

J. M. SEYMOUR.
Machines for Boring Blind-Stiles.

No. 154,809.

Patented Sept. 8, 1874.

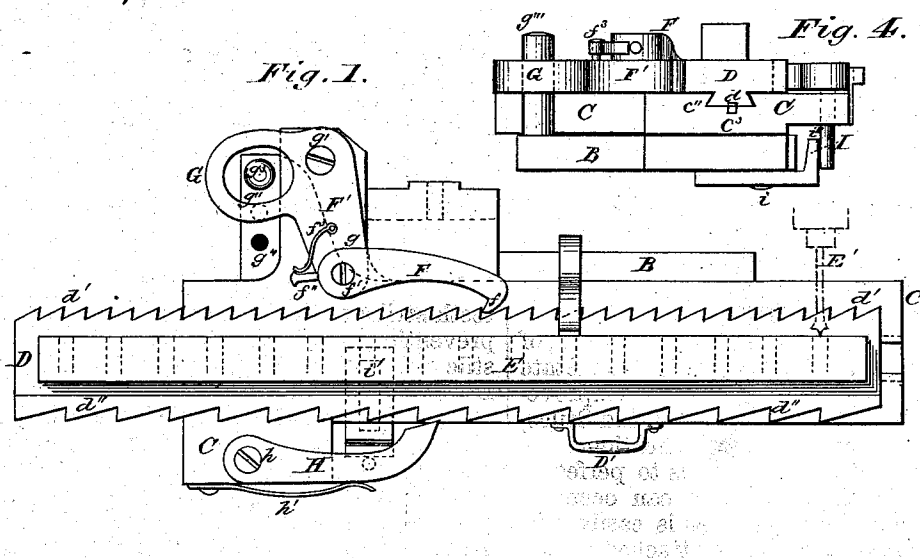


Fig. 2.

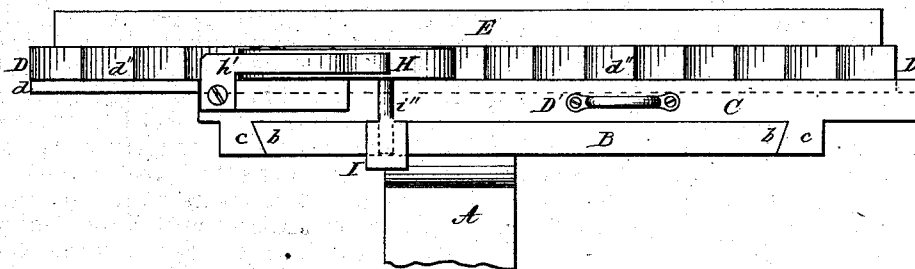
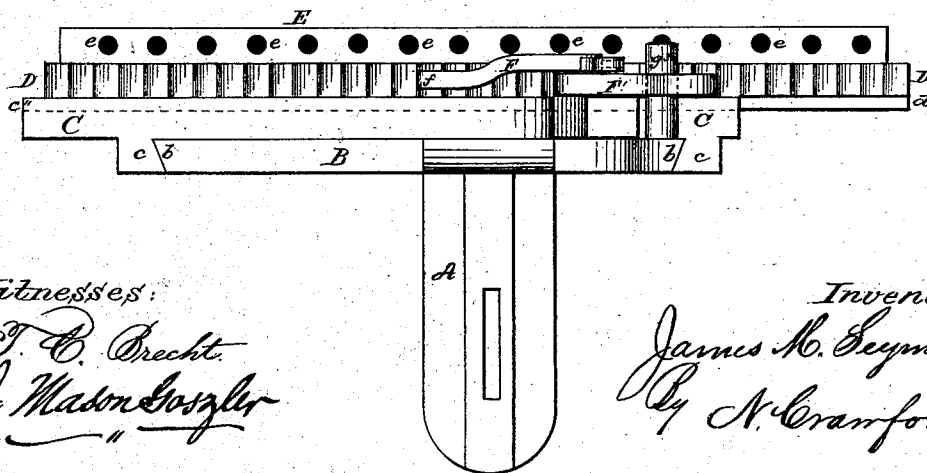


Fig. 3.



Witnesses:

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JAMES M. SEYMOUR, OF NEWARK, NEW JERSEY.

IMPROVEMENT IN MACHINES FOR BORING BLIND-STILES.

Specification forming part of Letters Patent No. **154,809**, dated September 8, 1874; application filed January 3, 1874.

To all whom it may concern:

Be it known that I, JAMES M. SEYMOUR, of Newark, in the county of Essex, in the State of New Jersey, have made certain Improvements in Machines for Boring Blind-Stiles, of which the following is a specification:

The object of this invention is to perfect a machine in which no mistake can occur in boring the hole for slats, that is easily and quickly operated, and can be attached to any convenient machine having a boring-bit; and it consists in the construction of the operating parts, and their arrangement with relation to each other, so as to produce the desired result, as will be fully hereinafter described.

In the drawings, Figure 1 represents a top or plan view of the machine; Fig. 2, a side view of the outside; Fig. 3, a side view of the inside of the same; and Fig. 4 a cross-view through the actuating parts.

A is a slotted downwardly-projecting arm, attached to a bed-plate, by which the machine is attached to the support and adjusted to its proper height with relation to the boring-bit. B is the bed-plate attached to arm A, and is held in a fixed position thereby; is beveled on its ends at *b*, so as to form a kind of dovetailed way for the actuating parts to slide upon, and be held in place longitudinally. C is the transverse-sliding carriage having only the transverse movement, sliding upon the bed B, and held in place by the dovetail or angular projections *c* at each of its ends. *c'* is a longitudinal dovetail groove in the top of carriage C to receive a longitudinal dovetail feather on the under side of the stile-carriage and feeding and holding rack. In this groove in carriage C is placed and secured a friction spring or springs, *c*³, as seen in Fig. 4, to prevent the sliding of the stile-carriage farther than it is fed by the pawl. D is the stile-carriage with its dovetail feather *d* sliding in groove *c'* of carriage C, and has feeding-notches *d'* on one side and holding-notches *d''* on the other, and bears upon friction-springs *c*³ in groove *c'*. The feeding-teeth *d'* have their right-angled sides in one direction, while the holding-teeth *d''* have theirs in the reverse direction, so that, when the feeding-pawl engages the feeding-teeth, it pulls the stile-carriage and feeds it along, while the holding-

teeth strike against the end of the holding or preventing pawl, which always prevents the stile-carriage from being fed too far forward. D' is a handle or knob for operating the machine. E is the stile clamped centrally upon carriage D in any proper and secure manner, and in which the holes *e* are to be bored at distances apart as regulated by the preventing-pawl bearing against the notches *d''*, which gives the spaces exactly. E' is the boring-bit attached to a revolving shaft, which is conveniently placed with relation to the stile-carriage, and so that the reciprocations of the stile upon the carriage will force it to and upon the boring-bit the depth at which it shall bore into the stile. F is a feeding pawl or dog, having the hook end *f* to engage the teeth *d'* of the carriage D; is pivoted to an arm, *g*, of a bell-crank, F', at *f'*; and has projecting beyond its pivoted point an arm *f''*, to which is attached spring *f*³, and at its other end fast to the bell-crank F', which keeps the pawl in contact with the teeth *d'* at all times when free. G is the short arm of the bell-crank F, and has an enlarged slot or hole, *g''*, therein, which goes over and freely works around a pivot-pin, *g*³, that is inserted in hole *g*⁴, of which there may be several in the bed-plate B, as seen in Fig. 1. The enlarged slot *g''* allows the carriage C to reciprocate from and clear the bit from the hole just before the crank F' actuates the feeding-pawl. The bell-crank F' is pivoted to the transverse sliding carriage C at *g'*, and reciprocates therewith. H is a pawl located on the opposite side of the toothed stile-carriage D from the feeding-pawl; is pivoted at *h* to the transverse-sliding carriage C; and has a spring, *h'*, that is secured also to the carriage C, to press it, when the sliding carriage C is reciprocated toward the operator, into the notches *d''* of the toothed sliding carriage D, and engages a notch which prevents the carriage D from further feeding by pawl F until the transverse carriage is forced in the reverse direction. I is an adjustable stop attached to the bed-plate B, and when adjusted is held rigidly in place by the holding-screw *i* that works in slot *i'* in the stop I. *i''* is a gage-pin extending down from and fast in pawl H, and so as to strike against the outside of stop I, as seen in Figs. 1, 2, and 4, and thereby keep

the pawl H from being in contact with the notches on the carriage D when the carriage is forced from the operator and upon the boring-bit.

The stile-carriage D may be provided with racks having different-sized notches so as to bore the holes in the stiles at different distances apart, as the teeth or notches d'' regulate the distance the holes are apart, and at each reciprocation of the transverse sliding carriage C toward the operator the pawl H engages the teeth and effectually prevents any mistake in boring the holes for the slats, for if pawl F fails to feed the carriage D far enough for pawl H to pass over the next tooth or notch, it will remain as it was at the preceding reciprocation toward the boring-bit, and the bit will enter the hole it had previously bored; consequently no mistake can be made in boring the holes at their right places, and at equal distances apart, if the notches in the feeding-rack are correctly spaced.

The stile E being clamped or firmly held upon carriage D, the feeding-pawl F properly adjusted, the operator takes hold of the handle or knob D', and forces carriage C from himself and onto the boring-bit E, which bores the hole to the required depth. During this movement of the carriage C and stile toward the boring-bit, both pawls F and H are either out of contact with the notches or are inactive, but as the operator reverses the movement to bring the carriage toward himself again, then the feeding-pawl F, through the action of the bell-crank, engages the feeding-teeth, and pulls the carriage D, with the stile, along the distance the next hole is to be, when its further advance is stopped by pawl H, by reason of

the carriage being drawn so far that the pin i'' on the stop I does not prevent the pawl H from engaging a notch, and when engaged holds the carriage from any further advance movement.

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

1. The bell-crank F', pawl F, having spring f^3 attached thereto, in combination with the transversely-sliding carriage C, and pin g''' in bed B, constructed substantially as described.

2. The pawl H, having pin i'' attached thereto, and stop I, in combination with the transverse-sliding carriage C, and stile-carriage D, having teeth d'' , constructed substantially as and for the purposes set forth.

3. The feeding-pawl F, constructed and arranged to operate as described, and the transverse-sliding carriage C, in combination with the stile-carriage D, substantially as and for the purposes described.

4. In a machine for boring blind-stiles, the combination of a stationary bed B, transverse-sliding carriage C, and longitudinally-reciprocating stile-carriage D, with the boring-bit E, when the parts connected therewith are constructed and arranged to operate substantially as described.

5. In a machine for boring blind-stiles, the combination of the stile-carriage D and the transverse-sliding carriage C, and the parts that such transverse movement effects, substantially as herein described.

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Witnesses:

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