S. M. REDFIELD.

Tenoning-Machine.

No. 197,797. Patented Dec. 4, 1877.

Fig. 1

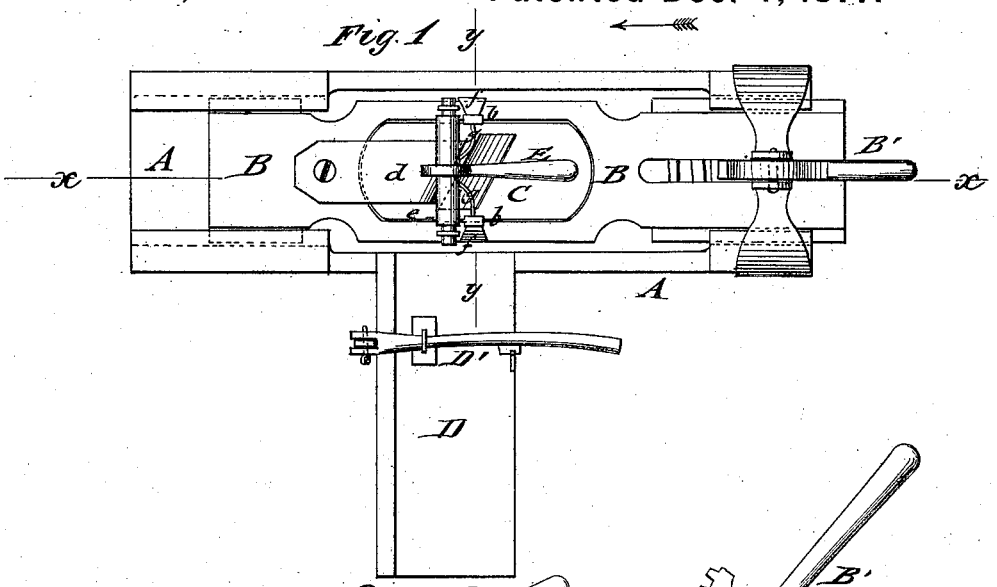


Fig. 2

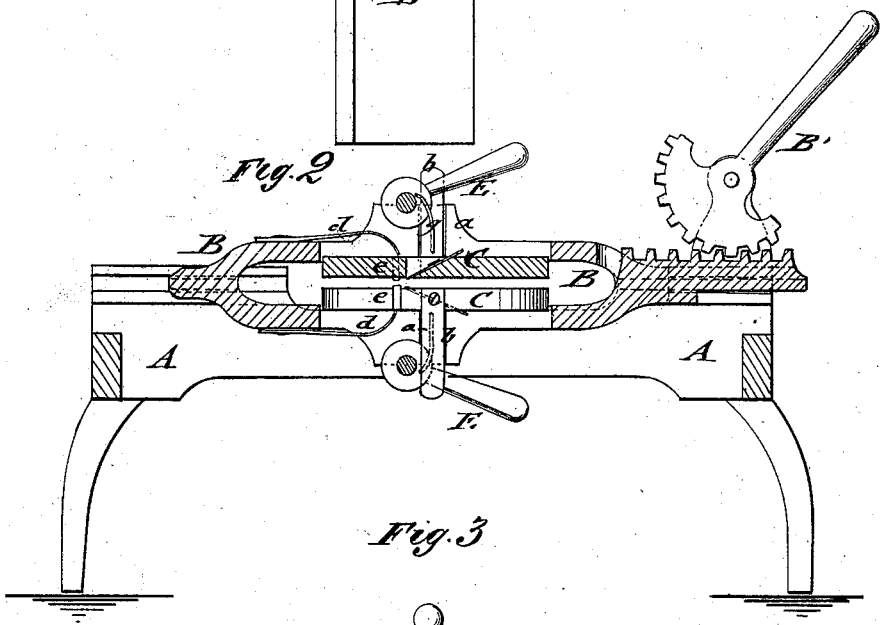
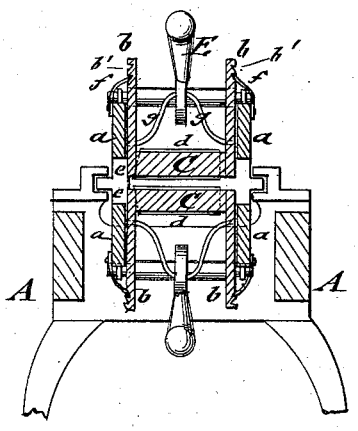


Fig. 3



WITNESSES:

A. W. Almqvist

J. W. Scarborough.

INVENTOR:

S. M. Redfield.

BY Munn & Co.

ATTORNEYS.

UNITED STATES PATENT OFFICE.

STEPHEN M. REDFIELD, OF MARYVILLE, MISSOURI.

IMPROVEMENT IN TENONING-MACHINES.

Specification forming part of Letters Patent No. **197,797**, dated December 4, 1877; application filed October 6, 1877.

To all whom it may concern:

Be it known that I, STEPHEN M. REDFIELD, of Maryville, in the county of Nodaway and State of Missouri, have invented a new and Improved Machine for Cutting Tenons, of which the following is a specification:

In the accompanying drawings, Figure 1 represents a plan view; Fig. 2, a vertical longitudinal section on line *x x*, Fig. 1; and Fig. 3, a vertical transverse section on line *y y*, Fig. 1, of my improved machine for cutting tenons.

Similar letters of reference indicate corresponding parts.

This invention relates to an improved machine for cutting tenons on boards in a quick and effective manner by means of hand or foot power, the machine being readily adjusted to the size of the tenon required; and the invention consists in the construction and combination of parts, which will be hereinafter more fully described, and then pointed out in the claim.

Referring to the drawing, A represents the supporting-frame that guides in ways the reciprocating frame B of the planes C. The boards are held in position to the cutting-planes by an angular guide-frame, D, at right angles to the planes, being clamped in position thereon by a pivoted clamp-lever or other fastening device, D′.

The frame B has a rack at one end that is engaged by a toothed segment at the end of a fulcrumed hand-lever, B′, by which the frame B is moved forward and back in the main frame A.

The middle portion of frame B branches into two parallel parts that form a lateral open space, with vertically-grooved posts *a*, along which the side posts *b* of the planes are guided. The upper and lower planes are acted upon by strong band-springs *d*, that press them together, so that the planes cut equally at both sides of the board when the same is inserted between them for tenoning.

Vertical knives *e* at one side of the planes serve to cut the shoulders of the tenons. Slotted spring-pieces *f* are attached by clamp-screws to frame B, and made to project into notches *b′* of side posts *b*, so that by adjusting them higher or lower the required thickness of the tenon is secured in accurate manner.

The planes C are vertically movable in horizontal openings of the double middle portion of frame B, and are raised or lowered by means of levers E, connected by links or bails *g* to the planes.

By raising the upper and lowering the bottom plane of the levers the board to be tenoned may be readily inserted or removed, the planes acting when pressed on the board by the springs on the edges of the same, and the machine is then ready to cut the tenon by reciprocating the planes by the hand-lever until they are stopped by the side spring-pieces, when the required thickness is obtained.

The machine may also be arranged vertically with a guide-frame sidewise of the main frame and a treadle to work the vertically-reciprocated planes.

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

In a tenoning-machine, the combination of the reciprocating frame B, having guide-posts *a*, the adjustable planes C C, provided with sliding arms *b*, the springs *d d*, bails *g*, and cam-levers E, with the frame A and feed-table D, substantially as and for the purpose herein set forth.

STEPHEN M. REDFIELD.

Witnesses:

H. H. GEIGER,

M. H. COX.