

H. C. GAMMETER.
ADDRESSING MACHINE.
APPLICATION FILED FEB. 25, 1909.

1,052,235.

Patented Feb. 4, 1913.
3 SHEETS-SHEET 1.

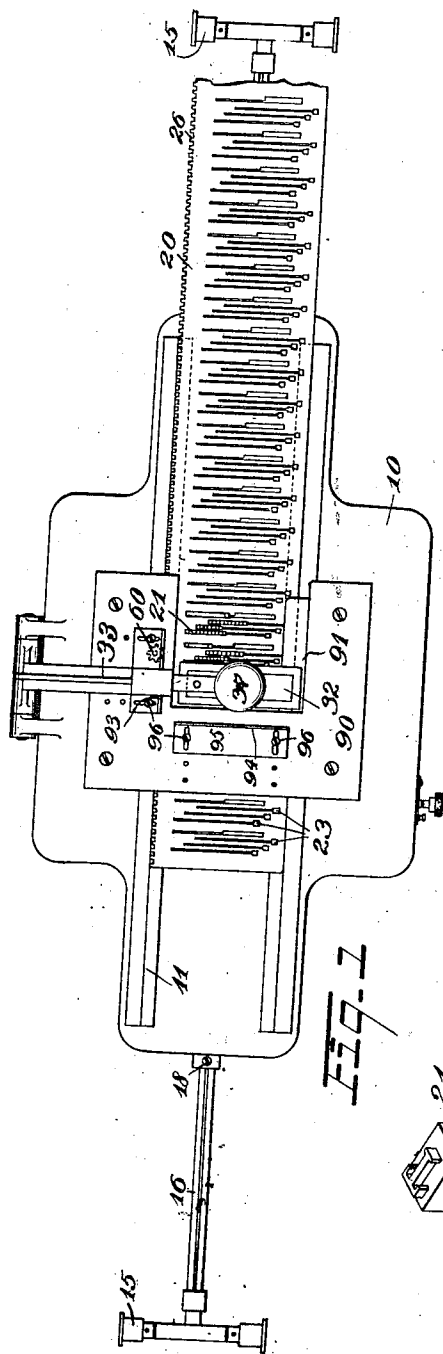


FIG. 1

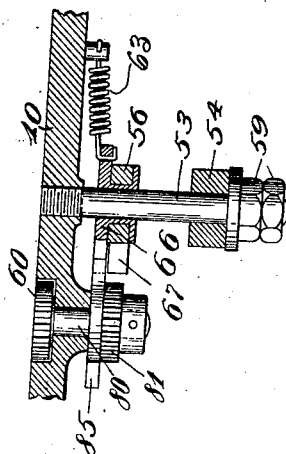


FIG. 2

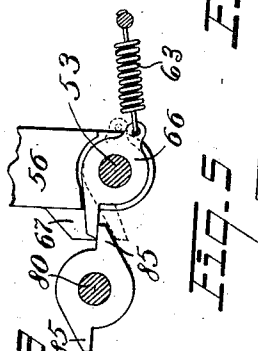


FIG. 3

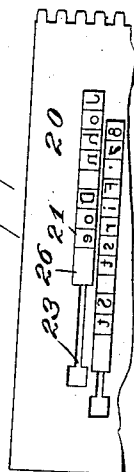


FIG. 4



FIG. 5

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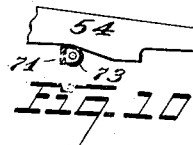
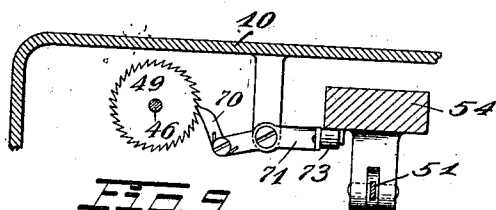
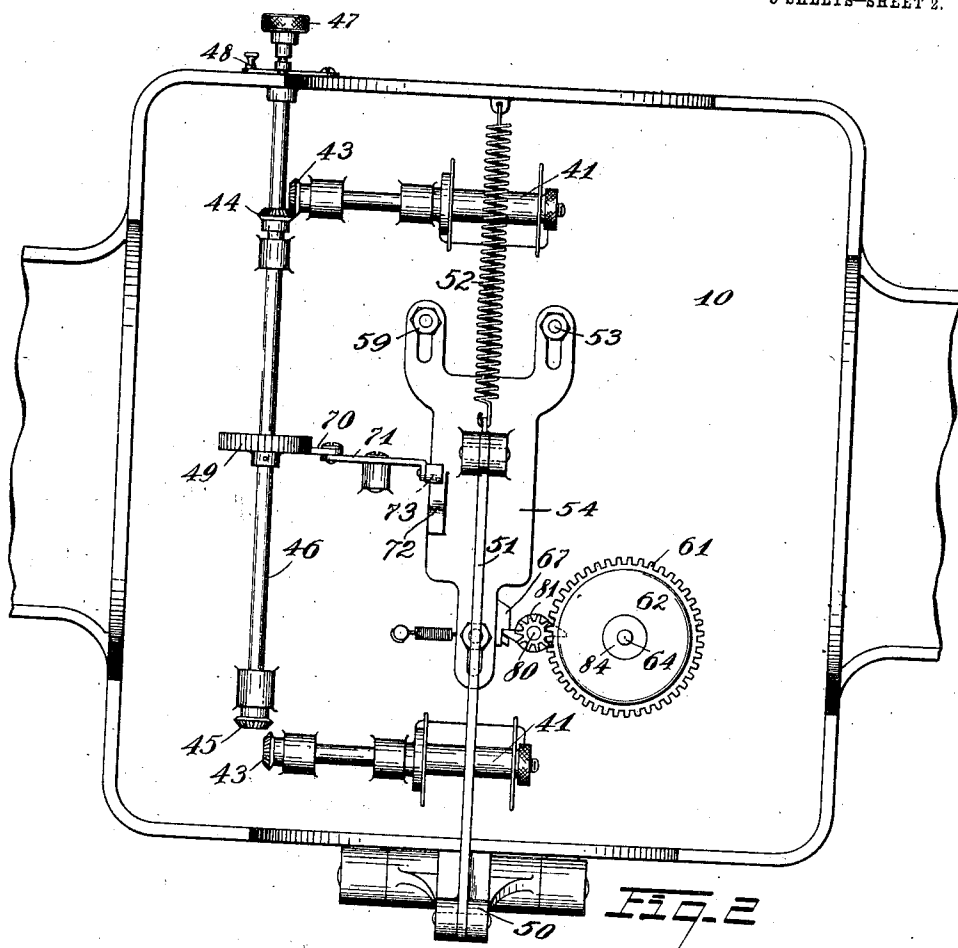


FIG. 9

FIG. 10

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Nathan F. Fretter.

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3 SHEETS-SHEET 3.

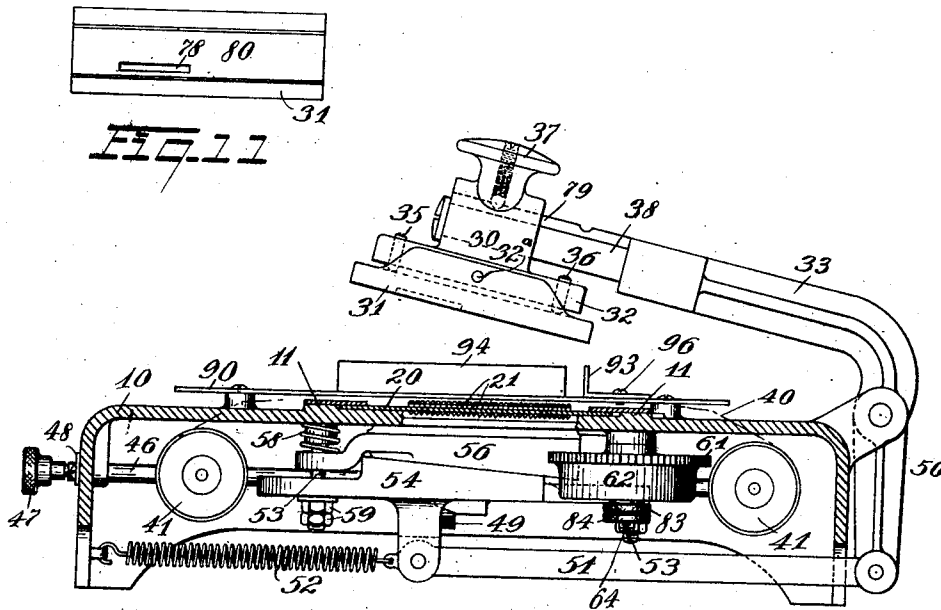


Fig. 11

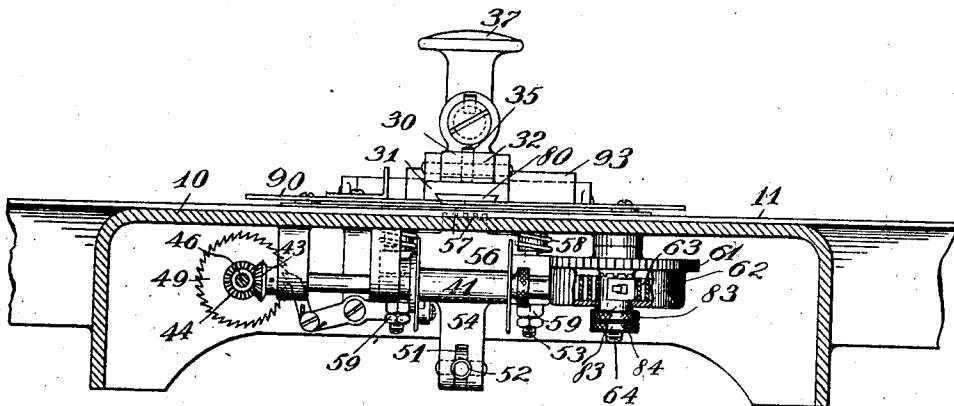


Fig. 3

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By Rae Jones Steele
Atty's

UNITED STATES PATENT OFFICE.

HARRY C. GAMMETER, OF BRATENAH, OHIO, ASSIGNOR TO THE AMERICAN MULTI-GRAPH COMPANY, OF CLEVELAND, OHIO, A CORPORATION OF OHIO.

ADDRESSING-MACHINE.

1,052,235.

Specification of Letters Patent.

Patented Feb. 4, 1913.

Application filed February 25, 1909. Serial No. 479,900.

To all whom it may concern:

Be it known that I, HARRY C. GAMMETER, a citizen of the United States, residing at Bratenahl, in the county of Cuyahoga and State of Ohio, have invented a certain new and useful Improvement in Addressing-Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings.

10 The object of this invention is to provide in a very simple and efficient form a printing machine adapted primarily for printing addresses, though the mechanism is adapted for printing other matter.

15 My invention carries addresses in a plate which is periodically fed to the printing point, where the printing may be effected by means of a suitably operated platen, preferably through an inking ribbon extending over the type.

The invention includes various features contributing to the efficiency and simplicity of the machine, wherefore the invention may be conveniently summarized as comprising the combinations of cooperating mechanisms hereinafter explained and set out in the claims.

Figure 1 is a plan of an addressing machine embodying my invention; Fig. 2 is a bottom plan of a portion of the same; Fig. 3 is a cross section of the machine; Fig. 4 is a cross section at right angles to Fig. 3. The remaining figures are details.

As shown in the drawings, 10 represents the frame of my machine which comprises a top plate and suitable supporting portions. On the upper surface of the top plate are a pair of parallel guiding ribs 11. Between these ribs is adapted to slide the address plate 20. This is preferably a plate of considerable length carrying a number of addresses, the plate shown being broken away for convenience of illustration in the drawing.

45 The plate is guided intermediately by the ribs 11, and supported by the frame, while the overhanging portion of the plate is adapted to be supported by the flanged wheels 15 mounted on the bracket 16, projecting from the frame and adjustably held thereto by the set screw 18. The plate 20 carries the addresses, each address comprising several lines, in the form shown, four lines being given to each address. Preferably metal type are employed, and these are carried by

the plate by means of the type being grooved in their opposite sides, and the plate being slotted, the walls or edges of the plate being adjacent to the slot occupying the grooves and forming guides or retainers for the type. 60 The type are designated 21. They may be inserted in the plate by passing their bases through enlargements of the slots 23 which carry the lines. After being passed through these openings, the type are shoved lengthwise into lines into place and are held by rubber clips 26. Other means, however, of mounting the type lines on the plate may be employed, if desired.

Above the bed and type carrying plate is 70 a platen 30, which is carried on the pivoted arm 33. The paper to be printed is adapted to be placed over the type, and this platen depressed to make the impression. 40 indicates an inking ribbon adapted to lie over the type and effect the inking for the impression. It is understood that the paper is placed face downward above the ribbon, and the platen forces the paper and ribbon against the type. The movement of the 80 platen also results in the feed of the type carrying plate to present a new address, and in the feed of the ribbon to present a fresh face. These features will be further explained. 85

The platen proper consists of a piece of rubber or elastic material 80' held in a shoe 31, which is mounted on a head 32 on the main arm 33. The shoe is preferably pivoted to the head at 32^a and may be swung 90 thereon in one direction or the other, and held in adjusted position tightly or loosely, as desired, by the set screws 35, 36. The head 32 is provided with a knob 37, which may be conveniently depressed by the hand 95 of the operator. This head is slidably mounted on the cylindrical forward end 38 of the arm 33. This allows the head to be shifted forward and backward for a purpose hereinafter explained. 100

The operating arm 33 continues below its pivot 39, as shown at 50. Connected with this arm 50 is a link 51, which connects with a member 54 slidably mounted on studs 53 depending from the frame. A spring 52 105 tends to draw the member 54 and the link in the direction to lift the platen. The upper surface of the member 54 is inclined downwardly toward the arm 50, and surmounting this member is a member 56 which is ca- 110

pable of an up and down movement on the studs 53, and has on its lower surface an incline corresponding to, but in the opposite direction of, the incline on the block 54. The result is that when the platen is lowered to effect the printing, the block 56 is forced upward by the wedging action of the moving block 54. This upward movement brings the upper surface of the block 56, which consists of a series of parallel ribs 57, directly against the bottom of the plate 20, between the successive lines of type. This forms an effective support for the plate adjacent to the printing points so that when the platen comes down to its lowest movement to effect the impression, the plate is at the same time supported on the underside. This block 56 may be given a downward tendency by suitable springs, the springs being shown as surrounding the studs 53 and being designated 58. The nuts 59 screwing on to the studs 53 enable the accurate adjustment of the wedge members 54 and 56 to make this support effective.

On the upward stroke of the platen after the impression is effected, mechanism is operated to feed the plate 20 to bring a new address beneath the platen. This is accomplished by the following mechanism: One edge of the plate 20 is formed into a rack 26. This rack meshes with a pinion 60 on a short shaft 80 mounted on the frame and carrying a pinion 81 meshing with a gear 61 on a drum 62 holding a spiral spring 63,—the outer end of the spring being secured to the drum, and the inner end to the sleeve 83 on the stationary stud 64 on which the barrel is mounted. The turns of this spring are in such direction that when the plate is first inserted from the right and shoved to the extreme left, (of Fig. 1) the rack and pinion rotate the barrel to wind up the spring. Accordingly, as the spring unwinds, the tendency of the spring is to feed the plate toward the right. The sleeve 83 and its locking jam nut 84 adjust the spring.

As shown in the drawing, the portion of the space devoted to each address, and the size of the pinion are such that half a rotation of the pinion will bring a new address into position. Rigid on the pinion shaft is a member provided with two diametrically opposite teeth 85. One of these teeth is normally in engagement with the dog 66, which is pivoted to the frame and allows the pinion only a limited movement after the tooth engages the dog, a suitable stop being provided on the frame for the dog. In normal position, the spring in the barrel holds the dog against this stop,—one of the teeth being against the dog. In this position the engaged tooth stands above a space which is directly behind a lug 67 on the wedge member 56.

When the platen descends to effect the printing, this wedge member is elevated, and the lug member 67 comes in front of the tooth 85 and positively holds the same in position. This same movement of raising the lug into the path of the pinion, raises the dog above the path of the pinion. As soon as the dog has cleared the tooth, the dog moves by its own spring 63 back over the top of the tooth. Now, when the platen rises after effecting the printing, and the wedge member 56 consequently descends, the stationary lug 67 on this member moves downwardly out of engagement with the tooth 85, whereupon the pinion begins to rotate,—this rotation feeding the plate toward the right. At the end of a half rotation, however, the other tooth 85 engages the dog 66, and movement is stopped. By this mechanism therefore an escapement is provided which with each complete stroke of the platen feeds the plate from one address to the next.

To cause a feeding of the ribbon on the upstroke of the platen, I provide the following mechanism: The ribbon 40 is mounted on spools 41, suitably carried by brackets depending from the top plate 10. The shafts of these spools are formed with bevel pinions 43, either of which may mesh with corresponding bevels 44 or 45 on a rod 46, according to the longitudinal position of the rod. The rod is provided with a knob 47 and a latch 48 adapted to engage in either of two notches in the rod. On the rod is a wide ratchet wheel 49 with which may mesh a pawl 70 carried on a pivoted arm 71. The rear end of this arm carries a roller 73 beneath an incline 72 formed on the wedge block 54. The result of this mechanism is that as the platen descends, and the wedge block 54 moves toward the platen arm, the arm 71 rises along the incline 72 provided and the pawl 70 drops back a tooth on the ratchet. Then after the impression is effected, as the platen rises, the returning inclined member 54 depresses the engaged end of the arm 71, causing the pawl 70 to feed the ratchet one tooth. This feeding movement accordingly feeds the ribbon a slight distance over the face of the type carrying plate following each printing impression. The arrangement of the rod 46 with the latch 48 allows the reversal of the direction of feed whenever desired, the latch being lifted, and the rod being shifted in one direction or the other, to change the engagement of the rod, as will be readily understood.

While the movement of the type carrying plate is automatic from left to right (Fig. 1) to bring a new address into position, it may be shifted by hand in the opposite direction whenever desired,—such movement rotating the pinion 60 and carrying one or

more of the teeth 85 idly past the dog 66, which springs backward under such engagement. This provision allows the same address to be repeated as often as desired,—after one impression, and the consequent feeding, it being simply returned by hand to the former position. These duplicate impressions are frequently desirable for printing the address on both a letter and the corresponding envelop. In that case, it may be desirable to have the address carry a salutation, as "Dear Sir", "Dear Madam", or "Gentlemen", for use in printing the letter address,—this salutation being omitted when printing the envelop address. To effect this omission, I provide for the movement of the platen head 32 on the main lever 33, heretofore referred to. When the platen is in one position, for example the position shown in the drawing, a portion of it lies over the salutation portion of the address so that such salutation is printed. The salutation portion, however, does not extend for over half of the length of the platen, and in alinement with the portion of the platen which coöperates with the salutation is a recess 78, which recess is adapted to be brought over the salutation by the longitudinal movement of the platen. Accordingly, assuming that the position shown in the drawings is the position for printing the address with the salutation, an inward movement of the platen on its support brings the recess in the platen over the salutation, wherefore it is eliminated from the printing,—the platen being long enough so that in any event, it covers the entire address.

The platen head is limited in its movement on the supporting lever. A suitable spring detent may be provided if desired, to prevent accidental displacement of the platen. The head is shown as slidable on the cylindrical extension 38, but prevented from rotation thereon by a key and key-way 79. If it is desired to have a slight play to enable the platen to adapt itself to the type, this can be accomplished by a looseness of the key and key-way.

As has been stated, the paper is placed face downward above the ribbon and type carrying plate. A suitable table or support and guides are preferably provided for the paper. This table is shown as a sheet metal plate 90 carried by the top frame 10, and provided with an opening 91 adapted to stand beneath the platen. Mounted on the table are guides for the edge and top of the sheet. These guides may consist simply of sheet metal members 93 and 94 having horizontal extensions 95 with slots in them, through which pass set screws 96, adjustably clamping them to the table. These guides are set according to the size of the sheet of paper, and the position of the mat-

ter thereon, so that the address may be in the desired position, as is well understood.

A machine substantially of the character described is adapted for printing the addresses in imitation typewritten matter with great rapidity. The body of the letter having been printed on a press or printing machine through a ribbon, the address may be supplied by this machine through a matching ribbon and the blow impression which this machine gives will so closely simulate the impression by which the body was produced as to cause the matching to be very exact. The paper may be placed in the machine and the impressions effected with great rapidity, and when all the addresses carried by the plate have been printed, the plate may be removed, and a new plate put in its place with hardly appreciable delay.

Having thus described my invention, what I claim is:

1. In an addressing machine, the combination of a plate having a series of slots, type occupying said slots, a platen to coöperate with the face of the type, a support to coöperate with the plate on the opposite side from the platen, and means for moving said support transversely of the plate.

2. In an addressing machine, the combination of a plate having a series of slots, grooved type occupying said slots and extending beyond both faces of the plate, a platen adapted to coöperate with the face of said type, a support for the plate adapted to engage it between the feet of adjacent lines of type, and means for moving said support relatively to the plate.

3. In an addressing machine, the combination of a plate having a series of slots, grooved type occupying said slots and extending beyond both faces of the plate, a platen adapted to coöperate with the face of said type, a support for the plate adapted to engage it between the feet of adjacent lines of type, means for feeding the plate, and means for changing the mutual presentation of the support and plate.

4. In an addressing machine, the combination of a plate having a series of slots, grooved type occupying said slots and projecting beyond the opposite faces of the plate, a platen to coöperate with the face of the type, a support adapted to engage the opposite side of the plate between adjacent type lines, means for alternately feeding the plate and moving the support toward and from the plate.

5. In an addressing machine, the combination of a plate having transverse slots, type grooved on its opposite sides occupying said slots and projecting above and below the plate, a platen adapted to coöperate with the type, a support for the plate having a series of ribs adapted to engage it between the adjacent type lines, mechanism for mov-

ing said support toward and from the plate, mechanism for feeding the plate when the support has been moved from it.

6. In an address printer, the combination of a plate carrying addresses composed of lines of type, a platen adapted to cooperate therewith, and a movable support for the plate on the opposite side from the platen, and mechanism for automatically bringing said support into engagement with the plate between successive lines of type when the platen operates.

7. The combination of a slotted plate formed to carry metal type projecting above and below the plate, a transversely movable support for the plate between the lines of type, and a platen to cooperate with the opposite face of the type.

8. The combination of a slotted plate formed to carry metal type projecting above and below the plate, a movable support for the plate between the lines of type, and a platen to cooperate with the opposite face of the type, said support being brought against the plate by the movement of the platen toward the plate.

9. The combination of a plate adapted to carry a series of type-line addresses, a platen, means for moving the plate crosswise of the platen, and a support for the plate adapted to engage it between successive type lines and periodically moved from it on the opposite side of the plate from the platen.

10. The combination of a plate adapted to carry a series of addresses, a platen, means for moving the plate crosswise of the platen, and a support for the plate periodically moved from it on the opposite side of the plate from the platen, said plate being slotted and carrying individual type projecting onto opposite sides, and the movable support having ribs adapted to stand between successive lines of type.

11. The combination of a frame, a plate adapted to ride on the upper surface thereof and carry type addresses in lines, a movable support beneath the frame having parallel ribs adapted to engage the plate between successive lines, a platen above the frame adapted to act downwardly on the type, and automatic mechanism for causing the support to rise and engage the underside of the plate as the platen moves downwardly thereto.

12. The combination with a slotted plate formed to carry metal type, means for moving such plate, a platen to cooperate with the type, and a support for the plate on the opposite side from the platen and extending parallel with the lines of type and adapted to be moved independently of the plate to engage the plate between successive lines.

13. The combination of a thin slotted

plate, type grooved on its opposite sides and occupying such slots and extending onto opposite faces of the plate, a platen to cooperate with the type, and a support movable with reference to the plate and having parallel ribs adapted to engage the plate between successive type lines on the opposite side from the platen.

14. The combination with a frame, an arm pivoted thereto, a platen carried by said arm, a slidable inclined block connected with said arm, a type carrying plate, type lines carried thereby, a support therefor adapted to engage the plate between consecutive type lines having an inclined connection with said block.

15. The combination with a frame, an arm pivoted thereto, a platen carried by said arm, a plate carrying type adapted to lie above said frame, a vertically guided movable supporting block for the plate beneath said frame, and mechanism to engage said support and move it upwardly against the plate, said mechanism being connected with said pivoted arm.

16. In an address printer, the combination of a plate adapted to carry addresses, including salutations, a platen to cooperate therewith, said platen having a solid portion, and also a recess, either of which is adapted to cooperate with the salutation.

17. In an address printer, the combination of a plate adapted to carry addresses, including salutations, a platen to cooperate therewith, said platen having a solid portion and also a recess, either of which is adapted to cooperate with the salutation, and means whereby said platen may be moved to change from one to the other.

18. The combination of a plate carrying addresses with salutations, a pivoted arm, a platen carried thereby, said platen being longitudinally shiftable on the arm, and having an impressing portion and a recess in alinement, and either adapted to cooperate with the salutation of the address.

19. The combination, with means for carrying type, of a pivoted platen arm, a head mounted to slide on said arm, and a platen carrying shoe extending lengthwise of the arm and pivoted to said head.

20. In an address printing machine, the combination of a base, a longitudinal plate guided in a straight line on the upper surface thereof and carrying a series of parallel addresses, a paper table extending over the plate and having an opening, a platen above said opening, and carried by an arm pivoted to said frame, the arm extending transversely of the plate, and the platen extending lengthwise of the arm, the addresses being composed of metal type carried in parallel slots in the plate, a ribbon extending over such plate, and means engaging the edge of the plate for periodically feeding

it consequent upon the actuation of the platen, and means for periodically feeding the ribbon, both the feed of the plate and the feed of the ribbon taking place upon the
5 upstroke of the platen.

21. The combination of a printing device comprising a frame having a plurality of slots to receive the type and guides between the slots to engage and support the type,
10 said type being supported in the slots and on the guides partly above and partly below the frame, and a movable bed comprising a plurality of sections adapted to engage the under side of the guides between the lines of
15 type, and means for elevating said bed into operative engagement with the printing device.

22. An addressing machine comprising a bed adapted to support a printing device in
20 printing position, the upper surface of said bed being provided with projections adapted to be disposed between the type lines of the printing device to form a support therefor, and means for moving said bed into
25 engagement with a printing device.

23. The combination of a plate having parallel type holding edges, type grooved in its opposite sides and held in lines by means of said edges, a support for the plate
30 on the opposite side from the face of the type, means for periodically moving the sup-

port into and out of engagement with the plate, and a platen cooperating with the type.

24. The combination of a plate having 35 parallel type holding edges, type grooved on its opposite sides and held in separated lines by and between said edges, a support for the plate on the opposite side from the face of the type, means for periodically 40 moving said support into and out of engagement with the plate, means for moving the plate edgewise thereof when this support is out of engagement with it, and a platen cooperating with the type. 45

25. In an addressing machine, the combination of a plate having a plurality of parallel type holding edges, type between adjacent edges and held thereby in lines, a platen cooperating with the face of the type; 50 a support to cooperate with the plate on the opposite side from the platen, and means for moving said support transversely of the plate.

In testimony whereof, I hereunto affix 55 my signature in the presence of two witnesses.

HARRY C. GAMMETER.

Witnesses:

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BRENNAN B. WEST.