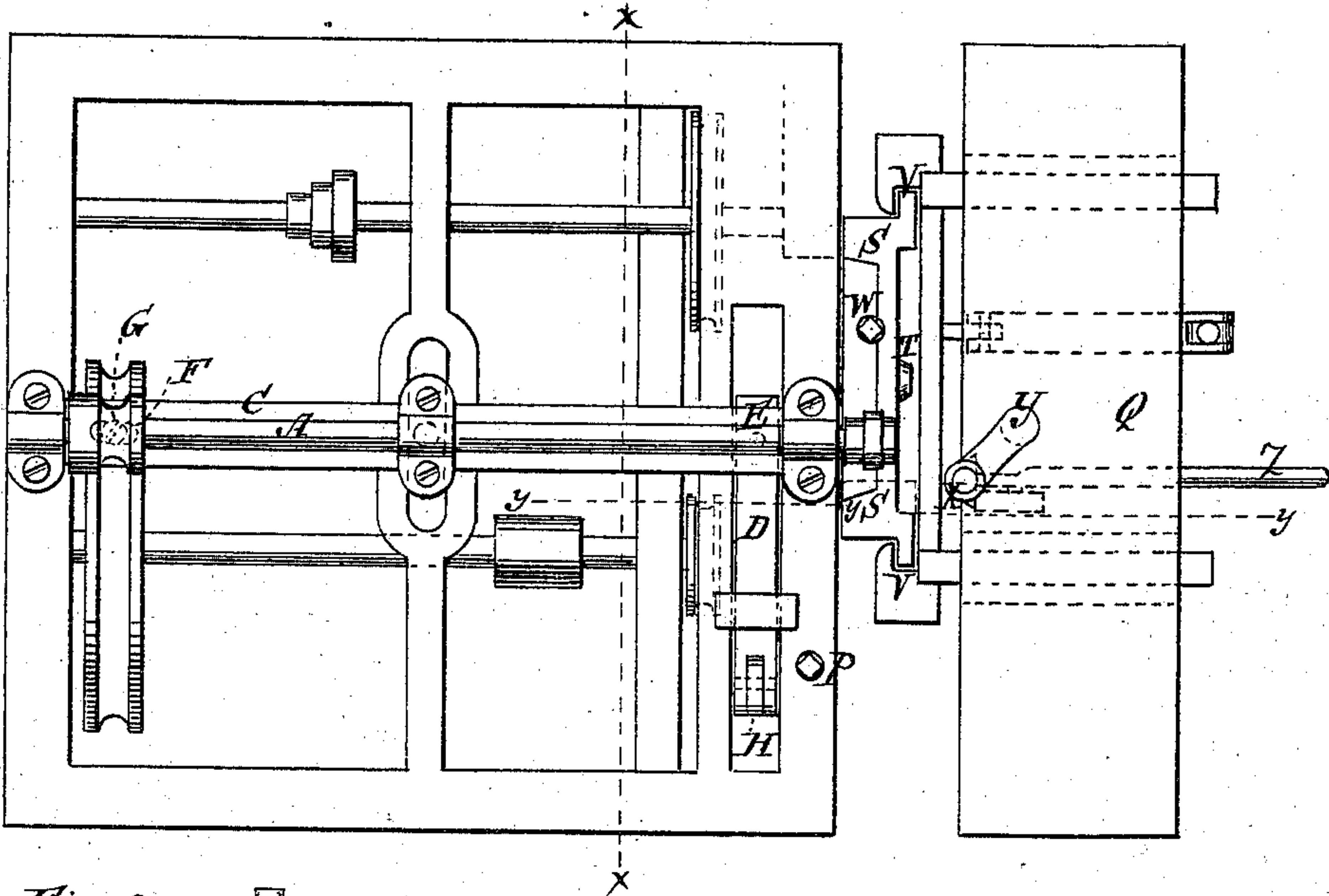


**H. K. FORBIS.**  
**Mortising-Machines.**

No. 150,468.

Patented May 5, 1874.

*Fig. 1*



*Fig. 3.*

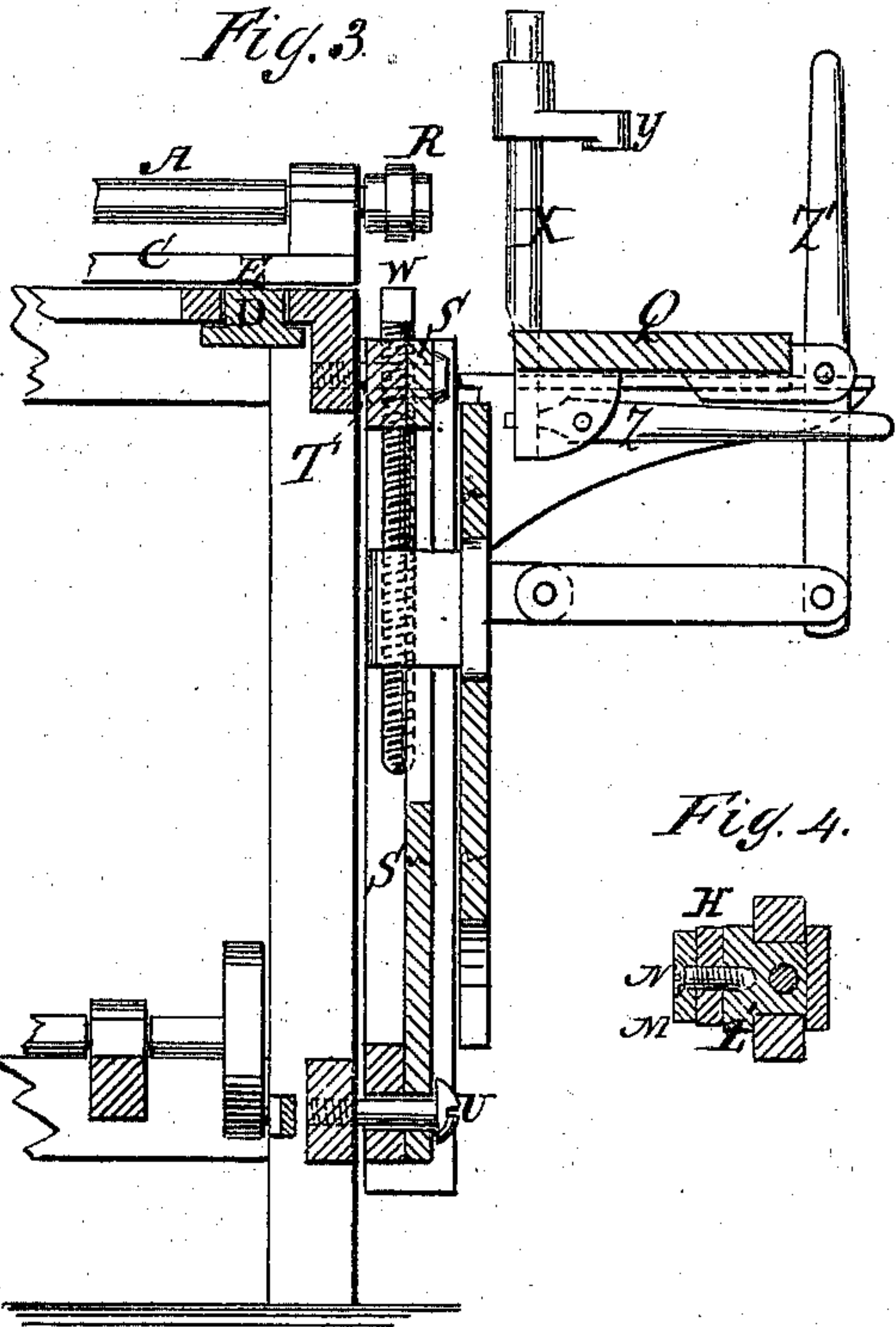
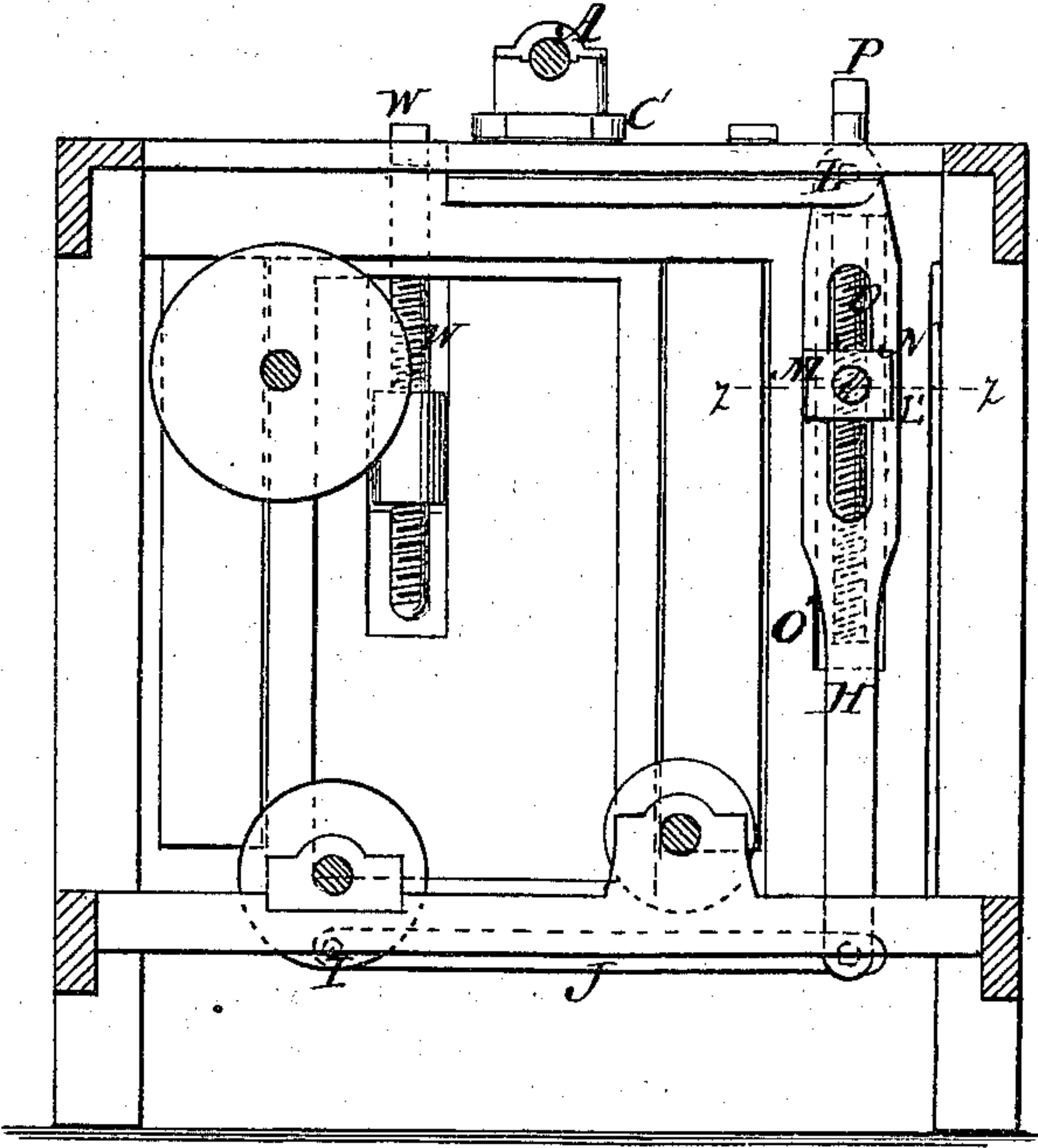
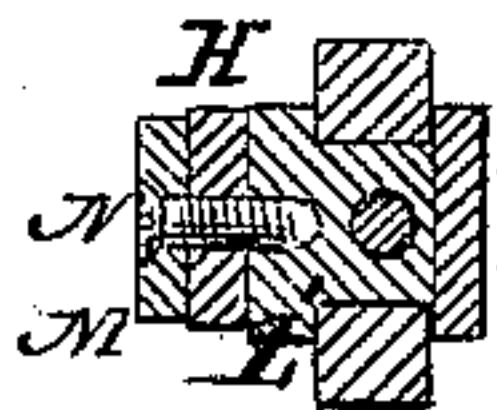


Fig. 2.



*Fig. 4.*



**Witnesses:**

E. Wolff  
Sedgwick

**Inventor:**

Per *H. K. Forbis*  
*Munnell*  
Attorneys.



# UNITED STATES PATENT OFFICE.

HARBERT K. FORBIS, OF DANVILLE, KENTUCKY, ASSIGNOR TO HIMSELF  
AND JOHN W. PROCTOR, OF SAME PLACE.

## IMPROVEMENT IN MORTISING-MACHINES.

Specification forming part of Letters Patent No. **150,468**, dated May 5, 1874; application filed  
November 15, 1873.

*To all whom it may concern:*

Be it known that I, HARBERT K. FORBIS, of Danville, in the county of Boyle and State of Kentucky, have invented a new and Improved Mortising-Machine, of which the following is a specification:

The invention will first be fully described, and then pointed out in the claims.

Figure 1 is a plan view of my improved mortising-machine. Fig. 2 is a sectional elevation of it, taken on the line *x x* of Fig. 1. Fig. 3 is a sectional elevation taken on the line *y y* of Fig. 1. Fig. 4 is a section of Fig. 2 on the line *z z*.

Similar letters of reference indicate corresponding parts.

A is the mortising-tool mandrel; it is fitted in bearings, near each end, on the bar or plate C, which is pivoted at E on the slide D, near the end in which the tool is mounted, and also pivoted near the other end by a slotted hole, F, on the stud G, so as to have an endwise movement on said stud to accommodate the movements at the other end on the slide D, which works in a straight way parallel to the edge of the work, and thus causes the tool to cut the mortise nearer the same depth throughout its length than it can when the mandrel swings on the pivot G. The vibration of this slide for moving the tool laterally is caused by the rock-lever H, which is worked by the crank I and connecting-rod J, and is connected to the slide at the end L. The length of the mortise is governed by the sweep of the end L of said lever, and it is varied by varying the sweep thereof. In order to accomplish this without stopping the machine, I now propose to mount the block L', carrying the stud-pin M, on which this lever vibrates, on a slotted post, O', so that it can slide up and down, and fix another block, N, on said stud in a slot, O, in the lever, so as to shift the stud along the lever, and arrange an adjusting-screw, P, in the frame at the top, and in the block sliding in the slotted post, so that by the application of a wrench to said screw the stud-pin can be readily shifted up or down the lever while it is in operation, thus enabling me to make any change I wish for mortises of any length without stopping the machine. I propose to hang

the work-table Q on the side of the frame of the machine under the overhanging tool-chuck R by pivoting the frame S, which supports the table as at T, to allow the work to be adjusted obliquely to the plane in which the tool slides, for making mortises oblique to the sides of the work, and at the lower end of frame S I provide a curved slot, wherein a stud, U, is fixed, along which the frame swings, and by which it is fastened at any point. The table is fixed on the frame in ways V, and is provided with an adjusting-screw, W, for shifting it up and down to adjust the work to the tool in respect of the height. For clamping the work on the table, I propose to have a vertical rod, X, dovetailed in the table at the inner edge, and provided with an arm, Y, above the table to bear down on the top of the work, also provided with a lever, Z', by which to press the arm down on the work while it is presented to the tool. The lever will be held by the operator, as the time in which the work is to be held is too short to require a fastening. The lever Z' is used for pushing the table up to the tool and pulling it back again. The arm Y is adjustable on the rod for boards differing in thickness.

I desire to disclaim mortising-machines with movable tool-arbors, connected at one end to table by a ball-and-socket joint, and at the other fitting into a sliding block, the whole employed with a work-holder capable of being adjusted vertically and obliquely.

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

1. The combination, with the tool-mandrel A and slide D, of the bar C, pivoted at the rear on a stud, G, in a slot, F, as and for the purpose described.

2. The combination of work-table frame S and the tool-frame, the former pivoted to the latter at T, and arc-slotted, to be held to the latter at different points by the clamp-screw U, as and for the purpose specified.

HARBERT K. FORBIS.

Witnesses:

J. M. WALLACE,  
N. SANDIFER.