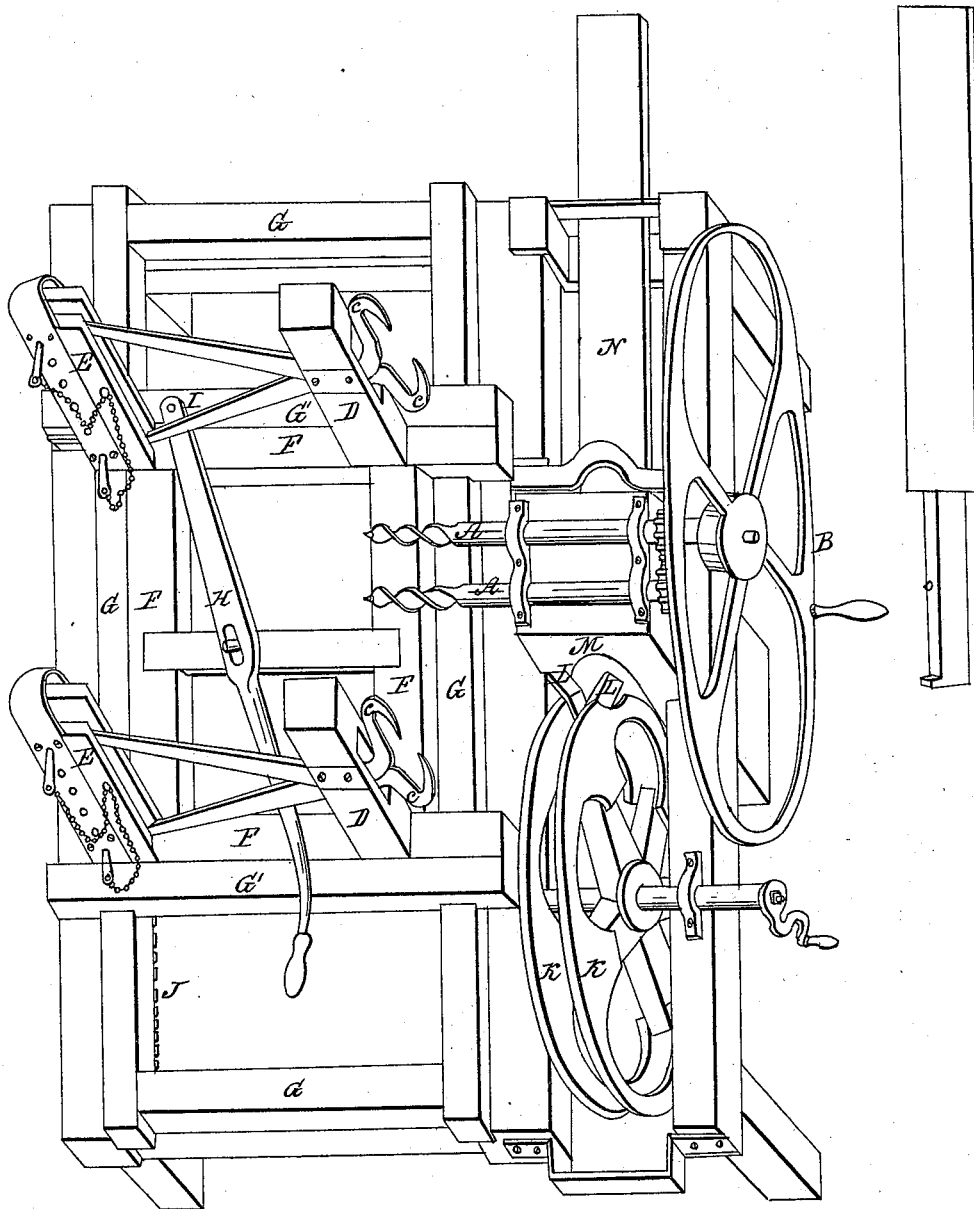


W. H. Shay,
Boring Wood.

N^o 1,420.

Patented Nov. 25, 1839.



UNITED STATES PATENT OFFICE.

WM. H. SHAY, OF NEW YORK, N. Y.

MACHINE FOR BORING THE POSTS FOR POST-AND-RAIL FENCES.

Specification of Letters Patent No. 1,420, dated November 25, 1839.

To all whom it may concern:

Be it known that I, WILLIAM H. SHAY, of the city of New York, in the State of New York, have invented certain Improvements in Machines for Boring the Posts and for Tenoning the Rails of Post-and-Rail Fences; and I do hereby declare that the following is a full and exact description thereof.

10 For boring the posts I use two or more augers placed side by side and geared together so that by communicating motion to one of them the whole will be made to revolve. The posts to be bored are to be held
15 by means of what I denominate caliper levers, which are sustained upon a sliding carriage, upon which the post can be fed up to the augers, in a manner to be presently described.

20 The tenoning apparatus consists of cutters placed upon a revolving wheel, which I denominate the rotary cutter, or tenoning wheel; said wheel having a double rim, each of which is furnished with a cutter, or cutters, that sharpen, or tenon, the rails, reducing them all to the same thickness at their ends.

In the accompanying drawing, A, A are two augers running in suitable bearings,
30 and geared together by means of pinions on their shafts. They are to be of such size as will correspond with that of the mortise to be formed, which will usually be about an inch and a half.

35 B, is a fly-wheel upon the shaft of one of the augers, and by which motion may be communicated to the whole.

C, C, are the caliper levers for holding the posts while they are being bored, which levers have their fulcra, or joint pins, in the
40 posts, or standards, D, D. The outer ends of these levers are received between the double posts E, E, and are held in place by means of bolts passing through holes in said
45 posts, in a manner which will be evident on inspecting the drawing. The fulcra of the levers C, C, are in the plane of the axes of the augers, so that when a post is brought up against them it will be bored in the middle of the stuff. The standards D, D, rise
50 from, and make a part of, a transverse sliding carriage F, F, which is guided between the cross pieces G', G', of the longitudinal carriage G, G.

55 The stuff to be bored is to be brought up against the augers by means of the lever H, which has its fulcrum at I, on the main, or longitudinal, carriage. The main carriage

G, G, serves to carry the post lengthwise for the purpose of boring for the respective 60 mortises. There are racks on the under sides of each of its cheeks, one of which is seen in part at J, and into these gear two pinions upon a shaft below the carriage, turned by a winch, in the ordinary way. 65

K, K, is the double rimmed wheel for sharpening, or tenoning, the rails.

L, L, are two cutters, one on each of the rims, and at a due distance apart for giving the proper thickness to the end of the rail. 70 When sufficient power is employed, more than one pair of cutters may be placed upon the wheel.

As the parts are arranged in the drawing, the block, or head, M, which sustains the 75 augers, is represented as hollowed out to allow a rail to pass through it; and this is done for the purpose of rendering the machine the more compact; but the tenoning apparatus may, if preferred, be otherwise 80 situated.

N, is a sliding bed of iron upon which the rail is to be placed, and slid on by hand, said bed resting and running on suitable supports below it. It is narrowed at the 85 end which enters between the rims of the wheel, as shown in the separate representation of it in Fig. 2. A projecting piece O, at its narrow end, serves as a bearing to the end of the rail, and insures an equal 90 length to each of the sharpened ends.

Having thus fully described the manner in which I construct my machine for boring and tenoning posts and rails for fences, I do hereby declare that I do not claim the gear- 95 ing and working of the augers in the way set forth, nor do I claim the employment of a double carriage for sustaining the posts to be bored, these having been before known and used; but 100

What I do claim as constituting my invention, and desire to secure by Letters Patent, is—

The combination and employment, in such a machine, of the caliper levers for holding 105 the posts while they are being bored; by means of which the range of mortises will all be in a direct line, and through the middle of the stuff, notwithstanding any twist, or other irregularity, which there may be 110 in it.

WILLIAM H. SHAY.

Witnesses:

I. S. BOSWORTH,

JONATHAN B. SHAY.