

(No Model.)

L. HOUSTON.
MORTISING MACHINE.

No. 478,431.

Patented July 5, 1892.

Fig. 1.

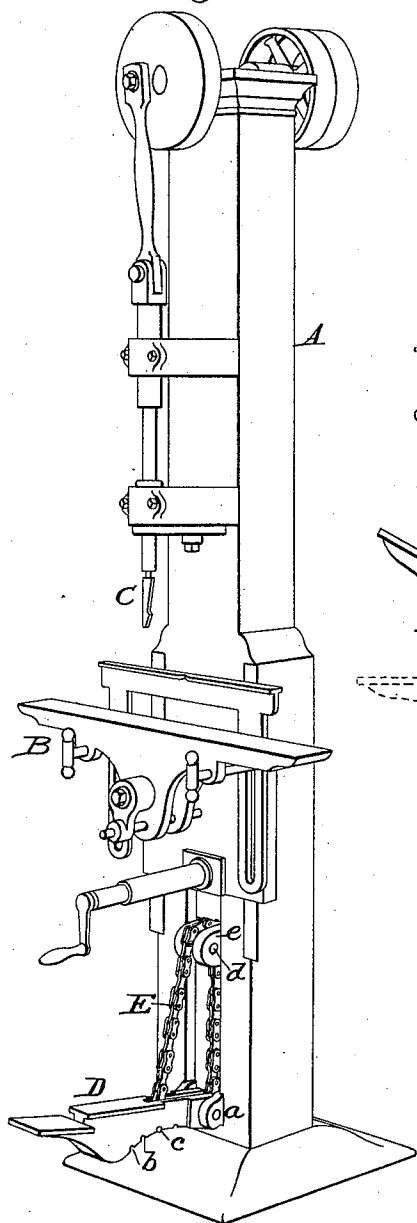
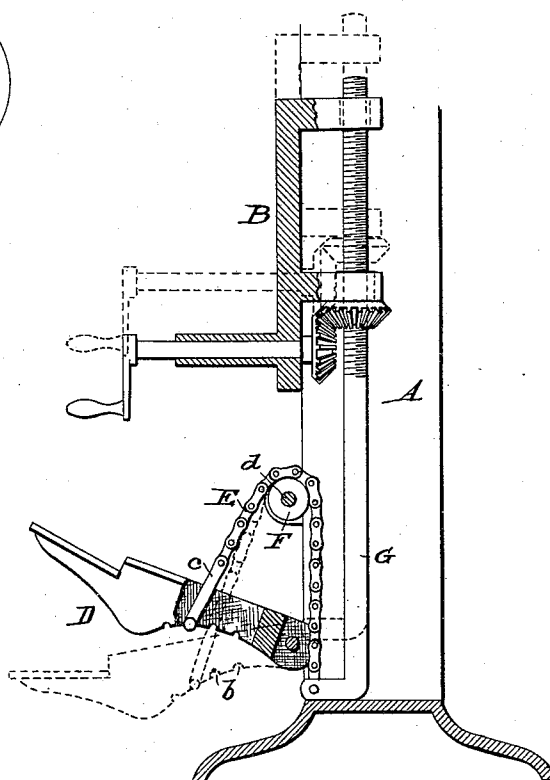


Fig. 2.



Witnesses:

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Inventor:

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UNITED STATES PATENT OFFICE.

LEVI HOUSTON, OF MONTGOMERY STATION, PENNSYLVANIA.

MORTISING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 478,431, dated July 5, 1892.

Application filed December 12, 1890. Serial No. 374,490. (No model.)

To all whom it may concern:

Be it known that I, LEVI HOUSTON, a citizen of the United States, residing at Montgomery Station, in the county of Lycoming and State of Pennsylvania, have invented certain new and useful Improvements in Mortising-Machines, of which the following is a specification.

In machines of this general character the table or bed upon which the work rests or by which it is supported is raised and held in its raised position by the depression of a treadle operated by the foot of the attendant, and while the table or bed is thus held in its raised position the work is subjected to the action of a reciprocating tool, which latter imparts considerable jar and vibration to the bed or table and to the foot of the operator resting upon the treadle; and it is to do away with this constant jar or vibration upon the operator's foot that the present invention is designed.

I desire to state here that the means shown for raising the table or bed are not in themselves new, having been previously employed in machines where there was no reciprocating tool or cutter, and consequently no such jar or vibration to overcome as exists in a mortising and similar machines employing a reciprocating tool, to which class of machines my present invention is confined.

In the drawings, Figure 1 is a perspective view of my improved mortising-machine; Fig. 2, a vertical sectional view from front to rear, with parts broken away.

A indicates the main frame of the machine; B, the bed or work-supporting table; C, the longitudinally-reciprocating tool or cutter, and D the treadle or foot-lever, pivoted to lugs or ears *a*, projecting from the front face of the machine. The treadle or lever is slotted or bifurcated and is provided on its under face with a series of notches or steps *b*, with which a *1*-shaped block *c*, secured to the end of a chain, cord, or belt or other flexible connection E, is designed to engage. This chain or other flexible connection E extends upward over a wheel or pulley F, journaled upon a pin or bolt *d*, carried by lugs *e*, projecting from the front face

of the machine above the lugs *a a*, as shown in Figs. 1 and 2.

It is of course immaterial whether the wheel or pulley F turns loosely upon the pin or bolt *d* or is provided itself with journals to turn in the ears or lugs *e*, which would thus become bearings.

Chain or connection E, after passing from the foot-lever or treadle over the wheel or pulley F, passes downwardly, where it is connected with the forwardly-extending foot-piece of the lifting-rod G of the bed or table.

When the operator presses down upon the outer or free end of the treadle or lever, the inner end of the chain, which is connected with the rod G, extending down from the bed or table, will, acting through the rod, raise the table or support, the latter being held in its elevated position until the foot is removed from the treadle or the treadle allowed to resume its normal position. While the table is held in its elevated position by reason of the operator keeping his foot upon the treadle the reciprocating tool C acts upon the work on the table and imparts to the table a jar or vibration, which under former constructions was transferred directly to the treadle or lever, upon the inner end of which the lifting-rod rested. Under the present arrangement, however, the jar or vibration is transmitted first to the chain which sustains the lower end of the lifting-rod instead of the treadle, with the result that the jar or vibration heretofore imparted directly, as it were, to the treadle is now thrown onto the chain and its supporting wheel or pulley and to the main frame, in which the wheel or pulley is journaled or supported.

By distributing the strain upon the chain, its supporting-wheel, and the main frame it will be seen that the jar or vibration given to the treadle will be practically *nil*, for before any motion or vibration can be imparted to the treadle or lever it will be necessary to overcome the resistance of the wheel or pulley against turning arising from the weight of the bed or table being thrown upon the said pulley.

Having thus described my invention, what I claim is—

1. In a mortising or similar machine, the combination, with a main frame, of a reciprocating tool, a bed or work-table movable toward and from the tool, a treadle, and a
5 flexible band or cable connecting the treadle and the bed or table and passing over an intermediate support, all substantially as shown and described.
2. In a mortising or similar machine, the
10 combination, with a main frame, of a reciprocating tool, a bed or table movable toward and from the tool, a treadle pivoted in the main frame, a wheel or pulley also journaled in the main frame, but above the treadle, and a flexible connection passing over the wheel 15 or pulley and secured at its ends to the treadle and work-table, all substantially as shown and described.

In witness whereof I hereunto set my hand in the presence of two witnesses.

LEVI HOUSTON.

Witnesses:

L. C. KINSEY,
R. A. SECHLER.