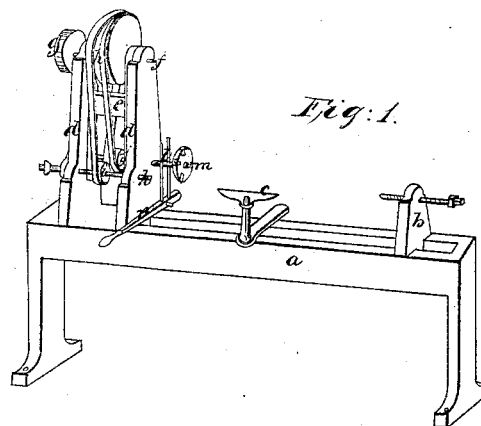


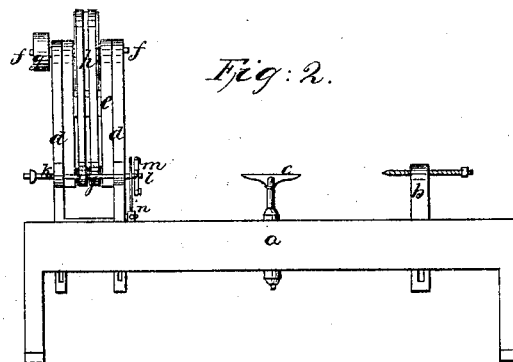
*T. J. Wells,*  
*Dovetailing Machine,*

*No. 2,158,*

*Patented July 8, 1841.*

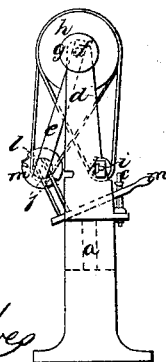


*Fig: 1.*

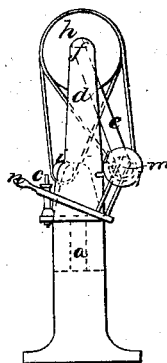


*Fig: 2.*

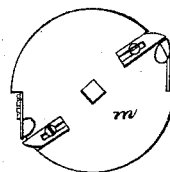
*Fig: 3.*



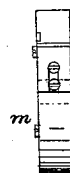
*Fig: 4.*



*Fig: 5.*



*Fig: 6.*



*Witnesses:*  
*David Ferguson*

*James T. Shipman*

*Inventor:*  
*Thomas J. Wells.*

# UNITED STATES PATENT OFFICE.

THOMAS J. WELLS, OF NEW YORK, N. Y.

## MACHINE FOR CUTTING DOVETAILS AND TENONS.

Specification of Letters Patent No. 2,158, dated July 8, 1841.

*To all whom it may concern:*

Be it known that I, THOMAS J. WELLS, of New York, in the county and State of New York, have invented a new and useful Machine for Cutting Dovetails and Tenons with a Rotary Motion; and I do hereby declare that the following is a full and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a perspective view; Fig. 2, a longitudinal elevation. Figs. 3, and 4, are end views. Figs. 5, and 6 are views of the circular rabbet-plane.

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

I construct a lathe, letter *a*, in Figs. 1, 2, 3, 4, which may be made of wood or iron; on the same is placed a sliding center, letter *b*, and a movable resting-stand, letter *c*, in Figs. 1, 2, 3, 4, at the one end of this lathe I erect two uprights letter *d*, *d*, in Figs. 1, 2, 3, and 4. Between these uprights I place a frame, letter *e*, in Figs. 1, 2, 3, and 4, which is hung on the shaft, letter *f*. To this shaft two pulleys are fastened; the one letter *g*, is the working pulley to which the motive power is attached; the other letter *h*, is a larger pulley whereon two leather bands are placed, which are also connected to the smaller pulleys *i*, and *j*, in Figs. 1, 2, 3, and 4; the pulley *i*, is fastened to the mandrel of the lathe, letter *k*, which revolves in the uprights, letter *d*, *d*; the pulley *j*, is fastened to the shaft, letter *l*, which revolves in the lower part of the frame, letter *e*, and at the end of this shaft a circular rabbet-plane, letter *m*, (in Figs. 1, 2, 3 and 4, and Figs. 5 and 6) is fastened. At the working side of the upright *d*, a lever, letter *n*, is fastened, which operates on the shaft, letter *l*, when the handle of the lever is raised or lowered and places the circular rabbet-plane at any suitable distance from the piece of timber or other substance, to be operated upon, which is fastened in the lathe.

The rabbet-plane may be of any suitable diameter, and may have as many plane-bits attached to the same to suit the difference of motion which may be had by diminishing or enlarging the pulleys *i*, and *j*. The plane-bits may be fastened to the plane to cut a dovetail or tenon. To explain the

operation more distinctly: I, after having fastened the piece of wood (or other substance) in the lathe, set the machinery in motion, and by lowering or raising the handle of the lever I allow the circular rabbet-plane to cut into the piece as deep as practicable; if the rabbet plane has two bits as shown in Figs. 5 and 6, it will require, for to cut a square on the piece, to have the rabbet-plane revolve twice when the piece does once, or the piece may make a half revolution and the rabbet-plane a whole. By applying four bits to the plane, and having the piece revolve equal with the same, a square is obtained; by revolving the same plane twice an eight-square is obtained etc. according to any mathematical rule. If a piece to be turned rounding is placed in the lathe the same can be finished, and then the circular rabbet plane may be applied to cut a dovetail or square tenon, or it may be applied at any time while the piece is turning; as the motion of the lathe is always retained on the circular rabbet-plane from the first commencement of starting the machine. In this manner different sizes of dovetails or tenons may be turned for different purposes.

A machine of the above description may be made of iron altogether instead of wood, by using cog-wheels and endless-chains in place of wooden pulleys and leather bands. The principle herein described may be attached to any turning lathes with great advantage.

The piece of timber on which a tenon, dovetail, or other form is to be cut is secured in the machine and revolved in the usual manner. It is turned in the same direction as the circular plane. The circular plane is managed and directed in its operation by the lever *n* which the operator lays hold of and with which he brings the plane to, or moves it from the substance on which the tenon or dovetail is to be cut.

The cutting performed by each cutter is on a line which forms an increment tangential line to the circumference of the circular plane and the piece cut off from the rail or other article (if round or cylindrical) will be a segment of the cylinder—the cut being the chord of the arc.

The invention claimed and desired to be secured by Letters Patent is—

The before described mode of cutting tenons, or dovetails, or other forms, by a

similar simultaneous rotary motion of the circular plane and substance on which the tenon, dovetail, or other form is to be made, the cutting performed being on an increment tangential line to the circumference of the revolving circular plane, while the cut made forms the chord line of a segment or the piece of the circular rail cut away by the revolving cutters.

THOMAS J. WELLS.

Witnesses:

WM. P. ELLIOT,  
E. MAHER.