(No Model.) 2 Sheets—Sheet 1.

J. M. MAYNARD.

MACHINE FOR MARKING OR LAYING OUT MORTISES.

No. 348,028. Patented Aug. 24, 1886.

Fig. 2.

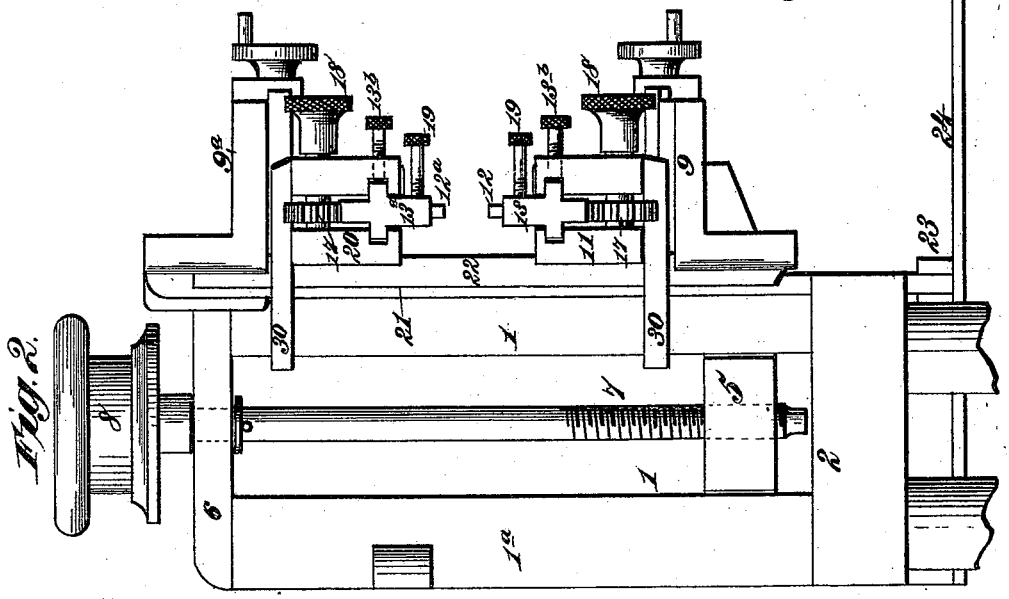
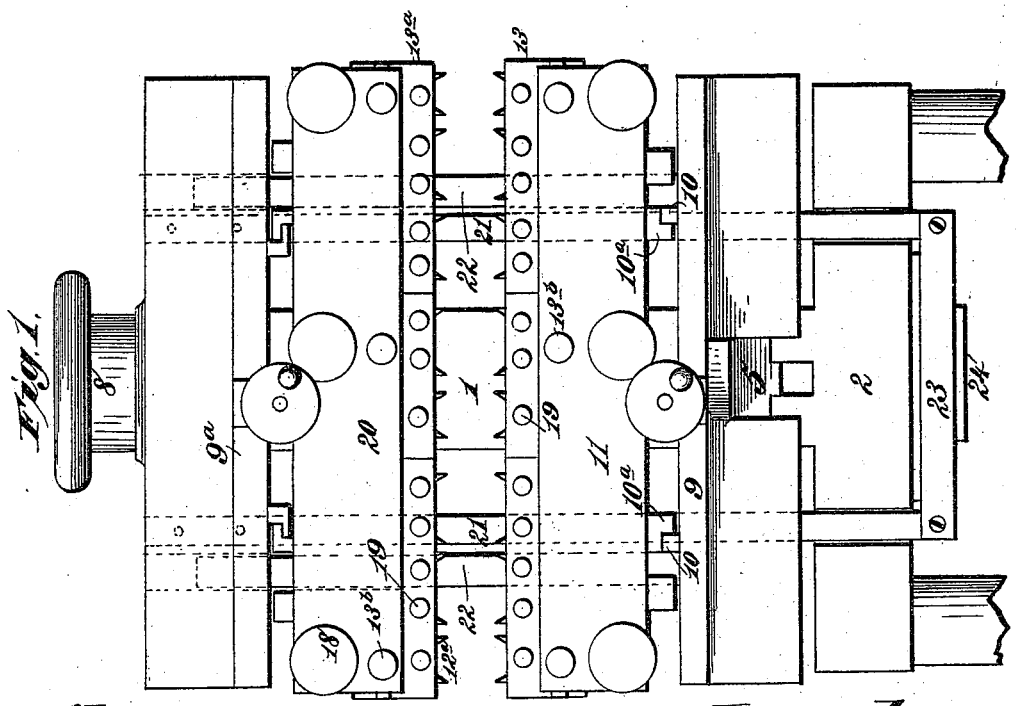


Fig. 1.



Witnesses.
Robt Ewett.
Dennis Sumby.

Inventor.
John M. Maynard.
By James L. Norris.
Atty.

(No Model.) 2 Sheets—Sheet 2.

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Fig. 3.

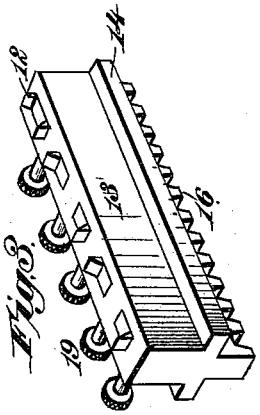


Fig. 5.

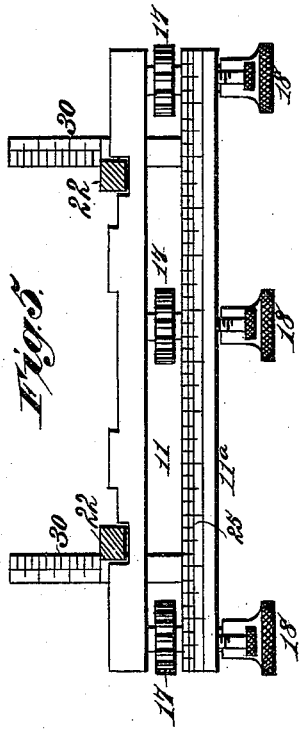
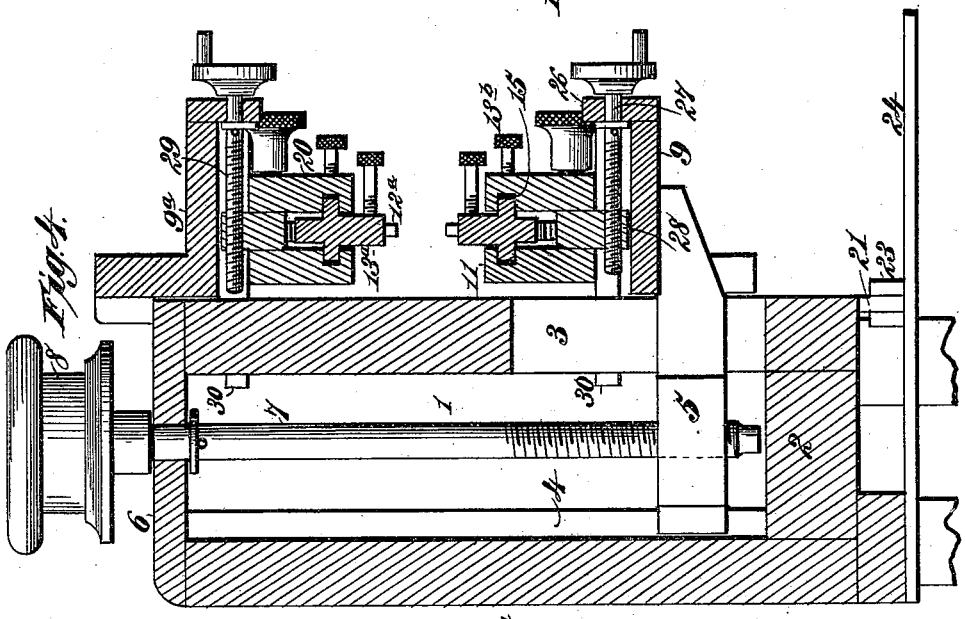


Fig. 6.

Fig. 4.



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UNITED STATES PATENT OFFICE.

JOHN MACK MAYNARD, OF HICKORY, ASSIGNOR OF THREE-FOURTHS TO C. E. WARD, OF GREEN LEVEL, NORTH CAROLINA.

MACHINE FOR MARKING OR LAYING OUT MORTISES.

SPECIFICATION forming part of Letters Patent No. 348,028, dated August 24, 1886.

Application filed April 23, 1886. Serial No. 199,953. (No model.)

To all whom it may concern:

Be it known that I, JOHN MACK MAYNARD, a citizen of the United States, residing at Hickory, in the county of Catawba and State of North Carolina, have invented new and useful Improvements in Machines for Marking or Laying Out Mortises, of which the following is a specification.

My invention relates to machines for marking or laying out mortises upon doors, sash-rails, stiles, and similar pieces of stuff; and the purpose of my invention is to provide simple and efficient mechanism whereby the marking devices may be adjusted in both lateral directions and toward the front and rear, and whereby, also, the gangs of cutters and the carriers in which they are mounted adjustably may be arranged to receive and act upon stuff of different widths.

It is also the purpose of my invention to provide an apparatus for laying out mortises in which the several adjustments of the separate gangs of markers may be conveniently guided by a fixed gage.

My invention consists in the several novel features of construction and combinations of parts hereinafter fully set forth, and definitely pointed out in the claims annexed to this specification.

In the accompanying drawings, Figure 1 is a front elevation of a machine embodying my invention. Fig. 2 is a side elevation of Fig. 1. Fig. 3 is a detail perspective of one of the gang-markers removed from the machine. Fig. 4 is a central vertical section showing the devices giving a front and rear adjustment. Fig. 5 is a plan view of one of the supports for the gang-markers, showing the adjusting-gage. Fig. 6 is a sectional view of one of the markers with its parts complete.

In the said drawings the reference-numeral 1 denotes the frame of the machine, which preferably consists of a bed-piece, 2, having the vertical frame 1 rising therefrom. The latter part consists of two standards, 1 and 1^a, the former having a slot, 3, and the latter a channel, 4, extending from end to end thereof. In the slot 3 runs a strong block, 5, having its forward end projecting in front of the upright and its rear end moving in the channel 4 in the upright 1^a. Upon the upper ends of the standards is mounted a cross-piece, 6, within which is swiveled a screw, 7, threaded through the block 5, whereby vertical adjustment may be given the latter by means of the rotation of the screw 7, effected by a pulley or hand-wheel, 8, mounted thereon.

Upon the projecting end of the block 5 is mounted a shelf, 9, having ways 10, upon which rests a supporting-frame, 11, composed of three parallel strips having an intermediate space, within which are mounted the marking devices. These devices consist of two, three, or more tools, 12, separately or independently mounted in a carrier-block, 13, having splines 14, which engage with grooves 15 in the adjacent faces of the supporting-frame 11. The lower edge of each carrier-block is toothed, or, if preferred, provided with a rack, 16, which meshes with a pinion, 17, rotated by a hand-wheel, 18, whereby lateral movement may be given to each carrier, the design being to mount the cutters 12 in two, three, four, or more separate carriers, each having adjustment in the ways of the supporting-frame 11. These cutting-tools are set in mortises or sockets in the carrier-blocks, and the shank of each tool engages with a set-screw, 19, tapped into the block, whereby the tool is firmly held in place, but is also rendered removable, whereby it may be replaced or sharpened.

The supporting-frame 11 is stationary, save as hereinafter specified, and above it is mounted a similar frame, 20, having a similar construction and supporting a series of carrier-blocks, 13^a, which are arranged and adjusted in the manner already described, save that the cutters 12^a are turned downward instead of upward. The frame 20 is carried by slides 21, and is braced upon each side by uprights 22 rising from the shelf 9. The lower ends of the slides 21 move in channels in the bed-piece 2, and are connected by a cross-piece, 23, to which is connected a foot-lever, 24, by which the frame 20, with its cutters, may be drawn toward the lower frame, 11. The said frame 20 may be restored to its position by a spring, or by other means.

Upon the front strip, 11^a, of the supporting-frame 11 is placed or marked a gage, 25, by

which the positions of the markers or cutters may be adjusted laterally, and a similar device is applied to the other frame, 20.

Upon the lower shelf, 9, is laterally mounted a lug, 26, within which I swivel a screw, 27, which meshes with a lug, 28, upon the supporting-frame 11. By turning this screw the frame, with its cutters, may be drawn out or moved inward, guided by the ways 10 on the shelf, which engage with angle-bars 10^a upon the frame. A precisely-similar construction and arrangement is used upon the upper frame, 20, which is adjusted inward and outward by a screw, 29, swiveled upon a shelf, 9^a, which carries the frame 20. Upon the upper and lower frames I place a gage, 30, whereby the adjustment of frames maybe determined.

In scribing or laying out the mortises upon doors, sashes, &c., the lower frame, 11, is first adjusted vertically toward or from the upper frame, according to the width of the piece to be operated upon. The carrier-blocks 13 are then set in proper position, or, if necessary, are removed and others substituted having the tools arranged according to the special work to be done. The piece is then inserted, and by the pressure of the foot upon the lever 24 the upper frame, 20, is brought down, and the cutters of both frames are driven into the opposite edges of the piece, thereby laying out the exact positions of the mortises.

As each carrier-block 13 is adjusted in its frame it is held or fastened by a set-screw, 13^b, tapping through the front 11^a of the frame 11. A similar form is adopted upon the upper frame, 20.

I may substitute for the set-screws 27 and 29 screws placed at each end of the adjustable frame.

What I claim is—

1. The combination, in a machine for laying out mortises, of a stationary upright main frame, upper and lower supporting-shelves, longitudinal supporting-frames adjustable laterally on the shelves toward and from the side of the main frame, and tool-carrier blocks adjustable longitudinally along the supporting-frames, substantially as described.

2. The combination, in a machine for laying out mortises, of a stationary upright main frame, upper and lower shelves, one of which is vertically adjustable on the main frame and the other being adapted to move toward and from the same, longitudinal supporting-frames adjustable laterally on the shelves toward and from the side of the main frame, and tool-carrier blocks adjustable longitudinally along the supporting-frames, substantially as described.

3. In a machine for laying out mortises, the combination, with a supportable frame having adjustment toward front or rear upon a supporting-shelf, pinions mounted in said frame, carrier-blocks having racks meshing with said pinions, and cutting-tools independently mounted in said blocks, the latter being wholly removable from the frame, substantially as described.

4. In a machine for laying out mortises, the combination, with a shelf having vertical adjustment, of a frame mounted on said shelf, a set-screw by which said frame may be moved toward and from the front, carrier-blocks having racks which mesh with pinions journaled in the said frame, cutting-tools mounted removably in said carriers, and gages arranged in opposite directions on said frame, whereby the lateral adjustment of the blocks and outward adjustment of the shelf may be determined, substantially as described.

5. In a machine for laying out mortises, the combination, with a vertically-adjustable shelf, of a frame having an inward and outward adjustment thereon, carrier-blocks having lateral adjustment in said frame, cutters removably set in said blocks, a shelf and frame arranged above and having similar carrier-blocks and cutters, and slides connected with said upper frame and with a foot-lever, by which the cutters in one frame may be caused to approach those in the other, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN MACK MAYNARD.

Witnesses:

H. L. WATSON,

WALTER WATSON.