H. J. WICKHAM.

Envelope-Machine.

No. 217,310. Patented July 8, 1879.

Fig:1.

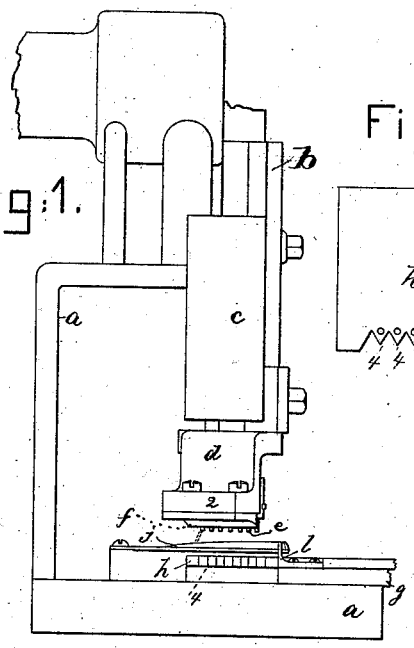


Fig:6.

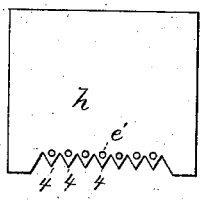


Fig:2.

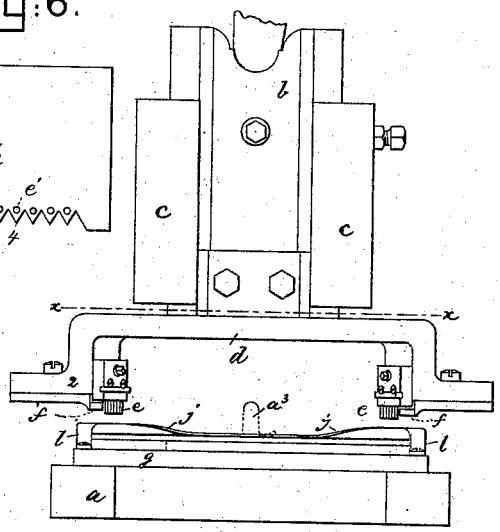


Fig:4.

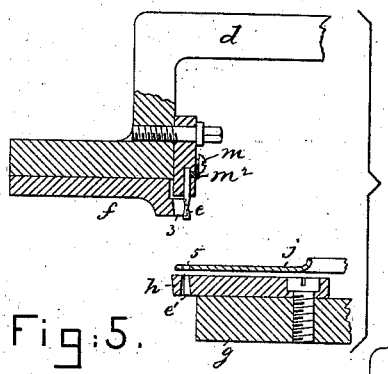


Fig:5.

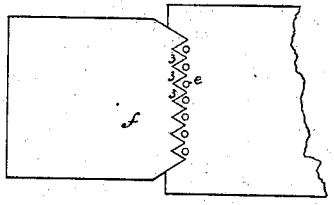


Fig:3.

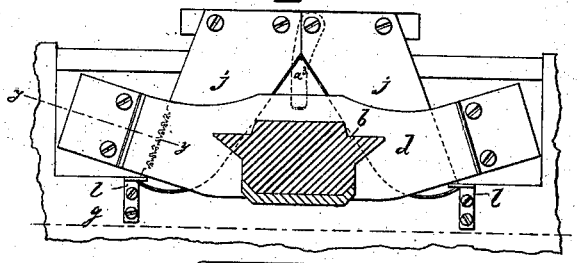
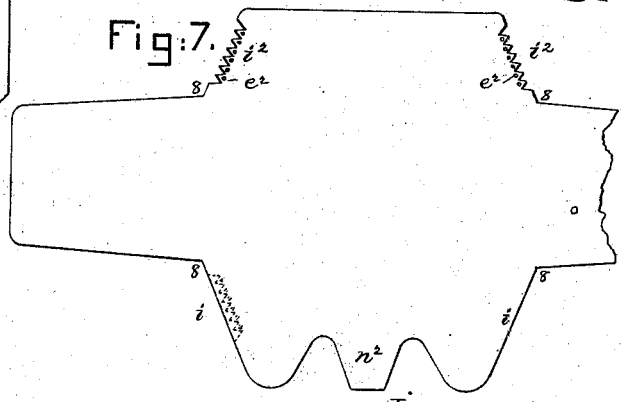


Fig:7.



Witnesses.

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UNITED STATES PATENT OFFICE.

HORACE J. WICKHAM, OF HARTFORD, CONNECTICUT.

IMPROVEMENT IN ENVELOPE-MACHINES.

Specification forming part of Letters Patent No. **217,310**, dated July 8, 1879; application filed May 19, 1879.

To all whom it may concern:

Be it known that I, HORACE J. WICKHAM, of Hartford, county of Hartford, State of Connecticut, have invented an Improvement in Mechanism for Edge-Cutting Envelope-Blanks, of which the following description with the accompanying drawings is a specification.

This invention relates to mechanism for cutting or preparing the edges of envelope-blanks in such manner that the formed envelope, when sealed with mucilage or other usual gum, cannot be opened without destroying the edge so cut or prepared, the object of this apparatus being the production of a blank for a safety-envelope which shall add to the security of registered or other packages being transmitted from place to place, by being able to readily detect whether or not the envelope has been tampered with.

In this my invention I employ a reciprocating stamp or head provided with a series of punches and edge-pinking cutters, they co-operating with a series of edge-pinking cutters, provided with holes just within their cutting-edges to receive the said punches, a suitable stripper being employed to prevent the envelope-blank following with the punches when they are being withdrawn therefrom, and suitable guides to correctly place the said envelope-blank in correct position with relation to the punches and cutters.

Figure 1 represents, in end view, one of my blank-cutters, a portion of the frame-work being broken away to save space upon the drawings. Fig. 2 is a front elevation of Fig. 1; Fig. 3, a section on the line *x x*, Fig. 2; Fig. 4, a section through the punch, pinking-cutters, stripper, and supporting-bed at one end, (see dotted line *y*, Fig. 3;) Fig. 5, an underside view of the reciprocating head and a series of punches and pinking-cutters at one side of it; Fig. 6, a top view of the pinking-cutters attached to the stationary bed, and Fig. 7 a plan of the blank operated upon by this machine.

The frame *a* and reciprocating slide *b* are and may be of any usual or suitable construction. In practice, the actuating devices for the slide are those common to the well-known Stiles press, wherein the slide is reciprocated by means of a shaft at the top of the frame, it being provided with an eccentric connected by a pitman with the slide *b*, the driving-pulley of the press being, by means of a suitable clutch and treadle, placed under the control of the operator, so as to stop the machine as the slide reaches its most elevated position, to afford time for the introduction of the envelope-blanks to be cut. This slide *b*, reciprocated in guideways *c*, has at its lower end a cross-bar, *d*, having at each of its ends an adjustably-held series of punches, *e*, and a pinking-cutter, *f*, having, as herein shown, a series of V-shaped projections, 3, the punches standing in the spaces between the said projections 3, as in Fig. 5.

The bed or support *g* for the envelope-blank has attached to it the stationary pinking-cutter *h*, (shown in top view, Fig. 6,) its edge being provided with V-shaped hardened projections 4, so as to form between them V-shaped notches to receive the projections 3 of the cutter *f*, and near the wider parts of these projections 4 are holes e^1 to receive within them the punches *e*, thus enabling the plain edges *i* of the blank (shown at Fig. 7) to be simultaneously notched or pinked and punched or perforated through the said notched parts, as at i^2, it being understood, however, that both edges of a number of envelope-blanks are operated upon and pinked and cut at each descent of the slide.

The stripping-plate *j*, having its edge notched and provided with holes to correspond with the punch-holes in the cutter *h*, acts to prevent the blanks being cut from sticking upon the punches as they are being withdrawn from the blank, which would tear off the pinked edge represented at i^2, for the holes e^2 weaken the said pinked edges.

To insure the correct placing of the blanks in position with relation to the cutters and punches, I have placed guides *l l* upon the bed, which, as the blanks are passed between the bed *g* and stripping-plate, act against the corners 8 of each blank of the pile of blanks and place the edges *i* in the proper position to be pinked and punched.

The punches *e* will, preferably, be held in position by a key, m^2, adjustably secured by screws *m*, the edge of the key acting upon flat-

tened sides of the upper ends of the punches, as shown in Fig. 4. The rows of punches and the contiguous cutters at opposite ends of the cross-bar *d* are so inclined as to operate upon the reversely-inclined edges of the blank, the punches and cutters at opposite sides of the bar being most distant apart at those portions which act upon the blank nearest its corners 8.

In the drawings I have shown a finger, a^3, which may be used, if desired, to prevent the central flaps n^2 rising.

I do not broadly claim a pinking-cutter to notch a piece of paper.

I claim—

1. In a machine for preparing envelope-blanks, as described, a series of punches and pinking-cutters attached to a movable head, combined with a stripper and a bed die or cutter having its cutting-edge shaped to match with the projecting cutting portions 3 carried by the head, and provided with openings e^1 for the punches, so as to serrate the edges of the blanks and punch holes along said serrated edges, all substantially as described.

2. In a machine for serrating the edges of envelope-blanks, as described, the inclined pinking-cutters above and below the blanks, and a stripper-plate, combined with guides to stop the blanks, as described, in correct position with relation to the punches, all substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HORACE J. WICKHAM.

Witnesses:

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G. W. GREGORY.