

M. Buck.
Blind Mortising Mach.
N^o 97040. Patented Nov. 23. 1869.

Fig. 1

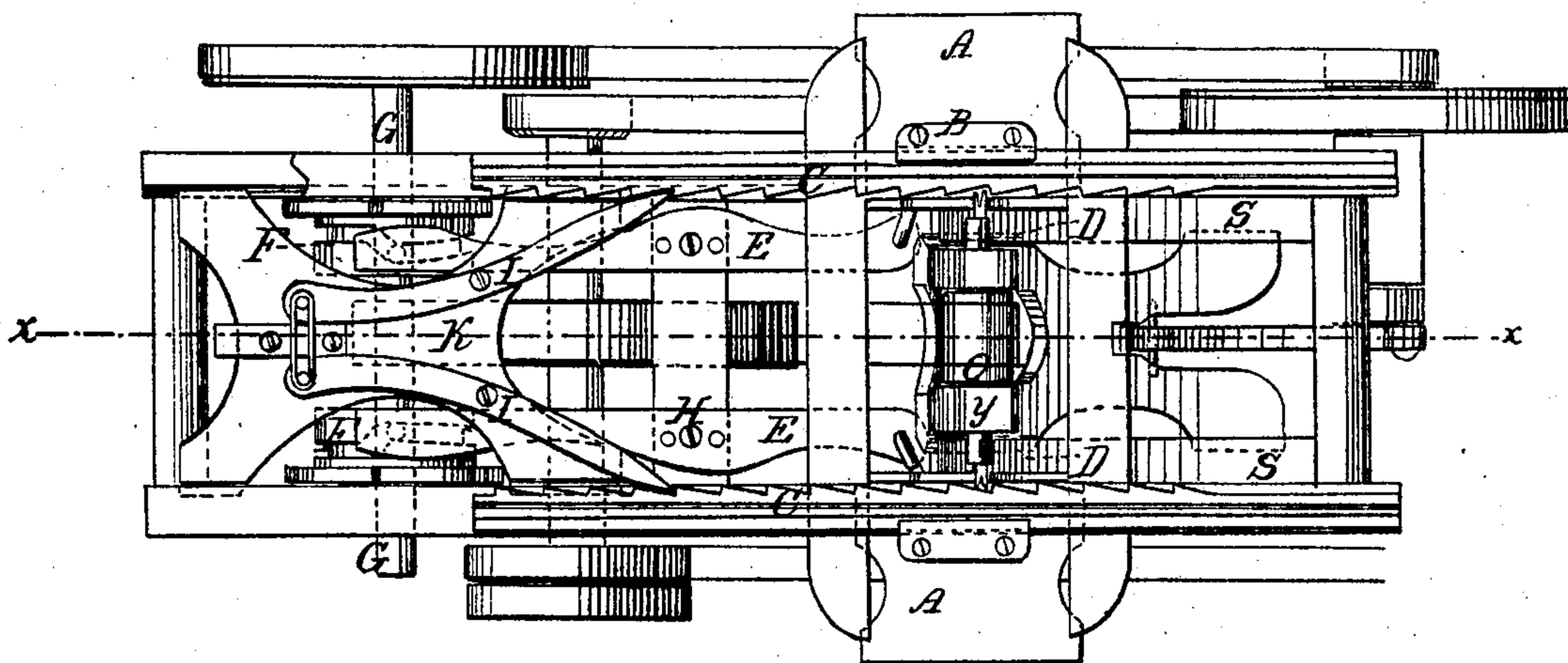


Fig. 2

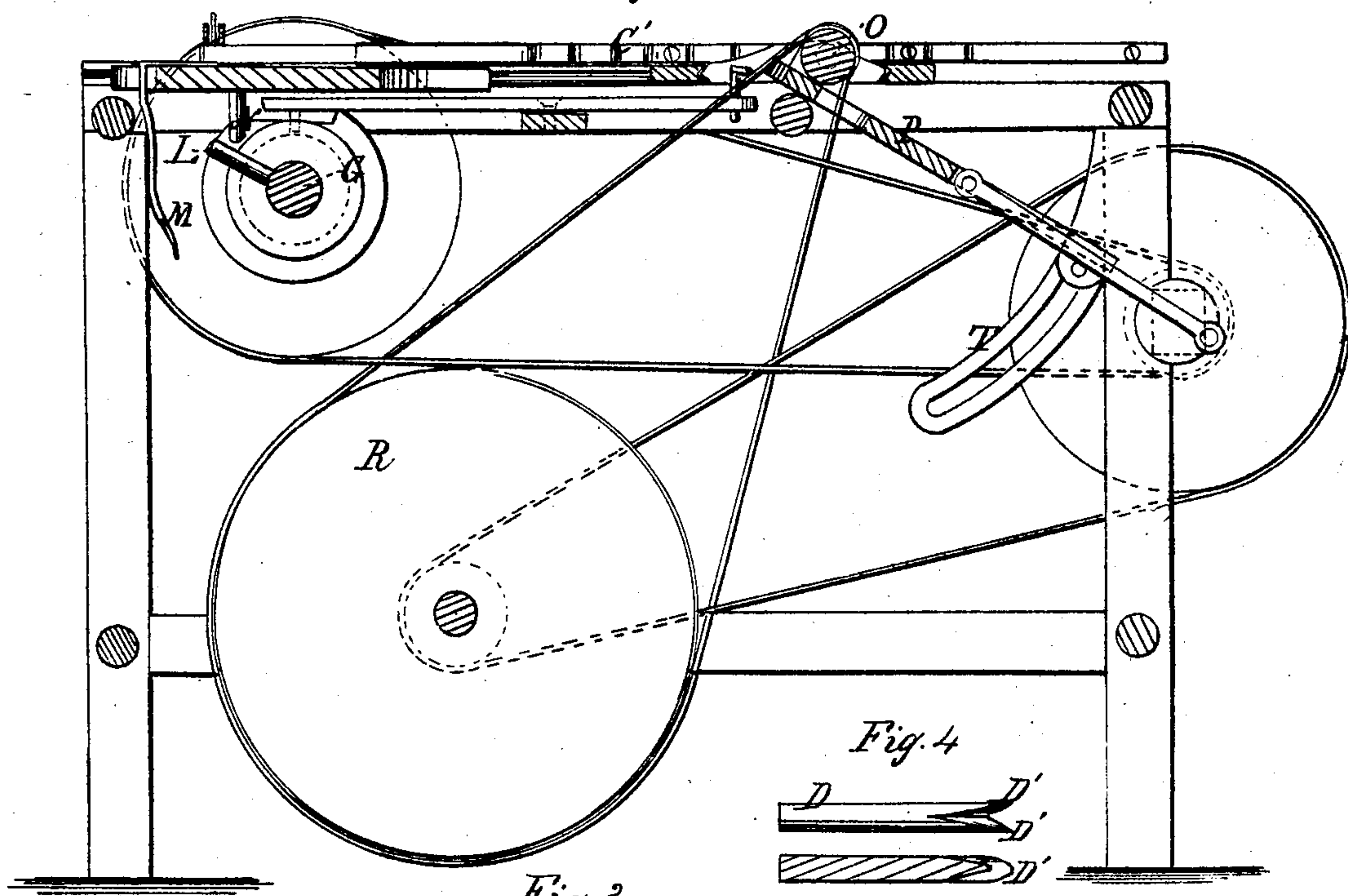


Fig. 4

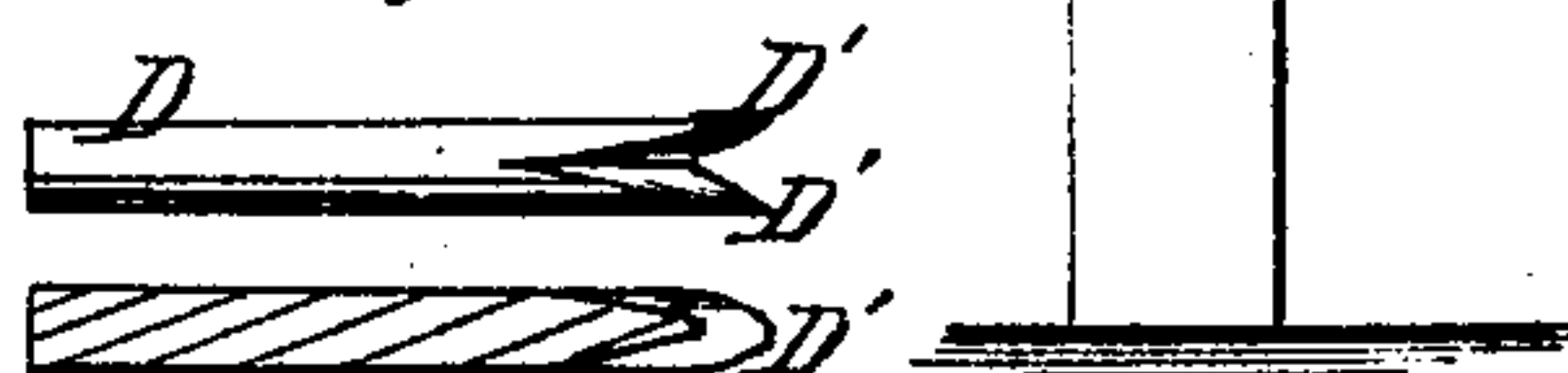
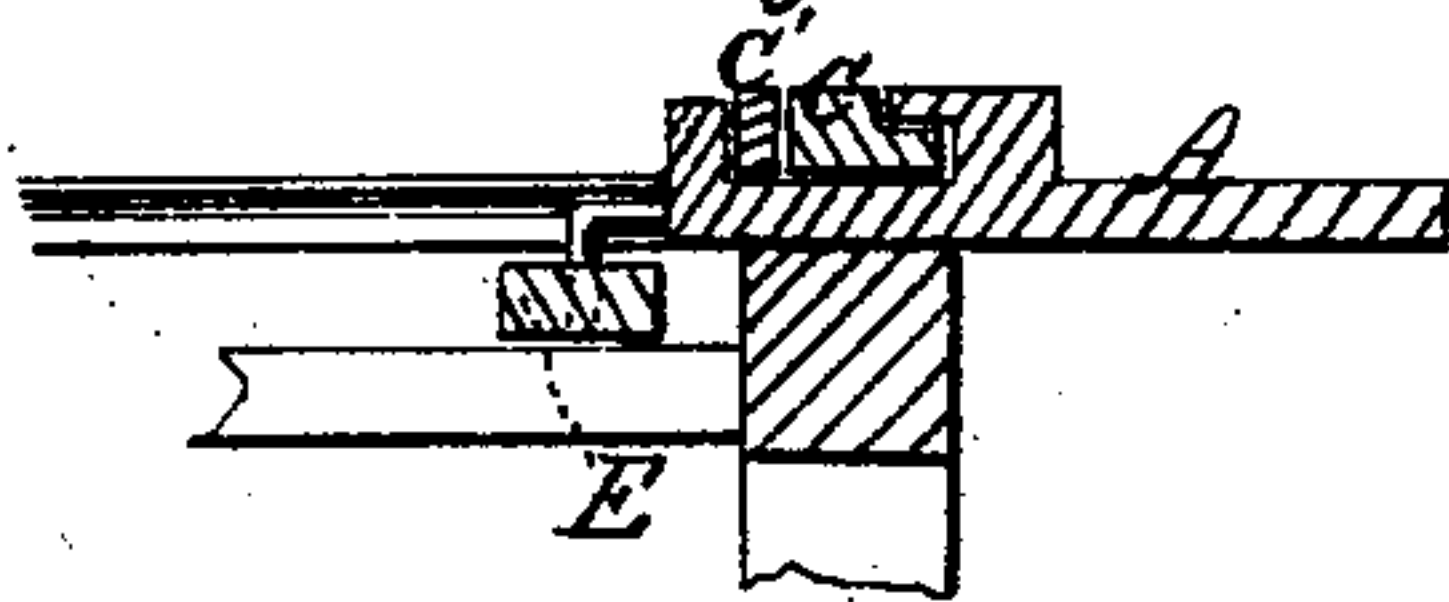


Fig. 3



Witnesses
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MARTIN BUCK, OF LEBANON, NEW HAMPSHIRE, ASSIGNOR TO HIMSELF
AND AARON H. CRAGIN, OF SAME PLACE,

Letters Patent No. 97,040, dated November 23, 1869.

IMPROVEMENT IN BLIND-MORTISING MACHINES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, MARTIN BUCK, of Lebanon, in the county of Grafton, and State of New Hampshire, have invented a new and improved Blind-Mortising Machine; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing, forming part of this specification.

This invention relates to improvements in machines for boring and mortising blinds, such as patented to Leonard Worcester, July 5, 1859, No. 24,688, and has for its object to provide certain improvements calculated to increase the efficiency of the same.

The invention consists in arranging the levers which move the slides carrying the stiles to be bored and mortised to and from the boring or mortising-tools, for adjustment, so that the said slides may have a greater or less movement, as required by the nature of the work.

It also consists in an arrangement of interchangeable ratchet-bars with ratchet-teeth of different pitch for varying the movement of the stiles past the cutter, for different kinds of work.

It also consists in an adjustable arrangement of the reciprocating boring or mortising tool-carrying carriage for varying the angle of the slots.

It also consists in an improved construction of mortising or slotting-tool, all as hereinafter more fully specified.

Figure 1 represents a plan view of the machine which is the subject of my improvements.

Figure 2 represents a sectional elevation of the same, taken on the line *z z* of fig. 1.

Figure 3 represents a sectional detail, taken on the line *y y*.

Figure 4 represents my improved mortising-tool, in side view and longitudinal section.

Similar letters of reference indicate corresponding parts.

A represents two carriages, provided with grooved blocks, B, through which the slides C, carrying ratchet-bars C', to which the blind stiles to be bored or mortised are clamped, move across the said carriages to feed the stiles along past the mortising and boring tool D.

These carriages A, are moved back and forth by vibrating levers E, set into motion by cams F, on the shaft G, the said cams having grooves into which pins on the ends of the levers E take.

These levers are pivoted at H, and have hitherto been made unadjustable.

I now propose to provide for these levers adjustable pivots or fulcrum for the purpose of varying the

movements of these carriages as required by the various kinds and dimensions of work which these machines are required to do, and which I have found in practice that is very important to be able to do.

In this example I have represented a series of pivot-bolt holes on the said levers, through any one of which the bolt may be made to pass, by adjusting the levers back or forth; but I contemplate various other methods of adjusting them, as slotting the said levers to work on the fulcrum-pins, and arranging the latter to be moved back and forth, or other well-known methods may be used.

The bars C', to which the stiles are clamped, to be fed along past the tool, are moved intermittently by pawls I, pivoted to a sliding block, K, moved back and forth by a tappet L, on the shaft G, working against the projection M, for throwing it back, and the projection N for throwing forward, the said pawls taking into ratchet-teeth on the said bars.

This arrangement only admits of moving the stiles a stated distance, which is not suited to all work. I have, therefore, provided for detachably connecting the rack-bars C', so that bars having notches equal in length to the throw of the pawls may be used, or they may be slightly more than one-third the distance, so that they will be moved the distance of two notches, or slightly more than half the throw, so as to be moved the distance of one notch, and other like adjustments may be made, so that any required variation of throw may be effected.

The ratchet-bars C' may be made of wood, metal, or any other substance, and may be connected by screws, clamps, or other suitable means, to the slides C, in any way, for ready attachment or detachment.

The boring and mortising-tool D is borne in a revolving spindle O, mounted on an inclined reciprocating carriage P, deriving motion from a crank-shaft, Q.

This carriage is reciprocated when cutting mortises, and carries the revolving tool back and forth against the face of the stiles, at the same time they are pressed up by the levers E against the tool, making an elongated mortise or slot of the same inclination as that of the guides of the carriage P.

When the stiles are to be bored only, the carriage P is not reciprocated, but the tool D is rotated, as it is also when mortising.

It receives motion by a belt from the belt-wheel R.

My improvement in the arrangement of the boring and mortising-tool carriage consists in providing adjustable guides S for the same, whereby the angle of the slots may be varied as required by changing the said guides.

In this case, I have represented the said guides as pivoted to the frame at the upper end, and connected by set-screws near the lower ends to curved slotted supports T, so that they may be raised or lowered, and secured at any point.

Any other preferred means for adjusting the said guides may be employed.

My improvement in the boring and mortising-tool D consists in notching the end of a round tool, with one or more notches, and shaping the points D' thereof down to an edge, as represented in fig. 4; which provides in a cheap way a very efficient cutting-tool for the purpose.

Having thus described my invention,
What I claim as new, and desire to secure by Letters Patent, is—

1. A blind-mortising machine, provided with slides C, and ratchet-bars C', having notches thereon of different pitch, as and for the purpose specified.
2. A blind-mortising machine, provided with vibrating arms E, for varying the throw of the carriages, as shown and described.

MARTIN BUCK.

Witnesses:

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