

No. 718,972.

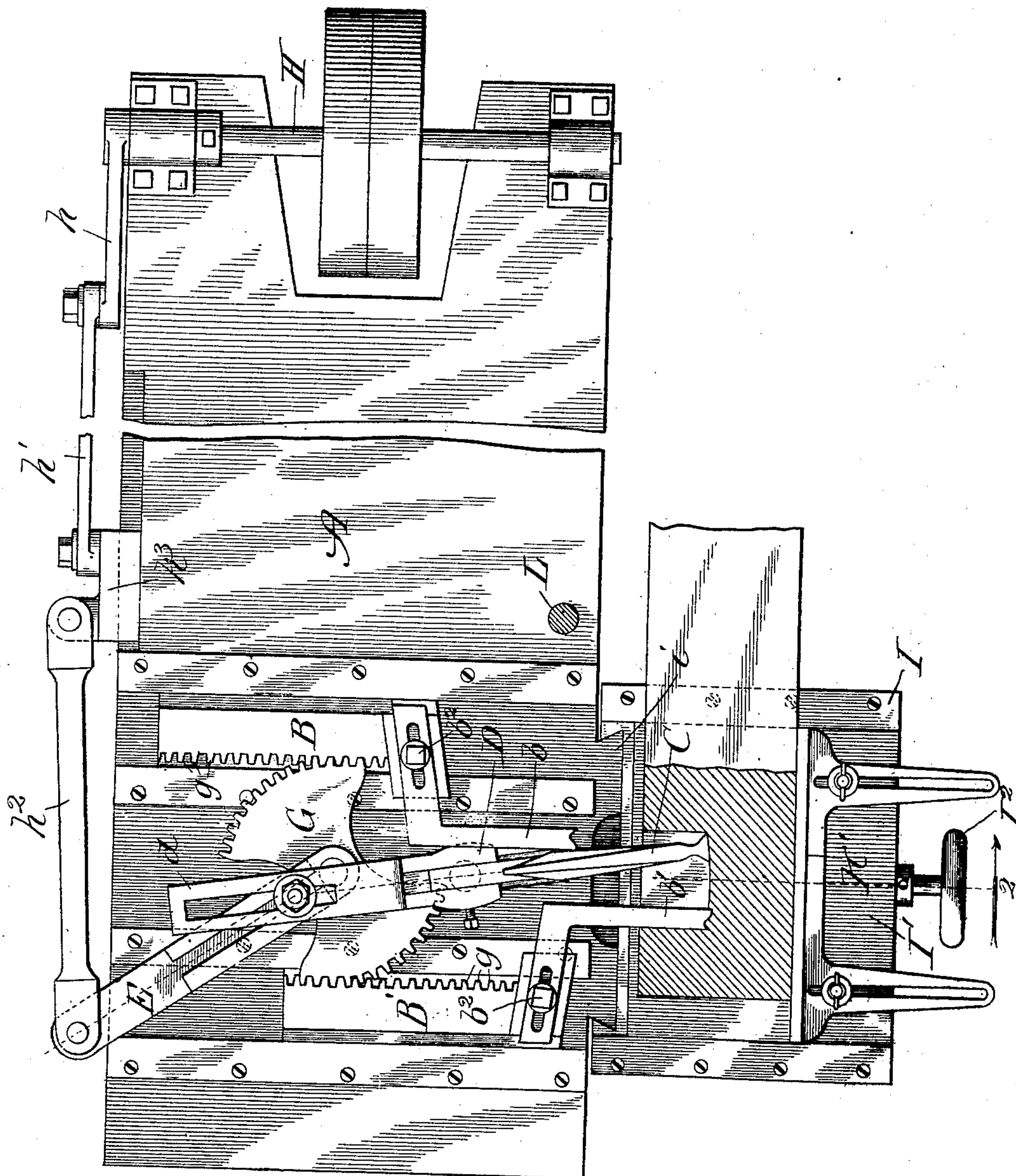
PATENTED JAN. 27, 1903.

W. BLACK.  
MORTISING MACHINE.

APPLICATION FILED AUG. 12, 1898.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses:  
E. E. Gaylord,  
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Fig. 1.

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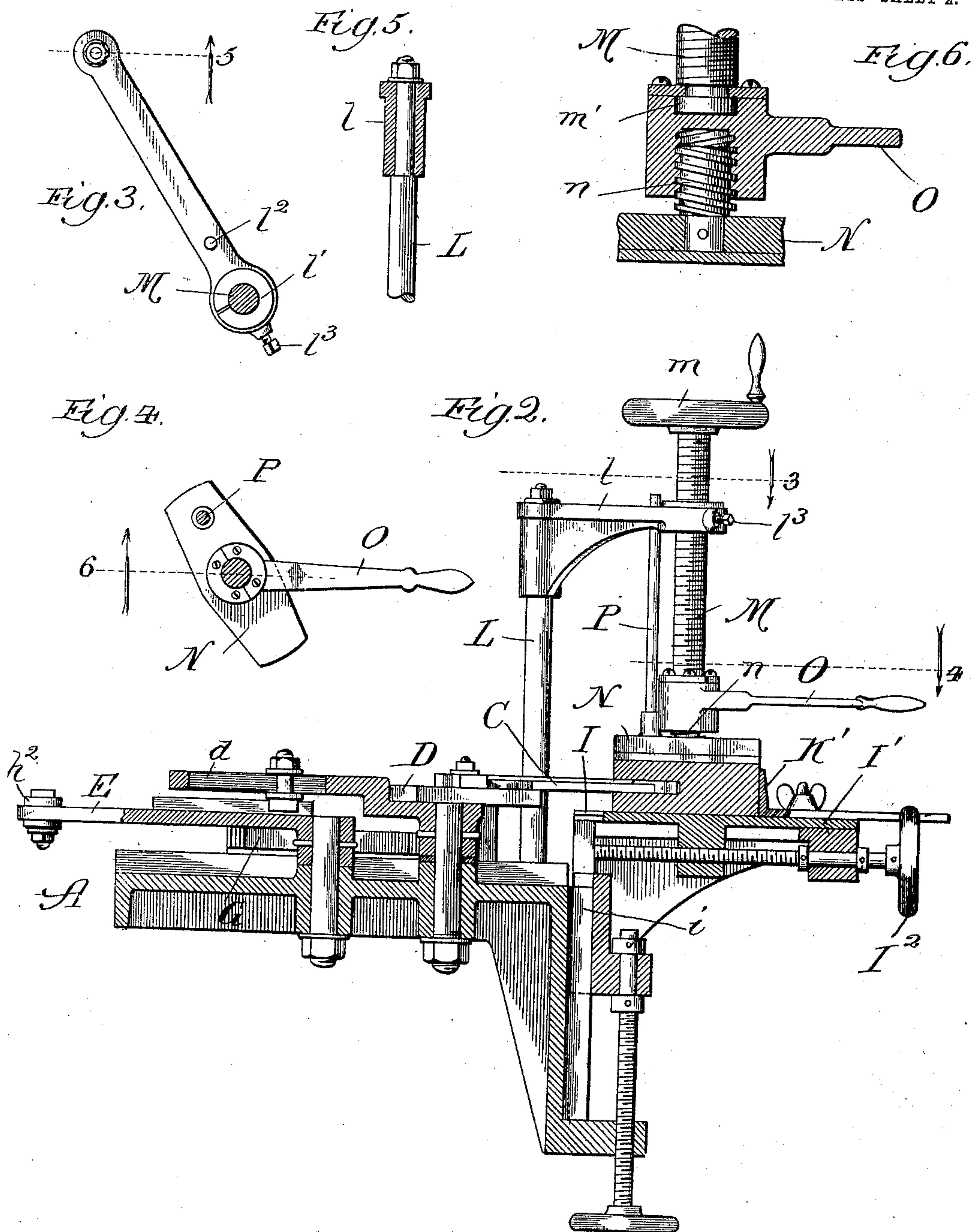
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Witnesses:  
E. S. Gaylord,  
J. S. Alter

Inventor:  
Walter Black,  
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# UNITED STATES PATENT OFFICE.

WALTER BLACK, OF CHICAGO, ILLINOIS.

## MORTISING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 718,972, dated January 27, 1903.

Application filed August 12, 1898. Serial No. 688,445. (No model.)

*To all whom it may concern:*

Be it known that I, WALTER BLACK, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Mortising-Machines, of which the following is a specification.

My invention relates to that class of machines known as "mortising-machines," which are provided with two reciprocating cutting-chisels for indenting or marking the width of the mortise-opening and for cutting the material transversely and with a vibrating or oscillating cutter which removes the body or bulk of the material, and the invention relates specifically to the means by which the material—such as a plank, board, or similar element—is held in position to be operated upon.

The object of the invention is to provide a simple, economical, and efficient clamp and combine it with a mortising-machine for the purpose of holding the material in position to be operated upon; and the invention consists in the features, combinations, and details of construction hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a plan view of a machine constructed in accordance with my improvements looking at it from the top; Fig. 2, a vertical sectional elevation of a portion of the machine and clamp looking at it on line 2 of Fig. 1; Fig. 3, a plan view of the supporting-bracket looking at it from line 3 of Fig. 2; Fig. 4, a plan view of the clamping device and operating-lever looking at it from line 4 of Fig. 2; Fig. 5, a vertical sectional elevation taken on line 5 of Fig. 3, and Fig. 6 an enlarged vertical sectional elevation taken on the line 6 of Fig. 4.

In the art to which this invention relates it is well known that where considerable material is handled in a day, numbering many pieces, considerable time is wasted or taken up by the handling of these pieces and the manipulation of the clamping devices which hold the pieces in position to be operated upon. My invention therefore is intended, primarily, to provide a simple, economical, and efficient clamp which may be operated quickly for the purpose of holding a piece in position or permitting it to be removed there-

from, all of which will more fully hereinafter appear.

In illustrating and describing my improvements I have chosen one form of mortising-machine as exemplifying the machine or style of machine which such clamping device is adapted to be used in connection with, so as to properly disclose the subject-matter of the invention and enable those skilled in the art to practice the same. It will be understood, however, that I do not desire to be limited with particular reference to the mortising mechanisms themselves, as any style of mechanism can be used in connection with my improved clamping device.

In Fig. 1 I have shown a mortising-machine provided with a bed A, having two reciprocating slides B and B' mounted thereon, each carrying a reciprocating chisel *b* and *b'*, secured thereto by means of set-screws *b*<sup>2</sup>. For the removal of the body of the material an oscillating cutter C is provided, mounted in an independently-swinging holder D. This swinging holder has a slotted arm *d* extending rearwardly and which is connected with an operating-lever E. For the purpose of operating the parts a compound segmental gear G is provided and also connected with the operating-lever. This gear meshes with the teeth *g* in the reciprocating slides, so that its oscillations operate the vibrating cutter and reciprocate the cutting-chisels. To transmit power and motion to these parts, a main driving-shaft H is provided, carrying a crank *h*, which through the medium of the connecting-levers *h'* *h*<sup>2</sup> and slide-block *h*<sup>3</sup> connect with the operating-lever to transmit the desired power and motion. To hold the material in place, an adjustable bed I is provided, mounted in a vertical dovetail *i* and provided with a slide I', which is moved backwardly and forwardly by means of the hand-screw I<sup>2</sup>. A movable jaw K is provided for the purpose of holding the material in proper alignment and as shown particularly in Fig. 2.

The parts so far described are embraced in and constitute the subject-matter of Letters Patent of the United States, No. 662,390, granted to me November 27, 1900.

In order to permit the ready insertion and removal of the work, I provide a clamp which is constructed in the following manner: A



post or pillar L is secured to the machine in suitable position and provided with an outwardly-extending bracketed arm *l*. This bracketed arm is provided with a split nut *l'*,  
 5 in which a primary adjustable screw M is inserted, carrying a hand-wheel *m* at the upper portion thereof. At the lower part of this screw a foot-piece or holding-plate N is provided and secured thereto by means of an  
 10 operating-handle O, which operating-handle is loosely pivoted, as shown in Fig. 6, on a headed portion *m'* at the lower portion of the screw. This operating-handle has a screw-threaded opening, and the foot-piece has a  
 15 left-hand screw *n* engaging therewith, so that as the handle is operated in one direction, preferably to the left, the holding-plate is raised and work may be withdrawn. When the handle is operated to the right, the hold-  
 20 ing-piece is depressed and the work clamped in position. It is desirable that the holding-plate be prevented from turning during the operations of the handle, and in order to accomplish this result a rod P is provided and  
 25 secured to such part and passed through a perforation *l*<sup>2</sup> of the bracketed arm, as shown particularly in Figs. 2 and 3.

From the foregoing description of construction it will be seen that the adjustable screw  
 30 M may be used to bring the shoe into position to clamp the piece of wood and hold it in that position by means of the set-screw *l*<sup>3</sup>. The operating-handle may then be used, as desired, quickly and readily, enabling the  
 35 operator to quickly insert or remove the work.

I claim—

1. In a mortising-machine, the combination of a standard or support, an extended  
 40 arm at the end of the standard or support, a clasp on the outer end of the arm, a screw-threaded rod carried by the arm and working in the clasp, by which it can be locked and held, a lever having a head or socket inter-  
 45 nally screw-threaded and swiveled to the lower end of the rod, and a clamping-plate having a stem in threaded engagement with

the lever head or socket for the rod to set the clamping-bolt and be then locked by the clasp against rotation, leaving the lever free  
 50 to be moved and release and restore the clamp, substantially as described.

2. In a mortising-machine, the combination of a standard or support, an extended arm at the end of the standard or support, a  
 55 clasp on the outer end of the arm, a screw-threaded rod carried by the arm and working in the clasp, by which it can be locked and held, a lever having a head or socket internally screw-threaded and swiveled to the  
 60 lower end of the rod, a clamping-plate having a stem in threaded engagement with the lever head or socket, and a guide to hold the clamping-plate from rotating and maintaining it in a straight-line movement for the rod  
 65 to set the clamping-plate and be then locked by the clasp, leaving the plate free to be receded and advanced by the lever to release and restore the clamp, substantially as described.  
 70

3. In a mortising-machine, the combination of a standard or support, an extended arm at the end of the standard or support, a  
 75 clasp on the outer end of the arm, a screw-threaded rod carried by the arm and working in the clasp by which it can be locked and held, a lever having a head or socket internally screw-threaded and swiveled to the  
 80 lower end of the rod, a clamping-plate having a stem in threaded engagement with the lever head or socket, and a guide-rod secured to the clamping-plate and passing through the extended arm and preventing the rotation of the plate and maintaining it in a straight-  
 85 line movement for the rod to set the plate and then be locked by the clasp against rotation, leaving the plate free to be receded and advanced by the lever to release and restore the clamp, substantially as described.

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Witnesses:

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