pairs, but inclined, one pair of which is used for straining the chain that causes the saw to reciprocate, and at the same time the chain passes between the pairs which are in line with the uprights A', and A' and A'' are connected together by the inclined longitudinal girts A³ A³, which are as thick as the space is between the uprights, and are made fast to said uprights at 1 1' and 2 2'. B B are treadle-levers, pivoted to the supports A at b, and connected at b' to the connecting-rods B. B' B' are two connecting-rods, pivoted at their lower ends to the treadle-levers, and at their upper ends b'' to crank-pins. C is a balance or fly wheel fast on shaft c supported on upright C'. b³ is a crank, fast on short shaft c, and its outer end attached to one of the connecting-rods B'. b⁴ b⁴ are two cranks, one on the inner end of shaft c, and the other on the inner end of shaft d, and are bent toward each other at their outer ends to be attached to one of the connecting-rods B', as seen in Fig. 1, and so that in the revolution of the cranks the connecting-rod can pass between the inner ends of shafts c and d. These two cranks are placed on shafts c and d to be coincident with each other, and project from the opposite side of shaft c, and nearly, but not quite, in horizontal line, as the purpose is to prevent them from being both on the dead point at the same time. D is an upright toothed wheel, fast on shaft d on supports D' and C', and gears into pinion d' that is fast on revolving shaft d''' which has

the universal joint d''. Shaft d''' has a bearing in support D' at one end, while the other is held and revolved in a vertical slot, f', of plate f, that is fast on the main supports of the machine. Plate f is secured to the main support so as to have a space between it and the support, and shaft d''' passes through the plate and has a pinion, d⁴, fast on it a short distance from the end of the shaft, leaving the projecting end of shaft d''' to enter into the groove g of the reciprocating plate e', which has pins f'' projecting from its face, and as the pinion d⁴ is revolved the teeth take hold of the projecting pins and cause plate e' to reciprocate in one direction far enough for the shaft in groove g to traverse a half circle around the outside of the end of the line of pins f'' and the pinion d⁴ to revolve around said outside pin and then go to the opposite side of the row of pins, which causes the plate e' to reciprocate in the reverse direction, and as plate e' is connected at either end to a flexible link-chain, e, which passes around pulleys e'' e'' in uprights A'' A'', and attached to the reciprocating saw E at h h, the saw will also be reciprocated. Between the supports A' A' are pulleys j j, running freely on their axes, upon which pulleys the back of the saw rests, while higher up and between the same supports A' are inwardly-projecting guide-blocks k k, that bear slightly upon the sides of the saw so as to guide it in its reciprocations and prevent kinking. i is a lining between the inner faces of the vertical uprights A, and forms a space in which the wood is presented to the saw, and has space enough to receive and have sawed within it the largest stick of wood usually sawn upon a machine. This lining is preferably of metal. The wood is presented to the saw from above, and as the saw cuts its way through it the weight of the wood feeds the stick to the saw to be cut. The fly-wheel C and gear-wheel D make the same number of revolutions, while the pinions d' and d⁴ make about nine revolutions to the gear-wheel D one, while pinion d⁴ revolves about three times to one reciprocation of the plate e' on saw E, or about three reciprocations of the saw to one revolution of the gear-wheel D. To keep the flexible chain e in proper strain one pair of uprights, A'', has a horizontal arm, a, fast at 2 to said upright, and enters into a mortise behind plate a'' on the main support of the ma-

chine, while the uprights A'' are pivoted at $1'$ to the horizontal girt A^3 , so that the upright can be oscillated, and when in the right position to give the proper tension to the chain e the holding-screw a'' that is screwed through plate a' will bear against bar a and hold it fast.

The machine can be mounted upon wheels and then be drawn to the place to be used in sawing wood, and as the man who operates the saw in stepping with one foot upon one of the treadles B , puts the saw in reciprocation by the connection of the treadle with the wheels and saw, and depresses the treadle a certain distance, he then places his other foot upon the other treadle and takes his weight from the first, thus keeping up a continuous alternation of steps upon the treadles, which will cause the saw

to reciprocate rapidly and do the work as rapidly.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

The combination of the treadles B , connecting-rods B' , cranks $b^3 b^4$, shafts c and d , wheel D , pinion d' , shaft d''' having universal joint d'' , pinion d^4 , plate e' having pins f'' and groove g , flexible chains e , and pulleys e'' with the reciprocating saw E , when constructed to operate substantially as described.

JOHN H. J. HINCKE.

Witnesses:

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