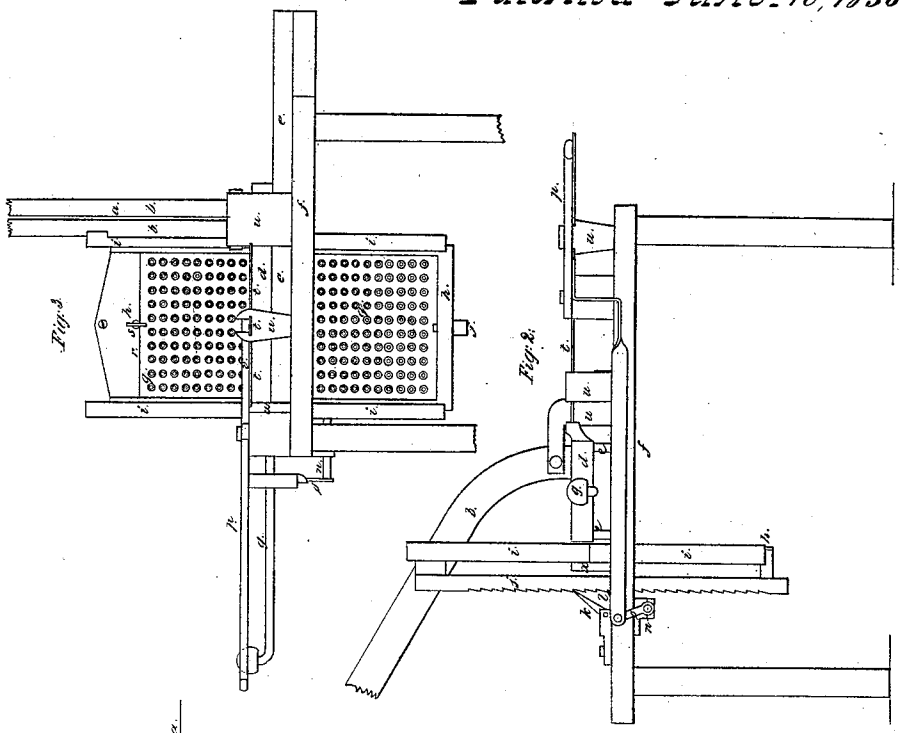
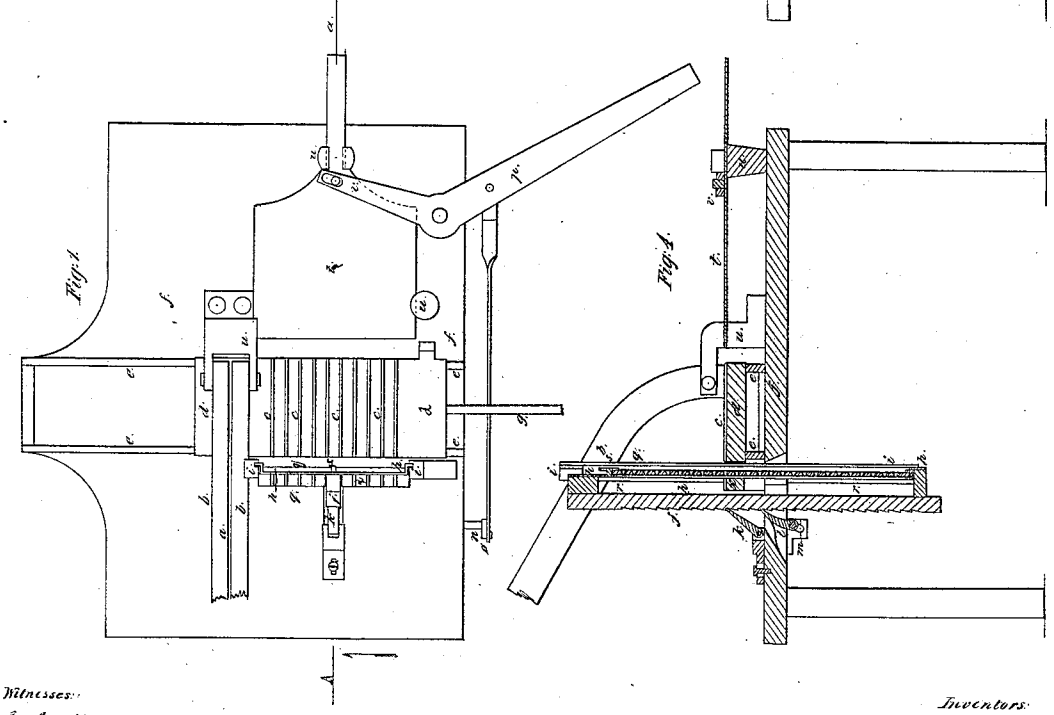
Howe & Piper,

Papering Pins,

No. 15,112. Patented June 10, 1856.





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JOHN J. HOWE AND TRUMAN PIPER, OF DERBY, CONNECTICUT, ASSIGNORS TO HOWE MANUFACTURING COMPANY, OF DERBY, CONNECTICUT.

MACHINE FOR STICKING PINS.

Specification of Letters Patent No. 15,112, dated June 10, 1856.

To all whom it may concern:

Be it known that we, JOHN J. HOWE and TRUMAN PIPER, of Derby, in the State of Connecticut, have invented a certain new and useful improvement in the machine for sticking pins in sheets of paper or other substances to facilitate the handling of them in the process of japanning, but which may be employed in other processes; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a plan of the machine; Fig. 2 a side and Fig. 3 a front elevation thereof; and Fig. 4 a vertical section taken at the line A, *a* of Fig. 1.

The same letters indicate like parts in all the figures.

The principal object of our said invention is to stick pins in sheets of paper, or through holes in a plate and then in the sheets of paper, that the pins may project from the surface thereof at right angles or nearly so, preparatory to japanning them by a process for which we contemplate making application for Letters Patent of even date with this application, but the sticking of pins by our said invention may facilitate other processes in the manufacture of pins; and our said invention relates to an improvement of the machine for which Letters Patent of the United States were granted to Samuel Slocum on the 30th day of September 1841, for sheeting pins, and our said improvement consists in combining with the groove or grooves for separating or spacing the pins and guiding them, and the follower, or equivalent therefor for pushing forward the pins in the guide groove or grooves the employment of a sliding frame or carriage for holding and shifting a sheet of paper or equivalent substance at right angles or nearly so, with the guide groove or grooves, whereby the pins are properly spaced in two directions and inserted in the sheet at right angles or nearly so with the surface thereof; and our said improvement also consists in combining with the combined guide groove or grooves, follower and frame or carriage for holding and shifting the sheet of paper, a perforated plate placed in front of the sheet of paper so that at one and the same operation the pins shall be inserted through holes in the said plate and into the sheet of paper.

In the accompanying drawings *a* represents a channel way between two bars *b b* in which the pins hang with their heads on the edges of the bars which are inclined to enable the pins to run down by gravity, and the lower end of the said bars are curved to gradually turn and deliver them one by one in a horizontal position into a series of parallel grooves *c* made in the face of a plate *d*. This plate slides longitudinally on suitable wags *e*, *e* on the table *f*, and is provided with a handle *g* with which an operator slides it under the column of pins in the channel way *a* that a pin may be deposited in each groove *c*. If pins should fail to enter in any of the said grooves as the plate is moved forward they will do so as the plate is drawn back to the position represented in Fig. 1.

By the side of the plate *d* there is an open frame *h* adapted to slide vertically in suitable ways *i*, *i* attached to the table, and extending above and below it, the table being cut out to permit the open frame to move up and down therein. To the back of the open frame *h* and attached to the upper and lower part thereof and standing out some distance from the back of the said frame is a vertical bar *j* into which a dog or pawl *k* catches to hold the frame at any desired elevation; and below the table there is a ratchet hand or pawl *l* jointed to a crank *m* on a horizontal rock shaft *n* mounted in suitable boxes which rock shaft is provided with an arm *o* connected with the working lever *p* of the apparatus by means of which the shaft is turned or rocked to make the ratchet hand or pawl *l* act on the ratchet teeth of the bar *j* for the purpose of elevating the frame to the extent of one ratchet tooth at each operation.

The bars of the open frame *h* are rabbeted on that side next to the grooved plate in which the pins are deposited, and these rabbets are adapted to receive a metal plate *q* with the edges of a sheet of paper *r* folded around the edges thereof. After the plate has been inserted, with the sheet of paper it is confined by a turn button *s* or other suitable means. In this way the sheet of paper is firmly held in a distended state on the back of the plate *q*. This plate is pierced with parallel rows of holes, the dis-

tance between the several holes in each row corresponding with the grooves in the plate *d*, and the distance between the several rows corresponding with the size of the ratchet teeth on the bar *j*. The holes in this plate are of a size to receive the barrels or shanks of the pins freely but not to permit the heads to pass through. After the pierced plate *q* with a sheet of paper on the back has been put and secured in the vertical sliding frame, and the frame let down so that the upper row of holes in the plate shall be on a level with the grooves in the plate *d*, and the ratchet hands or pawls put in place in the ratchet bar *j* the attendant slides the grooved plate *d* forward and back under the channel way *a* to charge the grooves with a row of pins which are thus arranged at equal distances apart, corresponding to, and with the points toward and level with the upper row of holes in the plate *q*. The whole row of pins is then forced forward through the holes in the plate *q* and into the sheet of paper behind it, by a follower *t* which slides in suitable ways *u*, *u*, *u*, on a level with the upper surface of the grooved plate *d*, and which is operated by the arm *v* of the before described lever *p* operated by the hand of the attendant. The extent to which the pins are inserted in the sheet of paper can be governed by a gage or by the judgment of the operator. As the pins are pushed forward by the follower they are guided by the grooves *c* in the plate *d*, and as the points pass through the sheet of paper it is sustained by a grooved bar *x* back of the frame which holds the sheet of paper.

As the lever *p* is moved back to withdraw the follower the ratchet hand or pawl *l* acts on the ratchet bar and lifts the frame *h* with the pierced plate and sheet of paper elevating the row of pins and presenting the next row of holes in the plate on a level with the grooved plate *d* to stick another row of pins. In this way the operation is repeated until the whole sheet of paper is stuck with pins having the heads on one side and the points on the other.

It will be obvious from the foregoing that instead of sticking one entire row at each operation, the pins may be stuck one at a time by giving a lateral movement either in the guide groove or to the frame carrying the sheet of paper, but the mode of construction first above specified and represented will be found much more expeditious; and it will also be obvious that if desired the second part of our invention may be dispensed with by substituting for the perforated plate some other mode of holding the sheet of paper in the frame; but as the perforated plate facilitates the sticking of the pins in the paper and the management of them in the processes to which they are subjected when so stuck we prefer to use both parts of our invention in connection.

We do not wish to be understood as limiting ourselves to the special construction and arrangement of the parts as equivalent constructions and arrangements may be substituted within the range of our invention.

What we claim as our invention and desire to secure by Letters Patent is—

1. In combination with a guide groove or grooves and a follower, substantially as specified, the employment of the sliding frame for holding and shifting the sheet of paper, substantially as described, that the pins may be properly spaced and inserted in the sheet of paper at right angles or nearly so with its surface, as set forth.

2. And we also claim in combination with the guide groove or grooves, follower and holding and shifting frame, substantially as and for the purpose specified, the employment of a perforated plate, substantially such as described, and interposed between the guide groove or grooves and the sheet of paper held in the frame, that the pins may be inserted simultaneous in the plate and in the sheet of paper, as set forth.

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