

A. GIRAUDAT.
Machine for Cutting Lace from Paper.

No. 229,997.

Patented July 13, 1880.

Fig. 1.

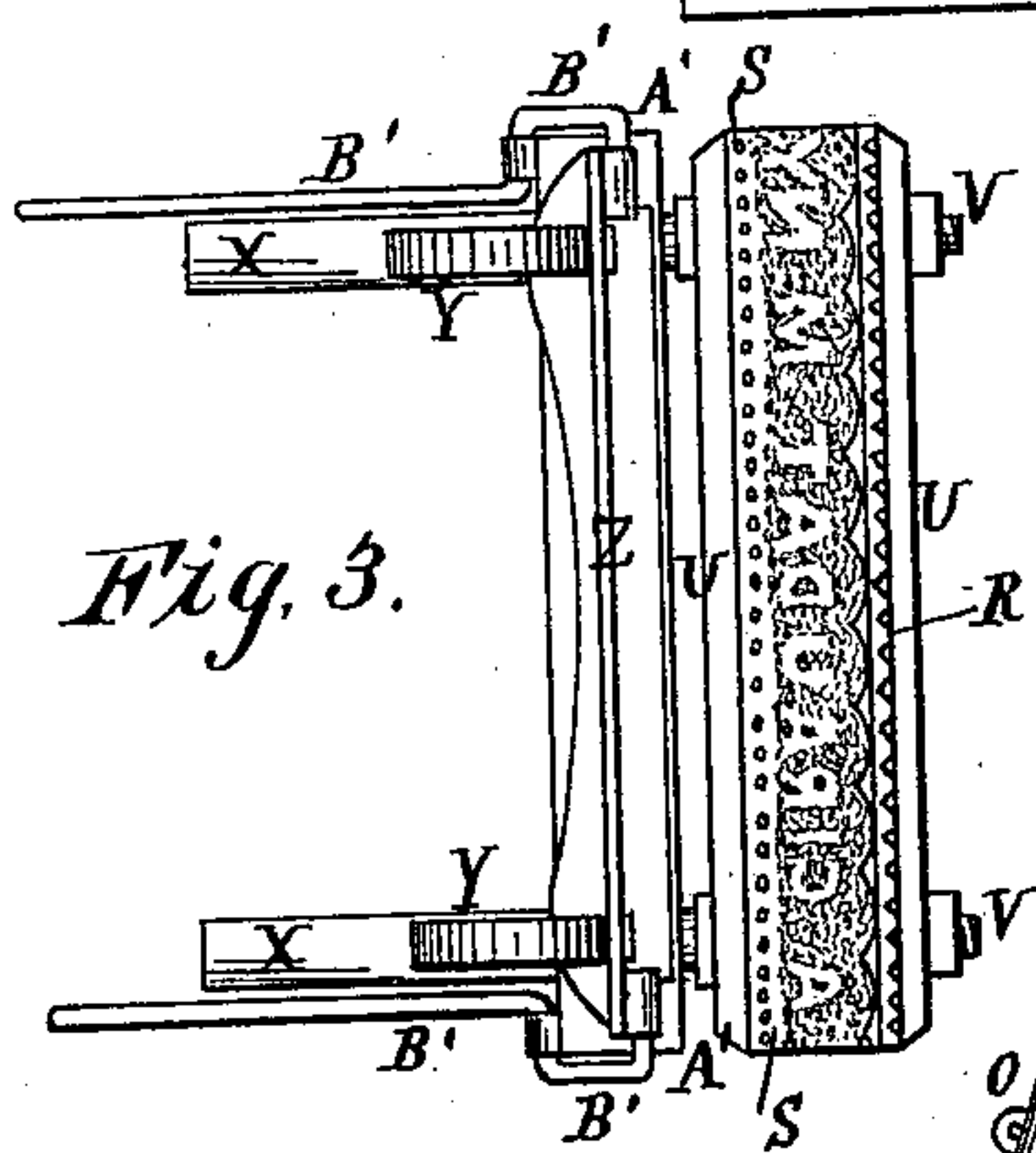
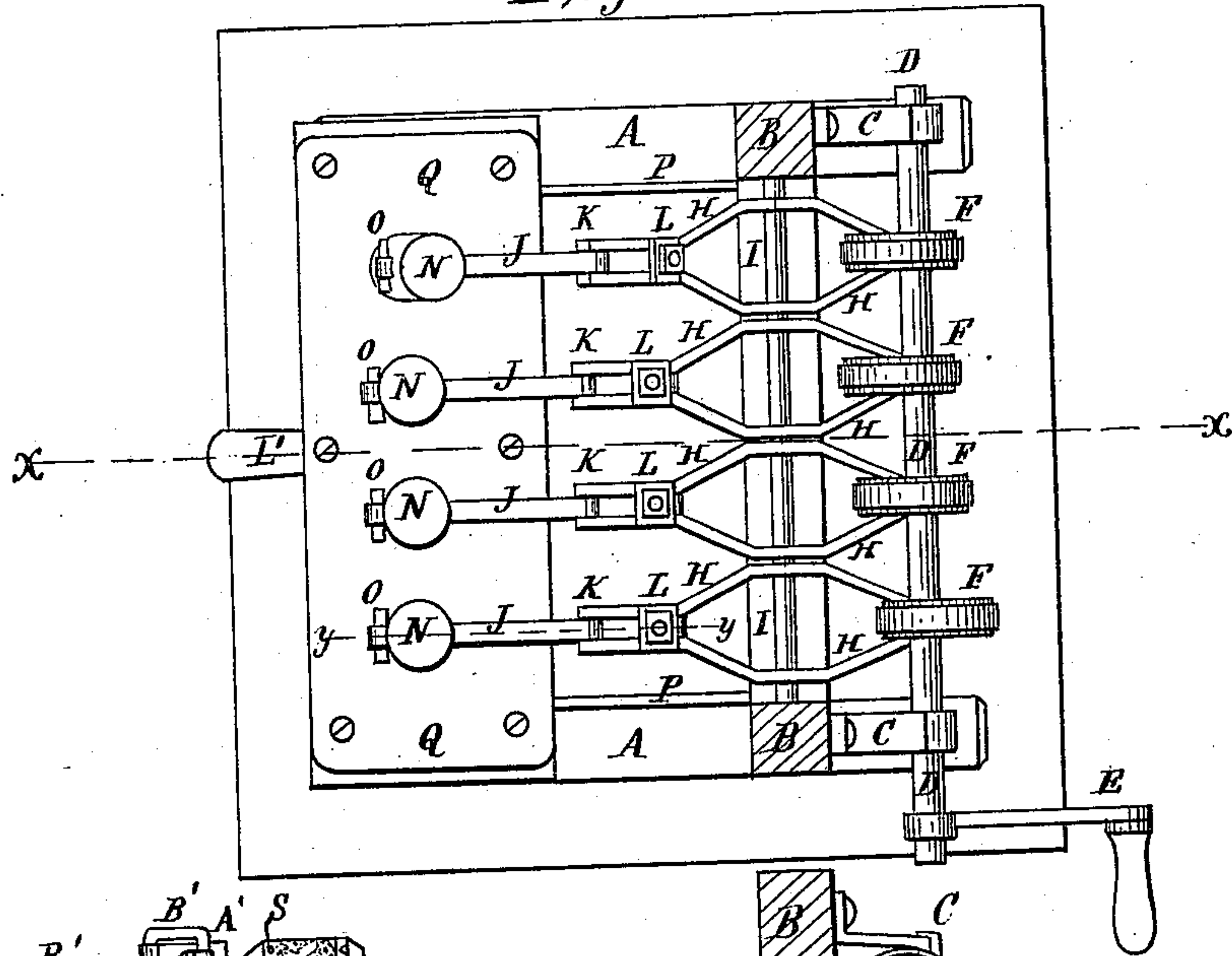


Fig. 2.

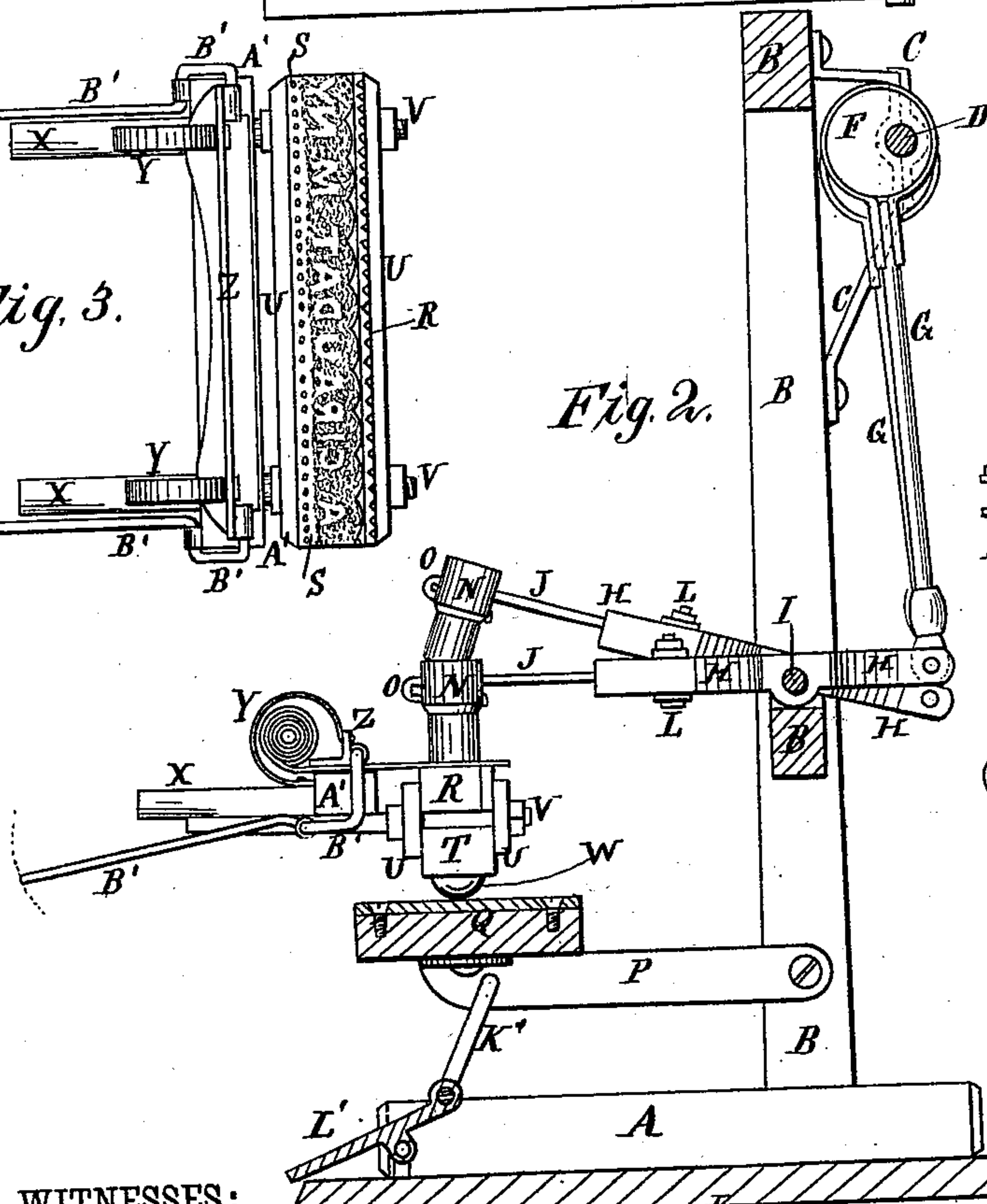


Fig. 5.

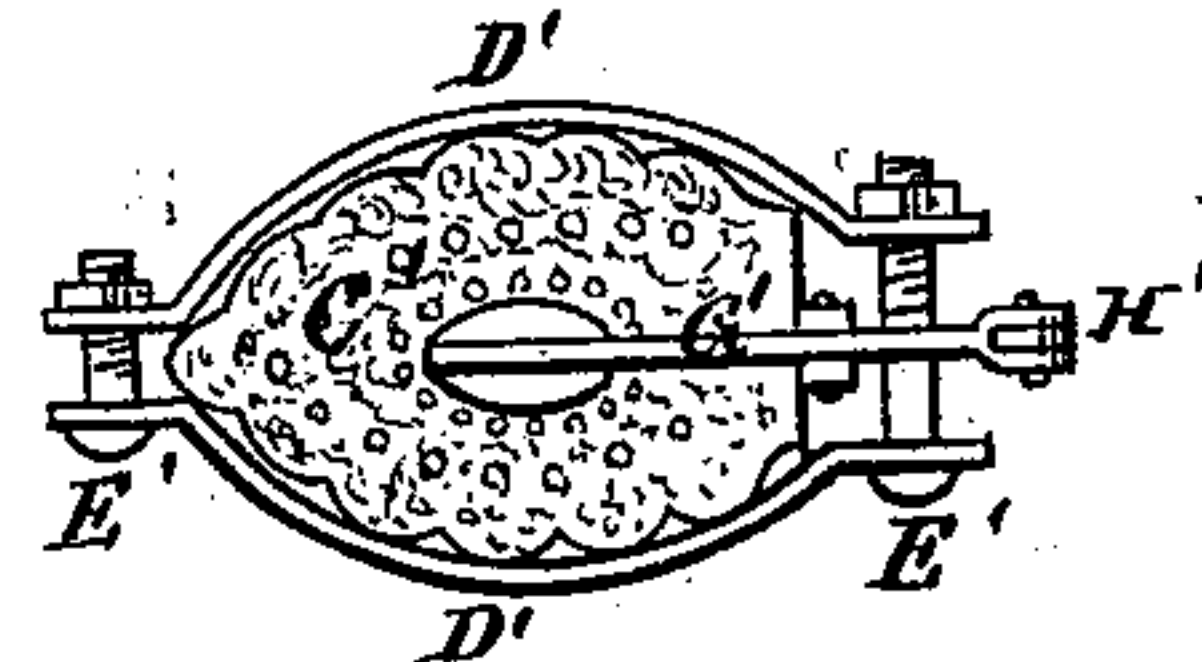
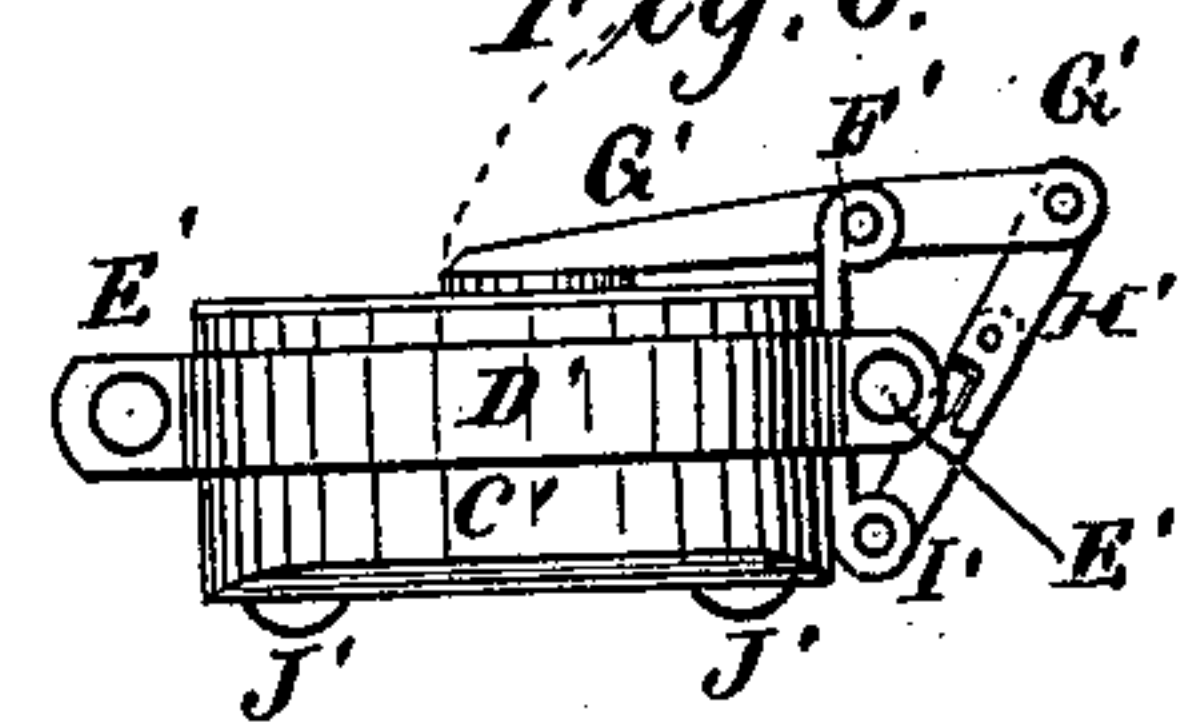


Fig. 6.



WITNESSES:

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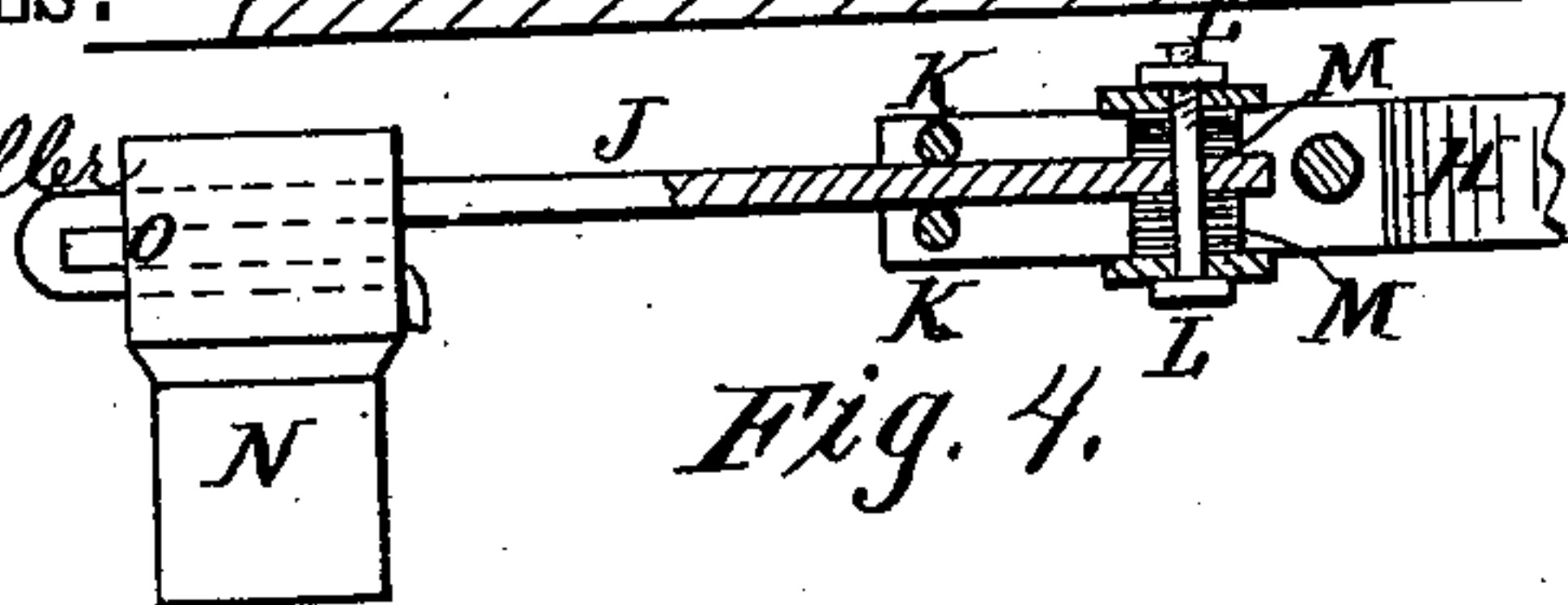
INVENTOR:

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BY

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ATTORNEYS.

Fig. 4.



UNITED STATES PATENT OFFICE.

AMBROSE GIRAUDAT, OF NEURY, NEW JERSEY.

MACHINE FOR CUTTING LACE FROM PAPER.

SPECIFICATION forming part of Letters Patent No. 229,997, dated July 13, 1880.

Application filed October 29, 1879.

To all whom it may concern:

Be it known that I, AMBROSE GIRAUDAT, of Neury, in the county of Bergen and State of New Jersey, have invented a new and useful Improvement in Machines for Cutting Lace from Paper and other Substances, of which the following is a specification.

Figure 1 is a sectional plan view of the machine. Fig. 2 is a sectional side elevation. Fig. 3 is a plan view of the die and paper holders. Fig. 4 is a sectional side elevation of a hammer and hammer-holder. Fig. 5 is a plan view of a modified form of the die and paper holders. Fig. 6 is a side elevation of the modified die and paper holders.

Similar letters of reference indicate corresponding parts.

The object of this invention is to furnish machines for cutting lace from paper to be used for ornamenting paper-boxes, cigar-boxes, and for other purposes.

A represents the base-frame of the machine, to the rear part of which is attached an upright frame, B. To the upper parts of the posts of the frame B are attached brackets C, in bearings in which revolves the driving-shaft D. To one end of the shaft D is attached a crank, E, by means of which the said shaft is rotated. To the shaft D are attached two or more eccentrics, F, which are arranged spirally, so that they will operate the hammers in regular succession.

G are connecting-rods, the upper ends of which are connected with the eccentrics F by straps in the ordinary way. To the lower ends of the rods G are hinged the rear ends of pairs of bars H, through the middle parts of which passes a pivoting-rod, I. The bars H are bent outward and then inward, so that the adjacent pairs will rest against each other upon the rod I, and will thus be kept in proper relative position.

J are the hammer-handles, the rear parts of which are inserted between two horizontal pins or bolts, K, attached to the forward ends of the bars H.

L are bolts which pass vertically through the rear ends of the handles J, and are provided with washers to rest upon the upper and lower edges of the bars H.

The spaces between the ends of the handles J and the washers of the bolts L are filled with plates, blocks, or springs M, so that the hammers may be held steady while at work. The forward ends of the handles J are passed through the hammers N, and have slots formed in them or loops formed upon them to receive the keys O, by which the said hammers N are secured detachably to the said handles J. The hammers N are made of lead and with flat faces.

With this construction the hammer-handles J may be adjusted in the pivoted bars H to bring the hammers N into a straight or a curved line, as the character of the work may require.

To the lower parts of the posts of the vertical frame B are pivoted the rear ends of two arms, P, to the forward ends of which is attached the table Q, to support the dies while the paper is being cut.

R is the die, upon the face of which is formed the pattern to be cut into the paper. Along the forward edge of the die R is formed a knife, S, consisting of a row of fine points to separate the part of the paper upon which the pattern has been cut from the sheet or roll of paper.

The die R is placed above a block, T, of corresponding length and width, where it is clamped between two plates, U, which rest against the sides of the die R and block T, and are secured in place by bolts V passing through them and through the space between the die R and the block T. The block T, plates U, and bolts V form the die-holder. To the lower side of the block T, along its central line, are attached knobs or wheels W, which rest upon the table Q, so that the die-holder and die may be tilted or rocked to bring the various parts of the die beneath the hammers.

To the die-holder are attached, or upon it are formed, two arms, X, to serve as handles in adjusting the die.

To the handles X are attached the ends of two curved springs, Y, which serve as a holder to receive the roll of paper. The other ends of the curved springs Y are attached to the upper wing of an angular plate, Z, which

clamps the paper against a bar, A', attached to the handles X, and holds the said paper securely while the cutting is being done.

To the ends of the clamping-plate Z are attached the ends of two bent levers, B', which are pivoted to the ends of the bar A'. The long arms of the levers B' extend along the handles X, so that they can be conveniently reached and operated to clamp and release the paper.

In case the pattern be oval or leaf shaped the die C' is made of corresponding shape, and is clamped between two curved bars or plates, D', by means of two bolts, E', passing through the ends of the said bars or plates D'.

To the rear ends of the bars or plates D', or to a block secured between the said ends, is attached a short bar, F', to the upper end of which is pivoted a lever, G'. The forward end of the lever G' is widened to serve as a clamping-plate to hold the paper in place upon the die while being cut.

To the rear end of the clamping-lever G' is pivoted the end of the bar H' of a toggle-joint, the other bar, I', of which is pivoted to the lower end of the bar F', so that the paper may be clamped and released by operating the toggle-joint H' I'. In this case the sides of the base of the die C' are beveled, and the knobs J' are attached to the angle thus formed, so that the die can be readily inclined to bring all parts of the face of the die beneath the hammers.

To the forward ends of the bars P, that support the table Q, are pivoted the cranks of a

crank-shaft, K', which is pivoted to the inner end of a treadle, L'. The treadle L' is pivoted to the base-frame A, and projects into such a position that it may be readily operated by the operator with his foot to hold the table Q in such a position that the hammers N will strike fairly upon the paper upon the die.

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

1. In a machine for cutting lace-paper, the combination of the horizontal pins or bolts K, the vertical bolts L, and the filling M with the hammer-arms J and the pivoted bars H, substantially as herein shown and described, whereby the hammers N may be adjusted in a straight or a curved line, as required.

2. In a machine for cutting lace-paper, the combination, with the table Q, the hammers N, and the die R, of the die-holder formed of the block T, the clamping-plates U, and the bolts V, substantially as herein shown and described, for holding the die while the paper is being cut, as set forth.

3. In a machine for cutting lace-paper, the combination, with the die R, the die-holder T U V, and its handles X, of the curved springs Y, the clamp Z A', and the levers B', substantially as herein shown and described, for holding the paper upon the die R while being cut, as set forth.

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Witnesses:

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