

July 27, 1926.

1,594,129

J. R. STARK

ADDRESSING ATTACHMENT FOR MIMEOGRAPHS

Filed Feb. 15, 1926

4 Sheets-Sheet 1

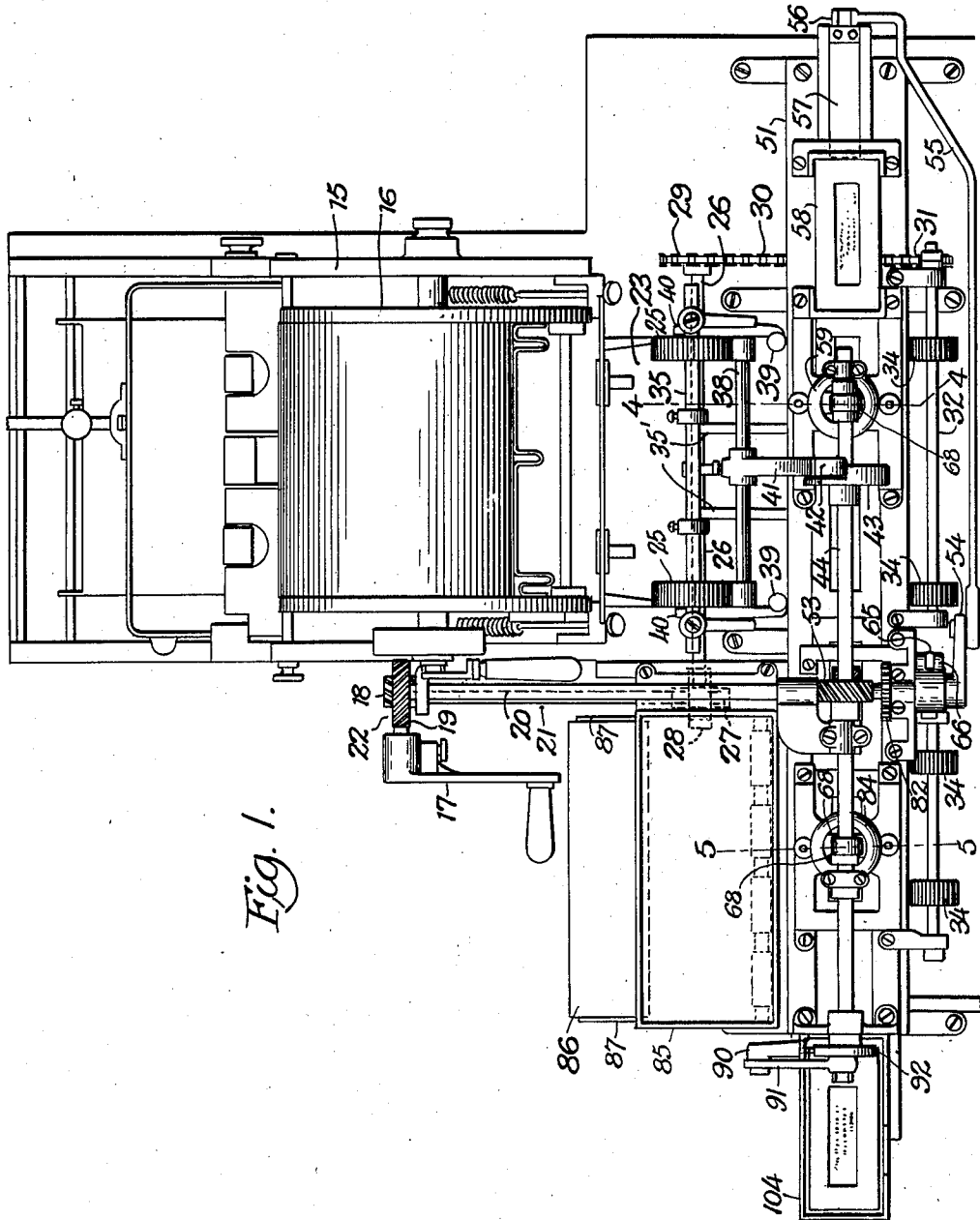


Fig. 1.

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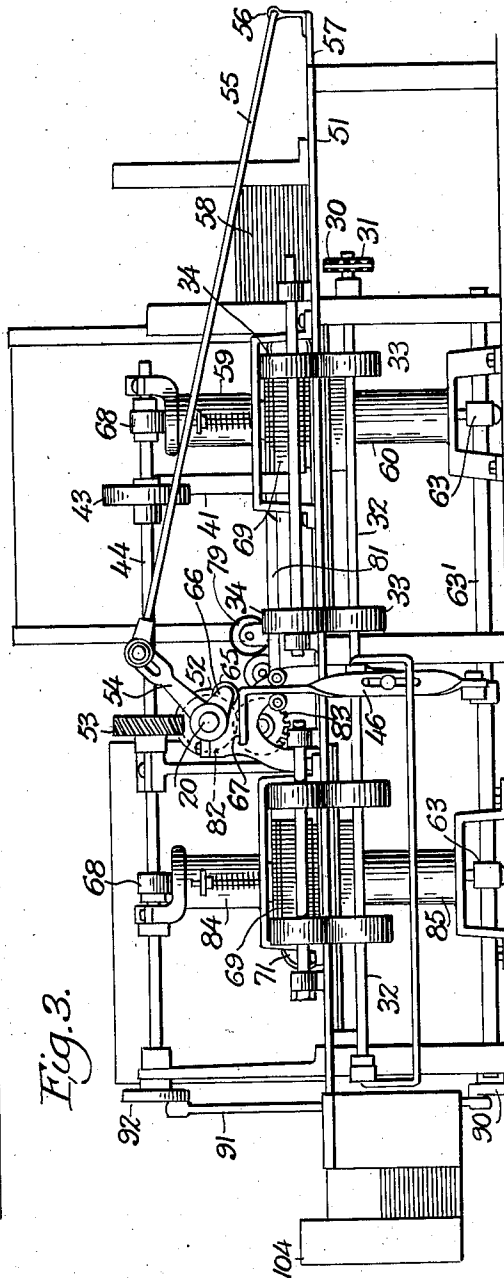
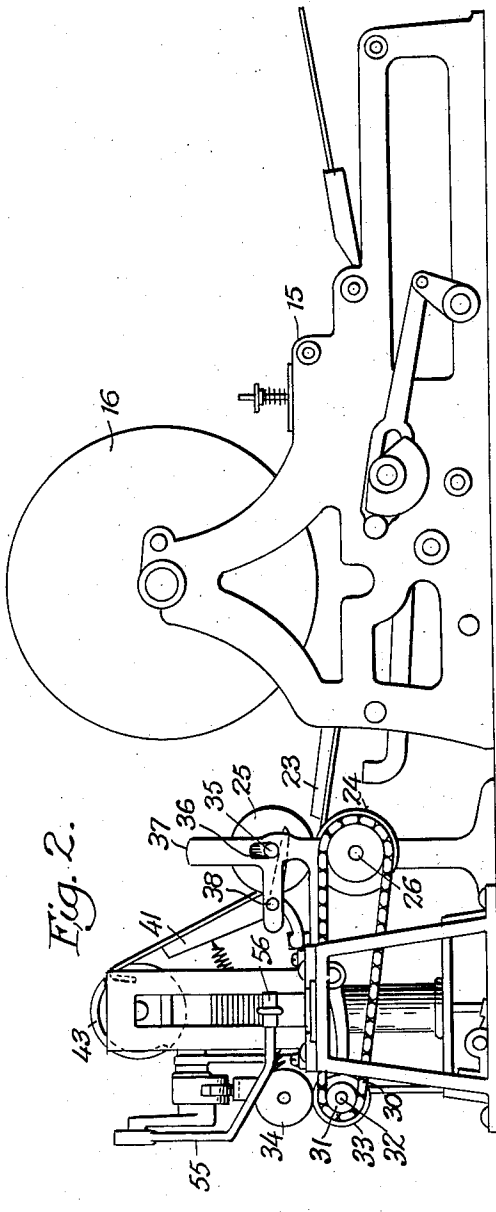
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4 Sheets-Sheet 2



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Fig. 4.

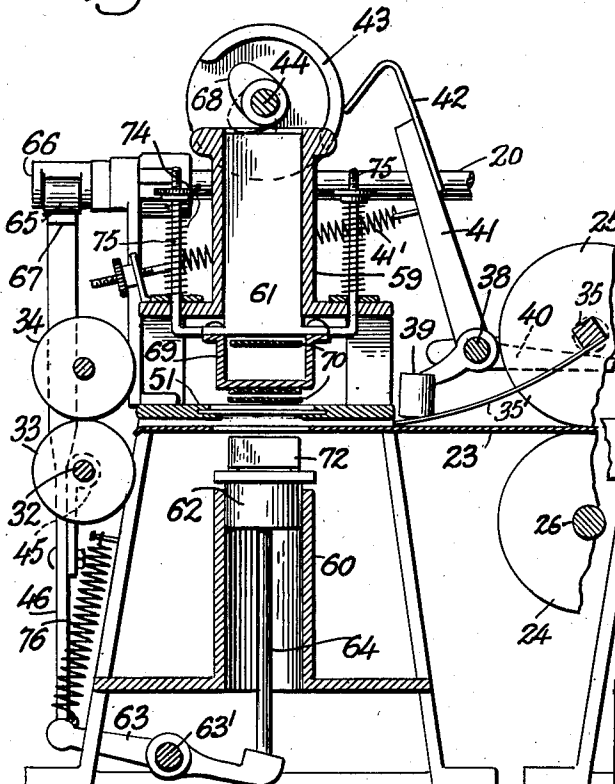


Fig. 5.

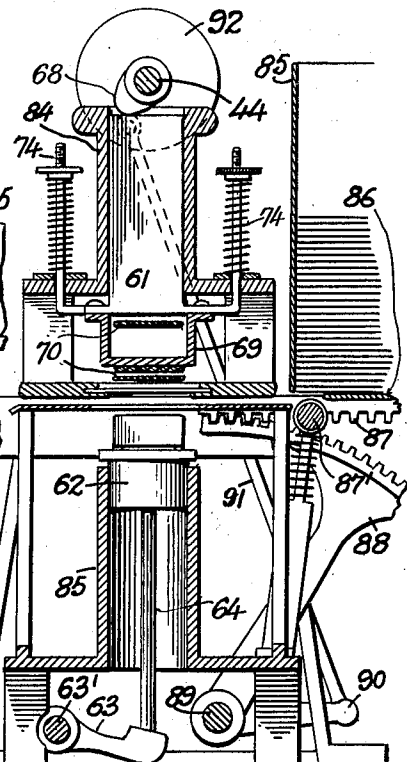
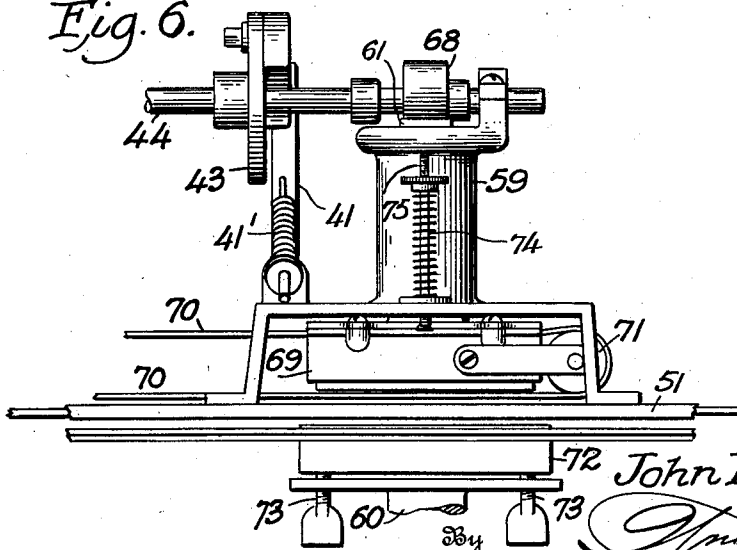


Fig. 6.



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ADDRESSING ATTACHMENT FOR MIMEOGRAPHS

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4 Sheets-Sheet 4

Fig. 7.

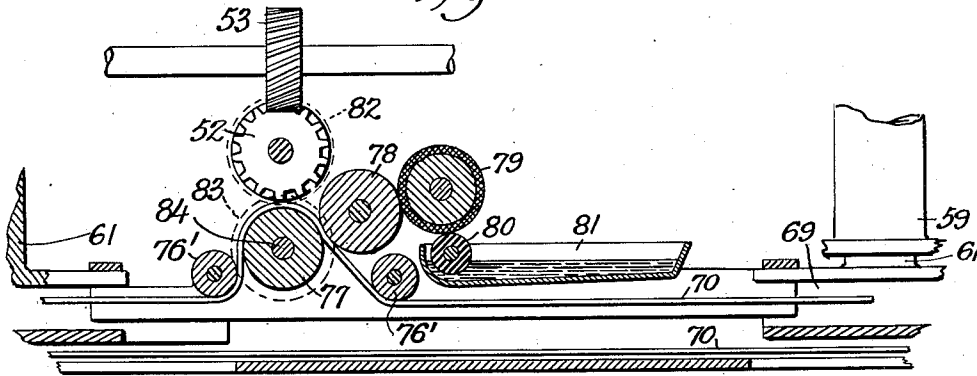


Fig. 8.

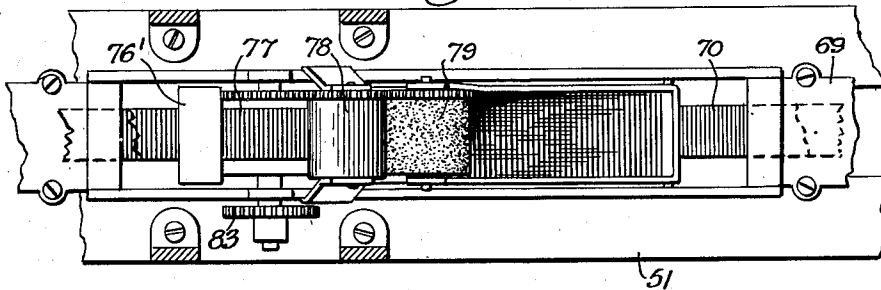
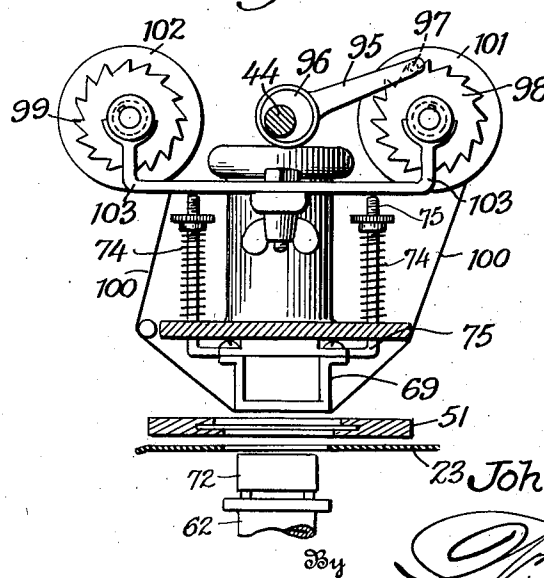


Fig. 9.



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UNITED STATES PATENT OFFICE.

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ADDRESSING ATTACHMENT FOR MIMEOGRAPHS.

Application filed February 15, 1926. Serial No. 88,309.

This invention relates to addressing machines as used in connection with printing machines, and more especially what is commonly known as multigraph machines.

5 The object of the invention is to provide for the feeding of stencils of addresses in the path of the printed sheet from the multigraph cylinder where the address is impressed at a desired location with relation to the printed matter on the sheet and the latter permitted to move on.

Another object of the invention is the movement of the stencil to a new location and the feeding of an envelope over same so that the address may again be used and applied to said envelope which is moved on, and another one fed in to receive the address from another stencil that has already been used on the sheet.

20 A further object of the invention is to readily alternate the use of ink or an inking ribbon for the stencil as the address is printed.

These and other objects of the invention are more fully described in the following specification, set forth in the appended claims and illustrated in the accompanying drawings, wherein:—

Fig. 1 is a plan view of a multigraph machine showing the improved addressing attachment connected therewith,

Fig. 2 is an end view of the same,

Fig. 3 is a front view of the attachment,

Fig. 4 is a cross sectional view through the sheet printing plunger and through 4—4 of Fig. 1, and on a larger scale,

Fig. 5 is a similar view through the envelope addressing plunger on the line 5—5 of Fig. 1,

Fig. 6 is a front view, enlarged, of the sheet addressing elements,

Fig. 7 is a longitudinal sectional view through the ink fountain and inking rollers,

Fig. 8 is a plan view of the same,

6 Fig. 9 is a modified form of inking for the stencils where a ribbon is used.

The device is adapted to be attached to a printing machine wherein letters and circulars are printed and where it is desired to supply each sheet and envelope with the same name and address and in Figs. 1 and 2 a common type of multigraph is shown at 15, the cylinder 16 being rotated by a crank arm 17 through suitable gearing and whose

shaft carries a worm gear 18 that meshes 55 with, and drives a similar gear 19.

The latter worm gear 19 operates the addressing mechanism through the medium of its shaft 20 except certain feed rollers that are driven through a lower shaft 21, also 60 having a worm gear 22 beneath the gears 18 and 19, as shown in Fig. 1.

As the printed sheet passes from the cylinder, it moves up a chute 23 and between rollers 24 and 25 which carry it on, the former roller being on the shaft 26 of a worm gear wheel 27 that meshes with a worm gear 28 on the shaft 21 and rotates continuously. On the shaft 26 is a sprocket wheel 29 which, through the medium of the chain 30, 70 drives a sprocket wheel 31 on a shaft 32 carrying feed rollers 33 that cooperate with rollers 34.

At certain intervals the rollers 24 and 25 and the rollers 33 and 34 are made inoperative 75 to allow the sheet to rest while the printing of the address is performed.

In Figs. 1, 2 and 3, it will be seen that the shaft 35 of the rollers 25 is carried in slots 36 of an upright 37, and the rollers normally rest on their companion rollers 24, and by a lateral extension of the upright is supported a shaft 38 carrying presser feet 39 with rear extensions 40 located beneath the shaft 35. The latter shaft also carries 85 spring smoothing fingers 35'.

As best shown in Fig. 4, an arm 41 extends upward from shaft 38 under tension of a spring 41' and is provided with a resilient member 42 that is engaged by a cam 43 90 on the shaft 44, and the presser feet 39 are raised and the shaft 35 is released to permit the free movement of the sheet.

The rollers 33 and 34 are also seen in their cooperating positions, but one end of the shaft 32 is supported in a bearing 45 carried 95 by a vertically moving bar 46 that at times descends and separates the rollers.

The operation of the other parts of the device through shaft 20 which is journaled 100 at its outer end in a frame 50 that is supported on the table 51, at the front of the device, is provided by a worm gear wheel 52 meshing with a similar wheel 53 on the shaft 44 and rotates the same. 105

At the outer end of the shaft 20 is a crank arm 54 carrying one end of a rod 55 whose other end is attached to a bracket 56 on a

plunger 57 that plays in a guideway in the table 51 and is reciprocated as the shaft 20 rotates and carries a stencil from the stack 58 down the guideway, and between the members that impress the stencil, the inking tape and the sheet.

On each side of the table 51 is a cylinder 59, and 60, each containing a plunger 61 and 62, the latter being forced up by a lever 63 whose socketed end carries the lower end of the rod 64 while the opposite end is connected with the bar 46 which is depressed by the roller 65 at the end of the arm 66 on the shaft 20 as the latter rotates and plays on the upper end 67 of the rod.

The plunger 61 is depressed by a cam 68 secured on the shaft 44, and at the lower end of the plunger is a box 69 under which passes a tape 70 that is adapted to carry ink to the stencil while located beneath the bottom of the box. A facing of flexible material may be secured to said box bottom while at the end of the box is carried the roller 71 around which the tape passes, Fig. 6.

The top of plunger 62 carries a wooden block 72 supported and adjusted on thumb screws 73 to provide for the appropriate pressure on the stencil and sheet.

The plunger 61 is returned by springs 74 that encircle rods 75 and force it upward while the lower plunger 62 is released to fall by the spring 76 that keeps the bar 46 in its normally elevated position.

After leaving the box 69 the tape 70 passes under rollers 76' and over a roller 77 to receive ink from the distributing rollers 78 and 79 and the doctor roller 80 of the ink fountain 81 carried by a frame supported by the plungers 61, as shown in Fig. 8. The ink is applied to the upper side of the tape, but after passing over rollers 71 it is in position to apply the ink to the stencils.

The roller 77 feeds the tape continuously and is driven by the gears 82 and 83 from the shaft 20, the latter gear wheel 79 being on the shaft 84 of the roller 77.

After each sheet has been addressed, its stencil is fed by the plunger 57 along the guideway in the table 51, the stencils moving each other and one being picked from out of the stack 58 with every reciprocation of the plunger, and they eventually reach the two plungers in cylinders 84 and 85 that are identical with the plungers 61 and 62 and operated by a similar cam 68 and arm 63 from shafts 44 and 63'.

The envelopes are stacked in the box 85, and are fed one at a time by the plunger 86, Figs. 1 and 5, that is, reciprocated by means of rack bars 87 at each side of the box, and the segmental gear 38 carried by a shaft 89 with an arm 90 at its outer end that is connected by the rod 91 with the cam 92 on

shaft 44, and as the latter revolves the segment 88 is actuated, causing the plunger 86 to feed an envelope beneath the tape 70 and between the plungers 61 and 62. A roller 87' supports the stack of envelopes while the plunger 87 is withdrawn.

While both the sheet and the envelope are being addressed, they are within the range of the rollers 33 and 34, but they are separated by the action of the roller 65 and the bar 46, but when the printing of the address has been effected the said rollers are brought together and carry the envelope and sheet from the influence of the addressing plungers.

In Fig. 9 will be seen a modified form of inking device where an arm 95 is carried by an eccentric 96 on the shaft 44 and has at its other end a pin 97 that is adapted to engage a tooth of the ratchet wheel 98 or 99 according to the direction it is desired to move the ribbon 100. The ratchet wheels and their spools 101 and 102 may be supported on the brackets 103, and to reverse the movement of the spool it is only necessary to throw the arm 95 to the ratchet 99.

As the plunger continues to feed the stencils, they are finally deposited in the box 104 for future use, and appropriate means may be resorted to to collect the envelopes and printed sheets.

It is obvious that other arrangements and modifications of the machine may be resorted to and be within the scope of the essential features above described, and of the appended claims.

What I claim as new is:—

1. In an addressing machine, the combination of a printing machine, means for delivering a printed sheet, means for arresting and holding the same, means for impressing an address from a stencil, means for transferring a stencil from one impressing means to the other, and means for feeding an envelope to the second impressing means.

2. In an addressing machine, the combination of a printing machine, paper delivering means, means for arresting and holding the said paper, means for feeding a stencil over the paper, plungers adapted to impress the address from the stencil on the paper, a second set of plungers to impress the address on an envelope, means for advancing a stencil from one set of plungers to the other, means for feeding an envelope to the second set of plungers, and means for simultaneously removing the paper and the envelope after the addresses are printed.

3. In an addressing machine, the combination of a printing machine, means for feeding a sheet of paper, means for arresting and holding said sheet, plungers adapted to impress an address from a stencil while the sheet is arrested, means for removing

the sheet when addressed, a second set of plungers to impress an address from a stencil, means for shifting a stencil from one set of plungers to the other, means for feeding an envelope to the second set of plungers, means for removing the stencil from the second set of plungers, and means for removing the paper and the envelope.

4. In an addressing machine, the combination of a printing machine, means for feeding the sheet of paper delivered from the printing machine, means for arresting and holding the paper, means for feeding an envelope, means for simultaneously printing an address on the sheet of paper and the envelope, and means for simultaneously removing the paper and the envelope after printing.

5. In an addressing machine, the combination of a printing machine, a rack for stencils, a plunger working under the rack and adapted to intermittently remove the stencils, a guideway to receive the stencils, a pair of plungers adapted to move towards the stencil, an inking tape above the stencil and adapted to be depressed by one of the plungers and intermittently actuated rollers adapted to remove a sheet of paper that has been addressed by the stencil.

6. In an addressing machine, the combination of a printing machine, a chute from the same, feed rollers adapted to advance a sheet on the chute, presser feet with means adapted to prevent the rollers from operating and to engage and hold the sheet, plungers adapted to operate on stencils to print an address on the sheet, rollers adapted to remove the printed sheet and operate intermittently, and an inking tape adapted to move under one of the plungers.

7. In an addressing machine, the combination of a table having a guideway, a plunger adapted to feed stencils along the guideway, rollers adapted to feed a sheet of paper under the guideway, an inking tape comprising an endless band and adapted to move over the guideway, a plunger above the guideway, a plunger below the guideway, and means for operating the latter plungers simultaneously.

8. In an addressing machine, the combination of a table and guideway, a plunger adapted to feed stencils through the guideway, plungers above and below the guideway and adapted to cooperate with each other on the stencil, intermittently actuated rollers adapted to carry a sheet of paper between the latter plungers, an endless tape traveling between the said plungers, rollers adapted to move the tape, an ink fountain, and rollers supplying the tape with ink from the fountain.

9. In an addressing machine, the combination of a table having a guideway adapted to carry stencils, a plunger adapted to

intermittently feed the stencils along the guideway, means for feeding paper over one end of the table, means for feeding an envelope over the other end of the table, an inking tape adapted to travel the length of the table and over the stencils, and a pair of cooperating plungers at each end of the table to act on the stencils, inking tape and the paper and the envelope.

10. In an addressing machine, the combination of a table having a guideway, a stencil holder at one end of the table, means for selecting and feeding a stencil along the guideway, cooperating plungers acting on the stencils at each end of the table, a frame uniting the plungers, an ink fountain on the frame, an inking tape, rollers supporting the inking tape at the ends of the plungers, means for moving the tape, and means for supplying ink from the fountain to same.

11. In an addressing machine, the combination of a printing machine, a crank shaft operating the same, a delivery chute from the printing machine, a table having a guideway at the other end of the chute, a rotating shaft above the table, intermediate gearing between the latter shaft and the machine shaft, plungers resiliently supported by the table, and means on the shaft adapted to depress the plungers.

12. In an addressing machine, the combination of a printing machine having an operating crank arm, a table adjacent the said machine and having a guideway, means for intermittently feeding stencils along the guideway, a shaft over the table, plungers above and below the table, a shaft below the table, cams on the upper shaft and adapted to depress the upper plungers, arms on the lower shaft and adapted to elevate the lower plungers, and means connecting the shaft to cause the plungers to approach each other in unison.

13. In an addressing machine, the combination of a printing machine, a table adjacent same and having a longitudinal guideway, a shaft supported above the table, a shaft from the said machine to supply motive power, a plunger in the guideway adapted to feed stencils, a rod connecting the latter motive shaft with the plunger to reciprocate the same, plungers at each end of the table and over and under the same, a shaft below the under plungers, and means on the shafts to cause them to force the plungers over and under the table towards each other.

14. In an addressing machine, the combination of a printing machine having driving means, a table having a guideway and adjacent the printing machine, a shaft over the guideway, means connecting the driving means of the machine with said shaft, cams on the shaft, plungers above the table and adapted to be depressed by the cams, a shaft beneath the table and having arms, plun-

gers beneath the table and adapted to be elevated to meet the upper plungers by said arms, means at one end of the table for feeding paper between plungers at that end, and means at the other end of the table for feeding envelopes between the plungers at that end.

15. In an addressing machine, the combination of a printing machine, a table at the delivery side of said machine, a chute connecting the two, a plunger reciprocating on the table, a container for stencils in the path of the plunger, intermittently operating feed rollers at the sides of the table, impressing plungers one above and the other below the table and adjacent the feed rollers, a container for envelopes at the other end of the table, a feed plunger below the said container, rack bars under the latter plunger, toothed sectors engaging the rack bars, a second set of impressing plungers adjacent the envelope container, a shaft having cams to depress the upper impressing plungers, and operating means connecting said shaft with the toothed sectors.

16. In an addressing machine, the combination of a table having a guideway for stencils, plungers above the guideways, upright rods at the sides of the plungers, cylinders containing the plungers, springs encircling the rods and supported by the cylinders to retain the plungers in a normally

elevated position, boxes at the lower end of the plungers, tapes adapted to pass under the boxes, a shaft above the plungers, and cams on the shaft to depress the plungers when said shaft revolves.

17. In an addressing machine, the combination of a table having a guideway, plungers beneath the guideway, stems to the plungers, a shaft below the plungers, arms on the latter and engaging the stems to elevate them and the plungers, a shaft transverse of the first shaft, an arm and antifriction roller on same, a vertically disposed rod adapted to be depressed by said antifriction roller, and an arm on the first-mentioned lower shaft and connected with the rod to cause it to elevate the plungers.

18. In an addressing machine, the combination of a table having a guideway, a chute leading to the table, feed rollers at the surface of the chute, a rotating shaft above the table, a lever pivoted on the chute and bearing on the chute, presser feet carried by the pivot of the lever, arms from said pivot and extending beneath the shafts of the feed rollers, and a cam on said rotating cam to shift the lever and cause the depression of the presser feet and the elevation of said feed rollers.

In testimony whereof I hereunto affix my signature.

JOHN R. STARK.