(No Model.)

E. J. GISVOLD.

MORTISING MACHINE.

No. 482,242. Patented Sept. 6, 1892.

Fig. 1.

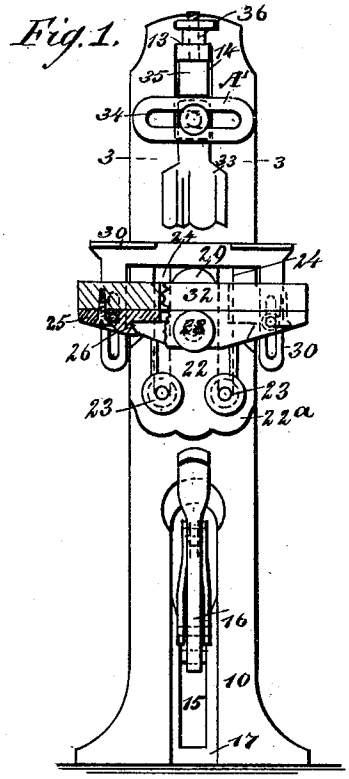


Fig. 4.

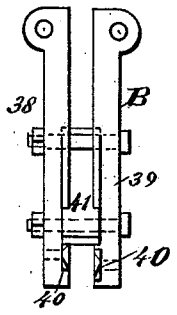


Fig. 5

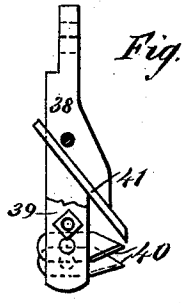


Fig. 2.

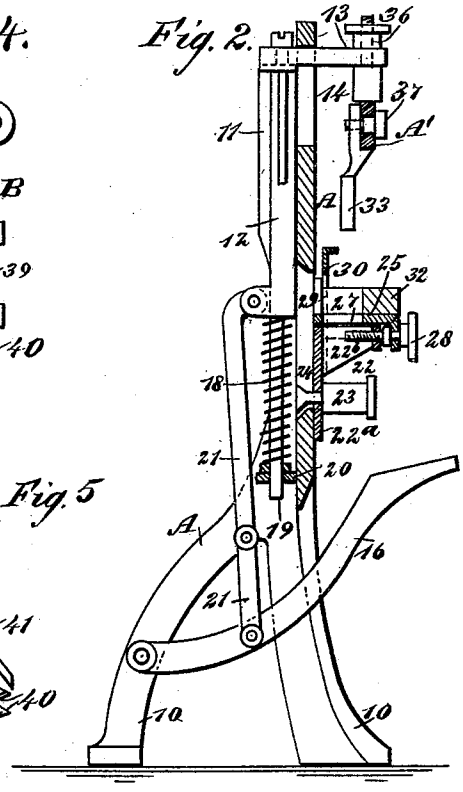


Fig. 3.

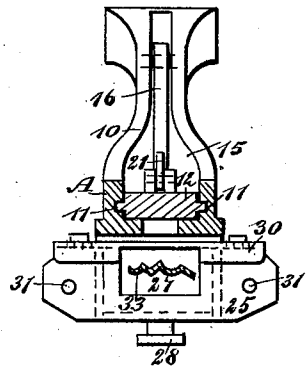


Fig. 6.

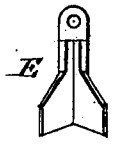


Fig. 8.

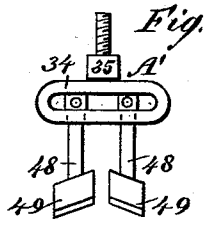


Fig. 9.

Fig. 7.

Fig. 11

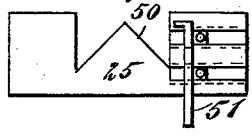
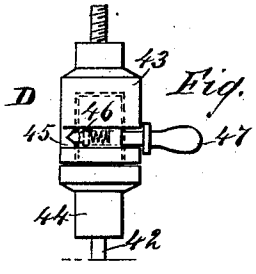


Fig. 10

Fig. 12.



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ERIK J. GISVOLD, OF EAGLE MILLS, MICHIGAN.

MORTISING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 482,242, dated September 6, 1892.

Application filed August 19, 1891. Serial No. 403,092. (No model.)

To all whom it may concern:

Be it known that I, ERIK J. GISVOLD, of Eagle Mills, in the county of Marquette and State of Michigan, have invented a new and useful Improvement in Mortising-Machines, of which the following is a full, clear, and exact description.

My invention relates to an improvement in mortising-machines, and has for its object to provide a machine of simple, durable, and economic construction and to provide attachments for the machine capable of being expeditiously and conveniently adjusted to place, whereby the machine may be used for cutting the base-blocks, corner-blocks, and like finishings for the interior of houses or converted into an implement for use as an ordinary mitering-machine or as a dadoing machine; and another object of the invention is to provide attachments to the machine whereby shingles may be cut in a number of fancy shapes.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter more fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures and letters of reference indicate corresponding parts in all the views.

Figure 1 is a front elevation of the machine, partly in section. Fig. 2 is a central vertical section taken through the machine. Fig. 3 is a horizontal section taken on the line 3 3 of Fig. 1. Figs. 4 and 5 are detail views of the dadoing attachment to the machine. Figs. 6 and 7 represent views of the mitering-chisel employed in connection with the machine. Fig. 8 is a front elevation of the attachment employed for shaping shingles. Figs. 9 and 10 are respectively a front elevation and plan view of a chisel employed, also, for shaping shingles. Fig. 11 is a bed-block adapted for use upon the machine when the chisels or attachments shown in Figs. 8, 9, and 10 are employed, and Fig. 12 is a side elevation of a chuck or holder adapted for use in connection with the ordinary mortising-chisel.

The frame A of the machine is shaped at its lower end somewhat to the contour of a tripod, comprising three legs 10, two being in front and one at the back. The remaining portion of the frame is shaped as a standard or upright and is practically rectangular in cross-section, and upon the back of the upper portion of the frame slideways 11 are formed, in which a bar 12 has vertical movement, the upper end of the bar being provided with an attached horizontal arm 13, extending through a vertical slot 14, produced in the frame and beyond the front face of the latter, as shown in Figs. 1 and 2. The rear leg of the frame is provided with an opening 15, and in said opening one end of a foot-lever 16 is pivoted, which lever extends through a slot 17 in the front leg some distance beyond the front face of the machine. The sliding bar 12 is normally pressed upward through the medium of a spring 18, coiled around a rod extension 19 of the bar, as shown in Fig. 2, the said spring having a bearing at its upper end against the bottom of the bar and at its lower end upon a projection 20, through which the rod extension 19 extends. The foot-lever 16 is connected with the lower end of the sliding bar 12, preferably through the medium of links 21, and when the foot-lever is pressed downward the arm 13, connected with the sliding block 12, is drawn down, also, in direction of a table 22, which table is adjustably attached to the front face of the frame. The table 22 comprises a vertical member 22^a and a horizontal bench member 22^b, the latter member being in skeleton form—that is, provided with an opening in its upper face, extending through said face—and the table is adjustably secured to the frame by means of set-screws 23, of any approved construction, passed through the vertical member of the table and through slots 24 in the frame. The table 22 is adapted to support a bed-plate 25, which plate is provided at its inner edge, upon its under face, with a dovetail recess 26, as shown in Fig. 1, the said dovetail recess being adapted to receive the bench member of the table, the sides of which member are beveled, as is likewise best shown in Fig. 1. The bed-plate is much longer than the width of the bench member of the table and is of sufficient length to extend, preferably, beyond the sides of the frame. The bed-plate is provided in its upper face at its center with an opening 27, registering with the opening in the bench member of the table,

and the bed-plate is adjustable laterally upon the said bench member through the medium of a screw 28, swiveled in a projecting front ledge of the bed-plate and entering the threaded aperture in the bench member, as shown in Fig. 2. The bed-plate is preferably provided immediately back of its opening 27 with an upwardly-extending lip 29, and upon this lip a clamp 30 normally rests, which clamp consists of an upper angle-bar cut away at a point opposite the opening in the bed-plate and two pendent slotted members, one at each end of the angle-bar, the said members being adjustably attached to the rear of the bed-plate. The bed-plate is further provided near each end with an aperture 31, as shown in Fig. 3, and these apertures are provided in order that a bed-block 32, preferably made of wood, may be screwed or otherwise secured to the upper face of the metal bed-plate. The bed-block is also provided with an opening in its center, registering with the central openings in the bed-plate and the bench member of the table.

In Fig. 1 I have shown in connection with the machine a tool 33, adapted for cutting base-blocks, corner-blocks, and other moldings or finishings for the interiors of houses. The cutting-surface of the tool may be of any desired shape, and this tool is attached at its upper end to a head A′, which head comprises a horizontal link-like body 34 and a shank 35, integral with the upper portion of the body, which shank is provided with a threaded upper end, the said threaded portion of the shank being passed through an aperture in the outer extremity of the arm 13, and upon the projecting portion of the head-shank a nut 36 is screwed. The tool 33 has a recess produced in its front face, at the upper end, and the said recessed portion of the tool is made to fit the back of the body-section of the head, as shown in Fig. 2. The tool is adjustably secured to this portion of the head by a screw 37 or the equivalent thereof, passed through the head into the recessed portion of the tool. The tool may be turned in any direction desired by loosening the nut 36, and it may be adjusted laterally upon the head, or a number of tools may be carried by the head and placed in position to cut the shape of block desired.

In Fig. 4 I have illustrated a dadoing attachment or tool B, adapted for use in connection with the machine. This tool comprises two parallel side pieces 38 and 39, and two projecting spurs or cutters 40 are located at the lower ends of the bars 39 and 38, the said spurs or cutters being secured to the upper face of the bars in any suitable or approved manner, these spurs or cutters being adapted to cut across the grain of the wood, and above the cutters a chisel 41 is diagonally located and secured between the bars 38 and 39, adapted to take out the chips and leave the dado clean. The dado-cutter is adapted to be fastened to the head A′ in a manner somewhat similar to the tool 33.

In Fig. 12 I have illustrated in side elevation a chuck or holder D, adapted to retain in operative position any form of mortising-chisel 42. This holder is made in two sections, a cap-section 43, provided with an interior chamber, which chamber is produced in its bottom, and a chuck-section 44, the latter section being adapted at one end to clutch a chisel, and the opposite end is made to conform to the contour of the chamber of the cap-section, being adapted to turn in said chamber, as shown in dotted lines. In the front face of the cap-section a circumferential slot 45 is made, extending partly around the section and into the chamber, disclosing a portion of the upper part of the chuck-section of the holder. This disclosed portion of the chuck-section is provided with a horizontal recess, in which a spring-pressed pin 46 is located, and immediately opposite the pin a handle 47 is attached to the clutch-section, extending upward through and beyond the slot 45. This arrangement is adapted to facilitate holding the chisel when turned either to the right or to the left. When turned to the right, as shown in the drawings, the spring-pressed pin 46 will be in engagement with the left-hand wall of the slot 45. When the chisel is to be turned to the left, the handle 47 is carried in that direction and the spring-pressed pin is forced into its recess, while the lower portion of the holder is revolved, and when the handle reaches the left-hand wall of the slot the spring-pressed pin will be in engagement with the right-hand wall.

In Figs. 6 and 7 I have illustrated in front elevation and plan view a mitering-chisel E, triangularly-shaped in cross-section at its cutting-edge, the upper end at the front being provided with a recess in like manner as the tool 33 heretofore described, the mitering-chisel being adapted for attachment to the head A′, also heretofore described.

In Fig. 8 I have shown adjustably connected with the head by means of shanks 48 two blades 49, and this attachment is especially adapted for cutting shingles. The blades are so placed upon their shanks as to turn at angles to each other, and when the shanks are adjusted in a manner to bring the blades together the attachment will impart to the end of a shingle placed beneath the knives upon the bed-block on the bed-plate a triangular shape, and when the blades are carried as far apart as possible the corners of a shingle placed beneath them will be so cut as to impart to the shingle somewhat of an octagon appearance.

In Figs. 9 and 10 I have illustrated a chisel F, also adapted for ornamenting the edges of shingles, the lower ends of which shingles are semicircular or crescent-shaped in cross-section, and the chisel may be turned so as to

impart to the shingles at their edges a concavity or a cylindric or a convexed surface.

When the attachments illustrated in Figs. 8, 9, and 10 are employed, the bed-plate 25 is shaped as shown in Fig. 11—namely, with a recess produced in its inner edge, shaped to produce an essentially-triangular tongue 50—and adjacent to one wall of the recess a gage 51 is held to slide upon the plate in any suitable or approved manner, the said gage being capable of maintaining a fixed position when found desirable.

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

1. The combination, with the frame A, provided on its rear side with vertical ways 11, and vertical slots 14 22, extending through the frame from front to rear, the cross-head 12, sliding in said ways and having a rod 19, extending downward through a suitable guide 20, a spring encircling the rod and bearing at its lower end on said guide, the treadle-lever pivotally connected with the cross-head, and a tool-carrying arm projecting from the cross-head through the upper slot 14, of the adjustable work-table on the front of the frame and set-screws extending through the lower slots and supporting the table, substantially as set forth.

2. The combination, with the vertically-slotted frame, of the table 22, comprising a vertical member 22^a, having set-screws extending through said slots, the open horizontal dovetail member 22^b, the bed-plate 25, having a dovetail recess receiving said member 22^b and an opening 27, a swiveled screw 28, connecting the bed-plate and member 22^b to adjust the bed-plate toward and from the frame, and the vertically-sliding clamp 30, having depending slotted members bolted to the bed-plate, and the bed-block 32, secured upon the bed-plate and having an opening registering with the opening 27, substantially as set forth.

3. In an implement of the character described, the combination, with the tool-carrier, an adjustable table, a mechanism, substantially as described, for moving the carrier to and from the table, a bed-plate located upon the table, provided with a recess in one edge, forming at said edge a tongue, and a gage adjustable upon the bed-plate, of blades adjustably connected with the tool-carrier, adjustable to and from each other, and held at angles one to another, as and for the purpose specified.

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