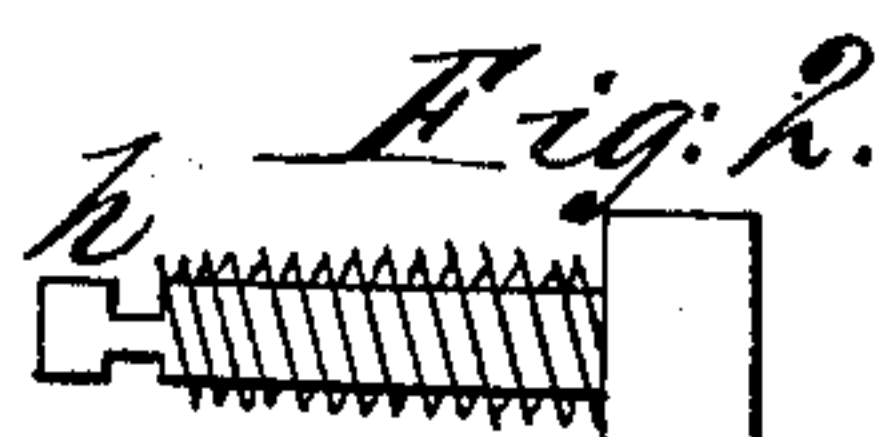
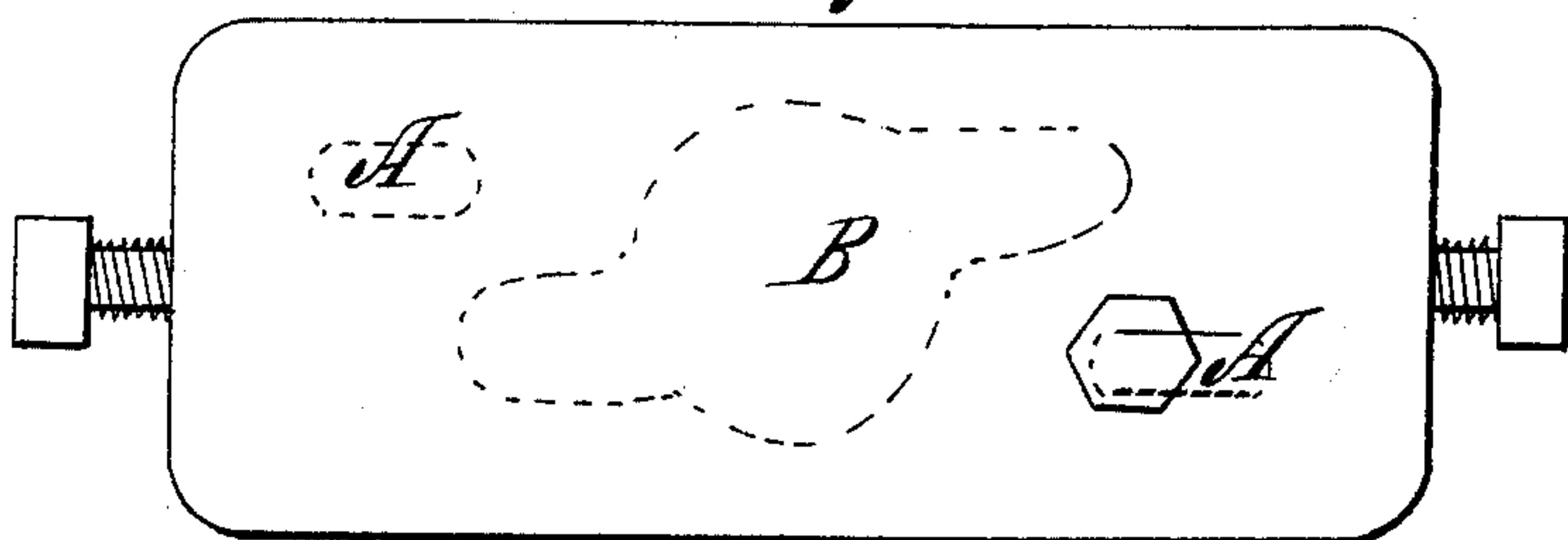
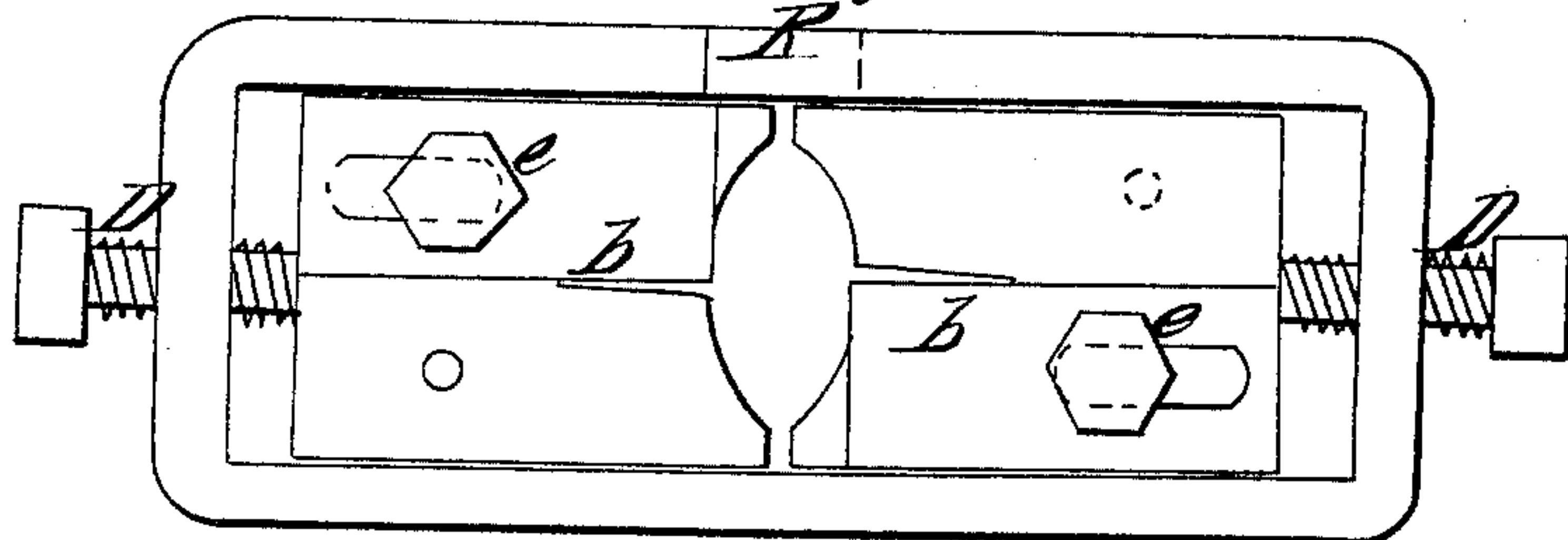


*J. McCreary,*  
*Tenoning Machine.*  
*N<sup>o</sup> 21,512. Patented Sep. 14, 1858.*

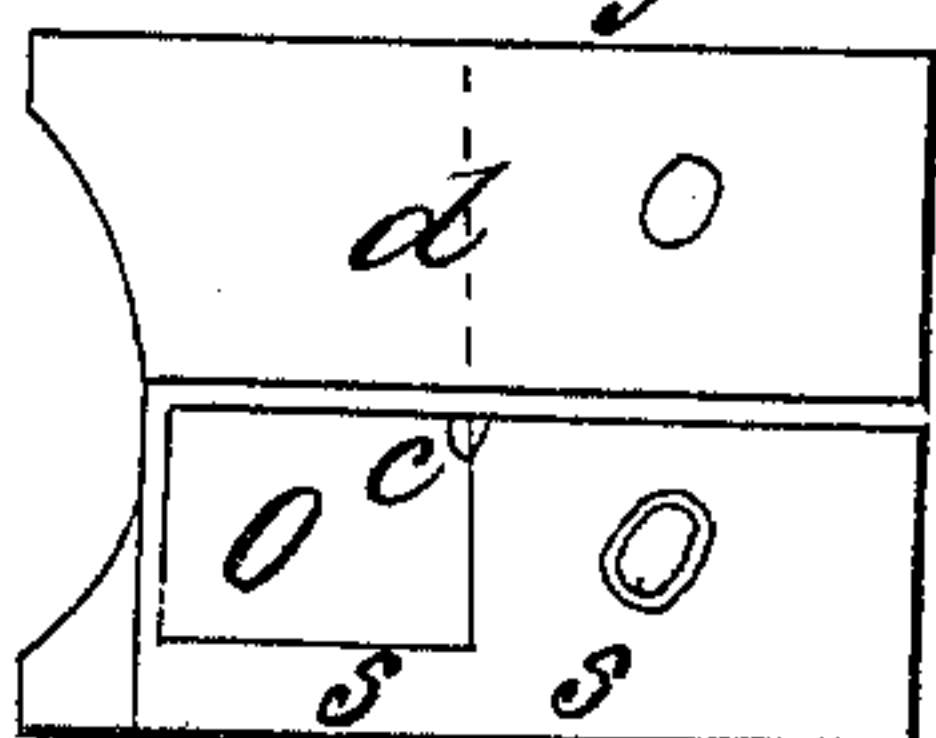
*Fig. 1.*



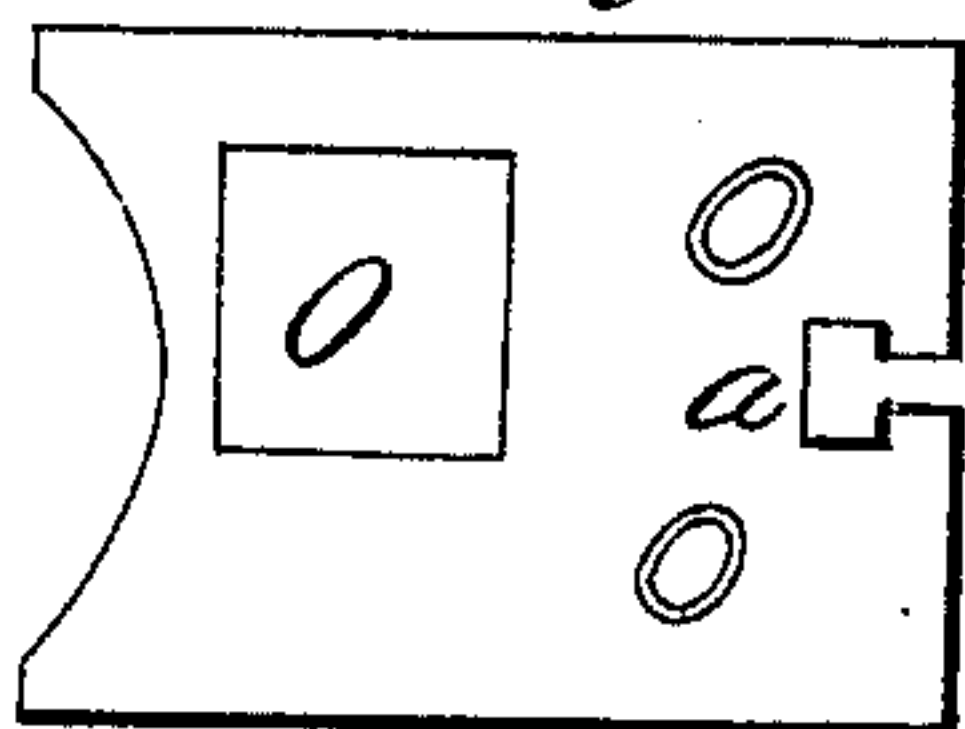
*Fig. 3.*



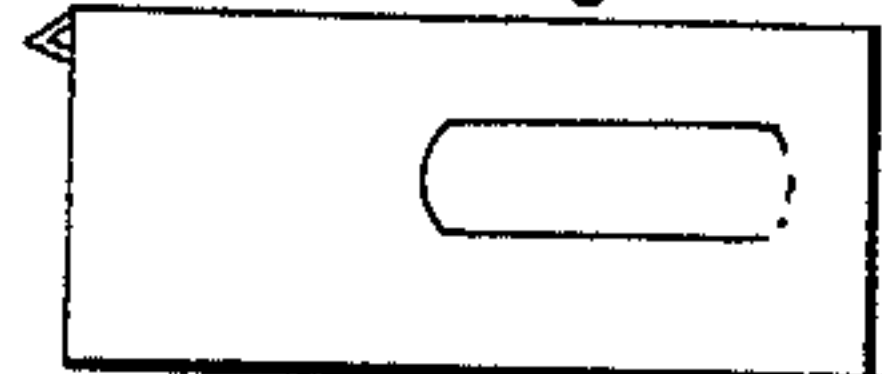
*Fig. 5.*



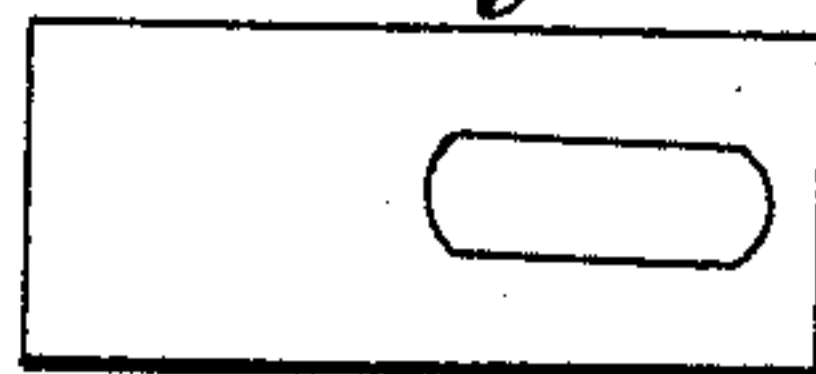
*Fig. 4.*



*Fig. 7.*



*Fig. 6.*



*Witnesses:*

*E. Griswold*  
*J. Griswold*

*Inventor:*

*John M. Creary*

# UNITED STATES PATENT OFFICE.

JOHN MCCREARY, OF DELAWARE, OHIO.

## TENONING-MACHINE.

Specification of Letters Patent No. 21,512, dated September 14, 1858.

*To all whom it may concern:*

Be it known that I, JOHN MCCREARY, of Delaware, in the county of Delaware, in the State of Ohio, have invented a new and Improved Method of Constructing Tenoning-Machines for Forming Round Tenons on Wood; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon.

The nature of my invention consists in the construction of a machine for forming round tenons on wood in such a manner that tenons may be formed either lengthwise or crosswise of the grain of the wood, and of any desired size, the machine being perfectly adjustable; also in so arranging the set screws for increasing the cut of the cutting bits that the edges may be elevated while the backs rest firmly, thus avoiding the trembling of the bits occasioned by elevating the entire end of the bit as is done in some of the tenoning machines now in use.

To enable others skilled in the art to make and use my invention I will proceed to describe its construction and operation.

I usually make a stock of cast iron four and a quarter inches long, one and three quarter inches wide, and three quarters of an inch thick. In one side of this stock, I make an excavation half an inch in depth, and three and three fourth inches long, and one and one fourth inches wide, thus leaving a rim one fourth of an inch thick and half an inch high extending entirely around, and a bottom plate of the same thickness. I then make openings through the bottom as shown at A, A, and B, Figure 1 in the accompanying drawings. I then insert an adjusting screw Fig. 2 into each end of the stock just above the bottom as shown at D, D, Fig. 3. I then make two bit holders, of a like size and shape, Fig. 4 being a view of the underside, and Fig. 5 a view of the upper side. These bit holders are made of cast iron also, and of thickness and width to fill the cavity in the stock above named the entire length being a quarter of an inch less than half the length of the excavation in the stock above named with a curve at one end as seen in Figs. 4 and 5. In the underside of the bit holder I make a recess as seen at A Fig. 4 to receive the neck and head of the adjusting screw as seen at h Fig.

2. I also make an opening entirely through the bit holder as shown at O Figs. 4 and 5. I then on the upper or face side of the bit holder, from the center to one edge cut down one eighth of an inch deep to make a receptacle for the cutting bit as shown at S S Fig. 5. I then insert a set screw in the edge of the bit holder, under the dotted line d Fig. 5, so that the point passes out one eighth of an inch below the face of the bit holder as seen at c Fig. 5; these bit holders are then placed in the cavity in the stock above named, with the recesses resting upon the necks and heads of the adjusting screws, so that by turning them, the bit holders will be carried by them, to any desired point; and to secure the bit holders at any point, I insert into each a screw from the bottom through the slots A, A, Fig. 1 in the bottom plate of the stock. When these securing screws are loosened the bit holders can easily be moved in either direction, by turning the adjusting screws, and when brought to the desired point can be easily secured by tightening the screws in the bottom. I then place my cutting bits into their receptacles above named for that purpose, and secure them there by screws passing through the slots in the bits, the object of these slots being to allow the bits to be moved toward or from the center of the machine, these screws are seen at e, e, Fig. 3, by them the bits are secured to the bit holders with their cutting edges at or near the center of the holders as seen at b, b, Fig. 3. I then attach a yoke or other suitable arrangement for giving motion to the machine, and after having ascertained the axis of motion, I mark on the rim of the stock, exactly opposite that point, as shown at R Fig. 3, and then mark each way from this point, the distance that the bit holder can be drawn back and then carefully divide into parts of an inch so that the bit holders can be readily adjusted to any desired size, always being at equal distances from the axis of motion. The spoke or other wood to be tenoned should be pointed in the usual way, and the point put in the axis of motion. The machine then being put in motion the bits passing cut off and remove the superfluous wood and the tenon is formed, and the shape of the shoulder is made concave when desired, by merely making the bit holders thicker at the inner or curved ends. The cuttings pass through



the openings *o o* Figs. 4 and 5 and then through the bottom of the stock at the ends of the opening B at Fig. 1.

When I desire to cut tenons, or pins, or plugs, crosswise of the grain of the wood, I remove one of the cutting bits, and put the pointed one shown at Fig. 7 in its place. This point is sharp and cuts like the point of a common counter bit, while the cutting bit cuts and removes the superfluous wood, thus forming a round stick which may be easily split into plugs to fill in over screws in carriage bodies, or in joiner work, having this advantage over those cut in the common manner that they are not tapering, but of the same size through their whole length, they will therefore hold glue their whole length while those that are cut tapering, will only hold the glue at a single point.

I make no edge to the bit Fig. 7 except the mere point, which stands at right angles to the face of the machine, but my cutting bit Fig. 6 is made sharp about half an inch back from the end as represented at *b, b*, Fig. 3. When I wish to increase the cut of the bits I force the points of the setscrews

above described under the edges of the bits in the form of inclined planes. This merely raises the edges of the bits while the backs rest firmly on the bit holders below, thus avoiding the trembling of the bits which would likely occur if the whole ends of the bits were raised on a single point as is the case in some of the best machines now in use.

Having thus fully described the nature of my invention and being aware that many kinds of machines have been invented and used by others for forming round tenons, I therefore do not claim forming such tenons, but

What I do claim as new and useful and as my invention is—

1. The construction and arrangement of the bit holders as set forth above.

2. I also claim the manner of applying the set screw as above described.

JOHN McCREARY.

Attest:

E. GRISWOLD,  
P. GRISWOLD.