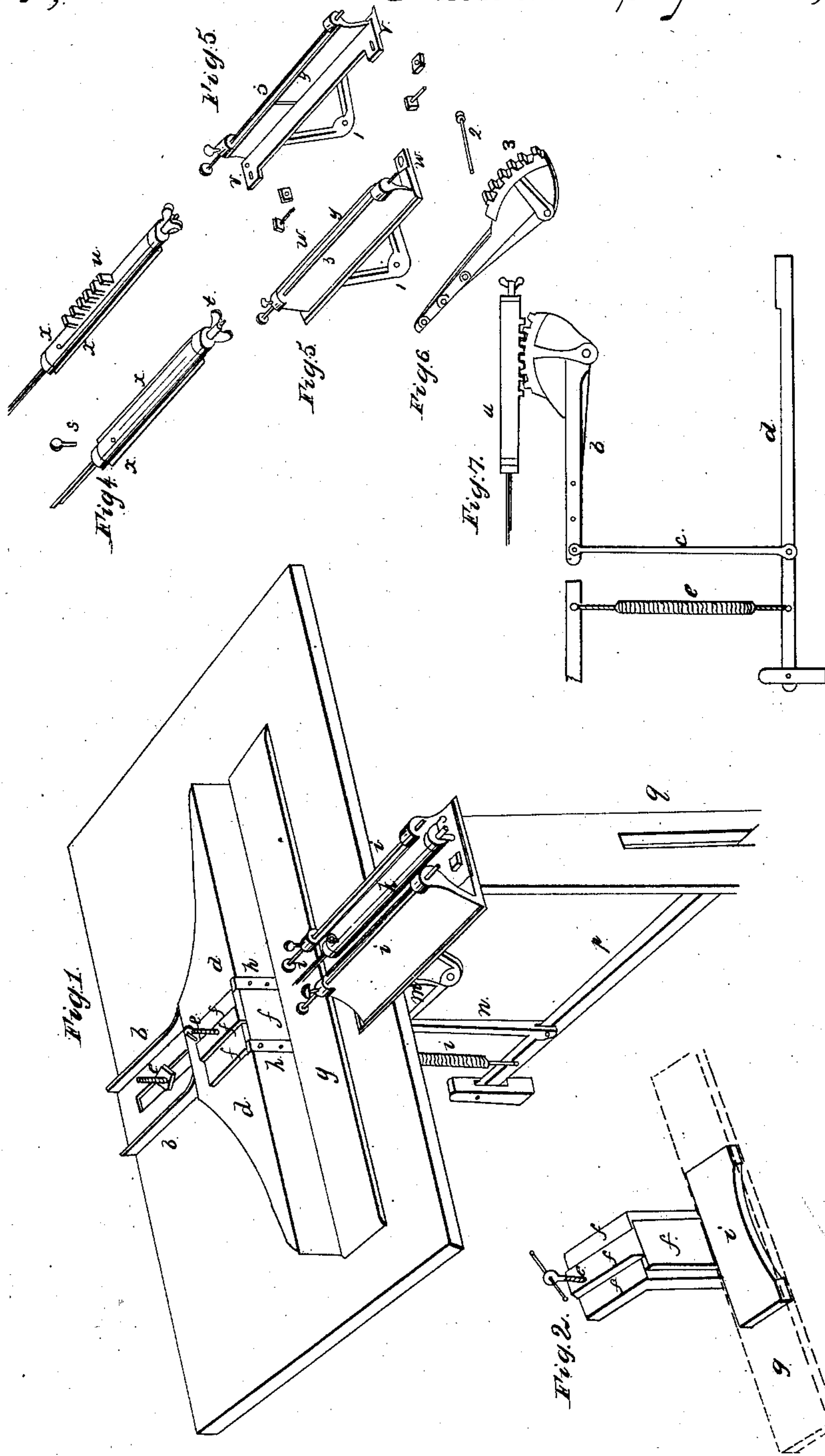


E. M. Shaw,
Mortising Machine,
Patented Sept. 22, 1838.



UNITED STATES PATENT OFFICE.

ERASTUS M. SHAW, OF BALTIMORE, MARYLAND, ASSIGNOR TO JOHN GRIDLEY.

MACHINE FOR MORTISING TIMBER.

Specification of Letters Patent No. 937, dated September 22, 1838.

To all whom it may concern:

Be it known that I, ERASTUS M. SHAW, of the city of Baltimore and State of Maryland, have invented a new and useful Improvement in Mortising-Machines; and I do hereby declare that the following is a full and exact description.

My aim has been to make the machine as firm as possible, and at the same time to make it perfectly portable, so that it may be attached to a table or bench as readily as the common smith's vise; a particular frame or bench being unessential to the machine. The machine is so permanent that it admits of no untruth in the operation, being made of solid castings bolted together.

In the drawings *a, a*, Figure 1 represents a section of an ordinary work bench, *b, b*, an iron brace which lies on the bench, having a slot in it with a bolt and nut *c*, by which it is confined to the bench, and by which the piece *b, b*, and the wood piece *d, d*, are brought forward, or moved back, as required for different sizes of timber subjected to mortising. The piece *d, d*, is the back against which the timber to be mortised, rests.

The bed *g* is raised and lowered (in relation to the bench) by means of the screw *e*, which passes through the metal piece *f, f*, *f, f*, which is shown in Fig. 2 where the dotted lines represent the bed piece *g*, resting on the horizontal projection *i*. The screw *e*, after passing through the thick part at the inner *f*, passes free through the wood piece *d, d*, Fig. 1, and *d, d*, Fig. 3, which shows an end view, and has a washer and nut *c*, to prevent the screw from rising while by means of the female screw in *f* the piece *f, f, f*, rises and sinks with the bed *g*.

h, h, Fig. 1 are iron guides or clamps fast to *d, d* to hold the piece *f, f, f* plumb, and in place while moving up and down, and while the machine is in motion.

What has now been described relates to the bench and pieces necessary to hold the timber subjected to the chisel.

i, i, Fig. 1 are side pieces which support, &c., guide the slide *k*, which slide contains or holds the chisel *l*. *m*, lever which works the slide; *n*, rod connecting the lever and treadle *p*. *q*, upright to support the front of the machine, the back of the machine rests

on the bench *a, a*. *r*, spiral spring connected with the treadle and lever and raises the treadle and draws back the chisel.

Fig. 4 represents the slide. *s*, the pin to pass through and join slide and socket to hold it in proper position while cutting; to reverse the position of the chisels the pin is withdrawn and by means of the wing nut *t*, on the shank of the slide the position of the chisel is altered, or the face is turned, for heading each end of the mortise. *W*, is the slide upside down, showing the rack which gears into the section of cogs on the lever *m*, of Fig. 1.

Fig. 5, the side pieces detached: The horizontal projections *V, V*, having slot holes which lap on the corresponding pieces *w, w*, and are secured by bolts and nuts, the holes at *v, v* being long to regulate the slide between the side pieces, to hold the slide at all times true. The slide has a projection on each side in form of a *V*, as seen at *x, x, x*, Fig. 4, which fits in a corresponding groove *y, y* in the the side pieces. *z, z*, are gage rods, to confine the timber (to be mortised) between the back piece *d, d*, Fig. 1 and chisel. *1, 1*, Fig. 5, stirrups to hang the lever Fig. 6, with lever *m*, of Fig. 1. *2*, is a bolt to connect lever and stirrups.

3 of Fig. 6, is section of cogs, which gears into racks of slide Fig. 4.

Fig. 7, represents a side view of the working parts of the machine. *a*, is the slide, *b*, the lever, *c*, rod connecting lever to treadle, *d*, and *e*, the spiral spring which raises the treadle and bring back the slide with the chisel.

The drawing represents the machine as worked by the foot; and the piece to be mortised as regulated by the hand. The machine may, however, be propelled by machine power, by the use of slip gearing, as in most other machinery. The machine may be applied to the ordinary work bench, in 10 minutes without any previous preparation simply by 2 screws, to hold the bottom of the side pieces to the bench; and the upright piece *2*, to support the front of the machine and the prop in Fig. 1, at the inner end of the treadle.

I claim—

1. The manner of regulating the bed piece, by means of the screw *e*, and the metal

piece *f*, *f*, *f*, and *i*, Fig. 2, the screw having a washer and nut under the piece *d*, *d*, Fig. 1 to prevent the screw from rising while it raises the bed piece and lowers it.

5 2. I claim the construction of the side pieces Fig. 5, and the manner of uniting them together so as to make the machine

firm; and to cause a regularity in the operation of the chisel; and make the machine as portable as possible, as before described. 10
ERASTUS M. SHAW.

Witnesses:

THOS. W. BOND,
BENJAMIN START.