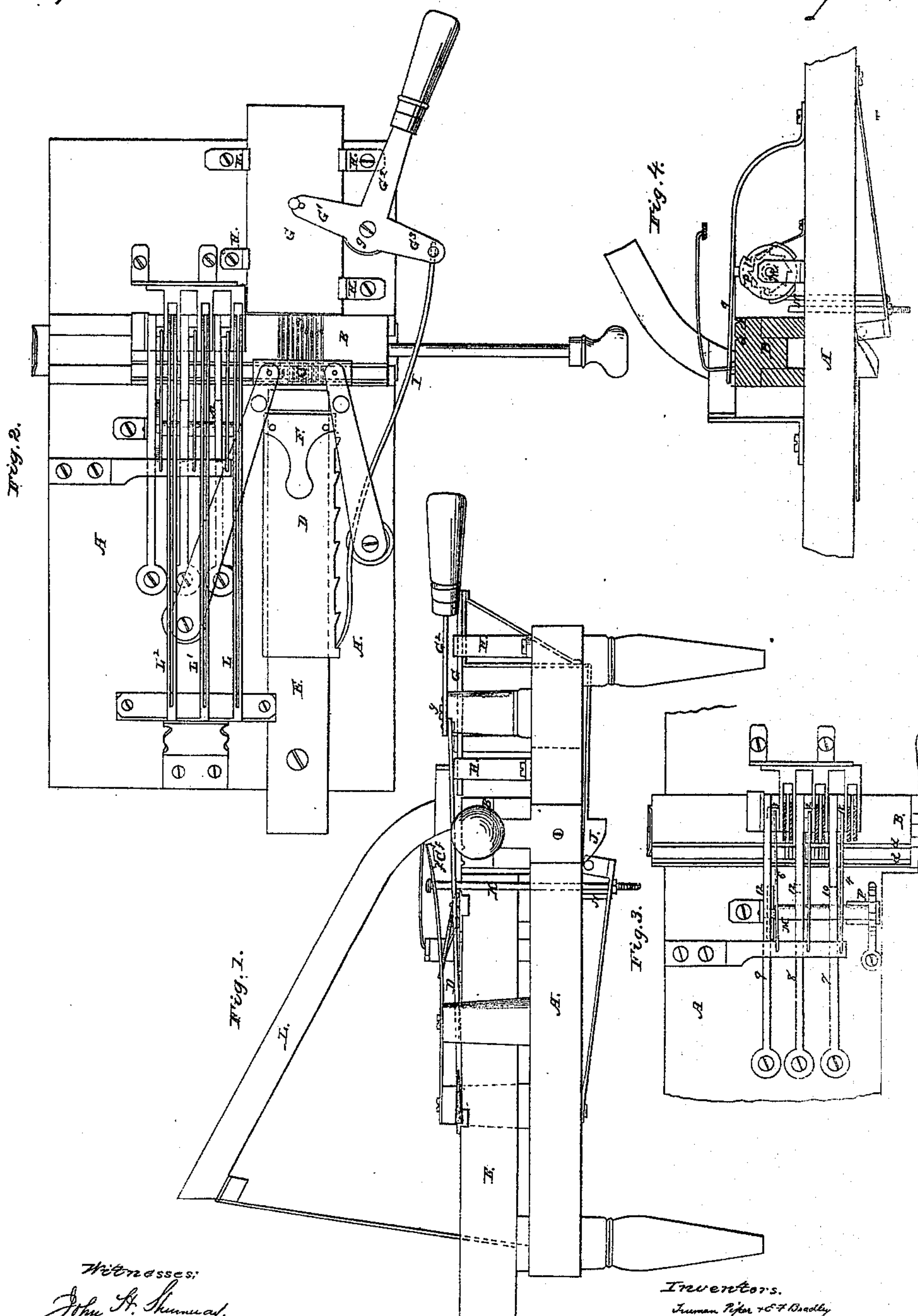


Piper & Bradley,

Payering Pins,

N<sup>o</sup> 77,912.

Patented May 12, 1868.



Witnesses:  
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# United States Patent Office.

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HOWE MANUFACTURING COMPANY, OF SAME PLACE.

*Letters Patent No. 77,912, dated May 12, 1868.*

## IMPROVED MACHINE FOR STICKING PINS.

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

### TO ALL WHOM IT MAY CONCERN:

Be it known that we, TRUMAN PIPER and E. F. BRADLEY, of Birmingham, in the county of New Haven, and State of Connecticut, have invented a new Improvement in Machine for Sticking Pins; and we do hereby declare the following, when taken in connection with the accompanying drawings, and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a side view,

Figure 2 a top view, and in

Figure 3 detached views to illustrate the operation.

This invention relates to an improvement in machines for sticking pins in rows upon papers, the object being to place pins of different sizes or different colors, or both, upon the same paper.

Heretofore, in papering pins, machines have been constructed so that but one kind or size of pins could be stuck upon the same paper. In this invention we have succeeded in constructing a machine in which, if desired, every row of pins may be different from the next, so that throughout a whole paper no two of the rows may be the same; and our invention consists in the arrangement of a channel for each particular class of pins, and combining therewith a cut-off, which operates so as to open the channel from which the required pins will be received, the other channels being closed, and each channel in its turn opened automatically, whenever the pins in the said channel are required.

To enable others to construct and use our improvement, we will proceed to describe the same as illustrated in the accompanying drawings.

A is the bed-plate; B, a slide, moving in proper guides transversely across the bed-plate, the upper surface of the said slide being provided with longitudinal grooves *d*, in which the paper is crimped, and with transverse grooves *a*, each the proper size to receive a pin, and in number equal to the number of pins required for each row. C is the crimper, hung, relatively to the slide B, so that the ribs *f* on the said crimper will enter the longitudinal grooves *d* in the slide B, as seen in fig. 2, and is operated in the manner hereafter described. D, the paper-clamp, is a plate arranged upon a slide, E, and provided with a clamping-lever, F, which, when the end of the paper is passed under the crimper, will clamp and hold the end of the paper, so that when the plate D is moved upon the slide E, it will draw the paper with it, and so operates that after each row of pins has been stuck, it will draw the paper a sufficient distance from the crimper for the insertion of the next row, and so on, being intermittently moved until all the rows are stuck. G is a slide, arranged in proper guides H, and in such relative position to the slide B, that the end of the slide G will just pass over the surface of the said slide B, and in its passage striking the heads of the pins, (which lie next the slide G,) will force the pins on the slide B into and through the crimper in the paper, and the slide G is so moved by means of the arm G<sup>1</sup>, on the lever G<sup>2</sup>, pivoted at *g*. From another arm, G<sup>3</sup>, on the same lever, a pawl, I, extends back to the slide D, and operates in notches on the edge of the said slide D, so that in the act of returning the slide G after the pins have been stuck, the said pawl will move the slide D a sufficient distance to draw the paper for the next row. Attached to the slide G, beneath the bed-plate, is an inclined plane or cam, J, which in its movement on the start of the said slide, draws down the crimper C by means of the rod K, attached to the said crimper, and extending down so as to be acted upon by the cam J. By this means the crimper is pressed down so as to crimp the paper at the proper time, and is released, by the return of the slide G, in sufficient time to permit the action of the pawl I upon the slide D to draw along the paper. L L<sup>1</sup> L<sup>2</sup> are three channels, each designed to carry a different class of pins, that is to say, of different sizes or of different colors, and each channel communicating with its own particular hopper, and supplied therefrom in the usual manner. The pins entering their respective channels heads up, run, by their own gravitation, down, and so that the first pin would lie upon the slide B, but as it is only desirable that the grooves in the slide B should receive pins from one of the channels, we provide



each of the channels with an independent cut-off, better seen in figs. 3 and 4, and numbered respectively 1, 2, and 3, and are arranged in proper guides, and sustained by arms 4, 5, and 6, and lie flat upon the slide B, so that when the slide B is moved in, the several cut-offs, 1 2 3, or the one of them which is free, will move from under its channel, and when the slide is again drawn, the friction of the cut-off upon the slide causes the return of the cut-off under the channel, so as to prevent the discharge of more pins than are required from the said channel.

To operate the several cut-offs so that the required channel shall be opened at the proper time, we arrange levers 7 8 9, one to each cut-off, so that when the cut-offs are under the channel, as numbers 1 and 2, their respective levers 7 and 8 will fall down back of and prevent the movement of the cut-off when the slide is moved in to receive the pins, and when the lever is raised, as denoted, for the cut-off 3, and as seen in fig. 4. The cut-off moves freely under the said lever, and will so continue to do, discharging pins from the said channel, and cutting off until the lever 9 is dropped behind the said cut-off 3; then, another of the levers being raised, the cut-off in that channel will operate, and the pins be received from that channel. To make this operation automatic, we arrange a shaft, M, provided with cams 10 11 12, respectively, for each of the levers, and the several cams formed and operated so as at the proper time to raise the lever, and permit the operation of the cut-off, as before described, the said shaft being intermittently moved by a pawl, N, upon a ratchet, P, on the said shaft; the said pawl being connected with the crimper C, so that the cams are moved during the feeding of the paper.

The proper channel opening when the slide B is moved inward, a pin falls from the said channel into each of the grooves *a* on the slide B, as each groove is presented beneath the said channel, until all are filled; then, the slide being drawn out, the cut-off closes the channel. When drawn out to the proper position beneath the paper, (the paper having been previously inserted, as denoted in blue, fig. 1,) the lever  $G^2$  is turned to force the plate G forward, at the same time the crimper drops, forcing the paper into the grooves in the slide B. The slide G continuing to advance, forces the pins into and through the crimps to their proper position. Then, to reverse the movement, the lever  $G^2$  withdraws the plate, raising the crimper, at the same time moving the paper along for the second row of pins, and at the same time turning the shaft M. This operation is repeated, and when the number of rows required from the first channel, and indicated by the cam which governs the cut-off of the said channel, have been stuck, then the second channel is opened and pins received from that channel, and so on until the paper is completely stuck.

We have represented but three channels, but it will be evident that as many channels may be used as there are rows of pins, or the adjustment will readily suggest itself to those skilled in the use of this class of machinery, whereby parts of the same row may be of different kinds of pins.

We have represented the cut-offs of the several channels as being at their extreme lower ends; this may be arranged so as to cut off above, and sufficiently high that the number of pins to be delivered may be below the cut-off. We therefore do not wish to be understood as confining ourselves to the precise arrangement of operating the several cut-offs; but having thus fully described our invention,

What we claim as new and useful, and desire to secure by Letters Patent, is—

1. In combination with the several independent channels, we claim the cut-off device for each of the said channels, constructed and arranged substantially as described, and operating so as at the proper time to deliver the pins from either or several of the channels, substantially in the manner herein set forth.

2. The combination of the intermittently-revolving ratchet, cam-wheel, spring-levers, and cut-off slides with the slide B, substantially as herein described.

TRUMAN PIPER,  
E. F. BRADLEY.