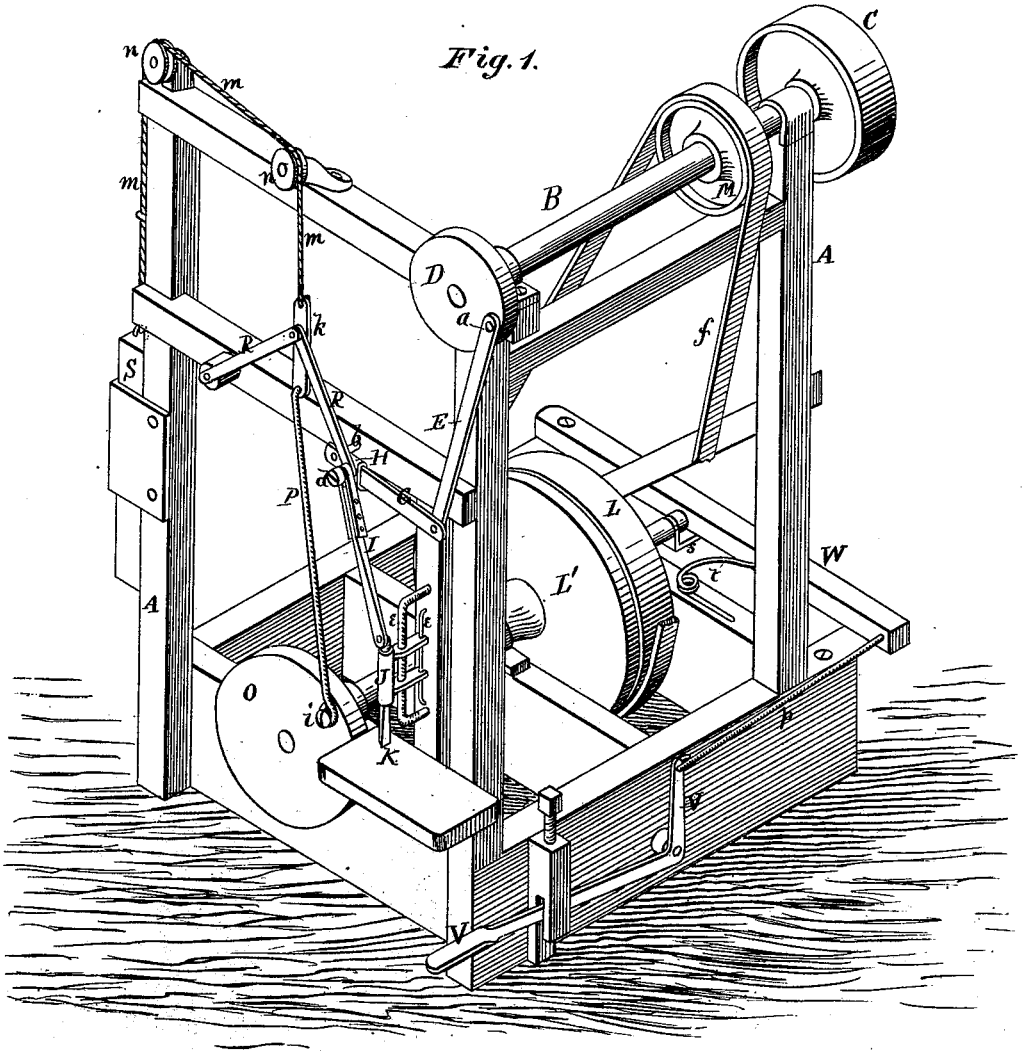
2 Sheets—Sheet 1.

C. A. WEED.

MORTISING-MACHINE.

No. 186,182. Patented Jan. 9, 1877.

Fig. 1.



WITNESSES

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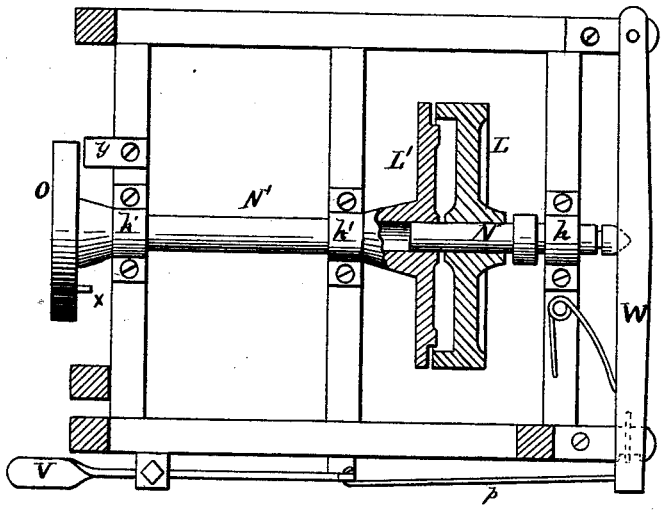
2 Sheets—Sheet 2.

C. A. WEED.

MORTISING-MACHINE.

No. 186,182. Patented Jan. 9, 1877.

Fig 2.



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UNITED STATES PATENT OFFICE.

CLINTON A. WEED, OF RACINE, WISCONSIN.

IMPROVEMENT IN MORTISING-MACHINES.

Specification forming part of Letters Patent No. **186,182**, dated January 9, 1877; application filed October 11, 1876.

To all whom it may concern:

Be it known that I, CLINTON A. WEED, of Racine, in the county of Racine, and in the State of Wisconsin, have invented certain new and useful Improvements in Mortising-Machines; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

The nature of my invention consists in the construction and arrangement of a mortising-machine, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawings, in which—

Figure 1 is a perspective view of my mortising-machine. Fig. 2 is a detailed view of a clutch arrangement used therein.

A represents a suitable frame-work to contain the various working parts of the machine. B is the main shaft, provided at one end with a driving-pulley, C, to which motion is communicated through a belt from the engine. At the other end of the shaft B is a disk, D, with crank or wrist pin *a*, on which is placed the pitman E, the other end of said pitman being pivoted to one end of a lever, G, the other end of which is pivoted on a stud, *b*, projecting from the frame. On the lever G is a slide, H, having a projecting stud, *d*, and on this stud is placed a pitman, I, which connects with a vertically-moving cross-head, J, having the chisel K attached to it. The cross-head J moves upon guides *e e*, attached to the main frame A, and the extent of its movement is regulated by the position of the slide H upon the lever G, as it will readily be seen that the farther said slide is away from the pivoted end of the lever the greater distance the cross-head will travel on its guides, and, in other words, the chisel will be fed downward by gradually moving the slide outward on the lever. This movement of the slide H is effected by the following means: On the main shaft B is a pulley, M, connected by a belt, *f*, with a friction-pulley, L, secured on a shaft, N, which has one bearing in a box, *h*, on the main frame, and the other bearing in the hub of another friction-pulley, L′, secured on a shaft, N′. The shaft N′ rotates in boxes *h′ h′*, but is not movable laterally therein, while the shaft N is movable laterally in its bearings, so as to bring the pulley L in contact with the pulley L′ when desired. On the end of the shaft N′ is a wheel or disk, O, provided with a crank or wrist pin, *i*, on which is placed a pitman, P. This pitman connects with a link, *k*, pivoted to the joint of two toggle-levers, R R. One of these levers is pivoted to a stud on the frame A, and the other to the stud *d* on the slide H. From the other end of the link *k* a cord, *m*, runs over pulleys *n n*, as shown, and has a weight, S, attached to its other end, as shown. V represents a foot-lever, pivoted to the side of the machine, and projecting in front thereof, as shown. This lever is L-shaped, and, by a rod, *p*, connected with a lever, W, and this lever is, by a plate, *s*, connected with the end of the shaft N, upon which the friction-pulley L is secured. *t* is a spring, operating upon the lever W in such a way as to draw the pulley L away from contact with the pulley L′.

When the machine is in operation and the operator places his foot on the lever V, the pulley L is brought in frictional contact with the pulley L′, and causes the shaft N′ to rotate in its boxes. The disk O will then turn until a pin, *x*, on its inner side strikes a stop, *y*, which movement of the disk, by means of the pitman P, draws down the toggle-levers R R, and moves the slide H outward on the lever G, so as to feed the chisel downward, said chisel having at the same time a continuous vertically-reciprocating movement. As soon as the pin *x* on the wheel O strikes the stop *y* the chisel will reach its lowest depth, and when the operator removes his foot from the lever V, the weight S at once draws up the toggle-joint, so as to move the slide H inward on the lever G, and the spring *t*, operating upon the lever W, removes the pulley L from contact with the pulley L′.

My invention, with very slight changes, may be used for boring instead of mortising.

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

1. The combination, with the slide H upon the lever G, of the toggle-levers R R, cord *m*, with weight S, the pitman P, disk O, with wrist-pin *i*, shafts N N′, and friction pulleys or clutch L L′, all substantially as and for the purposes herein set forth.

2. The combination, with the pulley L′ on the shaft N′, of the laterally-movable shaft N, with pulley L, the lever W, with plate *s* and spring *t*, the connecting-rod *p*, and pivoted L-shaped foot-lever V, substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 24th day of August, 1876.

CLINTON A. WEED.

Witnesses:
ANSEL BATES,
THOS. ST. GEORGE.