

Nov. 24, 1925.

1,562,697

E. F. GREER

LETTER PRINTING AND ADDRESSING MACHINE

Filed June 16, 1924

6 Sheets-Sheet 1

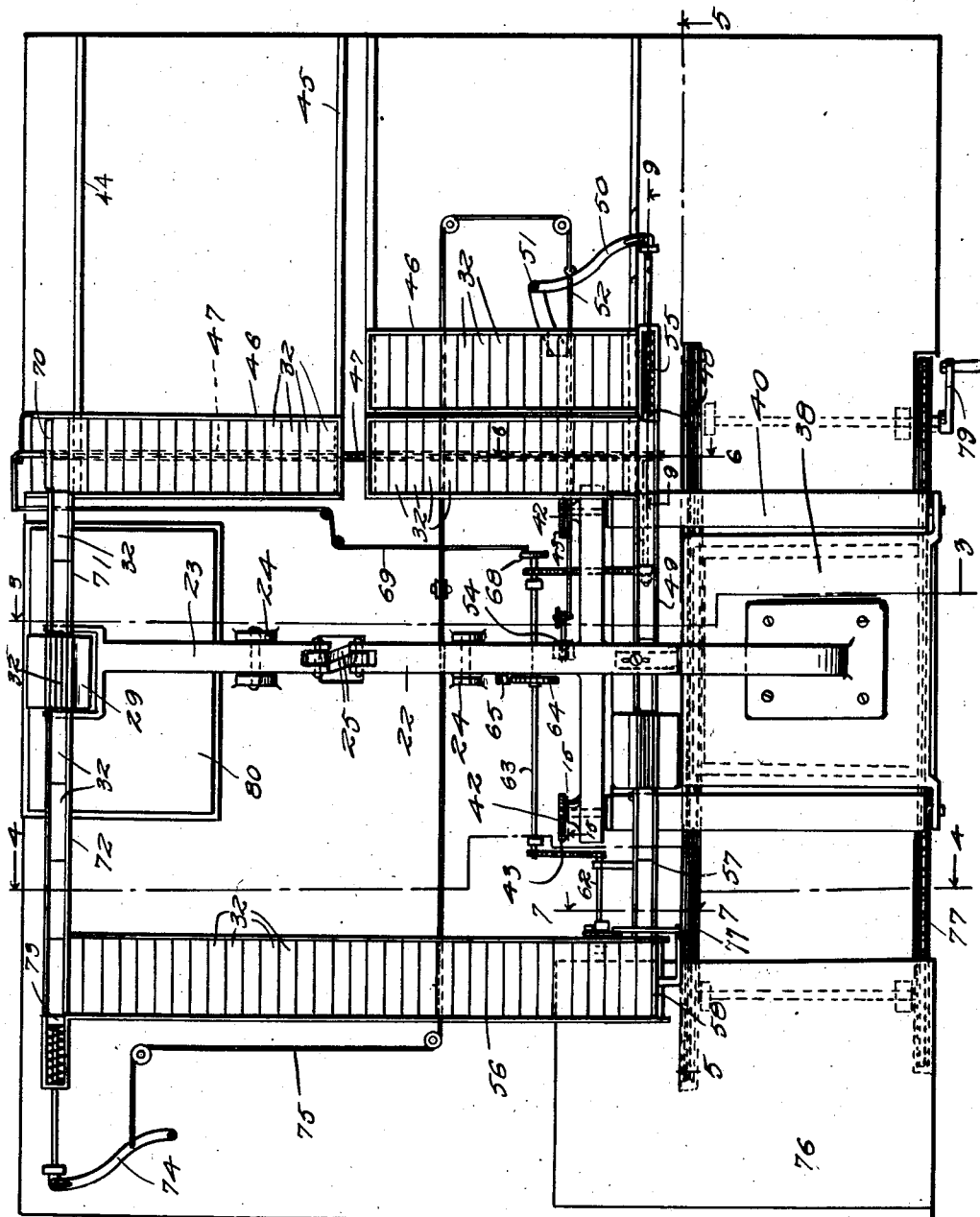


FIG. 1.

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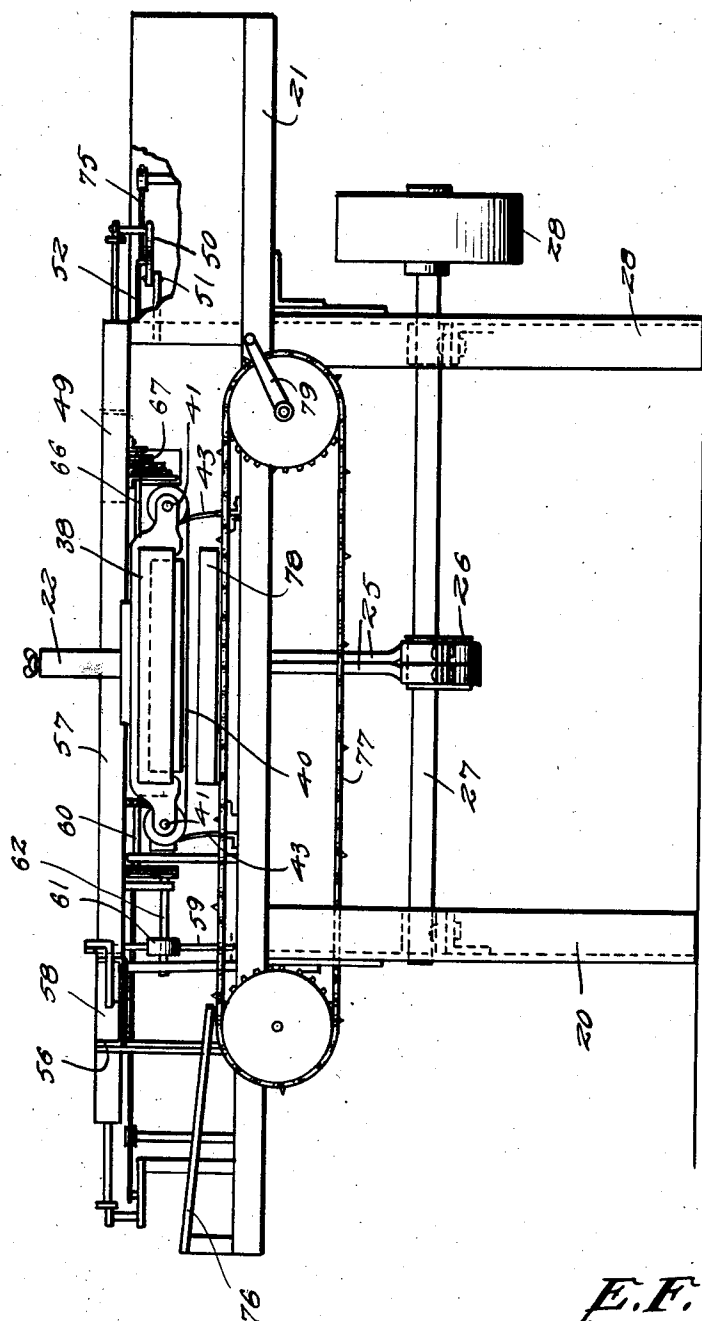
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6 Sheets-Sheet 2

FIG. 2.



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6 Sheets-Sheet 3

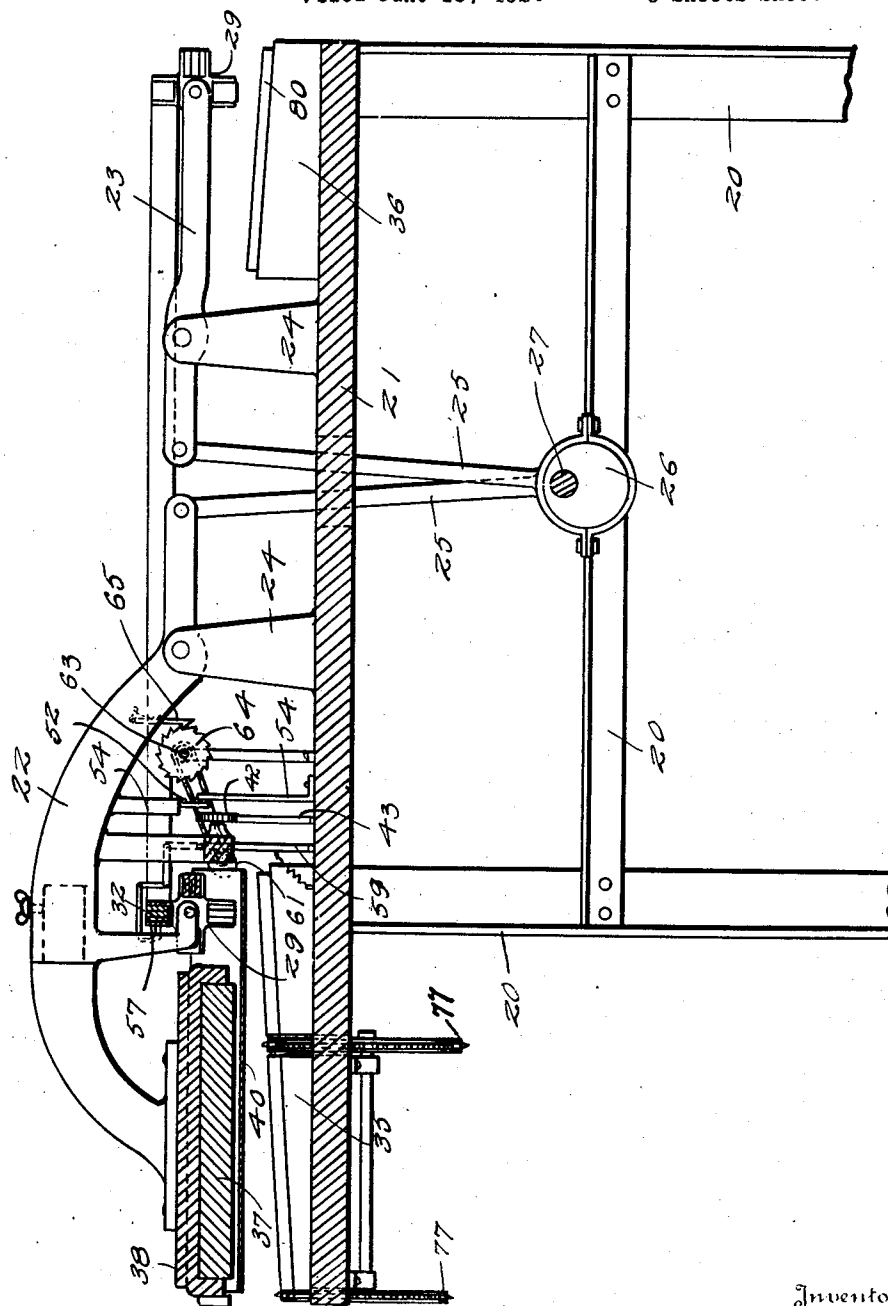


FIG. 3.

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LETTER PRINTING AND ADDRESSING MACHINE

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FIG-4-

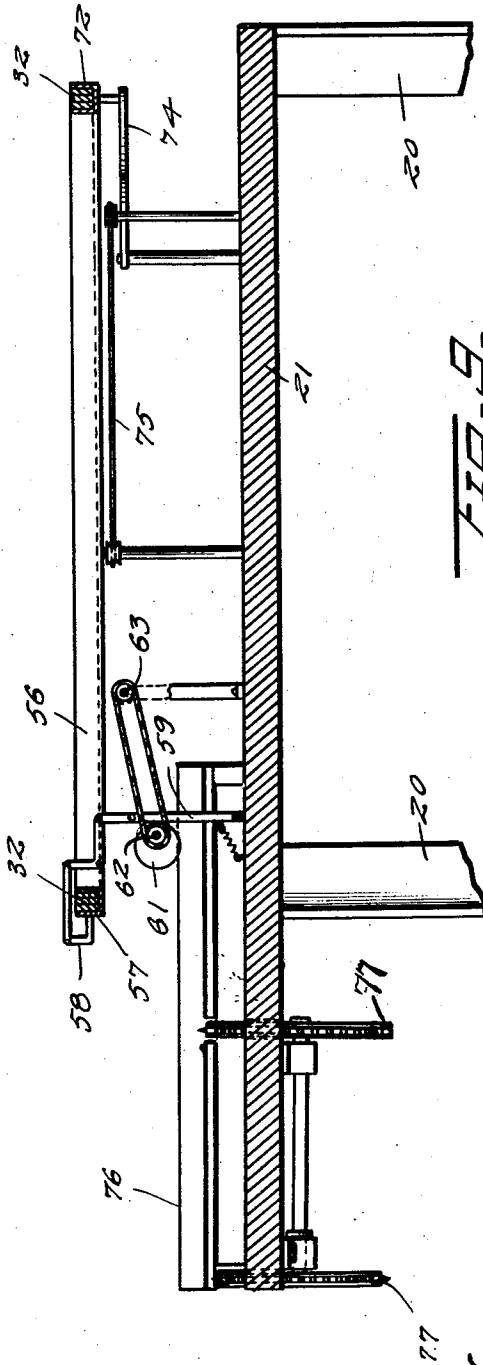
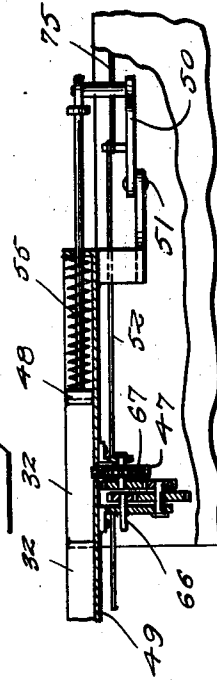
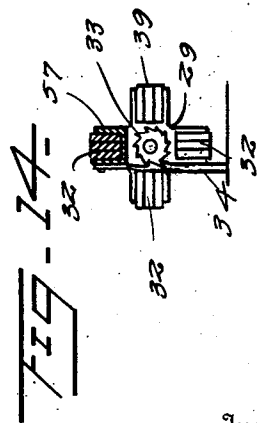


FIG-9-



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LETTER PRINTING AND ADDRESSING MACHINE

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FIG. 10.

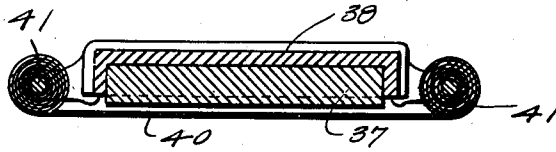


FIG. 11.

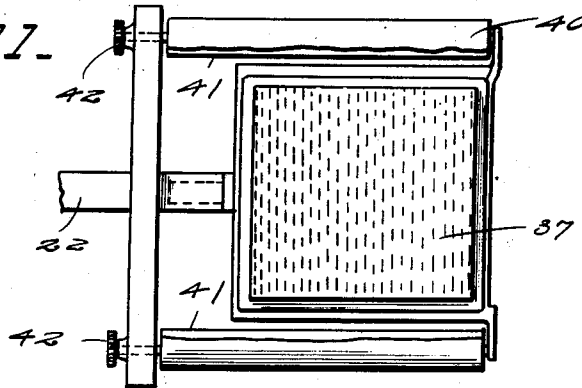


FIG. 12.

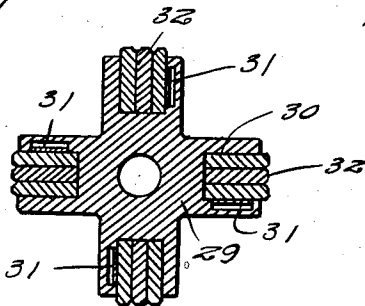


FIG. 13.

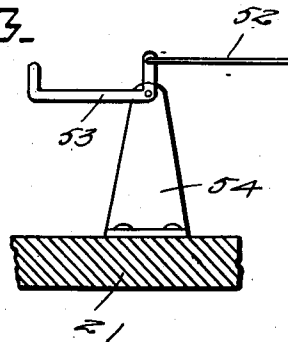
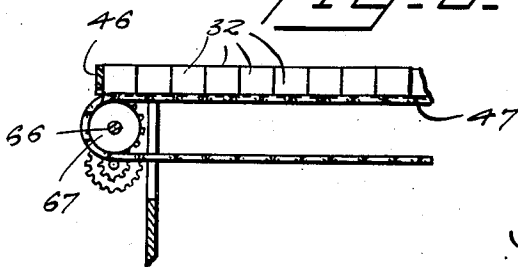


FIG. 6.



Inventor

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By *Hugh M. Sterling*

Attorney

UNITED STATES PATENT OFFICE.

EDGAR F. GREER, OF MEMPHIS, TENNESSEE.

LETTER PRINTING AND ADDRESSING MACHINE.

Application filed June 16, 1924. Serial No. 720,283.

To all whom it may concern:

Be it known that I, EDGAR F. GREER, a citizen of the United States, residing at Memphis, in the county of Shelby and State of Tennessee, have invented certain new and useful Improvements in Letter Printing and Addressing Machines, of which the following is a specification.

The invention provides a machine designed specifically for printing form letters and impressing on each letter the name, address, salutation and the like of the person, firm or other party for whom the letter is intended, thereby giving character and individuality to the communication which is effective in correspondence and desirable.

A further purpose of the invention is the provision of a machine which may be utilized for addressing the envelopes designed to receive the letters the same type being used for addressing both the letters and the envelopes, mechanism being provided to transfer the type from the form letter printer, to the envelope address printer of the machine.

A further purpose of the invention is to provide a machine in which the operating parts are compactly arranged, positive in action and not liable to derangement, and which is adapted to be easily operated and maintained in working condition as the parts are so disposed as to admit of ready access thereto for adjustment, oiling, replacement and the like.

While the drawings hereto attached illustrate a practical embodiment of the invention, it is to be understood that in adapting the same to meet different requirements and conditions, various changes in the details, form, construction and the arrangement of parts may be resorted to within the scope of the appended claims without departing from the nature of the invention.

Referring to the accompanying drawings forming a part of the specification:—

Figure 1 is a top plan view of a form letter printing and addressing machine embodying the invention;

Figure 2 is a front view thereof;

Figure 3 is a vertical longitudinal sectional view on the line 3—3 of Figure 1, showing the parts on a larger scale;

Figure 4 is an enlarged sectional view on the line 4—4 of Figure 1;

Figure 5 is a vertical transverse sectional

view on the line 5—5 of Figure 1, showing the parts on a larger scale;

Figure 6 is a detail sectional view on the line 6—6 of Figure 1;

Figure 7 is a detail sectional view on the line 7—7 of Figure 1;

Figure 8 is a detail plan view of the parts shown in Figure 7;

Figure 9 is an enlarged detail sectional view on the line 9—9 of Figure 1;

Figure 10 is a transverse sectional view of the form letter printing mechanism;

Figure 11 is a view of the parts shown in Figure 10, as seen from the bottom side, the seating ribbon being broken away;

Figure 12 is an enlarged sectional view of the address printer;

Figure 13 is a detail view of a part of the operating mechanism for the address printing type;

Figure 14 is an end view of the holder for the address printing type partly in section, the same being taken on the line 14—14 of Figure 5; and

Figure 15 is an enlarged sectional detail on the line 15—15 of Figure 1.

Corresponding and like parts are referred to in the following description and indicated in the several views of the drawings by like reference characters.

The machine embodies a suitable framework including a supporting structure 20 and a table 21 mounted thereon and receiving the operating parts. Walking beams, levers, or arms 22 and 23 are pivoted to uprights 24 and the inner end of each is connected by means of a pitman 25 and strap to an eccentric 26 fast to a shaft 27 which is mounted in suitable bearings and provided with a band pulley 28 to receive power from a suitable source by means of a drive belt not shown, in a manner well understood. The walking beams 22 and 23 are oppositely disposed and are arranged the one in advance of the other and each is provided at its outer end with a printing mechanism. The printing mechanism attached to the outer end of the walking beam 22 is such as to print the form letter and address. The printing mechanism at the outer end of the walking beam 23 is such as to address the envelopes provided for receiving the form letters and both address printing mechanisms are substantially the same as shown most clearly in Figures 12 and 14,

each consisting of a rotary holder 29 provided with a plurality of type receiving pockets 30 grouped about the axis of the holder, said pockets being open throughout their length to admit of the type entering at one end and leaving at the opposite end. Springs 31 let into recesses at one side of the pockets 30 operate to prevent displacement of the type 32 while at the same time admitting of the type having a longitudinal movement throughout the length of the pockets. These type holders are mounted to receive an intermittent rotary movement whereby the types are successively brought into position for printing. A ratchet wheel 33 fast to one end of the holder 29 is adapted to co-act with a stub 34 whereby to effect a rotary movement of the holder. The stub 34 is fixed and the holder 29 being movable with the walking beam it follows that the holder is rotated by an intermittent movement in the operation of the walking beam.

A track 35 at the front of the machine co-operates with the form letter printer and address printer, and a similar track 36 at the rear of the machine co-acts with the address printer for the envelopes, and the printing type may be inked in any preferred way. The type 37 for printing the form letter is carried by a chase or holder 38 attached to the forward end of the walking beam 22 and the holder receiving the type 39 for printing the address on the form letter is carried by the walking beam 22, both sets of type being inked by means of a ribbon 40 which is adapted to be wound upon a roller 41 at each side of the type holder 38. The inking ribbon 40 is unwound from one of the rollers 41 and wound upon the companion roller by an intermittent movement which is effected by means of a ratchet wheel 42 secured to the shaft of each of the rollers, Figure 11, and adapted to co-act with a dog 43, Figure 15, attached to the table 21. Only one of the dogs 43 is in active operation at a time, the same being adjustable to admit of one being thrown into active position and the other out of action.

Tracks 44 and 45 are provided at one side of the machine to receive and support galleys 46 which are movable thereon, and these galleys are open at one end for the ready ingress and egress of the address type or slugs 32. Each of the galleys 46 is provided in its bottom with a longitudinal slot to receive a chain 47 which operates to move the slugs or type 32 through the galleys. A plunger 48 is adapted to operate across the open end of the galley and deliver the type or slug in position to be advanced. The plunger 48 is in line with a guideway 49 through which the slugs or type 32 are moved on their way to the holder compris-

ing the address printer. The guideway 49 is in line with the pocket of the type holder in position to receive the type or slug. The type holder 29 is adapted to be rotated a distance at each movement to bring the pockets thereof in position to receive the type or slugs from the guideway 49 and also to bring the type in position to print the address on the letter sheet simultaneously with the printing of the form letter. A lever 50 pivoted at one end has its opposite end connected to the rod of the plunger 48. A flexible connection 52 attached at one end to the lever 50 is connected at its opposite end to an arm of a bell crank 53 mounted upon a bracket 54 and the other arm of the bell crank 53 is disposed in the path of an arm 54^a depending from the walking beam 22 so as to be actuated thereby at each movement of the walking beam. A helical spring 55 serves to retain the plunger 48 in normal position.

A guideway 56 is provided at the opposite side of the machine to receive the type or slugs 32 after being used to print the address on the form letters. A lateral guideway 57 in line with the guideway 49 and at the opposite side of the address printer receives the type or slugs as they are discharged from the type holder and directs them to the guideway 56 through which they are caused to travel by means of an intermittently operated plunger 58. A lever 59 pivoted at its lower end to the table 21 is connected at its upper end to an arm of a bell crank 60, the other arm of said bell crank being connected to the plunger 58. An eccentric 61 fast to a shaft 62 co-acts with the lever 59 to impart an oscillatory movement thereto whereby the plunger 58 is reciprocated so as to advance the address type or slugs through the guideway 56. The shaft 62 is geared to a shaft 63 to which is secured a ratchet wheel 64 which is intermittently rotated by means of a dog 65 attached to the walking beam 22. The shaft 63 is geared to the shaft 66 to which is fast the sprocket wheel 67 which imparts movement to the feed chains 47 hereinbefore referred to as advancing the address type or slugs through the galleys 46. A crank wheel 68 fast to the shaft 63 operates a flexible connection 69 which is connected to a plunger 70 whereby to move the address type or slugs 32 along the galley placed in position to receive said slugs from a guideway 71 provided to receive the slugs from the type holder of the envelope address printer.

A lateral guideway 72 is in line with the guideway 71 and receives the slugs 32 from the guideway 56 and delivers them to the envelope addresser. A plunger 73 similar to the plunger 48 delivers the slugs 32 from the guideway 56 and advances them through

the guideway 52 so as to feed the type to the envelope addresser and to deliver the type after use from the said envelope addresser to the galley 26 placed in position upon the track 25 to receive the same. A lever 74 similar to the lever 50 is connected to the rod of the plunger 73 and a flexible connection 75 connects the lever 74 with the lever 50 whereby both levers move in unison.

A table 76 at the front of the machine and at one side of the letter printing mechanism receives the sheet upon which the form letter is to be printed and a suitable feeder such as an endless chain 77 moves the sheet from the table 76 to the platen 78 which supports the sheet during the printing of the form letter and address thereon. The paper feeder may be operated in any preferred way and as shown, a crank 79 is provided and is operable by hand. A table 80 at the rear of the machine receives and supports the envelopes during the printing of the address thereon, and in the operation of the machine, two attendants are required the one to manage the printing and addressing of the form letters and the other to look after the printing of the address upon the envelopes. The addressing slugs may consist of one or more parts according to the nature of the matter to be printed and these slugs are put in order in trays or galleys from which they are automatically fed to the printing mechanism and from the latter, returned to the galleys or trays placed in position for their reception after final use, and the order of the slugs or address type is preserved as will be readily understood on reference to Figure 1 of the drawings.

What is claimed is:—

1. A letter printing machine, a rotary holder for the address printing type, means for imparting an intermittent rotary movement to the said holder, and means for feeding the address printing type to the holder during the intervals between the rotary impulses imparted thereto.

2. In a letter printing machine, a rotary type holder associated with the letter printing form and provided with type receiving pockets which are open throughout their lengths, a guideway positioned to align with

the several type pockets, and means for moving the address printing type through the guideways and the pockets of the type holder in line therewith.

3. A letter printing machine comprising an address type holder associated with the form for printing the letter, type holders upon opposite sides of the letter printing form, means for moving the address type through one of the holders, other means for feeding the type to the said printing type holder, and independent means for moving the used address type through the receiving holder.

4. A printing machine comprising a letter printing mechanism, an address printing mechanism associated with the form for printing the letter, a second printing mechanism for addressing the envelopes for receiving the letters, means for feeding the address printing type to the address printing mechanism associated with the letter printing form, and independent means for feeding the said address type to the envelope addressing mechanism, the several mechanisms being coordinated for a cycle of operation.

5. A letter printing and addressing machine comprising complemental walking beams, means for imparting an oscillatory movement to the said beams, an address printing mechanism carried by one of the beams, a letter printing and addressing mechanism carried by the other beam, means for intermittently feeding address printing types to the addressing mechanism associated with the letter printing form, and other means for feeding the address printing type to the printing mechanism for addressing envelopes or wrappers.

6. A printing mechanism comprising a rotary type holder provided with type receiving pockets grouped about the axis and open throughout their lengths, means associated with the pockets for holding the type therein, and means for feeding type or slugs to and through the pockets of the type holder.

In testimony whereof I affix my signature.

EDGAR F. GREER.