(Model.)

J. SHETLER.

TENONING MACHINE.

No. 260,331. Patented June 27, 1882.

Fig. 1.

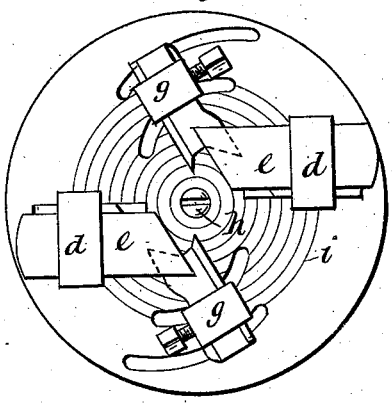


Fig. 2.

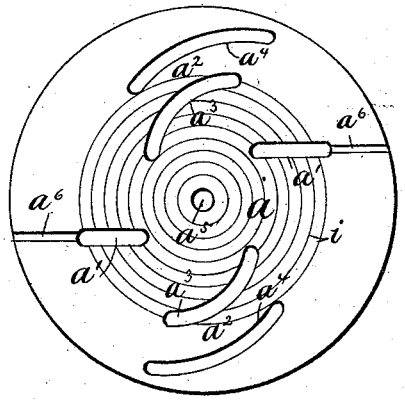
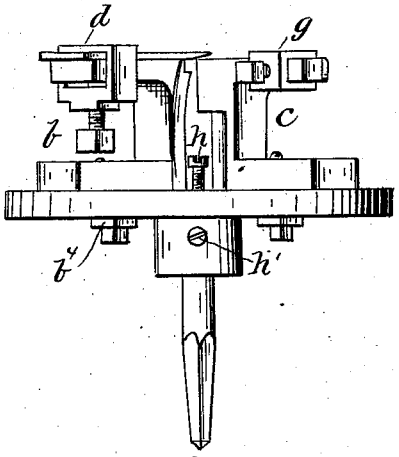


Fig. 4.

Fig. 3.



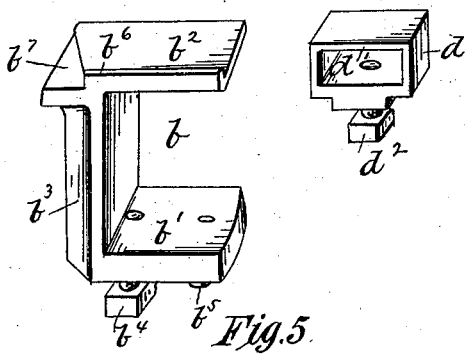
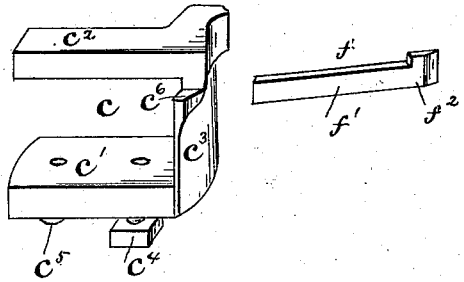


Fig. 5.



Witnesses:
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T. N. Griffin

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UNITED STATES PATENT OFFICE.

JEREMIAH SHETLER, OF TAYLORVILLE, ILLINOIS.

TENONING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 260,331, dated June 27, 1882.

Application filed April 22, 1882. (Model.)

To all whom it may concern:

Be it known that I, JEREMIAH SHETLER, a citizen of the United States, residing at Taylorville, in the county of Christian and State of Illinois, have invented certain new and useful Improvements in Tenoning-Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

This invention relates to improvements in machines for forming tenons on spokes or other articles whereon it is desired to form a round tenon.

It consists in the peculiar construction of the face-plate in connection with the tool-posts, the construction of the bracket tool-posts, the manner in which these posts are adjustably secured to the face-plate, and the mode of clamping the tools to their respective posts, all of which will be hereinafter fully described, and pointed out in the claims.

In the drawings, Figure 1 is a front view, and Fig. 3 is a side view, of a tenoning-machine constructed according to my invention. Fig. 2 is a detail view of the face-plate. Figs. 4 and 5 show in detail the bracket tool-posts, tools, and clamps, all of which will be hereinafter described.

a is the face-plate. Through it are cut the straight slots a' a^6 a' a^6, parallel one with the other, and the two pairs a^2 a^2 of slots curved in the arc of a circle, the slots a^3 a^4 of each pair being nearly concentric one with the other, as shown.

a^5 is a central opening through the face-plate.

b c are the tool-posts. I employ two of each kind, and the description of one of each kind will answer for both. The post *b* is composed of the base-bar b', the top bar b^2, and the connecting-bar b^3. It is secured to the face-plate by the bolt b^4, passed through slot a' in the face-plate, and it can be secured at any position along this slot desired. From the lower side of bar b', near its outer end, I project the pin or guide-bolt b^5, which moves in the slot a^6, which braces the tool and prevents its turning on the bolt b^4, as would be the case were this brace not provided.

b^6 is a rib or flange projected upwardly from the edge of the top bar b^2. This flange is of height equal to the thickness of the tool *e*, placed thereagainst and in rear of same in the operation of the device. The inner portion, b^7, of the top piece b^2 is cut away, as shown, to furnish clearance for the tool.

d' is the clamp, the loop *d* of which is adapted to be passed over the top piece b^2 and tool *e*, hereinafter described, and by turning set-screw d^2 up against under side of bar b^2 the tool is secured firmly to post. The tool *e* is formed pointed, and its under side is beveled to form the cutting-edge, as shown.

The post *c* is composed of the base-bar c', top bar c^2, and connecting-bar c^3. It is connected to face-plate by bolt c^4, passed through slot a^3, and it is provided with pin c^5, adapted to rest in groove a^4. The bolt c^4 and pin c^5 may be set in any suitable position in the grooves, and the post and tool may be thus adjusted to or away from the work and at any angle to the cutting-line desired, which angle varies with the condition of the working-tool, the material worked on, and the speed of revolution, as is well understood. The forward side of bar c^2 and portion of upper end of bar c^3 are cut away, as shown, forming the shoulder c^6, against which rests the tool *f*, hereinafter described. This shoulder, it will be seen, is arranged below the under side of bar c^2. The tool is made with the shank f' as wide as the bar c^2 is thick, while near its cutting end f^2 it is widened out equal to distance from shoulder c^6 to top of bar c^2. The tool is secured to the bar c^2 by clamp *g*, composed of loop made of proper size to fit over bar c^2 and shank f' of tool, and set-screw passed through side of loop and arranged to bear against side of bar c^2, opposite the side on which tool is placed.

h is an adjustable stop, having a threaded shank adapted to be screwed into the opening a^5, and it may be held at any point desired by screw h', passed through sleeve of face-plate. On the face-plate I cut circular lines or thin grooves concentric with the face-plate. These lines may be graduated, and the tools may then be readily set to cut a tenon of any desired diameter.

In the operation of my device the adjustable

stop *h* is set at proper distance to govern the length of the tenon, and the tools are set at proper point to cut tenon of proper diameter. Then as motion is given the device and the spoke is pressed in the tenon will be formed, the tools *f* forming the sides of same, while the tool *e* forms the shoulder at juncture of tenon and spoke, as will be readily understood on reference to the drawings.

The slots a^4 a^6 may be cut all the way through the face-plate, where so desired, or may be only grooves formed part way through the same.

It will be understood my device may be used with power crank or brace, as is most convenient to the operator.

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

1. The combination, with the face-plate *a*, having concentric lines *i* and slots a^6 a^6 a^3 a^4, of the bracket tool-posts *b* *c*, provided with bolts b^4 c^4 and pins b^5 c^5, and adapted to carry the tools *e f*, substantially as set forth.

2. In a tenoning-machine, the tool-post *b*, secured to the face-plate by bolt b^4 and pin b^5, and having its top bar b^2 provided with rib or flange b^6, projected upwardly therefrom, and its forward portion, b^7, cut away, as shown, and adapted to carry the shoulder-forming tool *e*, substantially as described.

3. The bracket tool-post *c*, secured to the face-plate by bolt c^4 and pin c^5, and having the forward side of its top bar c^2 and edge of bar c^3 cut away to form the shoulder c^6, against which rests the side planing tool *f*, clamped to bar c^2, substantially as described.

In testimony whereof I affix my signature, in presence of two witnesses, on this 24th day of February, 1882.

JEREMIAH SHETLER.

Witnesses:
ADAM RITSCHER,
JAMES BROOKS.