

R. H. Watson,

Making Wooden Pins.

No. 108859.

Patented Nov. 1. 1870.

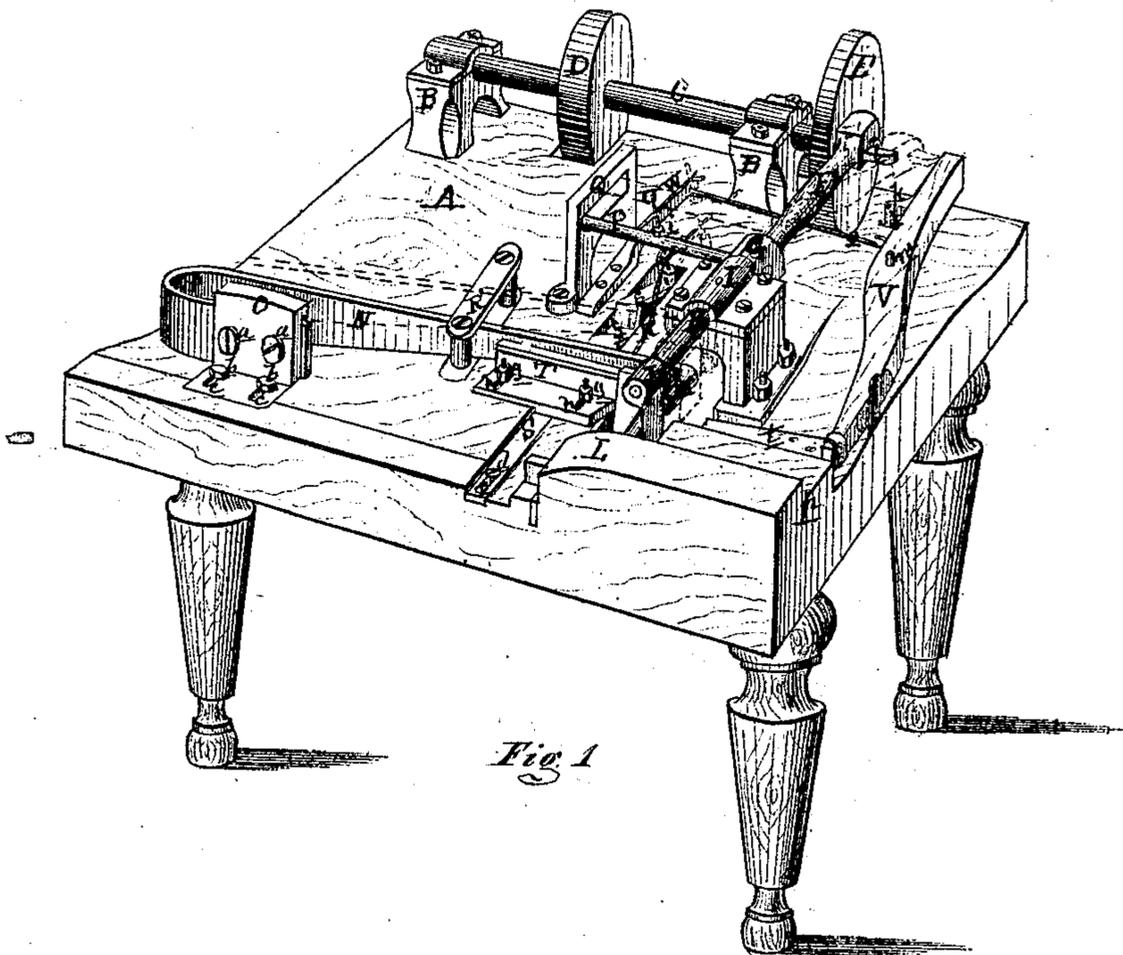


Fig. 1

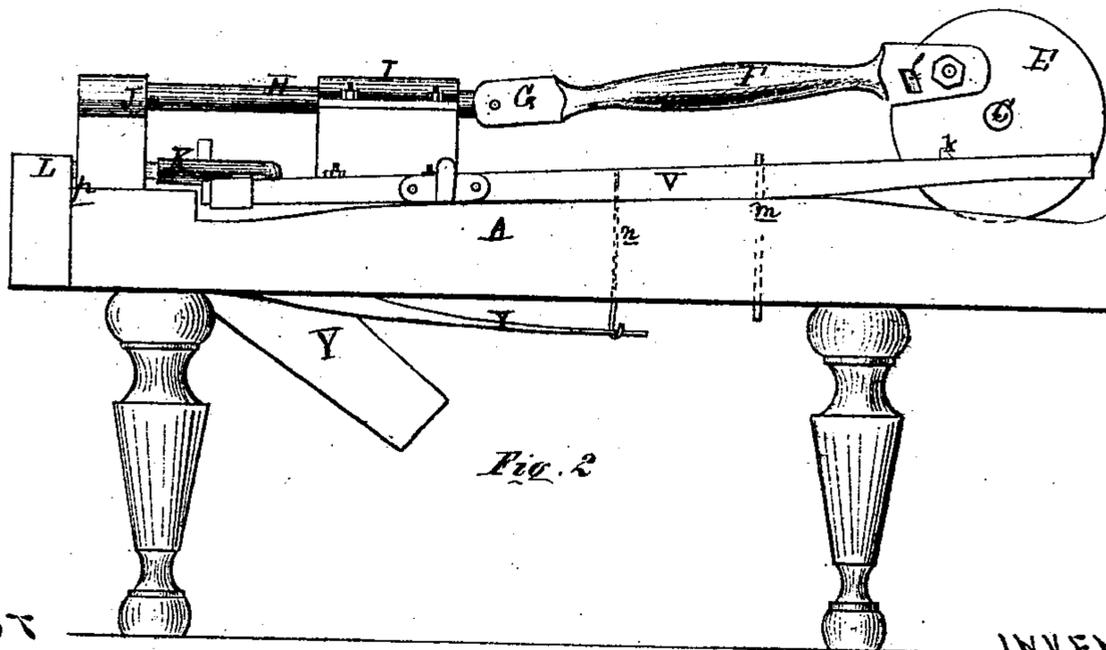


Fig. 2

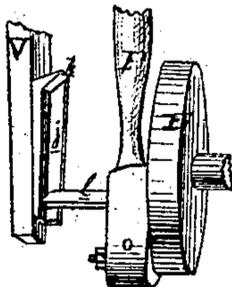
ATTEST

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Fig. 3



United States Patent Office.

ROYAL HARLOW WATSON, OF LAPEER, MICHIGAN.

Letters Patent No. 108,859, dated November 1, 1870.

IMPROVEMENT IN MACHINES FOR MAKING WOODEN PINS.

The Schedule referred to in these Letters Patent and making part of the same.

To whom it may concern:

Be it known that I, ROYAL HARLOW WATSON, of Lapeer, in the county of Lapeer and State of Michigan, have invented a new and useful Improvement in a Machine for Making Wooden Pins, Rake-Teeth, and other like articles; and I do declare that the following is a true and accurate description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon, and being a part of this specification, in which—

Figure 1 is a perspective view of my machine.

Figure 2 is a plan section of the end of the lever which works the finger which throws the pins down into the hopper.

Figure 3 is a side elevation.

Like letters refer to like parts in each figure.

The nature of this invention relates to the construction of an apparatus for the manufacture of all kinds of wooden pins which require to be pointed previous to being driven, such as dowel-pins, pins for the fastening together of sash, doors, and blinds, and which may be easily employed in making rake-teeth, and other similar articles.

The invention consists in a novel method of cutting the pins from a piece of timber cut into the proper length; also, in a device for pointing said pins, and in a method of throwing them quickly out of the way, and in the adjustability and new arrangement of the various parts, as more fully hereinafter described.

In the accompanying drawing—

A represents a table, which sustains the working part of the device.

B are pillar-blocks, in which rotates the shaft C, driven by any suitable power, and the pulley D.

To the end of this shaft is attached a crank-wheel, E, provided with a suitable wrist-pin, to which is secured, by a proper strap, the pitman F.

A cross-head, G, at the outer end of this pitman, forms a connection with a piston or carrier, H, which has a reciprocating motion in the hollow guide I.

Upon the outer end of this piston or carrier is secured a hanger, J, to the lower end of which is secured a hollow die, K, the bore of which should be of the length and diameter of the pin desired.

L is a stop and guide, secured to the table, and against it rests the timber from which the pins are to be cut.

M is an arm, which is secured to the end of the spring N, and at right angles thereto, in such a manner that the end of the arm, which is concave, will strike the end of the pin, which projects through the hollow die K, smartly, when the spring is released, thereby slightly rounding or pointing the pin.

The spring N is secured by the screws *a* in the jaw

O, which is adjustable, for the purpose hereinafter described, by means of the bolts *b* and slots *e*.

P is an arm, one end of which is secured to the cross-head G, and has a reciprocating motion therewith, while its opposite end works in the slotted bearing Q.

To this arm is secured a chain or cord R, the opposite end of which is secured to the spring N.

S is another spring, secured to the table, and adjustable by means of the screw *d* and slot *e*.

The top of this spring is two planes, inclining in opposite directions, and provided with a recess, *f*, interposed between the upper ends of the inclined planes.

R' is a guide, to hold the spring N in place.

T is a stop, secured to the table, and adjustable by means of the bolts *g g* and slots *h h*.

U is an arm, adjustable by means of the nut *i*, which passes through and projects downward below the arm P.

V is a lever, pivoted to the table in such a manner that it has an oscillating and vibrating compound motion.

The rear end of this lever is provided with a shoe, *j*, with an inclined end, *k*.

An arm or cam, *l*, is rigidly secured to and projects from the crank end of the pitman, F, and, in the rotation of the crank-wheel, strikes the rear end of the shoe, and depresses that end of the lever; then, as the rotation progresses, the cam engages with the inclined end of the shoe and gives an outward motion to the rear end of the lever, which is pivoted at *m*, and whose other end has an opposite motion to those just described.

This lever is compelled to resume its original position by means of the springs W X, to which it is connected by rods *n o*.

Y is a spout through which, and a suitable hole in the table, the pins are delivered into any proper receptacle under the table, while another suitable hole through the table allows the chips to drop to the floor.

The blocks of timber, being sawn to the length of the pins required, are placed upon the table against the stop L at *p*, and pushed up until the end is brought opposite the hollow die, which, then, by a forward motion, cuts out the pin.

In the continued forward motion of the pitman, the end of the projecting arm U passes up the inclined face *s* of the spring S and depresses the same, letting loose the spring N, which has been held back in the position shown by the dotted lines.

This spring forces, with a smart blow, the concave end of the arm M against the end of the pin just cut, and points the same.

The continued rotation of the crank-wheel withdraws

the die, and also the spring N, until the latter again engages with the recess s, when the block of wood should again be presented for another cut. The cam *l* is now brought into contact with the shoe *j*, depressing that end of the lever V, and elevating its opposite end of the finger *t*, which is secured thereto. As the hollow die again advances and cuts another pin, the last one cut pushes the preceding one through the die, when the cam *l* engages with the inclined end *k* of the shoe, thereby forcing the finger *t* above the pin just discharged from the die, when the spring X depresses the front end of the lever, compelling the finger to throw the pin down through the spout. The spring W then compels the lever V to resume its original position, with its rear end slightly elevated, as shown in the drawing.

Should pins of a longer or shorter length be required, the jaw O, stop T, and spring S, may be adjusted as desired, by the means already described.

For rake-teeth, and other similar articles, this machine will be found admirably adapted, while for cutting pins for the purpose specified, it will be found very economical, making a much better and stronger pin than can be made by hand.

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

1. The die K, operated by means of the piston H, pitman F, crank-wheel E, and shaft C, in combination with the stop L upon the table A, constructed, arranged, and operating substantially as and for the purposes herein described.

2. The arm M, operated by the spring N, in combination with the arm P, chain or cord R, adjustable stop U, and adjustable stop-spring s, constructed, arranged, and operating substantially as herein set forth.

3. The lever V, provided with shoe *j*, and actuated by the springs W X, in combination with the short beveled cam *l*, projecting from the pitman, arranged and operating substantially as and for the purposes herein set forth.

4. The combination of the table A, provided with suitable openings therein, with the hopper Y, and stop L, as described, and for the purposes specified.

ROYAL HARLOW WATSON.

Witnesses:

THOS. S. SPRAGUE,
SAM. J. SPRAY.