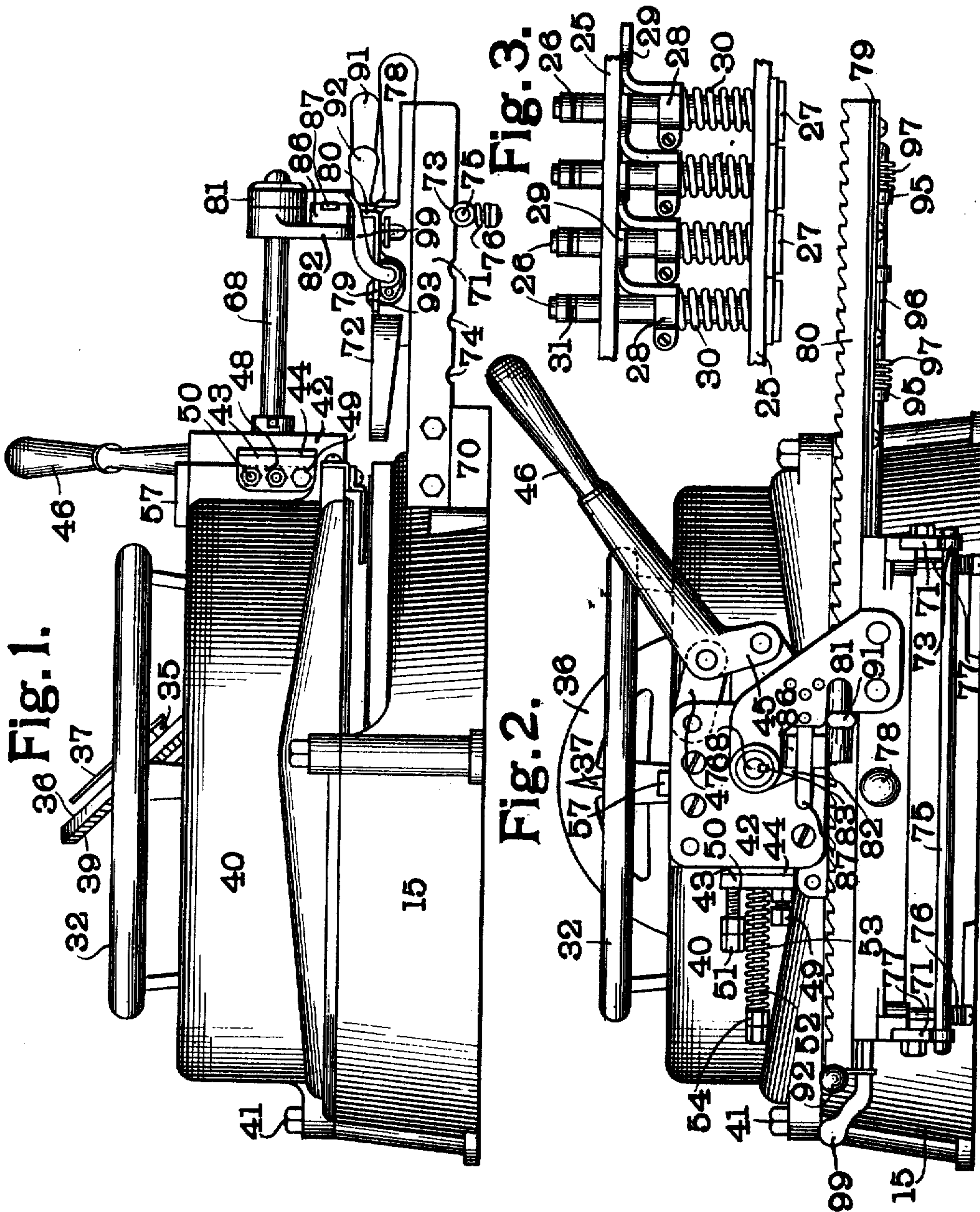


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Patented July 11, 1911.

3 SHEETS—SHEET 1.



WITNESSES:

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INVENTOR

Geo. Remnsnider

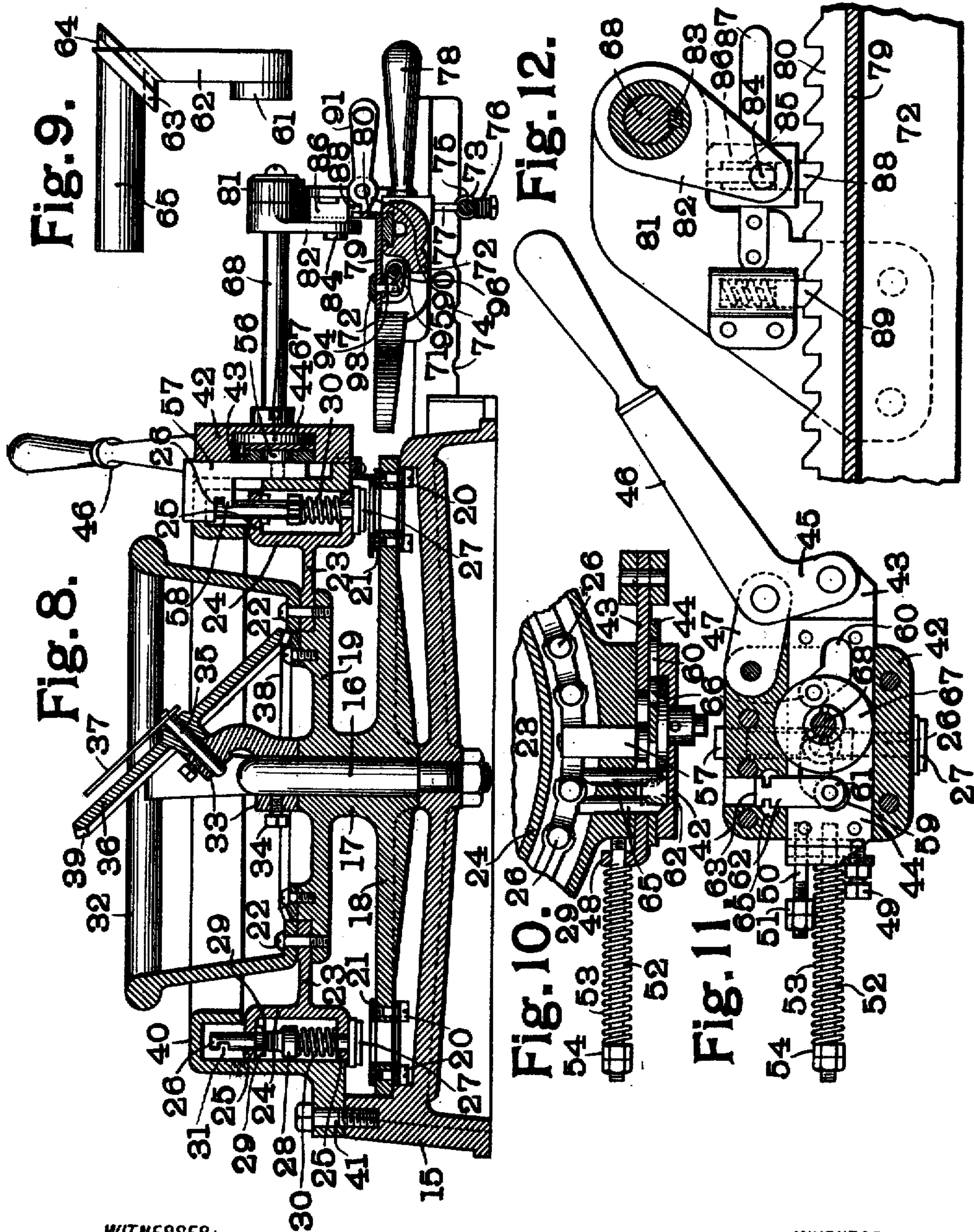
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# UNITED STATES PATENT OFFICE.

GEORGE REMNSNIDER, OF BELLEVILLE, ILLINOIS, ASSIGNOR TO IDEAL STENCIL MACHINE CO., OF BELLEVILLE, ILLINOIS, A CORPORATION OF ILLINOIS.

## STENCIL-CUTTING MACHINE.

997,582.

Specification of Letters Patent.

Patented July 11, 1911.

Application filed September 22, 1910. Serial No. 583,184.

*To all whom it may concern:*

Be it known that I, GEORGE REMNSNIDER, a citizen of the United States, residing at Belleville, Illinois, have invented a certain  
5 new and useful Stencil-Cutting Machine, of which the following is such a full, clear, and exact description as will enable any one skilled in the art to which it appertains to make and use the same, reference being had  
10 to the accompanying drawings, forming part of this specification.

The object of my invention is to improve the general construction of stencil machines and particularly to improve the feeding  
15 mechanism by which the cardboard or other material from which the stencil is formed is controlled.

In the accompanying drawings which illustrate one form of stencil machine made  
20 in accordance with my invention, Figure 1 is a side elevation; Fig. 2 is a front elevation; Fig. 3 is an enlarged view showing a detail of construction; Fig. 4 is a detail view of the mechanism for operating the  
25 punches; Fig. 5 is a top plan view; Figs. 6 and 7 are enlarged sectional views of the clamping mechanism of the cardboard; Fig. 8 is a vertical longitudinal section; Fig. 9 is an enlarged view showing a detail of construction; Figs. 10 and 11 are sectional views  
30 showing the mechanism operated directly by the handle, and Fig. 12 is an enlarged view showing the feed pawls for the feeding mechanism.

35 Like marks of reference refer to similar parts in the several views in the drawings.

15 is the base of the machine. This base 15 is substantially circular in form and carries a central spindle 16. Mounted upon  
40 the spindle 16 is a rotary member 17 provided with a lower web 18 and an upper web 19, as best shown in Fig. 8. The lower web 18 projects beyond the upper web 19 and has secured to it by means of screws 20, the  
45 dies 21. Secured to the upper flange 19 by means of screws 22 is an annular member 23 provided at its outer edge with a journal 24 formed by flanges 25. Mounted in these flanges 25 are the stems 26 carrying the  
50 punches 27 which cooperate with the dies 21 hereinbefore referred to to cut the stencils. Secured to each of the punch stems 26 is a

collar 28 carrying a guide 29 which engages with the stem 26 of the adjacent punch and so prevents the stem from rotation. Arranged between each of the collars 28 and  
55 the lower flange 25 is a coil spring 30 which normally holds the punch 27 in its raised position. The upper end of each of the stems 26 is provided with a notch 31, as best  
60 shown in Fig. 8, for a purpose to be hereinafter described. The screws 22 hereinbefore referred to, in addition to securing the annular member 23 to the flange 19 also secure to said flange a hand-wheel 32 by  
65 means of which the member 17 carrying the punches and dies is revolved. The member 17 is held against movement in the direction of the length of the stem 16 by means of a collar 33 secured in position by a set screw  
70 34 and carrying a stem 35 upon which is mounted a disk 36. This disk 36 is inclined at an angle of about 45°, as best shown in Figs. 5 and 8. The disk 36 is provided with characters corresponding to the characters  
75 of the punches and dies and the stem 35 carries a pointer 37 which indicates which of the characters is in position to operate upon the stencil sheet. The disk 36 is driven by means of a beveled gear 38 secured to the  
80 flange 19 and cooperating with a similar beveled gear 39 formed on the rear edge of the disk 36. In order to protect the punches 27 together with their stems and adjacent parts I provide a housing 40 which is  
85 secured to the base 15 by means of screws 41.

Carried at the front side of the housing 40 is a block 42 in which slides a pair of cam plates 43 and 44 which are secured together, and the plate 43 is pivoted to the  
90 bifurcated end 45 of a handle 46. This handle 46 is connected by means of a link 47 with the block 42. In order to limit the movement of the cam plates 43 and 44 the said plate 43 is provided with a turned-  
95 over end 48, as best shown in Fig. 10. This turned-over end 48 carries a set screw 49 which contacts with the block 42 to limit the movement of the cam plates in one direction. In order to limit the movement of the  
100 plates in the other direction I provide a threaded pin 50 which projects through the portion 48 and is provided with nuts 51 which limit the movement of the cam plates



in the opposite direction. In order to normally hold the cam plates in their position toward the right hand of the machine the part 48 has passing through it a rod 52 5 surrounded by a coil spring 53 which bears at one end against the turned-over end 48 of the plate 43 and at the opposite end against a nut 54 on the said rod 52. The spring thus serves to hold the cam plates 10 in their normal position. In the rear cam plate 43 is formed a cam slot 55 which co-operates with an anti-frictional roll 56 on a plunger 57 which is adapted to coöperate with the stems 26 of the dies 27 in order to 15 actuate the same. This plunger 57 is made in the form best shown in Fig. 8 and is provided with a tooth 58 which engages with the notch 31 in the stem of the punch so as to positively return the punch to its normal 20 position. The front cam plate 44 is provided with a pair of cam slots 59 and 60 respectively, as best shown in Fig. 11. The cam slot 59 coöperates with an anti-frictional roll 61 on a reciprocating member 62, 25 shown in detail in Fig. 9. This reciprocating member 62 is provided at its upper end with a T-shaped head 63 set at right angles to the body of the member. This T-shaped head 63 coöperates with inclined slots 64 30 in a pair of pins 65 which are thus operated at right angles to the body of the member 62 and are caused to engage with the punch stem 26 adjacent to that which is to be brought into operation, as best shown in 35 Fig. 10. This engagement of the pins 65 with the punch stem locks the rotary member 17 in position while the punch is being actuated. On the return of the handle 46 to normal position the pin 65 will be with- 40 drawn to allow the rotation of the member 17. The cam slot 60 engages with an anti-frictional roller 66 carried on a disk 67 mounted in the block 42 and having secured to it a stem 68 for operating the feeding 45 mechanism, as will be hereinafter described.

Carried at the front side of the base 15 are a pair of lugs 70 to which are secured arms 71 upon which slides a table 72. The table 72 is adapted to move toward and 50 away from the base 15 and is held in the desired position by means of rollers 73 engaging with notches 74 on the arm 69 as shown in Figs. 1 and 8. These rollers 73 are carried upon a cross rod 75 which has 55 vertical movement allowed it by means of springs 76 surrounding rods 77 passing through the cross rods 75. A handle 78 is provided for moving the table 72. Carried upon the table 72 is a laterally moving 60 clamping plate 79. This clamping plate 79 has its rear edge turned up and formed into a rack 80 as best shown in Figs. 2 and 12. Secured to the table 72 is a bracket 81 for supporting the end of the shaft 68 herein- 65 before described. Surrounding the shaft 68

adjacent to the bracket 81 is an arm 82 which is secured to the shaft 68 by means of a key 83 so that the said arm and shaft may have relative longitudinal movement but cannot rotate separately. The lower end 70 of the arm 82 is provided with a pin 84 which engages with a vertical slot 85 in a block 86 slidably mounted upon a guide bar 87 carried by the bracket 81. This block 86 is provided with a spring detent 88 75 which engages with the teeth of the rack 80. The bracket 81 is also provided with a detent 89 similar to the detent 88 for holding the rack in position while the detent 88 is moving toward its rear position. It will 80 be evident that whenever the shaft 68 is operated by the movement of the handle 46, the detent 88 will feed the clamping plate 79 toward the left hand side of the machine. In order to allow for the move- 85 ment of the clamping plate 79 in either direction by hand the detents 88 and 89 are made to project beyond the rack 80, as shown in Fig. 8, and rest upon a finger 90 90 which may be operated by a handle 91 to raise both detents out of engagement with the rack and thus allow the clamping plate 79 to be moved in either direction by means of a handle 92. In order to secure 95 the paper or cardboard against the clamping plate 79, said plate is provided with a clamping strip 93, shown in detail in Figs. 6 and 7. Secured in the clamping strip 93 and passing through the plate 79 are a number of L-shaped pins 94 which are engaged 100 by arms 95 rigidly secured to a rock shaft 96 extending below the plate 79. Surrounding the shaft 96 are a number of coil springs 97 which engage with the pins 94 so as to firmly draw the clamping strip 93 down 105 against the plate 79 and so secure the cardboard 98 in position, as shown in Fig. 6. In order to release the card-board 98, the rock shaft 96 is provided at its end with a finger piece 99, as best shown in Fig. 5. 110

The operation of my machine is as follows: The clamping strip 93 is first raised from the clamping plate 79 by pressure of the finger piece 99 so that the card-board 98 from which the stencil is to be cut may be 115 placed between the clamping strip and plate, as shown in Fig. 6. When the finger piece 99 is released the spring 97 will draw the clamping strip firmly down against the card-board 98 and thus securely clamp it in posi- 120 tion. The table 72, if not already in the position shown in Fig. 8, is thrown back into said position by means of the handle 78 and the detents 88 and 89 are raised out of contact with the rack 80 by means of the handle 125 91 so that the clamping table 79 may be moved to its extreme right hand position by means of the handle 92. The machine will now be in position to cut the first letter at the upper left hand corner of the strip of 130



card-board or other material from which the stencil is to be cut. The proper punch and die are now brought into position by rotating the hand-wheel 32 until the pointer 5 37 indicates the proper character. The handle 46 is now depressed so as to operate the cam slides 43 and 44. The first movement of the cam slides causes the reciprocating member 62 to be forced upwardly thus forcing 10 the pin 65 inwardly so as to engage with the stem 26 of the punch adjacent to that which is to be operated. This rigidly locks the member 17 against rotation until the cutting of the character is completed. At the same 15 time the engagement of the slot 16 in the cam plate 44 with the anti-frictional roll 66 of the disk 67 causes the said disk and consequently the shaft 68 to be rotated so that the arm 82 is actuated to move the block 86 20 along the guide 87 and thus feed the clamping plate 79 toward the left hand end of the machine. By thus feeding the material before the stencil is cut I obviate the liability of injuring the stencil sheet as is liable to 25 occur when the feeding is done immediately after the cutting of the character. After the feeding has taken place the cam slot 55 in the plate 43 forces the plunger 57 downwardly so as to cause the die 27 to cooperate with its punch and cut out the character. 30 Upon the return of the handle to its normal position the parts all assume their normal position and the machine is ready to cut the next character as soon as it is brought in position by means of the hand-wheel 32. The first row of characters is 35 completed in this manner and the table 72 is then moved in toward the base 15 until the roll 73 engages with the next notch 74 so that the next line of characters may be 40 cut. In this way the feeding of the stencil sheet in both directions is positive and the arrangement is such that the characters may be cut entirely across the sheet the feeding 45 not being interfered with by means of feed rolls as in the machines heretofore in use.

Having fully described my invention, what I claim as new and desire to secure by Letters Patent of the United States, is:

- 50 1. In a stencil cutting machine, the combination with a base, of a spindle carried by said base, a rotary member mounted on said spindle and provided with punches and dies, a bevel gear wheel carried on the upper face 55 of said rotary member, an indicator disk carried by said spindle, and a bevel gear wheel carried by said indicator disk and cooperating with the bevel gear wheel on the upper face of said rotary member.
- 60 2. In a stencil cutting machine, the combination with a base, of a rotary member provided with punches and dies, and a guide secured to each of said punches and making sliding contact with an adjacent punch.
- 65 3. In a stencil cutting machine, the com-

bination with a base, of a rotary member carrying dies, said member being provided with a pair of flanges, punches mounted in said flanges, springs surrounding said punches between said flanges, and a guide 70 rigidly secured to each of said punches above said springs and making sliding contact with an adjacent punch.

4. In a stencil cutting machine, the combination with a base, of a rotary member 75 carried by said base and provided with punches and dies, a plunger for actuating said punches, a sliding cam member for operating said plunger, and a handle pivoted to said cam member and connected by a link 80 to said base.

5. In a stencil cutting machine, the combination with a base, of a rotary member carried by said base, and provided with punches and dies, a sliding cam member, a 85 locking device operated from said cam member and engaging said punches to hold the same in alinement with said dies, and a handle for operating said cam member.

6. In a stencil cutting machine, the combination with a base, of a rotary member 90 carried by said base and provided with punches and dies, a sliding cam member, a reciprocating member actuated from said cam member, a detent having a mitered engagement with said reciprocating member 95 and adapted to lock said punches in alinement with said dies, and a handle for actuating said cam member.

7. The combination with a base, of a rotary member horizontally mounted thereon, 100 cooperating punches and dies carried by said rotary member, a means for operating said punches, a table movable toward and away from said rotary member, a clamping 105 device movable laterally on said table and adapted to hold a stencil sheet in position to project between the punches and dies, and operating connections extending from said punch operating means to said clamping device. 110

8. The combination with a base, of a rotary member horizontally mounted thereon, cooperating punches and dies carried by said rotary member, operating means for 115 said punches, a table movable toward and away from said rotary member, a clamping device movable laterally on said table and adapted to hold a stencil sheet in position to project between the punches and dies, and 120 operating connections extending above said table and connecting the said punch operating means with said clamping device.

9. The combination with stencil cutting mechanism, of a table movable toward and 125 away from said stencil cutting mechanism, a clamping member for the stencil sheet movable laterally on the said table, feeding means for said clamping member, a cam member, a handle for operating said cam 130

member, an adjustable stop for limiting the movement of said cam member in one direction, a second adjustable stop for limiting the movement of said cam member in the opposite direction, and operating connections between said cam member and feeding means.

In testimony whereof, I have hereunto set my hand and affixed my seal in the presence of the two subscribing witnesses.

GEORGE REMNSNIDER. [L. S.]

Witnesses:

W. A. ALEXANDER,  
BESSIE BAILEY.

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."

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