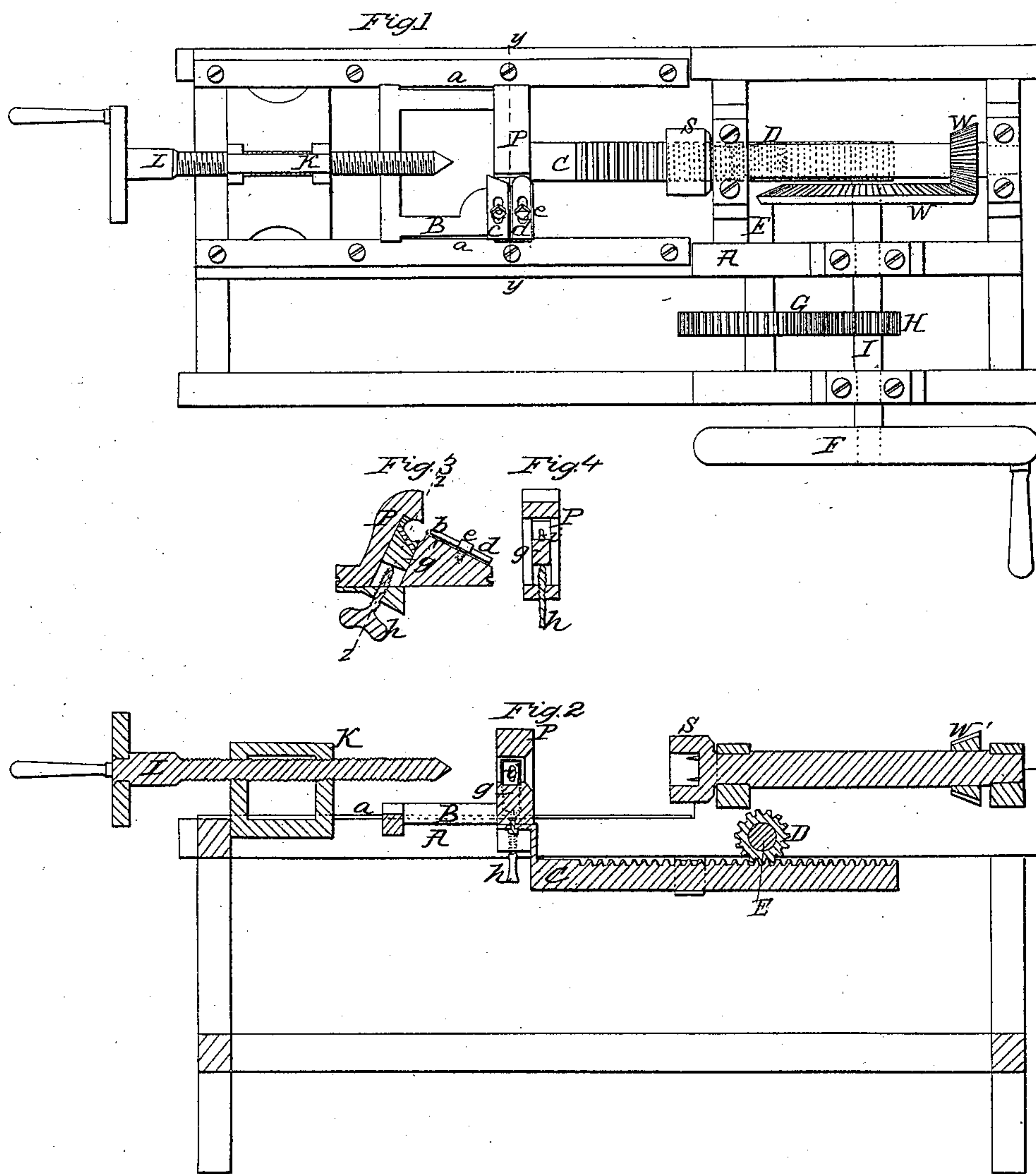


E. Webber,

Making Wooden Pins.

N^o 14,173.

Patented Jan. 29, 1856.



UNITED STATES PATENT OFFICE.

ELBRIDGE WEBBER, OF GARDINER, MAINE.

TREENAIL-MACHINE.

Specification of Letters Patent No. 14,173, dated January 29, 1856.

To all whom it may concern:

Be it known that I, ELBRIDGE WEBBER, of Gardiner, in the county of Kennebec and State of Maine, have invented a new and useful Improvement in Treenail-Machines; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing, forming part of this specification, in which—

Figure 1 is a plan of the machine. Fig. 2 is a vertical section on line *x x* of Fig. 1. Fig. 3 is a vertical section on line *y y* of Fig. 1. Fig. 4 is a section on line *z z* of Fig. 3 parallel to the axis of the socket.

Similar letters of reference in the several figures denote the same part of the machine.

The nature of my invention consists in the construction of the cutting apparatus of a traversing box, opening at one side upon an inclined seat to which the cutters or bits are fixed, and having the portion of the form opening which lies below the plane of the bit seat produced, movable perpendicular to said seat, whereby the change in size of form opening is effected with great facility, and the entire cutting apparatus greatly simplified.

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

In the drawing A is the frame on the ways *a a* of which the carriage B traverses, it being attached to the rack C which meshes into the pinion D on the shaft E. This shaft is rotated by power applied to the wheel F, through the cog wheels G and H. The shaft I of the latter carries also the beveled cog wheel W, which by meshing into the beveled wheel W' rotates the socket S simultaneously with the translation of the carriage B. The tail block K and screw L are placed on the frame to be used in turning stuff requiring to be secured at both ends, and are not essential to the operation of the machine. Upon the carriage B, is the cutter box P, in the peculiar construction of which this invention consists. On its inclined face *b* lie the cutters *c* and *d* secured by the bolts *e*, one cutter being a gouge and the other an oblique chisel. Through the box runs the gage rod *g*, its lower extremity resting upon the set screw *h* so as to be moved longitudinally by turning said screw. The upper ex-

tremity of the gage rod conforms to the opening in the box, and constitutes so much of the form opening as lies below the plane of the bit seat produced. In the head is the roller *i* for diminishing friction as the tree-nail passes over the head of the gage rod. Instead of the roller *i* as shown in the drawings, there may be three or more balls, or a concave roller, in the upper end of the gage rod, for effecting the same purpose as the roller *i*. These rollers serve their legitimate function only, and need not be considered as essential to the construction of my box, as it will operate without them.

The operation of this machine is as follows: One extremity of the piece of wood from which the treenail is to be turned, is secured into the square socket *s* and the other extremity entered into the mouth of the box P, the gage rod *g* being adjusted to give the requisite size to the treenail by turning the set screw. The wheel F is then revolved producing the rotation of the securing socket, and block from which the treenail is to be turned, and the simultaneous movement of the box P toward the head of the socket *s*, the cutters *c* and *d* giving the proper form to the treenail as it passes through the box. The open mouth of the box admits of the treenail being turned so that any curvature of the block will be followed, and the treenail turned without cutting across the grain. The roller *i* in the end of the gage rod *g* prevents a great deal of the friction that would necessarily take place between the treenail and the head of the gage rod, as the action of the cutters will always cause a greater pressure of the treenail against the head of the gage rod than against any other part of the box.

The importance of a simple adjustment of the box and of diminishing friction to as great an extent as practicable, will be apparent to every one acquainted with machines of this character and need not here be discussed upon.

Disclaiming the traversing of the forming box over the treenail, and the alteration of the size of the treenail by the expansion and contraction of the cutter box, broadly considering, I claim as an improvement in treenail machines—

The construction of the traversing forming box, of a flaring mouthed bit holder, combined with a slide *g*, whose upper sur-

face composes so much of the form box opening, as lies below the plane of the bit seat produced, perpendicular to which plane said slide is adjustable, for changing the size
5 of the treenail, the operation being as herein set forth.

In testimony whereof, I have hereunto

signed my name before two subscribing witnesses.

ELBRIDGE WEBBER.

Witnesses:

JOSEPH M. MISERVE,
GEO. WULAITT.