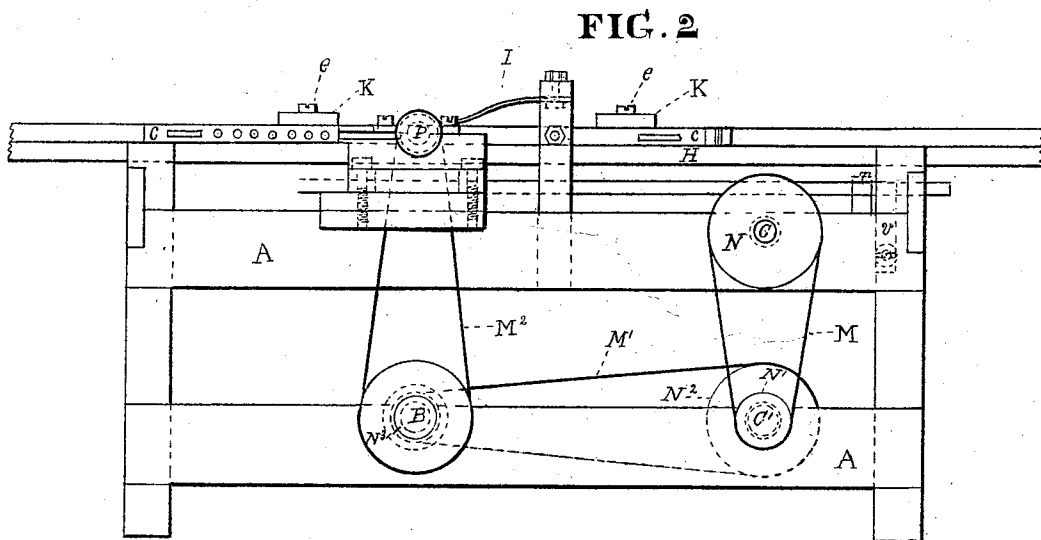
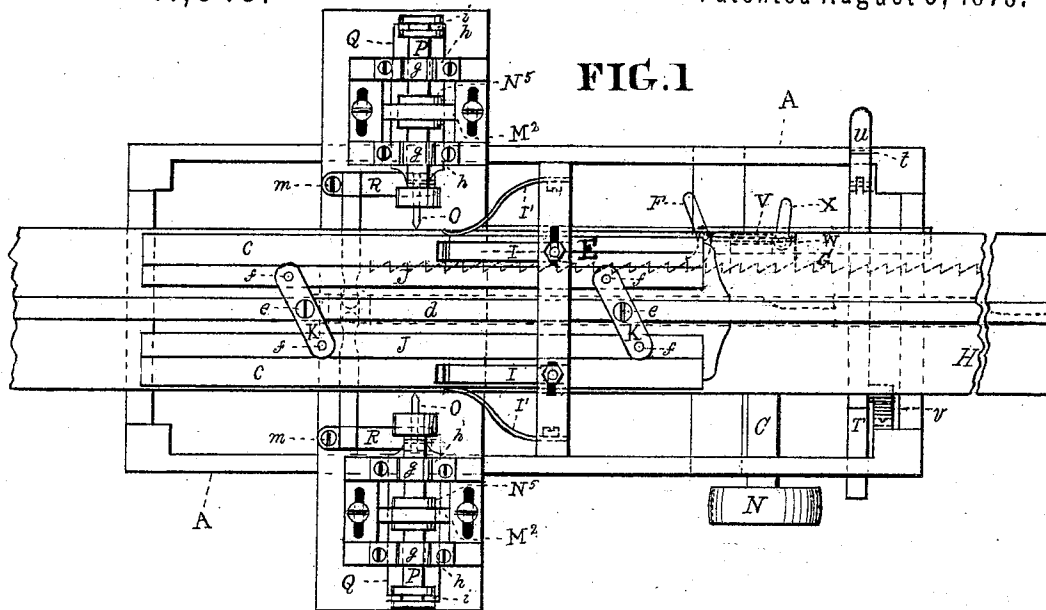


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Machines for Boring Blind-Stiles.

No. 141,545.

Patented August 5, 1873.



Witnesses
 Thomas G. Bewley.
 Isaac Rinage

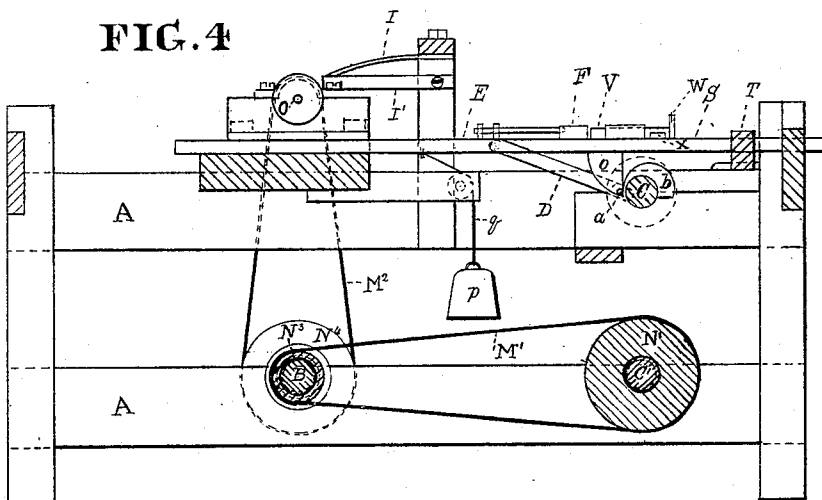
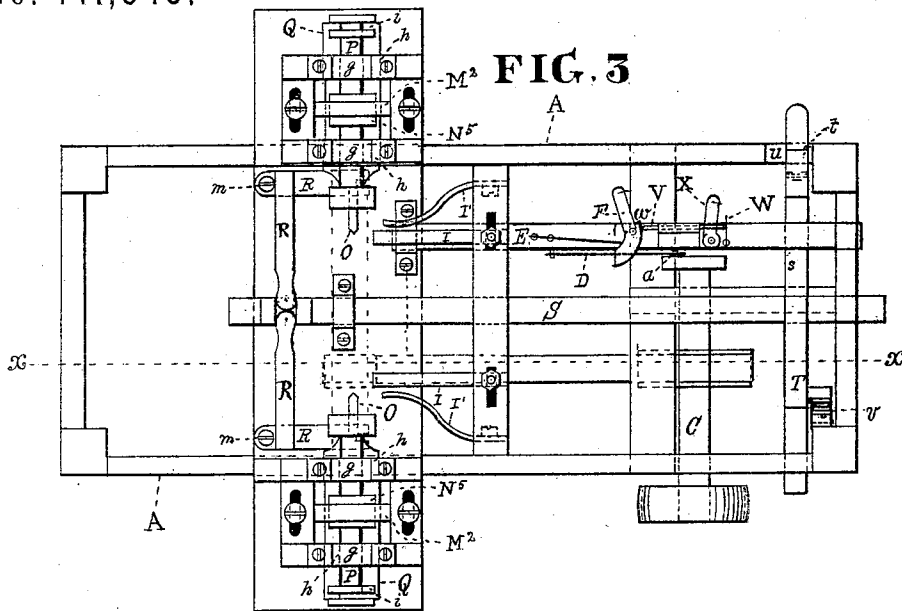
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FIG. 5

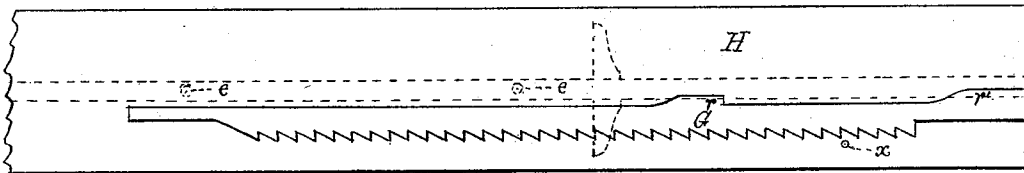


FIG. 6

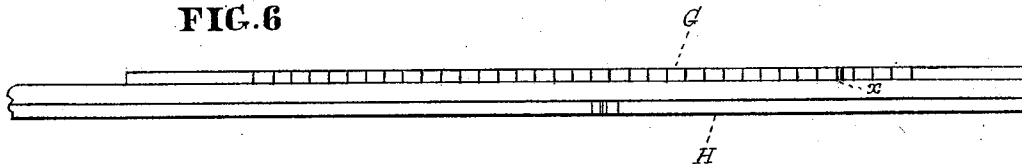


FIG. 7

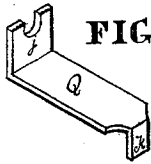


FIG. 8

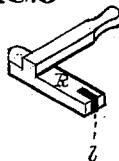
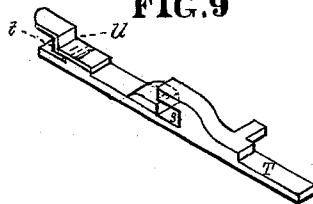


FIG. 9



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UNITED STATES PATENT OFFICE.

ANDREW B. CARLIN, OF CAMDEN, NEW JERSEY.

IMPROVEMENT IN MACHINES FOR BORING BLIND-STILES.

Specification forming part of Letters Patent No. 141,545, dated August 5, 1873; application filed June 4, 1873.

To all whom it may concern:

Be it known that I, ANDREW B. CARLIN, of Camden, in the county of Camden and State of New Jersey, have invented certain Improvements in Machines for Boring Blind-Stiles, of which the following is a specification:

The following are the principal features of my invention: A sliding bar provided with a spring-pawl receives a reciprocating motion by means of a crank-shaft for carrying forward the carriage which supports a pair of blind-stiles, the movements of the carriage alternating with the boring of the holes in the stiles. The boring-bits are connected with horizontal revolving shafts, which are borne inwardly toward the stiles during the boring operation by means of bell-crank levers, operated by a sliding bar, which is propelled forward by a cam on said crank-shaft. The bits are returned out of the holes when the cam is disengaged from the said sliding bar, and the latter is returned to its first position, thereby giving a reversed movement to the levers, and carrying the bits out of the newly-bored holes.

The details as to the construction and operation of the machine will be given below.

Figure 1 is a plan view of my improved machine. Fig. 2 is a side elevation of the same. Fig. 3, Sheet No. 2, is a plan view of the improved machine with the carriage H and parts attached removed. Fig. 4 is a vertical section at the line *x x* of Fig. 3. Fig. 5, Sheet No. 3, is a reversed plan of the carriage H. Fig. 6 is an edge view of the same. Fig. 7 is an isometrical view of one of the sliding plates Q. Fig. 8 is a like view of one of the bell-crank levers R. Fig. 9 is a like view of the sliding bar T.

Like letters in all the figures indicate the same parts.

A is the frame, which supports the other parts of the machine. B is the driving-shaft. C is a shaft having on its inner end a crank-pin, *a*, and between its bearings a cam, *b*. D is a pitman, connected at one end with the crank-pin *a* and at the other end with the sliding bar E, provided with a pawl, F, which engages with the toothed rack G on the under side of the carriage H. The stiles *c c* to be bored are held down on the carriage by the adjustable springs I I, and up against the out-

er edges of the gage-bars J J by means of the springs I' I'. The gage-bars are adjusted outwardly or inwardly in accommodation to the width of the stiles or other piece to be bored by means of the swivel-bars K K, the latter being connected with the central rib *d* of the carriage by means of the screws *e e*, on which they are permitted to turn in their adjustment, and by which they are fastened when adjusted, the outer ends of the bars being connected to the gage-bars by means of the pivots *fff*. The said shaft C is connected with the counter-shaft C' by means of the belt M, which passes over the pulley N on the shaft C, and the pulley N' on one end of the counter-shaft. The counter-shaft is connected with the driving-shaft B by means of the belt M¹, which passes over the pulleys N² and N³. O O are boring-bits in the inner ends of the revolving shafts P P, which have sliding journals *g g* and *g g* supported by the bearings *h h* and *h h*. The shafts are caused to move inwardly toward the stiles to be bored by means of the connection of their outer ends to the sliding plates Q Q by means of the annular grooves *i i* and the upturned forked ends *j j*, Fig. 7, of the plates, and the connection of the inner ends of the plates with the bell-crank levers R R by means of the downturned ends K K of the inner ends of the plates with the slots *l l* of the levers, the levers being on the fulcrum-pins *m m* and operated by means of the sliding bar S, and the forward movement of the bar being given by means of the cam *b* on the shaft C engaging with the stop *o* of said bar. After the carriage has come to a state of rest the said bar S is moved forward by the cam, as described, and as the bits O O are rotated, and the bar S moves forward, the bit-shafts P P are moved inwardly by their connection with said bar through the intermediates, as described, until the holes are bored to the proper depth; then the cam, having passed the stop and the weight *p*, seen in Fig. 4, by means of the cord *q*, pulls the bar back to its forward position, and thus draws the bits O O out of the newly-bored holes. The bit-shafts P P are revolved by means of the belts M² M², which pass over the pulleys N⁴ N⁴ on the driving-shaft and the pulleys N⁵ N⁵ on the bit-shafts. During the time the middle mortises of the

stiles are passing the bits the sliding bar S is caused to remain in a state of rest by the short lug *r*, Fig. 5, having an incline on its forward end bearing against the shoulder *s* of the sliding bar T, with which the rear end of the sliding bar S is connected, thus pushing the bar sidewise out of connection with the cam until the lug has passed the shoulder, the hinged lever U at one end of said bar T being thus moved inwardly, and its shoulder *t* dropping inside of the lug *u* on the top edge of the frame A. After the mortise has passed the bits the spring *v*, connected at its lower end to one of the posts of the frame A, pushes the bar back to its former position on the lug until the last holes are bored in the stiles; then the long lug *r'*, by coming against the said shoulder *t*, bears the bit in like manner to one side and arrests the motion of the sliding bar. The forward movement of the carriage H is arrested by the pin *x*, which projects from its under side, bearing against the pawl F and disengaging it from the rack G. When the boring is completed the carriage H is drawn forward from the machine and placed on its end. The bored stiles are removed and others placed in position on the carriage to be bored. The pawl F is thrown again into connection with the rack G to give the forward movement to the carriage H; but in the disengagement of the pawl, as above described, the bolt V has been shot forward by the spring W, so as to engage its front end with the shoulder *w* of the pawl, whereby the latter is held securely in position. To unlock the pawl the operator bears the lever X, which passes through a slot of the said bolt V, backward to remove it from the pawl,

and the spring W bears the latter inwardly into connection with the rack G for the forward movement of the carriage.

I claim as my invention—

1. The swivel-bars K K, in combination with the center rib *d* of the carriage H and the gage-bars J J, for the adjustment of the latter to the width of the stiles to be bored, substantially as described.

2. The combination of the sliding bar E, carrying the pawl F, with the carriage H having a toothed rack, G, pitman D, and the crank-shaft C for giving the forward movement to the carriage, substantially as set forth.

3. The combination of the pawl F having a shoulder, *w*, sliding bar E, spring-bolt V, and rack G with the carriage H having a tripping-pin *x*, substantially as and for the purpose specified.

4. The combination of the lever X, spring-bolt V, pawl F, and rack G, substantially as and for the purpose set forth.

5. The combination of the cam *b*, weight *p'*, sliding bar S having a stop, *o*, levers R R, sliding plates Q Q with the bit-shafts P P for giving a reciprocating movement to the latter, substantially as set forth.

6. The sliding bar T, spring *v*, hinged lever U having a shoulder, *t*, and sliding bar S with the carriage H, for throwing the stop *o* out of line with the cam *b* to arrest the sliding movement of the bit-shafts P P, substantially as described.

ANDREW BOON CARLIN.

Witnesses:

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STEPHEN USTICK.