A. J. ROBERTS.

Spoke-Tenoning Machine.

No. 212,507. **Patented Feb. 18, 1879.**

Fig. 1

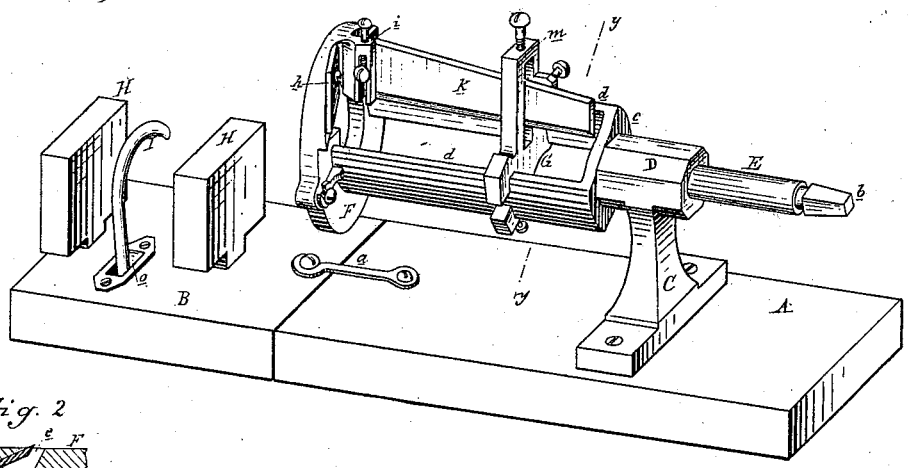


Fig. 2

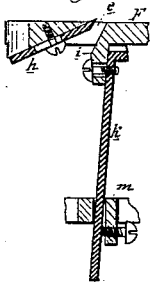


Fig. 4

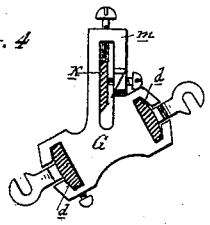


Fig. 5

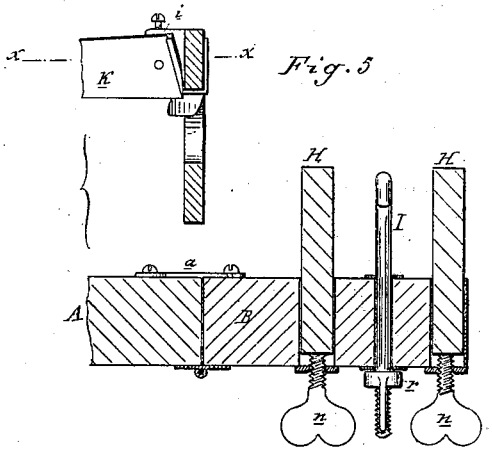
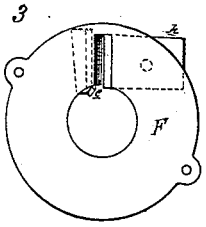


Fig. 3



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UNITED STATES PATENT OFFICE.

AMMI J. ROBERTS, OF CLINTON, WISCONSIN.

IMPROVEMENT IN SPOKE-TENONING MACHINES.

Specification forming part of Letters Patent No. **212,507**, dated February 18, 1879; application filed November 12, 1878.

To all whom it may concern:

Be it known that I, AMMI J. ROBERTS, of Clinton, Rock county, Wisconsin, have invented an Improvement in Tenoning-Machines, of which the following is a specification:

The nature of my invention relates to certain new and useful improvements in that class of machines employed for turning tenons upon the ends of spokes, whiffletrees, and other articles.

The invention consists in the peculiar details of construction of the parts and their various combinations, as more fully hereinafter described.

In the drawings, Figure 1 is a perspective view. Fig. 2 is a horizontal section on the line *x x* in Fig. 5. Fig. 3 is an elevation of the face-plate. Fig. 4 is a cross-section at *y y*, Fig. 1. Fig. 5 is a longitudinal section through a section of the bed and face-plate.

In the accompanying drawings, which form a part of this specification, A represents the bed, made in two parts, as shown, the part B being hinged to the part A, so that it can be lowered at right angle thereto, and when upon the same plane the two parts are secured together by the hook or link *a*. C is a standard, secured in any convenient way to the bed A, and is provided at its upper end with a longitudinal box or bearing, D, within which the shaft E may rotate, and at the same time have a longitudinal motion. The outer end of this shaft terminates in a tang, *b*, to receive a brace or wrench, by means of which the device is operated. To the opposite end of this shaft is secured the head *c*, which is provided with two parallel extensor-arms, *d*, to the outer ends of which the face-plate or cutter-head F is removably attached. Through a slot or throat, *e*, in said plate is adjustably secured the cutter *h*, its cutting-edge protruding through said throat. Projecting from the rear of this face-plate is the slotted arm *i*, to which one end of the cutter *k* is adjustably secured, the other end of said knife being also adjustably secured in the slotted arm *m*, which extends from the slide G, which is constructed, as shown in Fig. 4, to slide upon the extensor arms *d*.

In suitable mortises in the part B are inserted the bearing-blocks H, vertically adjustable by means of the set-screws *n*. Through a slot, *o*, in said part B, and between said bearing-blocks, is inserted the rod I, the upper end of which terminates in a hook, as shown, said hook and rod also being vertically adjustable by means of the set-screw *r*.

It will be noticed that the cutter *k* is adjustable radially with relation to the axis of the device, in order to give any required bevel to the tenon, the length of which tenon may be determined by the position of the slide, which performs the double function, to wit, to hold the outer end of the cutter, and to form a stop to determine the length of the tenon. In the rotation of the device the cutter *h* finishes up the shoulder of the tenon.

The device may be operated to cut larger or smaller tenons upon bevel or straight lines.

The bearing-blocks are made adjustable, as well as the rod and hook I, to accommodate larger or smaller work which it may be desired to present to the rotating cutter; and the end of the bed B may be lowered out of the way, as is often necessary, when desired.

What I claim as my invention is—

1. A tenoning device, consisting of the bed A, standard C, box D, shaft E, provided with extensor-arms *d*, face-plate F, slide G, and adjustable cutters *h k*, substantially as and for the purposes set forth.

2. In a tenoning device, substantially as described, the adjustable slide G, performing the two functions, to wit: adjustably carrying the outer end of the cutter *k*, and forming the stop to determine the length of the tenon, substantially as herein described and set forth.

In testimony whereof witness my hand this 16th day of September, 1878.

AMMI J. ROBERTS.

Witnesses:

H. S. WOOSTER,

CHAS. H. STEWART.