C. Bennett,

Mortising Machine,

No. 4,195, Patented Sept. 17, 1845.

Fig 3.

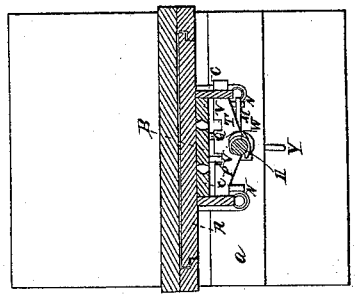


Fig 1.

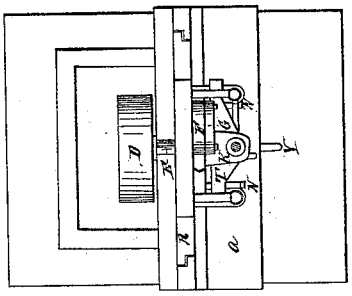
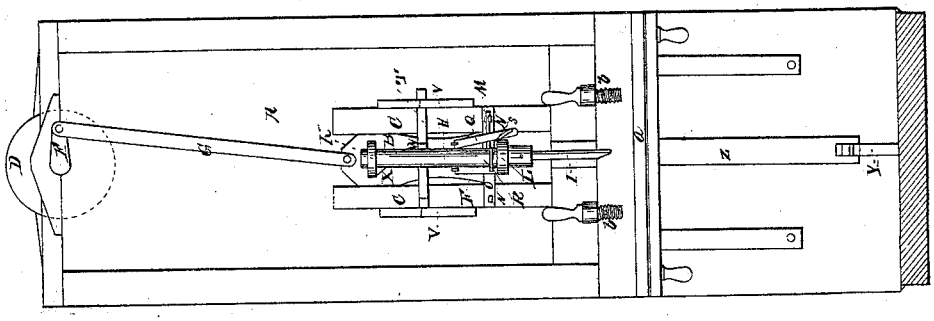


Fig 2.



UNITED STATES PATENT OFFICE.

CHARLES BENNETT, OF PEPPERELL, MASSACHUSETTS.

MORTISING-MACHINE.

Specification of Letters Patent No. 4,195, dated September 17, 1845.

To all whom it may concern:

Be it known that I, CHARLES BENNETT, of Pepperell, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Machines for Mortising Timber, of the construction and operation of which the following description and accompanying drawings, taken together, constitute a full and exact specification.

Figure 1, represents a top view, and Fig. 2 a front elevation of my improved mortising machine.

It is well known that the operation of mortising or cutting by the mortising chisel in portable machines for such purpose is effected by the foot of the attendant applied to a treadle, properly connected with the frame of the mortising chisel.

In my machine the cutting movement of the chisel is not produced by the foot, the latter being only employed, to cause the descent of the chisel upon the piece of wood to be operated upon. For this purpose I attach to the front of what may be termed the usual chisel frame or carriage, (which may be supposed to be represented at (A) Figs. 1, 2,), another movable frame (B), which is sustained by, and between, parallel and vertical guides (C, C,), and is alternately raised and depressed, by means of water or other proper power acting upon it, through a pulley (D) upon a horizontal shaft (E) a crank (F,) upon the front end of the shaft, and a connecting rod (G,), jointed to the crank and to the top part of the chisel carriage. The object of the above construction of frames or carriages is to allow the cutting operation to be performed by a power independent of that by which the depth of the mortise is regulated, which is of much importance in mortising wood. The journals of the shaft (E,), are sustained and revolve in bearings applied to the frame (A). The chisel holder (H,), having the chisel (I) inserted and fixed in its lower end, is sustained and revolves in bearings (K, L,), projecting from the movable frame (B). It has an arm (M,), extending from it at right angles, as seen in Fig. 2, and resting either upon one or the other of two spring catches (N, N,), arranged as seen in the drawings, and projecting outward from a cross bar, (O,), secured to the front of the carriage (B,). Two other arms (P, Q), are hinged or jointed to the front side of the carriage (B,), at or near the center thereof, and a short distance on each side of the center, as seen in Fig. 1. The manner of connecting the said arms to the frame (B,), should be such as to permit the lower end of each of them, to move or play freely both laterally and outwardly. Two small chains or straps, (R, S,) are attached at one end of each, to the lower end of one of the arms (P, Q,), and at the other end of each, to the chisel holder. One of the said straps is so connected to the chisel holder, that when the lower end of the arm to which it is attached, is at its greatest distance from the frame (B,), the said strap shall be wound around the chisel holder. While the said strap is thus wound on the chisel holder, the other strap should be unwound, and the lower end of its arm, be at its nearest distance from the front of the frame (B,), or should touch the same, the object of the straps and their arms, being, to partially and alternately turn or revolve the chisel, one hundred and eighty degrees, when it arrives at the extremities or ends of the mortise. A piece of wood or metal (T,), (a horizontal section of which, and the mortising machine is given in Fig. 3), is arranged with respect to the chisel holder, as seen in the drawings, and supported so as to slide laterally to and fro, in bearings or pieces of wood, (U, U,), applied to, and extending from, the carriage (A,). The said slide (T,), has two notches, (V, V,) cut in its rear edge, and one elongated notch (W,), in its front edge, the chisel holder passing through the latter of the said notches, and the whole being as denoted in Fig. 3.

A small cam (X), is fixed upon the upper part of the chisel holder, just beneath its upper bearing. Now, when the carriage (B), carrying the chisel holder, descends toward its lowest position, the cam (X,), is brought in contact with the side of the notch (W,), and thus forces the slide (T) laterally, so as to carry one of the notches (V,), beyond or away from the arm P, or Q, next to it, and, at the same time, bring the other notch directly over the other arms, so that when the carriage (B), rises upward far enough, the former arm will be thrown back, and thus turn the chisel holder and chisel, and at the same time draw forward the latter arm. The next descent of the carriage,

(B), if far enough will reverse the movement of the slide (T), so as to, in a similar manner, when it rises to its highest position, give a reverse movement to the chisel holder. The notches of the spring catches (N, N,), should be so formed as to readily allow the arm (M), to be slipped off the catches, by the action of the arms P and Q. The object of turning the chisel at the extremities of the mortise is to make the ends of the mortise square and vertical.

The carriage or frame (A), is brought downward by the foot of the operative, pressed upon a treadle (Y), which is connected with the said carriage by a jointed rod or bar (Z,), or other contrivance for the purpose. The carriage may be overbalanced by a weight or spring, suitably applied to it, so as to elevate it when the foot is removed from the treadle. The piece of wood to be mortised, is sustained on a shelf (*a*) in the usual manner, and may be confined thereon by screws. (*b*, *b*,) if necessary.

In conclusion, I claim—

1. The combination of the chisel carriage (B,), with a separate carriage (A,), arranged to operate in the manner, and for the purpose above specified.

2. The combination of the slide (T,), cam (X) on the chisel holder, arms (P, Q), and straps (R, S); the whole being applied to the chisel holder, its carriage and the carriage (A), and operating substantially in the manner and for the purpose as hereinbefore described.

In testimony whereof, I have hereto set my signature this twenty third day of January, A. D. 1845.

CHARLES BENNETT.

Witnesses:

R. H. EDDY,

GEORGE H. BAILEY.