(No Model.)

J. B. SIMPSON.

RETENONING MACHINE.

No. 303,192. Patented Aug. 5, 1884.

Fig. 1.

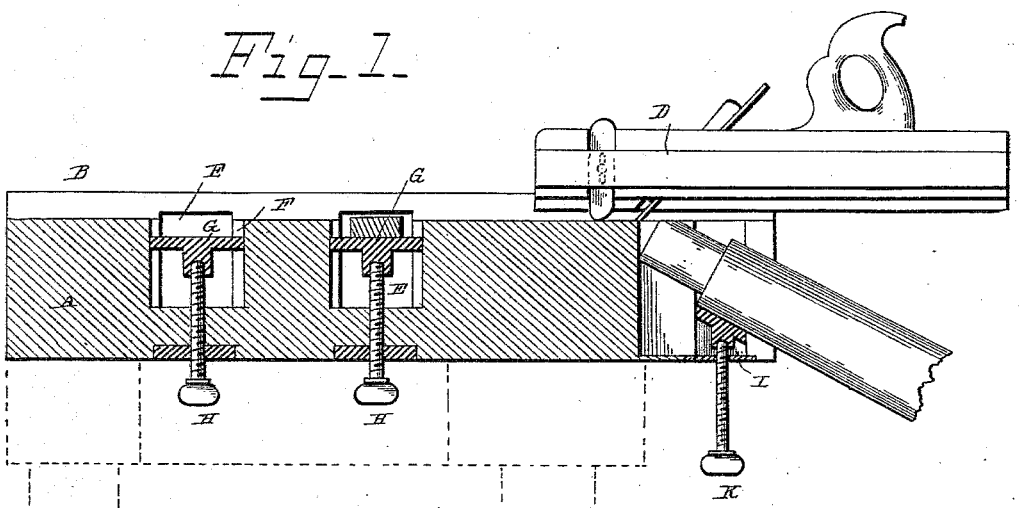


Fig. 2.

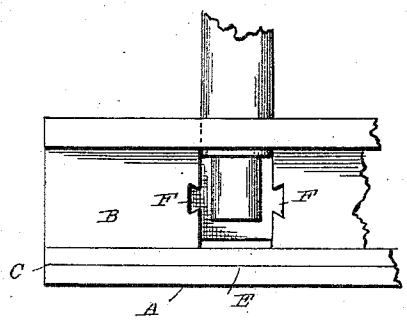
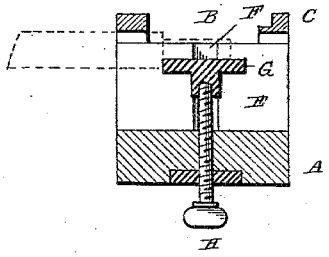


Fig. 3.



WITNESSES

Edwin L. Jewell.

J. J. McCarthy.

INVENTOR

John B Simpson

By Cull Higgins Jr

Attorney

UNITED STATES PATENT OFFICE.

JOHN B. SIMPSON, OF POPLAR CREEK, MISSISSIPPI.

RETENONING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 303,192, dated August 5, 1884.

Application filed May 31, 1884. (No model.)

To all whom it may concern:

Be it known that I, JOHN B. SIMPSON, of Poplar Creek, in the county of Montgomery, and in the State of Mississippi, have invented certain new and useful Improvements in Retenoning-Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

My invention relates to tenoning-machines, and has for its objects to provide a simple and useful machine whereby spokes may be tenoned, or may be retenoned when it is desired to fit them to new hubs or to smaller mortise-holes. A machine of this character is particularly useful in small shops, where the machinery used for forming the tenons on spokes in large quantities is too cumbersome and too expensive. The device hereinafter explained fulfills the necessary conditions of simplicity, cheapness, and effectiveness.

In the drawings, Figure 1 represents a longitudinal and vertical section of the device, showing the plane in side elevation and the tenon-gages in section; Fig. 2, a detail plan view of one of the tenon-gages with a spoke in position, and Fig. 3 a vertical cross-section through Fig. 2.

A represents the bed of the device, and is adapted to rest on a bench—such as is usually found in a workshop—and to be secured thereto. The upper part of this bed is recessed or grooved longitudinally, as shown at B, one side, C, being stepped. Instead of being grooved, strips may be placed along the side of the bed and on its upper surface. This recess or groove forms a "way" for the plane D, which is adapted to fit in the said recess, projections on its sides resting on the side pieces or strips before mentioned. This plane has a bit and a marker, like an ordinary rabbet-plane. Passing transversely through the bed are one or more openings or holes, E, rectangular in form, and having on either side the guides F.

G represents tenon-gages, having lugs adapted to fit in the guides F, and being adjusted by means of thumb-screws H. These gages are adapted to have a vertical movement in the rectangular holes E, and are for the purpose of adjusting the amount of material to be cut from the tenon on the spoke. The rear end of the bed is recessed sufficiently to allow the introduction of an inclined guide, I, with a vertical adjusting thumb-screw, K. This arrangement is for the purpose of supporting a spoke while the ends and sides of the tenon are being beveled, so that it will easily enter the mortise. The beveling is done with the same plane that cuts the tenons. The tenon-gage plates may be of any thickness, or may be of several thicknesses to accompany each machine.

When it is desirable to tenon an unfinished spoke, it is put in one of the openings in the bed and the gage raised till the spoke is above the surface of the groove or recess, and the plane being advanced a shaving is taken from it. It is then turned over, the gage set, and a shaving taken off, the operation being repeated till the tenon is formed. The same operation is required to retenon a spoke. After the tenon is formed, the edges are beveled, as before mentioned.

It is evident that the device may be used for any purpose to which it is adapted other than tenoning spokes.

The right of varying the construction without departing from the spirit of the invention is reserved.

Having described my invention, what I claim is—

1. A bed or block having transverse recesses or slots for the reception of the articles to be tenoned, and vertically-moving gages traveling in the said slots, and each consisting of a plate against which engages an adjusting-screw passing upward through the bottom of the machine, the tenoning being accomplished by a suitable cutting-tool.

2. A bed or block having transverse recesses or slots, each provided with vertical grooves, and gages moving in the slots and consisting of plates provided with projecting lugs which engage in the vertical grooves, the said plates being adjusted by screws which pass through the bottom of the block and engage with the under side of them, the tenoning being accomplished by a suitable cutting-tool.

3. A bed or block having at one end a recess or slot in which a gage is adapted to move vertically, the said gage consisting of a plate

with its upper surface inclined or at an angle to the horizontal, and an adjusting-screw passing through the bottom of the block and abutting against the under side of the said plate, which supports a spoke at the proper angle to allow its edges to be beveled by the cutting-tool, so that it may be easily inserted in the mortise.

4. The combination, with a bed or block having transverse slots and a slot or recess in one end, of a vertically-moving gage for each of the transverse slots, the said gage consisting of a plate adjusted by a screw from below, and a gage for the end recess or slot, the said gage consisting of a plate with a surface at an angle to the horizontal, and adjusted by a screw from below, the tenoning being accomplished by a suitable cutting-tool.

5. The combination, with a bed or block having transverse slots and an end recess, and also provided with a grooved top, of the gages for the transverse slots, each consisting of a plate having guiding-lugs on it and adjusted by a screw from below, an inclined gage for the end slot or recess, and consisting of a plate having a surface at an angle to the horizontal and adjusted by a thumb-screw from below, and a plane provided with a bit and cutting-marker, and adapted to be moved in the groove on the top of the block, the said plane operating to cut the tenons.

In testimony whereof I affix my signature, in presence of two witnesses, this 22d day of November, 1883.

JOHN B. SIMPSON.

Witnesses:
C. S. JOHNSON,
L. HEARON.