

A. SHERMAN.

Improvement in Machines for Tenoning Spokes.

No. 114,720.

Patented May 9, 1871.

Fig. 1.

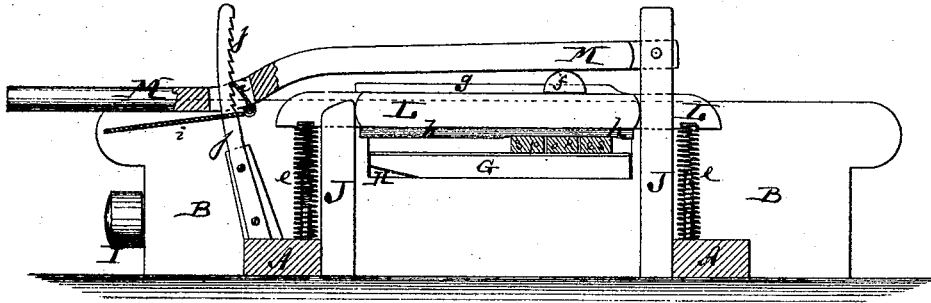


Fig. 2.

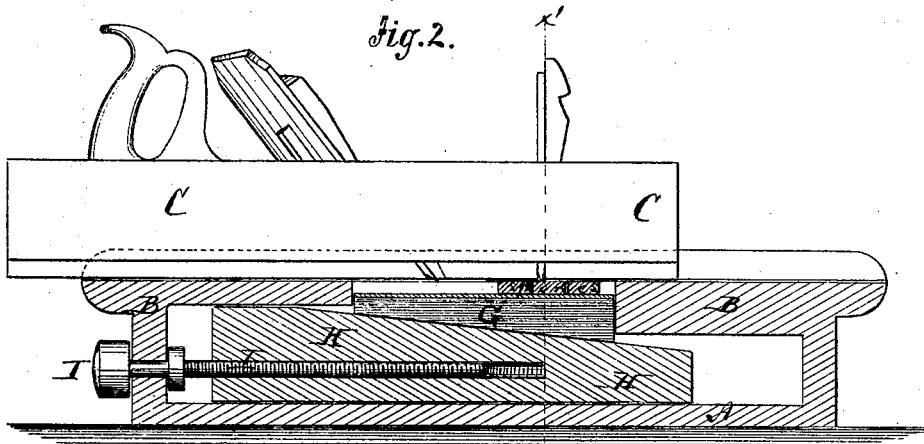


Fig. 3.

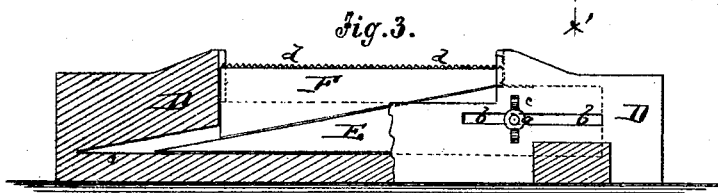
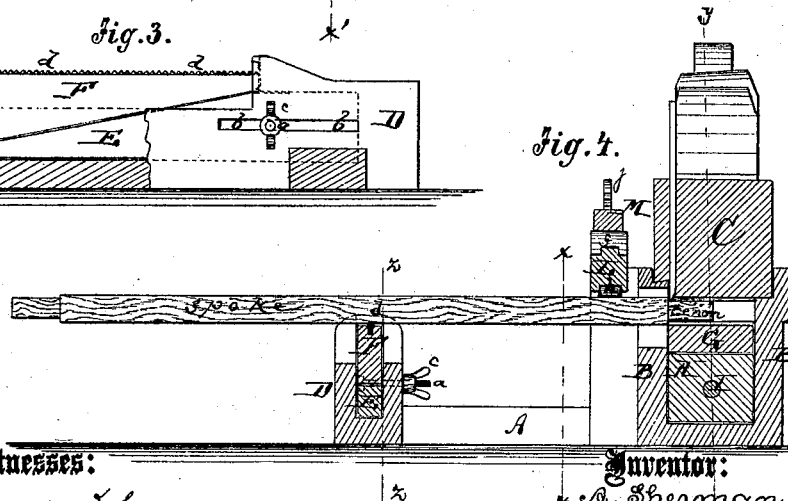


Fig. 4.



Witnesses:

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# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN MACHINES FOR TENONING SPOKES.

Specification forming part of Letters Patent No. **114,720**, dated May 9, 1871.

*To all whom it may concern:*

Be it known that I, ARTHUR SHERMAN, of Poughkeepsie, in the county of Dutchess and State of New York, have invented a new and Improved Spoke-Tenoning Machine; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing, forming part of this specification, in which—

Figures 1, 2, and 3 are vertical longitudinal sections of my improved spoke-tenoning machine, taken, respectively, on the planes of the lines *x x*, *y y*, and *z z*, Fig. 4. Fig. 4 is a vertical transverse section of the same on the line *x' x'*, Fig. 2.

Similar letters of reference indicate corresponding parts.

This invention relates to several improvements in machines for tenoning or retenoning spokes; and consists, chiefly, in the arrangement of vertically-adjustable supports of the spokes, the same being set by means of sliding wedges, and also in the use of a peculiar clamp, which is made elastic, and provided with a longitudinally-adjustable fulcrum-block, as hereinafter more fully described.

A in the drawing represents the bed or base of my improved tenoning-machine. Upon it is supported the longitudinal guide or bed B for the plane C, and also a longitudinal beam, D, for holding the outer ends of the tenons.

In the beam D is arranged a sliding wedge, E, on which rests the inclined edge of a block, F, whose upper face constitutes the support for the outer ends of the tenons. By sliding the wedge E lengthwise the block F will be vertically adjusted in the desired manner. The ends of the block F are guided in vertical grooves provided in the recess of the beam D.

The wedge E has a projecting screw, *a*, which passes through a slot, *b*, of the beam, and receives a thumb-nut, *c*, by means of which the wedge can be locked in any desired position.

The upper face of the block F has a projecting serrated rib, *d*, on which the spokes are immediately supported, and which is so rough-

ened that the spokes will not be easily displaced thereon.

The plane-guide B contains also, in a recess, a vertically-adjustable block, G, for the immediate support of the ends to be cut. This block G can be raised or lowered by means of a sliding wedge, H, whose motion is controlled by means of a screw, I, swiveled in the end of the bed B.

J J are two slotted posts set up against one side of the bed B, between the same and the beam D. They serve as vertical guides for the spoke-clamp L, which is a longitudinal beam supported at the ends by springs *e e*, and made vertically adjustable in the slots of the posts.

A lever, M, pivoted to one of the posts, can be caused to bear upon a block, *f*, projecting from the beam L, to force the same down upon the spokes. The block *f* is placed upon a rail, *g*, of the beam L, so that it can slide thereon. It can thus be set to regulate the power of the lever exerted upon the clamp.

The lower face of the clamp L contains a rubber rib, *h*, which is brought in immediate contact with the spokes, and yields to unequal thicknesses of the same.

The lever M can be locked in any desired position by means of a pivoted pawl, *i*, catching into a notched bar, *j*, as shown in Fig. 1.

The spokes to be tenoned or retenoned are placed upon the blocks F and G, which are regulated as to height in such manner that the plane, when moved over the bed B, will remove the desired thickness of wood from the end of the spoke at the requisite angle. Before the plane is applied the lever is swung down to force the clamp upon the spokes and hold them in place.

If a number of spokes are tenoned simultaneously, the fulcrum-block *f* is moved over the middle of the beam L; but if there are only a few spokes under one end of said beam, the block is moved over such end.

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

1. The vertically-adjustable block F, provided with the projecting serrated rib *d*, and combined with the sliding wedge E and bind-

ing-screw *a*, substantially as herein shown and described.

2. The vertically-adjustable block *G*, combined with the sliding wedge *H*, adjusting-screw *I*, and plane-bed *B*, substantially as herein shown and described.

3. The vertical clamp *L*, provided with the elastic strip *h* at its lower face, substantially as and for the purpose herein shown and described.

4. The sliding fulcrum-block *f*, applied to the spoke-clamp *L* under the lever *M*, substantially as and for the purpose herein shown and described.

ARTHUR SHERMAN.

Witnesses:

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