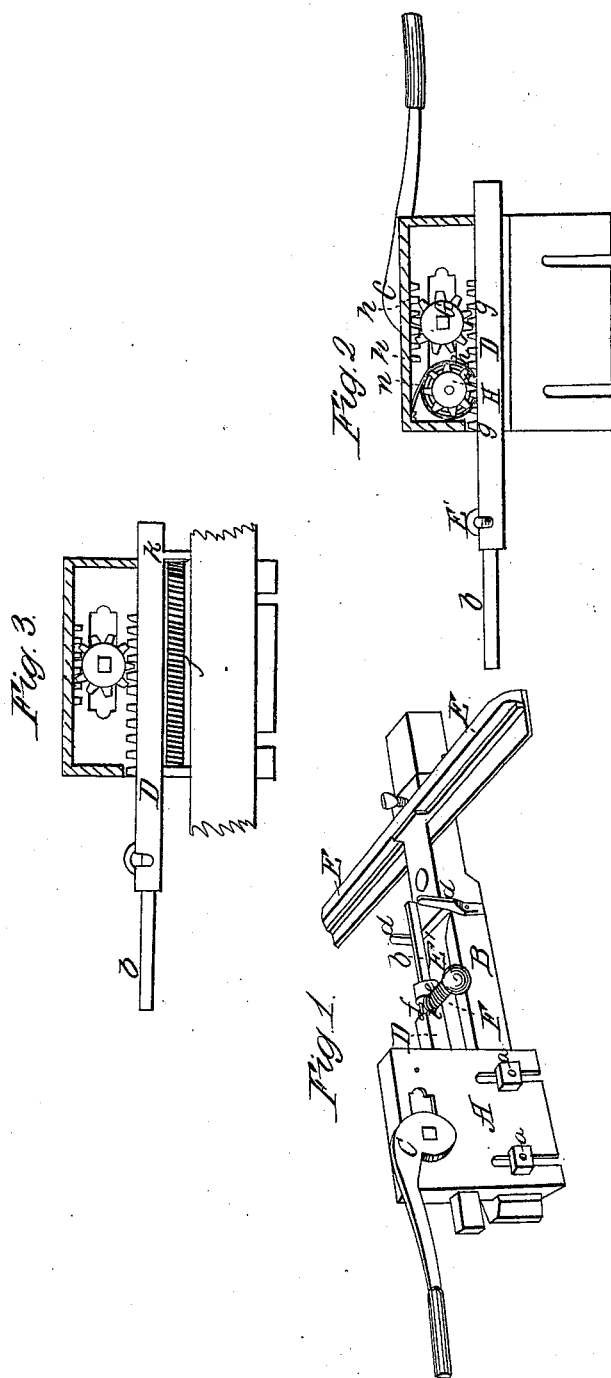


J. King,
Mortising Machine,
No 2,010, Patented Mar. 18, 1841.



UNITED STATES PATENT OFFICE.

JAMES KING, OF MORRISTOWN, NEW JERSEY.

MACHINE FOR MORTISING.

Specification of Letters Patent No. 2,010, dated March 18, 1841.

To all whom it may concern:

Be it known that I, JAMES KING, of Morristown, in the county of Morris and State of New Jersey, have invented certain Improvements in Machines for Mortising Timber; and I hereby declare that the following is a full and exact description thereof.

In the accompanying drawing, Figure 1, is a representation of my improved machine in perspective; A, is a shifting box, which is attached to a shaft B, by means of the set screws *a, a*, by which screws said box may be shifted on the shaft so as to regulate the distance of the chisel *b*. The lever C, is for forcing the chisel into the piece to be mortised in a manner to be presently described. The shank of the chisel *b*, is cylindrical, and fits into a hole drilled into the front end of the slide D. In mortising machines of a medium size the plate A of the shifting box may be about ten inches square, and I prefer to make this part of cast-iron, of which most of the other parts of the box may, also, be made. E, E, is the rest rail for supporting the timber which is to be mortised; this rail may be shifted on the shaft B, and affixed in place by a tightening screw; *d, d*, are check pieces to react against the timber on the withdrawal of the chisel. The shaft B, and the rest rail E, E, may be each three feet long, or of such other length as may be preferred. F, is a pin, or handle, one end of which enters a hole in the shank of the chisel, and it has a spiral spring, *e*, coiled around it, which spring bears against the head F', of the handle, and also against the slide D, with sufficient force to hold the chisel in the position in which it may be placed. There is in the slide D a notch *f*, which allows the shaft F, to be turned around from side to side so as to reverse the position of the chisel, or to place it in any intermediate position; the part of the slide against which the spiral spring bears is made in the form of a segment of a cylinder, and there is a collet, or washer *l* for the end of the spring to act against.

Fig. 2, is a back view of the box A; a plate which covers the slide D, and its appendages within the box or case that contains them, being removed for the purpose of exhibiting them. The slide D, has rack teeth on one side of it, as shown at *g, g*, and there are similar teeth *h, h*, on the side of the slide box. The pinion G, meshes into these teeth,

and to it is attached the lever C. When the slide D, is forced forward by means of this lever the pinion G advances with it, and the chisel is protruded with a velocity twice as great as that which would be produced by the action of a pinion of the same size which revolved on its axis without moving forward with the slide. The bearing of the teeth of the pinion on each side causes the gearing to operate more evenly and truly than in the ordinary mode. The slide, after having been protruded, is to be forced back by means of a spring; and for this purpose helical, spiral, or other springs may be used. In Fig. 2 I have shown the manner in which a spiral spring may be applied, which is as follows; H, is a pinion, upon which such a spring *h, h*, may be made to operate like a clock spring, in the ordinary way, so as to force it around, the levers of this pinion take into teeth *g, g*, on the side of the slide, and as the spring *h*, is in a state of tension, which tension is greatly increased by the forcing out of the slide, it reacts to force it back into the box. A helical spring may be applied to act upon the slide as shown in Fig. 3, where there is a space shown as left within the box behind the slide, to receive such a spring *j*, which is represented as acting upon the offset *k*, on the slide D.

In using this machine it is to be placed upon the work bench in such manner as that the back of the rest rail may lie upon it, and the chisel slide horizontally. The machine is to be held in place by the bench screw, or other suitable device, and may be removed and replaced with the utmost facility.

Having thus fully described the nature of my improvements and shown the manner in which the same are carried into operation, what I claim therein, and desire to secure by Letters Patent, is—

The manner of applying and using the spiral spring on the handle F, for confining the chisel in any desired position; and likewise the manner of applying a spiral spring, for returning the slide and chisel in combination with a mortising machine such as is herein described, the whole operating substantially as set forth.

JAMES KING.

Witnesses:

UZAL CONDIT,
SWALON MULFORD.