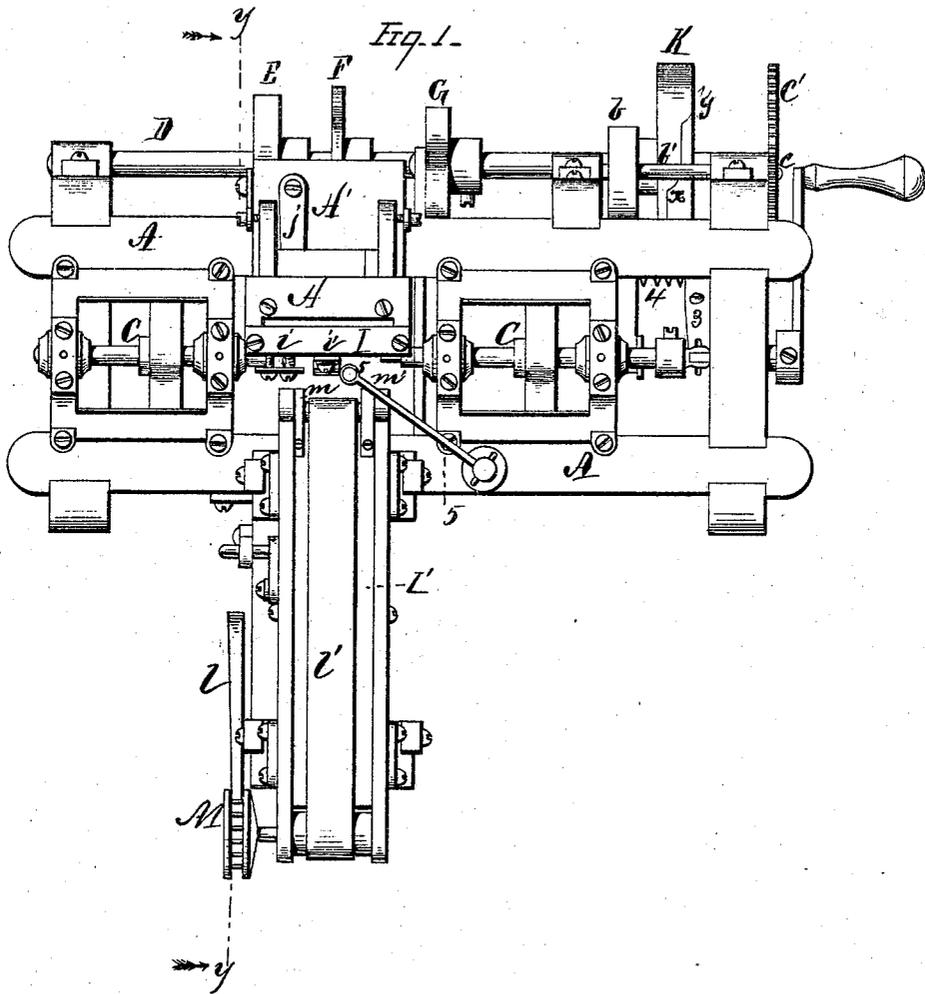


J. B. SMITH.

Machinery for Making Clothes-Pins.

No. 144,152.

Patented Oct. 28, 1873.



WITNESSES.

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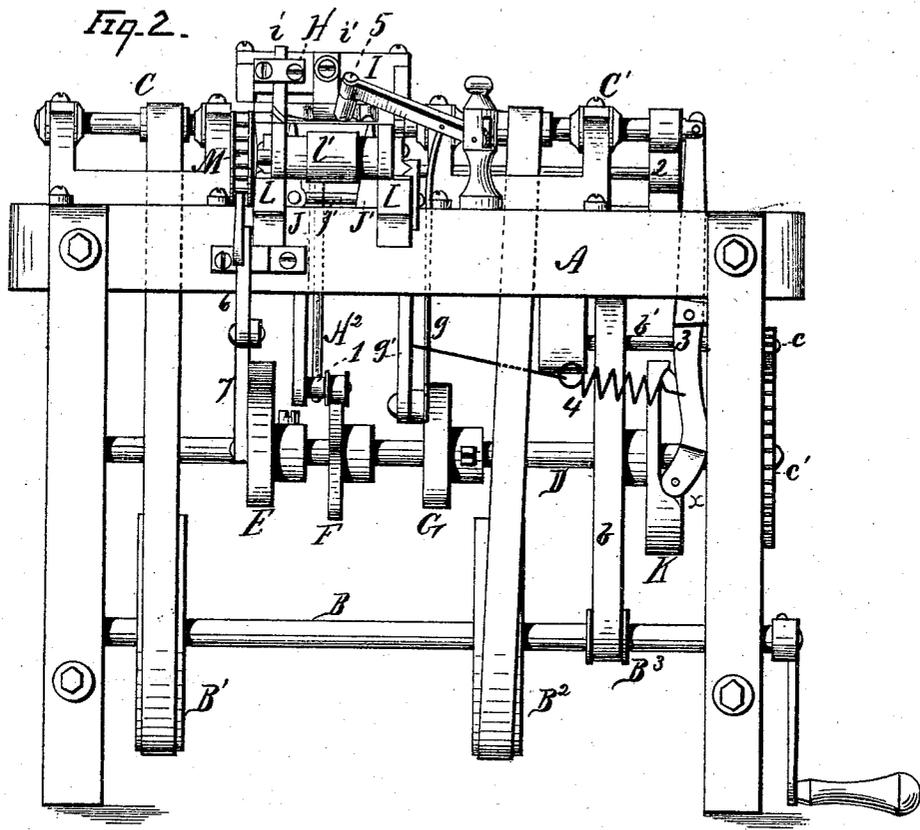
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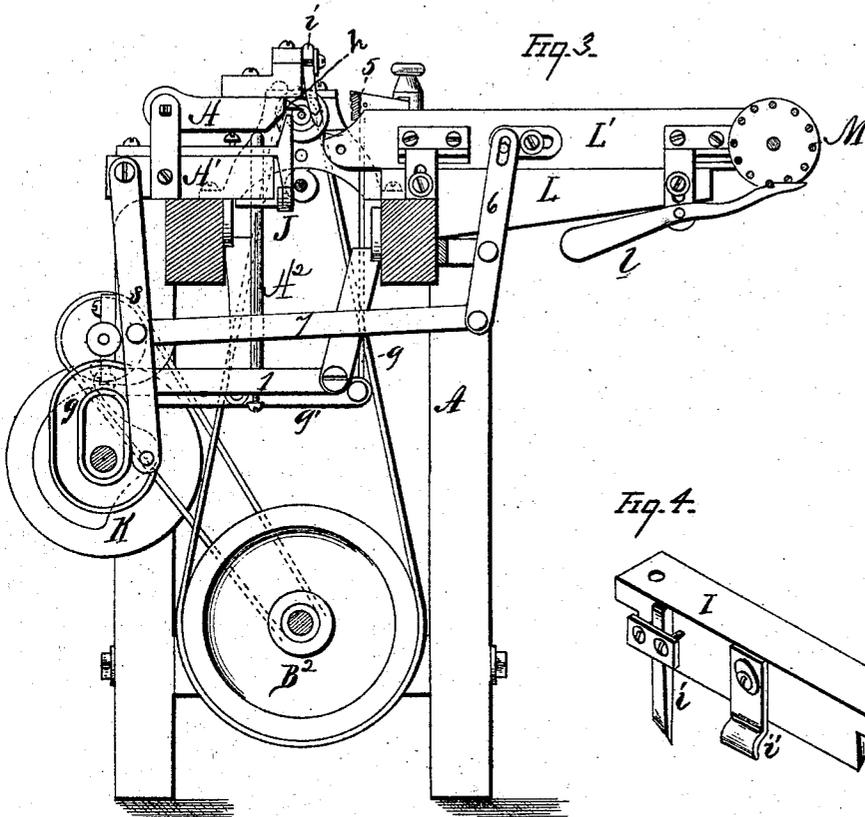


Fig. 4.

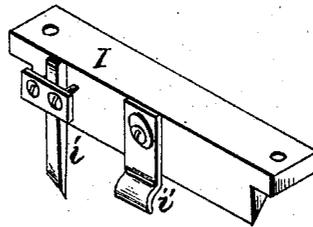


Fig. 5.

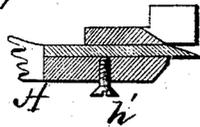
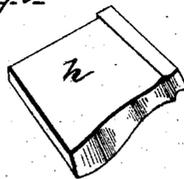


Fig. 6.



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# UNITED STATES PATENT OFFICE.

JOHN B. SMITH, OF SUNAPEE, NEW HAMPSHIRE.

## IMPROVEMENT IN MACHINERY FOR MAKING CLOTHES-PINS.

Specification forming part of Letters Patent No. **144,152**, dated October 28, 1873; application filed September 12, 1873.

*To all whom it may concern:*

Be it known that I, JOHN B. SMITH, of Sunapee, in the county of Sullivan and State of New Hampshire, have invented certain new and useful Improvements in Machines for Making Clothes-Pins; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to improvements in machines for turning clothes-pins.

In the drawings, Figure 1 is a plan view; Fig. 2, a front elevation; Fig. 3, a vertical transverse section on the line *y y*, Fig. 1; Fig. 4, a detached view of the head-block of the cutter-bed; Fig. 5, a transverse section of the knife and its bed; Fig. 6, a detached view of the cutting-knife.

My invention consists of the various devices and combinations of parts, as hereinafter specified and claimed, wherein—

A represents the frame of the machine, on which the different parts of the machine are supported. Motion is communicated to the different parts of the machine through the medium of the bands and band-wheels B<sup>1</sup> B<sup>2</sup> B<sup>3</sup> on the crank-shaft B. The band-wheels B<sup>1</sup> B<sup>2</sup> communicate motion to the spindles C C<sup>1</sup> and the band-wheel B<sup>3</sup>, the band *b* of which passes over a pulley on the shaft *b'*, on the end of which shaft is a small gear-wheel, *c*, engaging with the larger gear-wheel *c'* on the shaft D. On this shaft D are the different cams E F G, through which the different motions to the several parts of the machine are communicated. C C<sup>1</sup> are the spindles, working in bearings C<sup>2</sup> C<sup>2</sup>, the one C being the dead-spindle, and the one C<sup>1</sup> being the oscillating or movable spindle. H is the knife-bed, made weighty, and hinged at its rear to the base portion H<sup>1</sup>. In this bed the knife *h*, Fig. 6, is placed, and secured by set-screw *h'*, Fig. 5. Attached to the face of the head-block I, which extends over and in front of the knife *h*, is a chamfer-cutter, *i*, and a "rider-gage," *v*. H<sup>2</sup> is a lifting-rod, attached to the pivoted cam-rod 1, which cam-rod is actuated or caused to rise and fall by the cam F. The other end of this rod 1

passes up through the base H<sup>1</sup>, and impinges against the bottom of the knife-bed H. Attached to and in front of the base H of the knife-bed are two stops or spurs, J J', one of said stops being stationary and the other movable. The stop J has a rearwardly-projecting arm, *j*, by which it is pivoted to the base H. Attached to the front lower part of this stop J, and by which it is oscillated, is a rod, *j'*, connected at its other end to the end piece 2, which end piece also receives one end of the spindle C<sup>1</sup>. This end piece 2, together with the spindle C<sup>1</sup> and rod *j'*, is oscillated by the pivoted lever 3, which receives its oscillation from the double cam-wheel *k* and spiral spring 4. 5 is a pivoted hammer, operated by the cam G and connecting-rods *g* and pivoted cam-arm *g'*. Extending from the top front portion of the frame of the machine is a frame, L, on which a table, L', oscillates. (See Fig. 3.) This table receives its oscillating movement from the pivoted arm 6, connecting-rod 7, pivoted cam-arm 8, and cam 9. On the front end of the frame L is pivoted a weighted pawl, *l*, which engages with the ratchet-wheel M on the oscillating table L'. Within this table L', and extending from end to end of same, is a feed-belt, *l'*, Fig. 1, which feed-belt is operated or moved a little forward at every forward movement of the table by the pawl and ratchet *l* M. Attached to and projecting a little beyond the inner end of the table L' are spurs *m m'*.

The operation of the machine is as follows: The blocks, sawed into the proper size, intended to be turned into clothes-pins are placed on the feed-belt *l'*, and fed up to the spindles C C<sup>1</sup> by the revolving of said belt and the oscillation of the table L, in which said belt is hung. The blocks are thus pressed against the upright spurs or stops J J', one of said stops being stationary and the other movable, while being held in position on the projecting spurs *m m'* on the end of the feed-table; the object and use of said stops and spurs being to hold the block in proper position for centering. The block, being now in position, is caught and slightly pressed up against the dead-spindle C by the cam *x* on wheel K, and held by the fine points of the spindles until the feed-table retires. Another cam, *y*, immediately presses the centers home firmly, just before the knife

*h* touches the block. The block being now revolving, the knife is let down by means of the lowering-and-lifting rod  $H^2$ , operated by a cam,  $F$ , and thus the clothes-pin is turned by a single movement of the knife. A rider-gage,  $i'$ , is placed on the knife-bed, over and in front of the block, for the purposes of gaging the shaving, and preventing the block flying out from between the centers. A chamfer-cutter,  $i$ , is also placed on the knife-bed, for the purpose of rounding the end of the pin intended to be slit. The knife is now lifted from the pin by the lifting-rod  $H^2$  and the oscillating spindle  $C'$ ; and the rod  $j'$ , with the oscillating spur  $J$ , is withdrawn by the spiral spring  $4$ , the stop or spur  $J$  pushing against the end of the clothes-pin, and partially shoving it off the stationary center  $C'$ . The pin being now released, is knocked from between the centers by the hammer  $5$ , operated by the cam  $G$ , and drops into a receptacle below, and may be conveyed by spout or otherwise away from the machine.

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

1. The combination of the shaping-knife  $h$ , swinging knife-bed  $H$ , the adjustable lifting-and-lowering rod  $H^2$ , lever  $L$ , and cam  $F$ , with a suitable frame,  $A$ , substantially as and for the purposes described.

2. The combination of the automatically-swinging knife-bed  $H$ , chamfer-cutter  $i$ , and rider-gage  $i'$ , substantially as and for the purposes described.

3. The automatic uncentering-hammer  $5$  and its operating connections  $G$   $g$   $g'$ , substantially as shown, and for the purpose described.

4. In a clothes-pin machine, the automatically-oscillating feed-table  $L'$ , in combination with the spindles  $C$   $C'$ , as and for the purposes set forth.

5. The endless feed-belt  $V'$ , in combination with the oscillating table  $L'$ , ratchet-wheel  $M$ , counterbalanced pawl  $l$ , and frame  $L$ , all constructed, arranged, and operating substantially as and for the purposes described.

6. The shaping-knife  $h$ , oscillating spindle  $C$ , movable stop  $J$   $j$ , uncentering-hammer  $5$ , endless feed-belt  $V'$ , oscillating feed-table  $L'$ , all combined and automatically operated substantially as and for the purposes set forth and described.

In testimony that I claim the foregoing I have hereunto set my hand this 8th day of September, 1873.

JOHN B. SMITH.

Witnesses:

W. C. STURVE,  
FRANK T. LEAR.