(No Model.)

J. O. LADE.

SPOKE TENONING MACHINE.

No. 521,214. Patented June 12, 1894.

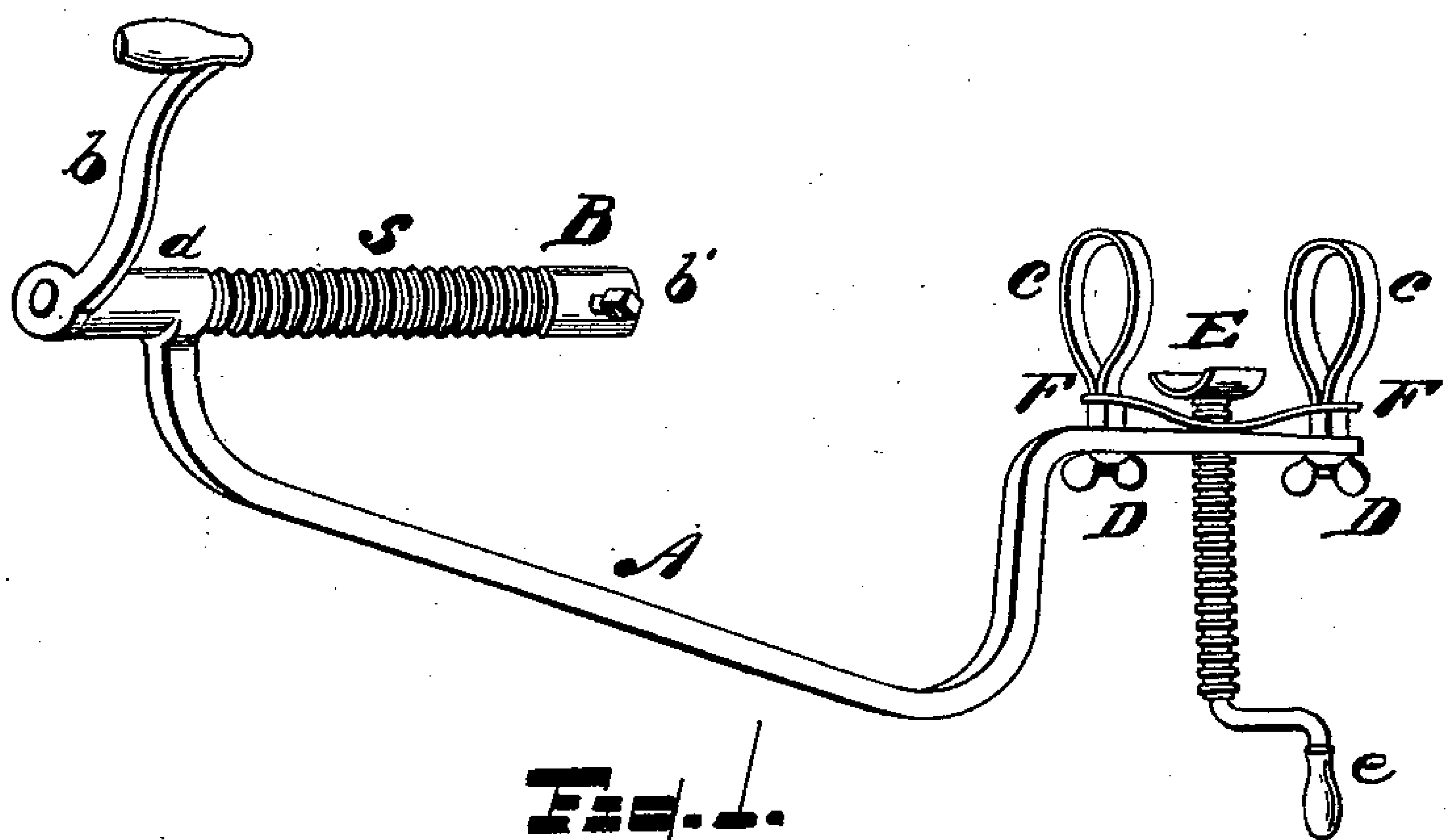

Fig. 1.

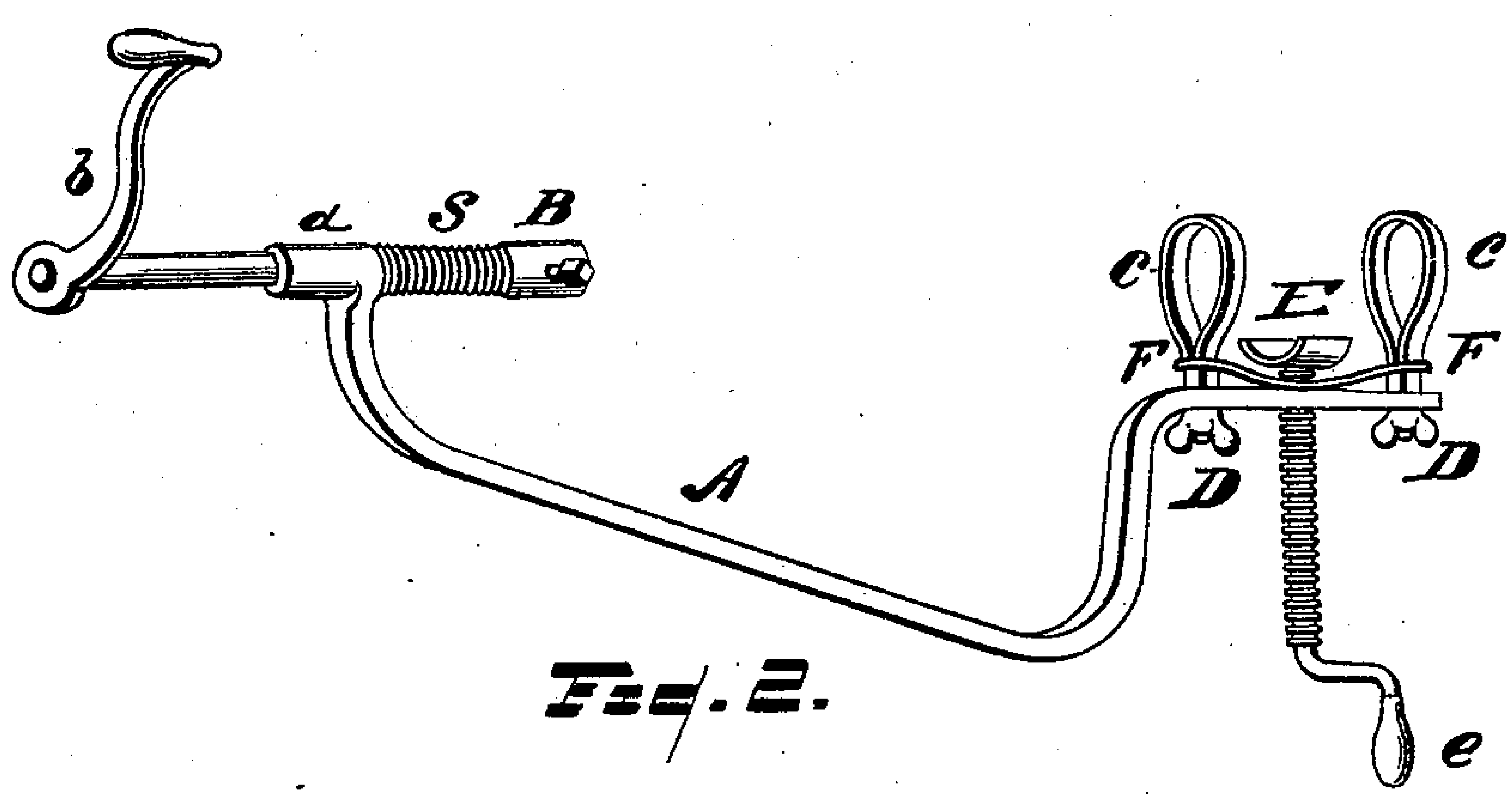

Fig. 2.

WITNESSES
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JOHANN O. LADE, OF MERRILL, MICHIGAN.

SPOKE-TENONING MACHINE.

SPECIFICATION forming part of Letters Patent No. 521,214, dated June 12, 1894.

Application filed July 11, 1893. Serial No. 480,189. (No model.)

To all whom it may concern:

Be it known that I, JOHANN O. LADE, a citizen of the United States, residing at Merrill, in the county of Saginaw and State of Michigan, have invented certain new and useful Improvements in Spoke-Tenoning Machines; and I do 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 the letters of reference marked thereon, which form a part of this specification.

My invention relates to spoke tenoning machines and consists in the special construction and combination shown and claimed.

Figure 1 is a perspective of the machine, and Fig. 2 is a perspective showing the tool shaft in a different position.

A is the bed or frame of the machine and consists of a piece of metal bent somewhat yoke shaped, provided at one end with a socket for receiving the tool shaft B, the other end being bent on a line parallel with the tool shaft but below the plane thereof, yet in same vertical plane and provided with three sockets, two for receiving the adjustable clamps or loops C, C, and one for receiving the screw threaded shaft, *e*, provided with a crank and having upon its upper end the rest E. Each clamp C consists of a loop of sufficient size to receive a spoke, the ends of the loop united and passing down through the spring F, into the socket in bed A, and is provided with a screw threaded end upon which the thumb nut D is screwed, holding it within the socket in bed A; passing the spoke through these loops, C, C, it will lie in the rest E. Turning the crank on the shaft *e*, will clamp the spoke against the top of the loops C, C. If this does not bring the end of the spoke in line with the tool shaft B, turning the shaft E downward and screwing up on the thumb nut D, will adjust the spoke to the proper line. The tool shaft B, is provided with a socket for receiving the tool, and at the other end with a crank *b*, for turning the shaft.

S is a coiled spring surrounding the shaft between its socket *a*, and the tool socket, and is for the purpose of pressing the tool against the end of the spoke. This position is shown in Fig. 1.

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

In a spoke tenoning machine of the class described the combination with the bed A consisting of a bar bent as described having at one end a horizontal socket integral therewith for receiving the tool shaft, and on the other end two square sockets the proper distance apart for receiving the adjustable rests C, C, and a screw threaded socket for receiving the clamping device E, and the tool shaft B passing through the horizontal socket on the end of the bed A, the crank *b* on the outer end of the tool shaft, the tool socket *b'* on the inner end of the tool shaft, the coiled spring S surrounding the tool shaft between the tool socket and the tool shaft socket whereby the tool may be pressed against the spoke, of the spoke clamping device described consisting of the two adjustable loop rests C, C, having their lower ends screw threaded and above the thread a square shoulder adapted to fit into the square sockets in the ends of a flat spring and into the square socket in the ends of the bar A, thumb nuts D screwing on to the ends of the loops C, C below the bar A and thereby adjusting the loops, the flat spring F, having its ends bent away from the bar A and provided with square sockets for receiving the square shoulder on the ends of the loops C. C, whereby when the loops C, C are drawn down by the thumb nuts D the spring F will hold the loops rigid and resist the nuts D, the clamp E between the adjustable loops C, C and adapted to press against the lower side of the spoke and clamp the spoke between it and the top of the loops C, C, the clamp consisting of the rest E having a screw threaded stem passing through a socket in the spring F thereby securing the spring to the bed A, and through the screw threaded socket in the bed A, and having upon the lower end of the stem a crank *e* for turning the clamp-

ing device as required, whereby by turning the nuts D, D, and the crank *e* the spoke may be readily adjusted while in the clamping device to the line of the tool shaft and held in that position as the tenon is being formed, substantially as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

JOHANN O. LADE.

Witnesses:
A. H. SWARTHOUT,
J. F. O'KEEFE.