No. 632,136. Patented Aug. 29, 1899.

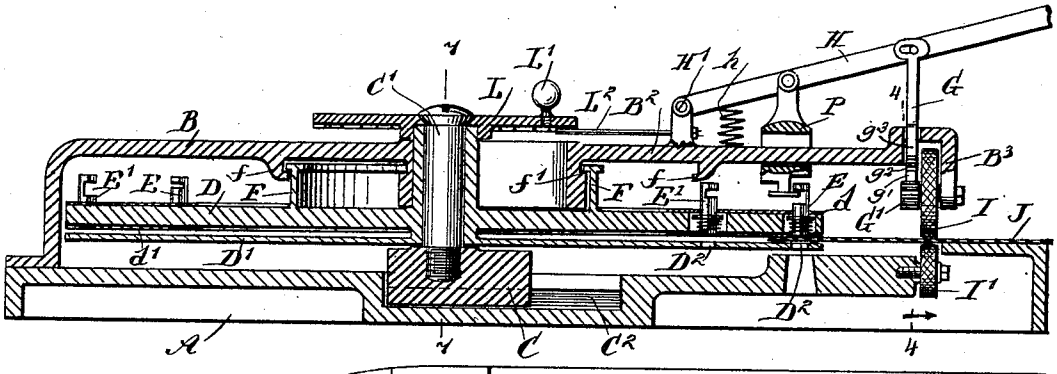
S. B. MOORE.

STENCILING MACHINE.

(Application filed Dec. 14, 1897.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1



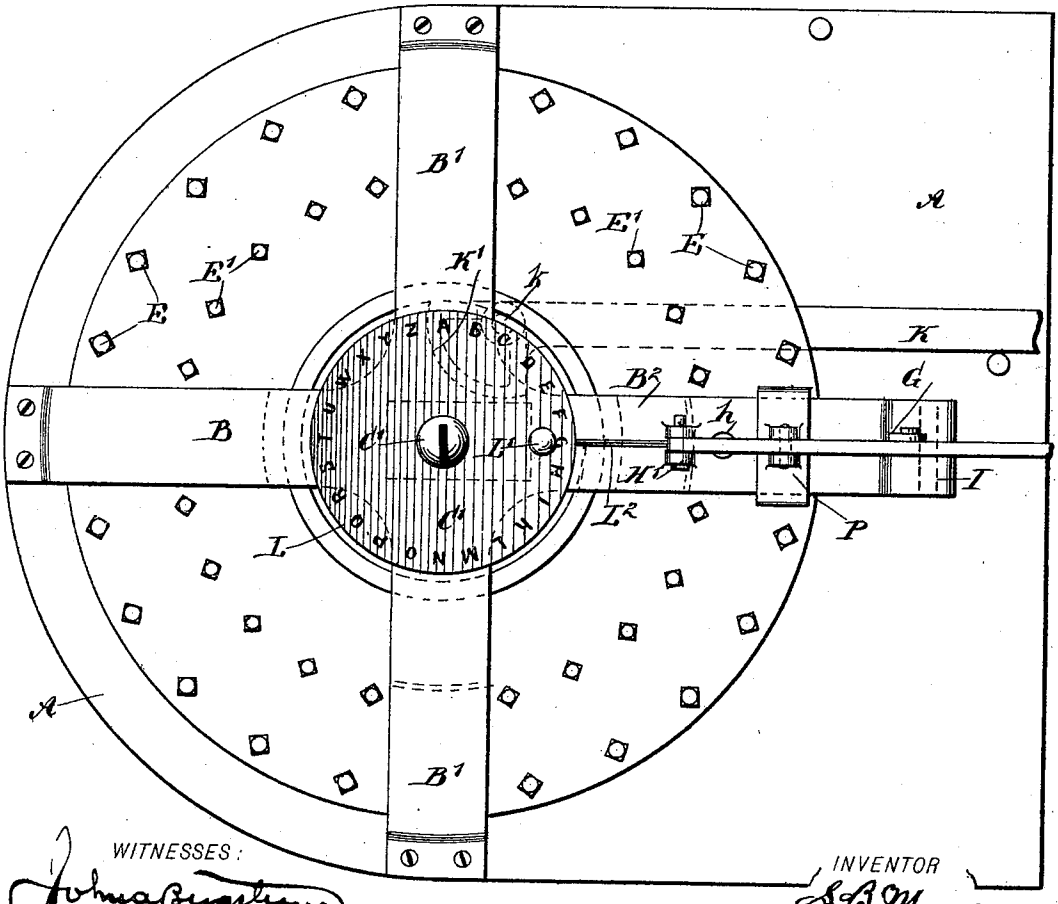


Fig. 2

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H. L. Reynolds

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No. 632,136. Patented Aug. 29, 1899.

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Fig. 3

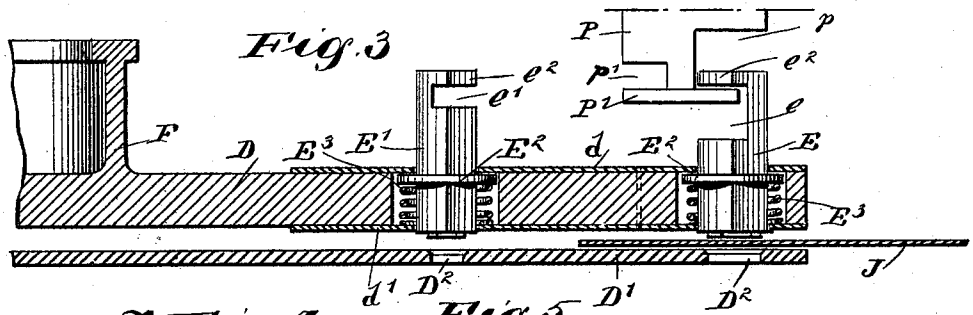


Fig. 4

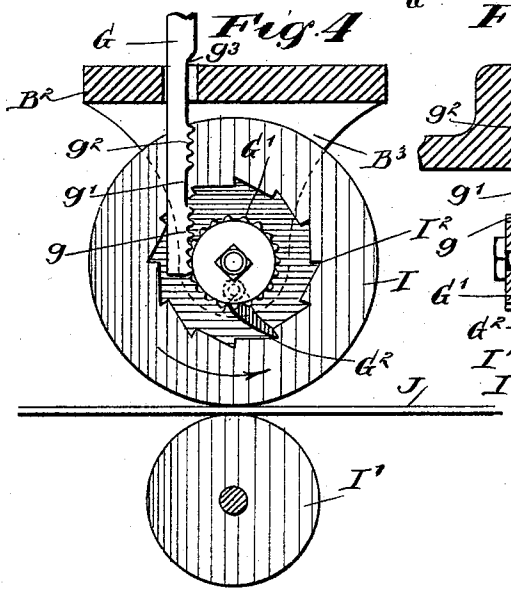


Fig. 5

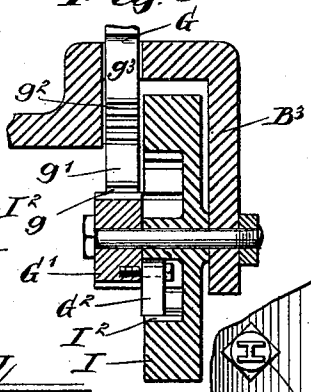


Fig. 6

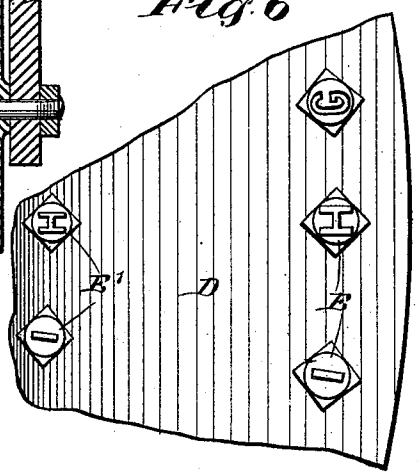


Fig. 7

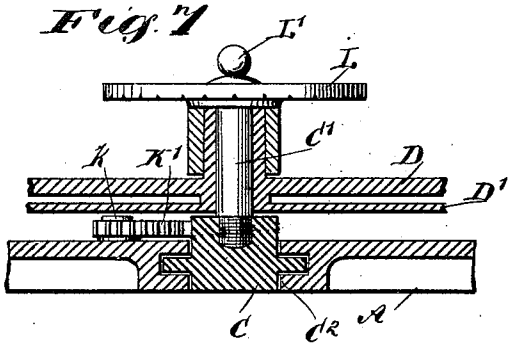
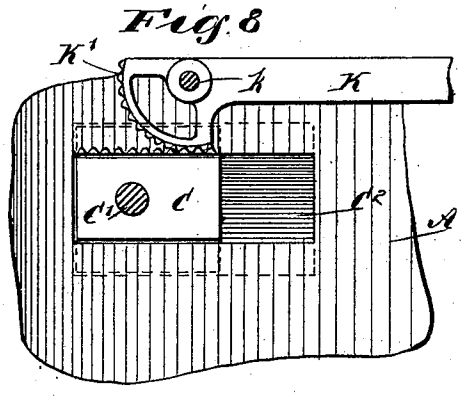


Fig. 8



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UNITED STATES PATENT OFFICE.

STUART B. MOORE, OF NEW YORK, N. Y.

STENCILING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 632,136, dated August 29, 1899.

Application filed December 14, 1897. Serial No. 661,826. (No model.)

To all whom it may concern:

Be it known that I, STUART B. MOORE, of New York, (Brooklyn,) in the county of Kings and State of New York, have invented a new and Improved Stenciling-Machine, of which the following is a full, clear, and exact description.

My invention relates to a device for punching sheets of paper or similar material to be used for stencils; and it consists of certain devices which will be hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a longitudinal sectional elevation of the machine. Fig. 2 is a plan view. Fig. 3 is a longitudinal sectional elevation, upon a larger scale, of the two rotating disks with the punches and plunger for operating the same. Fig. 4 is a side elevation of the paper-feeding mechanism. Fig. 5 is a cross-sectional elevation of the upper feed-wheel and its operating mechanism. Fig. 6 is a bottom plan view, on a larger scale, of the upper plate D, showing the punches. Fig. 7 is a longitudinal sectional elevation taken through the central portion of the mechanism, showing the reciprocating block which carries the plates and the means for reciprocating them; and Fig. 8 is a plan view of the same.

My invention is designed for punching sheets of paper to form stencils which are intended for temporary use only; but the same construction, if built of sufficient strength, may be used for punching stencils through sheets of metal.

In shipping goods it is always desirable that the address shall be put on by stencils, if such a thing is possible. To have stencils made in metal for each shipment of goods would, however, be too costly. It is therefore desirable to be able to make these stencils cheaply from paper which will answer sufficiently for addressing a large number of packages and which will cost but a trifle.

The machine is mounted upon a frame consisting of a base A and a bridge, which is formed in four arms—the rear arm B, the side arms B′, and the forwardly-extending arm B^2, the latter carrying the plunger, the operating-lever, and the paper-feeding mechanism. Upon or within the base A is formed a guideway C^2, within which is mounted to slide a block C. This block has teeth formed upon one edge thereof comprising a rack, as clearly shown in Fig. 8. This rack is engaged by the segmental gear K′, the same being formed as a part of or attached to the lever K, said lever and the gear being pivoted at *k* upon the base. By throwing the lever K to one side or the other the block C is caused to reciprocate within the guide. A pin or standard C′ is mounted upon the block C and forms the pivot for the disks D and D′, which carry the punches and dies for forming the letters. These two disks are rigidly secured to each other, so as to revolve together. The upper disk D has a series of holes corresponding in number with the characters the machine is intended to produce. Two rows of punches E and E′ are shown, the former being farther from the center and intended for letters of a larger size than those upon the inner row. The two rows may be used for different characters in one complete set or to make two complete sets of different sizes. The holes which contain the punches are covered at top and bottom by thin plates *d* and *d′*, as shown in detail in Fig. 3.

The punching-die is mounted upon the lower end of the punch-bars E and E′. The plates *d* and *d′* have holes therethrough corresponding in outline to the cross-section of these punch-bars. The punch-bars are supported by springs of any convenient form, which will normally hold them raised, so as to leave opportunity for the paper J to be inserted between the two disks. As shown in the drawings, this consists of the spiral springs E^3, surrounding the punch-bars and within holes in the disk D, said springs engaging the lower plate *d′*, and a collar E^2, which is formed upon or attached to the bars E and E′. The disk D′ has dies D^2 formed therein exactly registering with the punching-dies upon the punch-bars E and E′. If the paper which is to be used in forming the stencil be inserted between the two disks and one of the punches is forced down, its die will enter the die in the disk D′ and cut out a corresponding portion of the paper. These punch-bars are engaged and forced downward by the means herein-

after described. The upper ends of the punch-bars are provided with side-extending notches e and e', which leaves narrow ledges e^2 at the upper end of the punch-bars. These notches extend toward the opposite row of punch-bars—that is, the notches upon the two rows face toward each other. It will be noticed that the notch e in the punch-bar E is of greater width than the corresponding notch e' in the punch-bar E'. This is to provide a certain amount of slack motion of the plunger P when the same is moved down, and thus to provide for a greater feed of the paper J before the punch is brought into operation.

To the upper side of the arm B^2 of the bridge is pivoted at H' the operating-lever H. This is normally held up by a spiral spring h. To this lever is pivoted a plunger P, which is mounted to slide upon the arm B^2 of the bridge and at its lower end has side-extending notches p and p', facing, respectively, toward the punch-bars E and E'. This leaves a narnow ledge or flange P', which is adapted to engage the punch-bars within the notches formed therein. With the disks placed in one position the punch-bars E will be in position to be engaged with the flange P' at the bottom of the plunger. If the block C, carrying the disks, be reciprocated to the opposite position, it will carry the disk to one side a sufficient amount to cause the other punch-bar to be engaged with the opposite side of the plunger. By forcing the lever H downward the plunger will engage the punch which is immediately below it to punch out a letter in the paper. The flange P' will engage the flange e^2 upon the punch-bar and lift the punch-bar, thus positively freeing it from the paper.

The disks are turned to the proper position by any convenient means. I have, however, shown a plate L, fastened to the axis of the disks and lying above the bridge B. This plate is provided with a knob or handle L' for convenient engagement and has the characters of the disks laid out upon its surface in corresponding position. The under side of the disk is provided with corresponding notches located so as to successively engage the spring-bar L^2, and thus to hold the disks in proper position after being revolved. This spring-bar L^2 will readily yield when the disks are revolved by hand.

The feed of the paper is secured by means of the feed-wheels I and I', the latter journaled upon the frame beneath the paper and the former upon a downward extension B^3 of the arm B^2. These feed-wheels are constructed as shown in detail in Figs. 4 and 5. The feed-wheel I is provided with an internal ratchet I^2, and the pinion G', which is mounted upon the same shaft as the feed-wheel, but free to rotate independently thereof, is provided with a pawl G^2, adapted to engage said ratchet. The pinion G' is rotated by the engagement of a rack-bar G therewith. This rack-bar is connected to the lever H and works in guides upon the arm B^2. Its lower end is provided with a section of teeth g and just above this with a narrow space g', followed by another toothed section g^2 and narrow space g^3. The throw of the operating-lever H will be less when the plunger engages the inner set of punch-bars than when it engages the outer set, by reason of the fact that there is less lost motion. In consequence of this the pinion C', and consequently the feed-wheel I, will be rotated during the engagement of the toothed section g and the punching operation be secured during the downward movement, in which the blank space is in engagement with the pinion G'. The increased feeding movement required for the outer set of punch-bars will be secured by an additional feeding movement caused by the engagement of the toothed section g^2. The feeding movement of the paper is thus automatically increased for the outer set of punch-bars over that used for the inner set.

To bind the disks securely to the bridge formed by the arms B and B^2, the upper disk D is provided with a concentric circular flange F, which is T-shaped at its upper edge. Hooks f and ledges f' are formed beneath the bridge and supported therefrom, which are adapted to engage the flange and support it when the disks are in either position. When the disks are in one position, the flange is engaged by one pair and when in the other position by the other pair. The parts are thus held against springing apart by the strain of the punching operation.

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

1. A stencil-cutting machine, comprising two superposed connected disks carrying respectively dies and punches and adapted to receive the stencil-sheet between them, an index plate or disk fixedly secured to the punching-disks and carried above the frame, a block upon which said disks are pivoted to rotate, and a frame having a guideway receiving said block, whereby the block and disks may be reciprocated and the disks rotated.

2. A stencil-cutting machine, comprising two superposed connected disks carrying respectively dies and punches, and adapted to receive the stencil-sheet between them a block upon which said disks are mounted to rotate, an index plate or disk carried by the pivot of the punching-disks above the frame and provided with locking-recesses, and a spring carrying a beveled projection adapted to enter the locking-recesses, a frame having a guideway receiving said block, whereby the block and disks may be reciprocated, and a punch-operating means mounted upon the frame and adapted to engage the punches as they are brought beneath it.

3. A stencil-cutting machine, comprising two connected disks, one carrying punches and the other dies, a block upon which said disks are mounted to rotate, a frame having a

guideway receiving said block whereby it may be reciprocated, a punch-operating means mounted upon the frame and adapted to engage the punches as they are brought beneath it, means for feeding the stencil-plate between the said disks, and means controlled by the reciprocation of the disks for changing the amount of said feed.

4. A stencil-cutting machine, comprising two connected disks carrying respectively dies and punches, a block upon which said disks are mounted to rotate, a frame having a guideway receiving said block whereby it may be reciprocated, an operating-lever pivoted on the frame and adapted to engage the punches as they are presented thereto, feed-wheels engaging the stencil-stock to feed the same, a rod connected to the operating-lever and having teeth thereon, and a toothed wheel having a ratchet connection to the feed-wheel and engaged by the teeth of the rack-bar.

5. A stencil-cutting machine, comprising two connected rotatable disks having plural rows of dies and punches thereon and means for reciprocating the disks, an operating-lever adapted to engage the punches as presented, a feeding mechanism operated from the operating-lever, and means for automatically varying the amount of said feed by the position of the disk centers.

6. A stencil-cutting machine, comprising punches and dies mounted in two rows upon rotatable and reciprocable disks, the punches having notches cut in the sides thereof facing the opposite row and differing in amount in the different rows, a plunger located between the punch-rows and having flanges projecting toward said rows and adapted to enter the notches in the punches, a punching or operating lever engaging the plunger, feed-wheels engaging the stencil-stock, a pinion having a ratchet connection with one of the feed-wheels, and a bar connected with the punching-lever and having teeth engaging the pinion.

7. A variable-feed mechanism for stencil-cutting machines, comprising a feed-wheel having a pinion connected thereto, and a bar mounted to reciprocate with the punching mechanism and having two sections of teeth thereon adapted to successively engage said pinion and separated from each other by a small blank space.

8. A variable-feed mechanism for stencil-cutting machines, comprising a feed-wheel having a pinion connected thereto, a punch-operating lever, punches having connection with the operating-lever by which the movement of the lever varies for different punches, and a bar connected with said lever and having two adjacent sections of teeth thereon adapted to engage said pinion and separated from each other by a small blank space, whereby the feed of the stencil is automatically varied.

9. A stencil-cutting machine, comprising punch and die plates, a block upon which said plates are mounted to rotate, and having rack-teeth in one of its sides, a frame having a guideway receiving said block, and a lever pivoted upon the frame and having a segment-gear engaging said rack-teeth.

10. A stencil-cutting machine having a revolving disk carrying the dies, a bridge extending over the same and carrying the punching-lever, a circular flange upon the disk having a T-head, and hooks upon the bridge engaging the under side of said T-heads, whereby the two are held against separation.

11. A stencil-cutting machine, comprising two superposed connected disks carrying respectively dies and punches, and adapted to receive the stencil-sheet between them, a block carrying a pivot-pin upon which said disks rotate, a frame having a guideway for said block, a sleeve extending upward from the punching-disks and about said pivot-pin, an arm of the frame extending above the disks and having a slot accommodating said sleeve, an index plate or disk secured to the upper end of said sleeve and moving with the punching-disks, and means for rotating the disks and for reciprocating the disk-supports, substantially as described.

12. A stencil-cutting machine, comprising two superposed connected disks carrying respectively dies and punches and adapted to receive the stencil-sheet between them, fixedly-located means for operating the punches, an anvil-block supported from the frame and engaging the under side of said disks and having an opening immediately below the operative position of the punches, the disks being provided with double rows of punches and dies and mounted to rotate and to slide whereby any of the punches may be brought into line with the hole in the anvil-block, substantially as described.

13. A stencil-cutting machine having two sets of punches and dies of different sizes and means for bringing either into operation as desired, a stencil-feeding device, and means for varying the feed thereof controlled by the shifting of the punching mechanism.

14. A stenciling-machine having a variable-feed mechanism, a shifting punching mechanism for bringing a different field of type to the punching position, and means for operating the feed and punching mechanisms.

STUART B. MOORE.

Witnesses:
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JNO. M. RITTER.