F. & T. Burdick,

Mortising Machine.

No. 684. Patented Apr. 7, 1838.

Fig. 2.

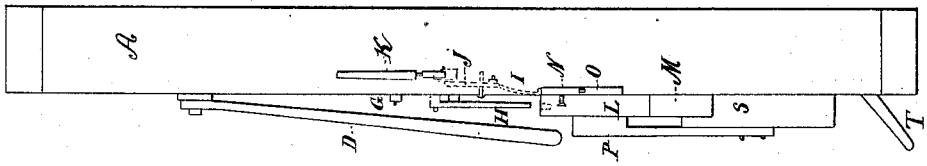

Fig. 3.

Fig. 1.

Witnesses:
Chas. Payt

Inventors.
Francis Burdick.
Thomas Burdick.

UNITED STATES PATENT OFFICE.

FRANCIS BURDICK AND THOS. BURDICK, OF BROOKLYN, NEW YORK.

MACHINE FOR MORTISING TIMBER, &c.

Specification of Letters Patent No. 684, dated April 7, 1838.

To all whom it may concern:

Be it known that we, FRANCIS BURDICK and THOMAS BURDICK, of the city of Brooklyn, county of Kings, and State of New York, have invented a new and useful Improvement in Mortising-Machines; and we do hereby declare that the following is a full and exact description.

This invention is called "The Vertical Mortising Machine."

The nature of it consists in moving up and down alternately two chisels attached to vertical slides, (on the insides of which there are teeth or cogs) by means of a pinion placed between them.

To enable others to make and use our invention we herein more fully describe its construction and operation.

The frame is generally about seven feet high and sixteen inches wide made of any suitable material. There are two upright posts with a foot piece and cap piece marked A in the annexed drawing which makes a part of this specification. On the inside of each of these posts is a groove (X) in which runs the tongues of the slides.

The slides (C Figure 1) are made of iron having teeth or cogs inside and a tongue or flange on the outside. The lower part of them is wider than the top and made to meet. A groove is cast in both and a tongue fastened in one side to retain them in their relative position. This tongue is marked E. It may if desirable be cast upon one of the slides. They are retained in their position by a bar G in which is a screw to regulate them.

Across the frame is a bar (F) which serves to support the shaft of the pinion B. This is an ordinary cog wheel attached to a short shaft one journal of which runs in the bar F, as seen in the drawing and the other in a similar bar on the backside of the frame. Upon the shaft of this pinion is a pair of arms or pendulums (D) the use of which is to work the chisels, &c., by vibrating them.

At the bottom of the slides is a flange standing out half an inch or thereabout in front, a part of which in each is cut away to admit the chisels. The chisels of the form represented at H are secured to the slides by means of a screw through the top of them into the slide. They are arranged with their backs together, consequently the face of each will be out so as to make the mortise heads without turning the chisel.

There is a cross piece inserted in the frame near the bottom on the front of which is a spring, see P, which serves to hold the timber close to the machine while it is being mortised.

The supports of the bed piece are made with a tongue to fit into the grooves in the frame. These supports are marked S. They are held in the required position by wedges R.

The bed piece M is set at any required position by means of the movable supports S and serves as a bed for the timber to be mortised.

The piece O, is permanently attached to the frame and has a groove in it from end to end.

The notched slide or rack N, is tongued at bottom to fit the groove in the piece O, on the top of this slide N is a rack made of iron, similar to saw teeth. The object of this slide is to move along the timber which is to be mortised, this it does by means of a dog working into the rack. A nail or screw is driven into it to enable it to carry with it the timber.

The dog I is made to act by means of a tumbler J, which is placed in the frame in the position shown in Figs. 1 and 2 by occult lines. At the top of the tumbler is a roller to prevent friction. There is a small rod runs from the top of it to a spring K. There is a rod attached to the dog which runs down to a treadle on the foot of the frame. This rod is marked V. The use of this is to raise the dog off the rack.

Operation: The timber being placed upon the bed piece, which must be set of the proper height to bring the timber near the chisel. The operator touches the treadle T with his foot to raise the dog and prevent the timber moving along. He then moves the arms D backward and forward, producing the motion of the chisels till one end of the mortise is partially made. He then removes his foot from the treadle and the notched slide or rack N is moved along one notch with every downward stroke of one of the chisels. The spring K pushes the tumbler in, so that when the slide C rises the dog is drawn back and when it descends it strikes the roller of the tumbler (see Fig.

3) and produces the action of the dog. A notch is made in the back of one of the chisels to bring out the core.

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

The combination of the double rack or slides C, to which the chisels are attached, worked by one pinion, in the manner above described.

FRANCIS BURDICK.
THOMAS BURDICK.

Witnesses:
OWEN G. WARREN,
L. F. WARREN.