

UNITED STATES PATENT OFFICE.

MICHAEL GALVIN, OF SCRANTON, PENNSYLVANIA.

IMPROVEMENT IN HAND TENONING - MACHINES.

Specification forming part of Letters Patent No. 34,680, dated March 18, 1862.

To all whom it may concern:

Be it known that I, MICHAEL GALVIN, of Scranton, in the county of Luzerne and State of Pennsylvania, have invented a new and Improved Hand Tenoning - Machine; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a plan of the clamping and measuring device. Fig. 2 is a rear end elevation of the same. Fig. 3 is a longitudinal section of Fig. 1, taken at the line *x x*. Fig. 4 is a side elevation of the cutting-tool, and Fig. 5 is a rear end elevation of the same.

Similar letters of reference indicate corresponding parts in the several figures.

The object of this invention is to obtain a simple and efficient device for cutting tenons by hand, which is adapted for all ordinary work and does not require the work to be laid out for it, and which can be furnished at so low a cost as to bring it within the reach of every mechanic.

To enable others skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A represents an oblong rectangular box open at both ends and at top, and is for the purpose of receiving and holding the piece of wood while the tenon is being formed. The side pieces *b b'* of the said box project in front thereof and are cut down an equal distance at top and bottom, forming shelves parallel with each other, upon the ends of which shelves a cross-bar B is secured flush therewith at top and bottom for the purpose hereinafter to be explained.

C is a cap extending across the front part of the box and secured at each end upon the side pieces. The piece of wood upon which the tenon is to be cut is placed in the box and secured between the cap and bottom thereof against up-and-down movement by a thumb-screw D passing through the cap, and is secured against lateral movement by a screw E, passing through the front side piece *b* of the box and clamping the wood between it at the opposite side piece.

The box is attached at its back side and on top by hinges *a a* to a frame F, which is to be rigidly secured to a table or bench, and which admits of the box being turned over or re-

versed after one half of the tenon is cut to form the other half.

H is a sliding scale marked off or graduated into inches and fractions of inches, fitted into the bed-piece of the box at one side by a dovetail and mortise, so as to slide longitudinally thereof. The inner side of the piece *b'* is also graduated to correspond with the divisions on the sliding scale.

I is a stop secured in the sliding rule, against which stop the piece of wood upon which the tenon is to be cut is first placed and adjusted by the sliding scale to suit the length of tenon desired.

J is a thumb-screw fitted into the bottom of the box so as to rest against the under side of the sliding scale, and is for the purpose of securing it when set to suit a given size of tenon, so that an indefinite number of tenons of a given size can be cut after the scale is once properly adjusted.

K is the stock of the cutting-tool, of similar construction to a joiner's plow, with a half-rabbet at the bottom and one side thereof and an adjustable gage *e* on the opposite side.

L is the plane-iron, and *f* is the cutter for cutting down at the shoulder, both of which are secured in the usual manner.

L' is a gage (shown in dotted lines in Fig. 4) fitted to move up and down in the half-rabbet and stock and made adjustable by means of the screw M, to which it is attached.

The operation is as follows: The piece of wood upon which the tenon is to be formed is placed in the box with the back end resting against the stop in the sliding scale and the front end placed flush with the front end of the box and cap. The sliding scale is now adjusted to measure the size of the tenon desired and secured by the thumb-screw. The piece of wood, being now secured by the clamping-screws, is ready to be cut. The gage L' of the cutting-tool is now adjusted by its screw the distance from the face of the tool the depth that the cut on each side of the piece of wood is desired to be to form the tenon. The gage is now adjusted so as to rest upon the cross-bar B when the depth of the cut desired has been attained, and thus retain the cutter perfectly level, when by moving it back and forth one side or one half of the tenon is formed. The box is now reversed and the other side or half of the tenon

cut in the same manner, when by loosening the clamping-screws the tenon is taken out finished and the machine ready for another.

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

The combination of the sliding scale H, stop I, and thumb-screw J, with the box A, cap C,

and clamping-screws D E, when arranged and operating in the manner and for the purposes described.

MICHAEL GALVIN.

Witnesses:

ALBERT HATTEN,
A. D. SPENCER.