

(No Model.)

L. GRANT & N. C. HESTON.
MORTISING MACHINE.

No. 504,722.

Patented Sept. 12, 1893.

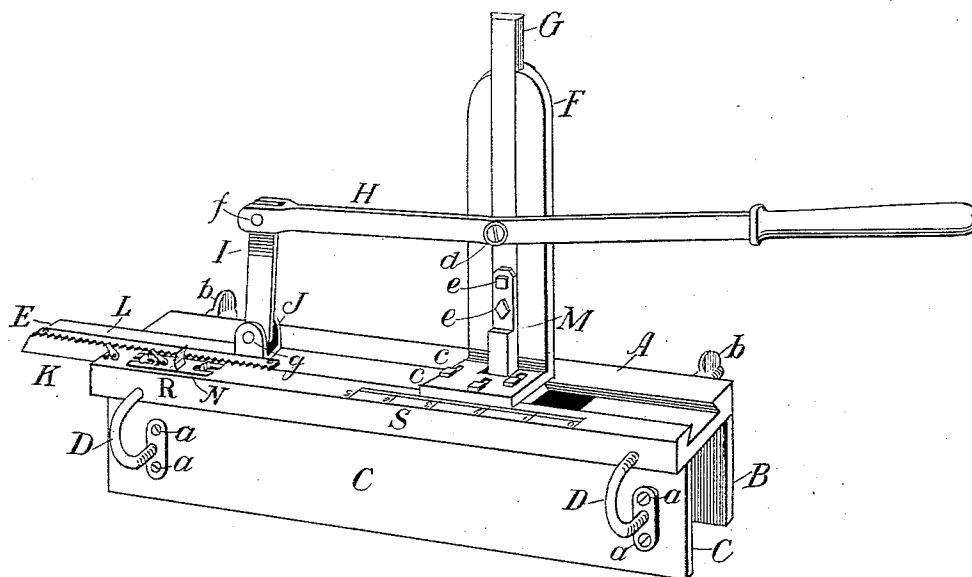


FIG 1

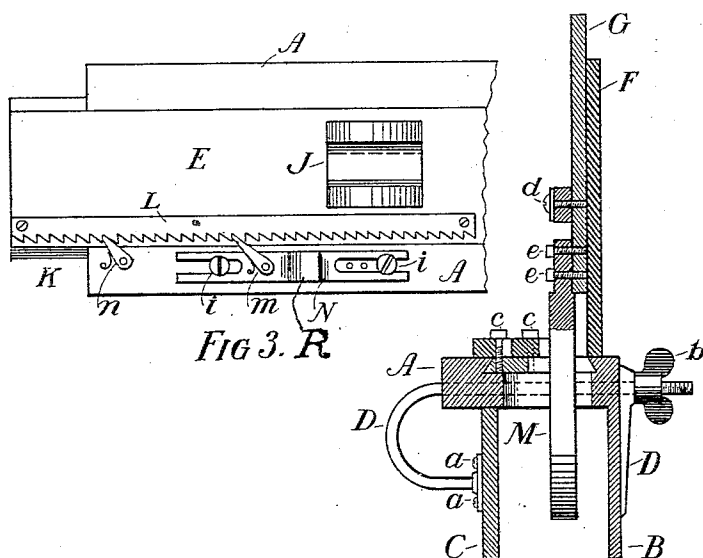


FIG 2

Witnesses:

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LAWRENCE GRANT AND NATHAN C. HESTON, OF CHICAGO, ILLINOIS.

MORTISING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 504,722, dated September 12, 1893.

Application filed March 2, 1892. Serial No. 423,546. (No model.)

To all whom it may concern:

Be it known that we, LAWRENCE GRANT and NATHAN C. HESTON, citizens of the United States, residing in Chicago, in the county of Cook and State of Illinois, have invented a new and useful Mortising-Machine, of which the following is a specification.

Our invention relates to improvements in mortising machines, in which the chisel is operated by hand power and has suitable connections with adjustable attachments for mortising doors to receive locks, or for cutting other mortises, the machine being light, small and easily handled.

We attain the object of our invention by the mechanism illustrated in the accompanying drawings in which—

Figure 1 is a perspective view of the entire machine. Fig. 2 is a cross section of the machine divided at the chisel; and Fig. 3 a vertical detailed view of the feeding attachment.

Similar letters refer to similar parts throughout the several views and are referred to by similar letters in the following description.

The bed plate A, the fixed side B, and the movable side C, constitute the body of the machine.

The bed plate A is grooved its entire length, the inner sides beveled to admit slide E and retain it firmly in position to move lengthwise. An opening through bed plate A allows free passage for the chisel M, and admits of the extraction of a portion of the timber cut by the chisel. The fixed side B is an extension of the bed plate A and formed at right angles with it. The movable side C is supported, guided and adjusted by means of the clamp rods D D. The clamp rods D D are attached to movable side C by means of bolts or rivets *a a*, are bent, pass through bed plate A, and the straight ends threaded for the reception of thumb nuts *b b*. These rods, taken in connection with sides B and C, form a clamp which is tightened by thumb nuts *b b*. In operation this clamp holds the machine rigidly in position. The slide E has beveled edges conforming to and working in groove in bed plate A. It supports the standard F, the hand lever coupling attachment J, and a portion of feeding attachment K. The standard F is grooved similarly to bed plate A, to retain in position chisel guide G and admit

of its movement lengthwise. It is formed with a foot piece at right angles with it, which has an opening for the chisel to pass through and slots for the reception of set screws *c c c*, which pass through it and into proper screw holes in slide E. By this means the standard F is held firmly in position and adjusted to doors or timbers of different thicknesses.

The chisel guide G has beveled edges conforming to and working in groove in standard F. It serves as a guide and support to the chisel M, which is attached to it by passing the set screws *e e* through holes in the chisel M and into proper screw holes in the chisel guide.

The hand lever H is connected with the chisel guide G by means of the pin or bolt *d*, and to the hand lever coupling I by means of the pin or bolt *f*. It is furnished with a handle at one end. The other end is formed with a suitable opening for a connection with the hand lever coupling *i*. The hand lever coupling *i* connects hand lever H with hand lever coupling attachment J, and is fastened to them by means of pins or bolts *f* and *g*. The hand lever coupling attachment J is bolted or riveted to slide E, or made solid in one piece with it, the latter being preferred by us, forming a bearing or point of attachment from which connection is established between slide E, the hand lever coupling I, the hand lever H, the chisel guide G, and the chisel M, the object being to convey the power applied at the handle end of the hand lever to the chisel.

The feeding attachment K is shown in detail in Fig. 3. The bar L is notched to form angular teeth and is attached to slide E by screws or rivets. The feeding slide N is formed with a thumb piece, is slotted at either end and carries the spring pawl *m*. It is attached to bed plate A by means of the screws *i i* passing through the slots and into proper screw holes in bed plate A. An additional spring pawl *n* which acts as a detent is attached to bed plate A. The pawls act in conjunction with the notches in bar L. In operation, the thumb piece is pressed forward, carrying with it feeding slide N and pawl *m*, which engage the notched bar L, carrying with it slide E. When the thumb piece is drawn back the pawl *n* engages the notched bar, retaining it in position until the pawl *m*

is again engaged. A series of screw holes 0 0 in bed plate A admit of different adjustments of feeding slide N, thus regulating the thickness of the cut of the chisel M.

5 To operate the machine as in cutting a lock mortise in a door, one hole is first bored with an ordinary bit the width of mortise desired. A chisel of corresponding width is attached to the chisel guide and the machine
10 clamped to the door by tightening the thumb nuts as previously described—the chisel on a line with the hole bored. By pressing the thumb piece of the feeding slide N, the slide E, carrying the chisel M is moved up the
15 desired distance for one cut of the chisel. Pressure on the handle forces the chisel into the wood the required depth, and the reverse motion withdraws the chisel. The same process is continued until the mortise has reached
20 the limit required, which can be determined by the scale S.

The material used in the construction of our machine is iron and steel, although some wood could be used if desired.

25 What we claim as our invention, and desire to secure by Letters Patent, is—

1. The combination in a mortising machine of a bed plate or base having an extension at right angles forming a fixed or stationary side,
30 a movable side supported, guided and adjusted by clamp rods, a slide bearing the cutting mechanism and working in a groove in the bed plate or base, with a feeding attachment, a cutting point or chisel substantially
35 as set forth and for the purpose specified.

2. The combination in a mortising machine of a bed plate or base having an opening forming a passage for a cutting point or chisel, also holes at either end for clamp rods to pass
40 through and grooved its entire length to admit and retain in position a slide bearing the cutting mechanism, clamp rods passing through the bed plate or base, threaded for the reception of thumb nuts, bent and at-
45 tached to the movable side of the machine,

with a slide bearing the cutting mechanism, a feeding attachment, a cutting point or chisel, substantially as set forth.

3. The combination in a mortising machine of a bed plate or base having a fixed side and
50 a movable side with clamp rods connecting them, a slide conforming to and working in a groove in the bed plate or base and perforated for the passage of a cutting point or
55 chisel, with an adjustable standard, a feeding attachment, a cutting point or chisel substantially as set forth.

4. The combination in a mortising machine of a bed plate or base having a fixed or stationary side and a movable side supported,
60 guided and adjusted by clamp rods, a slide working in a groove in the bed plate, a standard grooved to admit and retain in position a guide for the cutting point or chisel, and having a base or foot piece at right angles
65 which is perforated for a passage of the cutting point or chisel and slotted to form an adjustable attachment by means of set screws to the slide working in the bed plate or base,
70 with a feeding attachment, a cutting point or chisel substantially as set forth and for the purpose specified.

5. The combination in a mortising machine of a bed plate or base having a fixed or stationary side and a movable side connected
75 by means of clamp rods, a slide working in a groove in the bed plate, a standard with a base or foot piece at right angles, a feeding attachment K composed of the notched bar
80 I, the feeding slide N formed with the thumb piece R and slotted ends, the spring pawls m and n and screws i—i, with a cutting point or chisel, substantially as set forth and for the purpose specified.

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Witnesses:

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