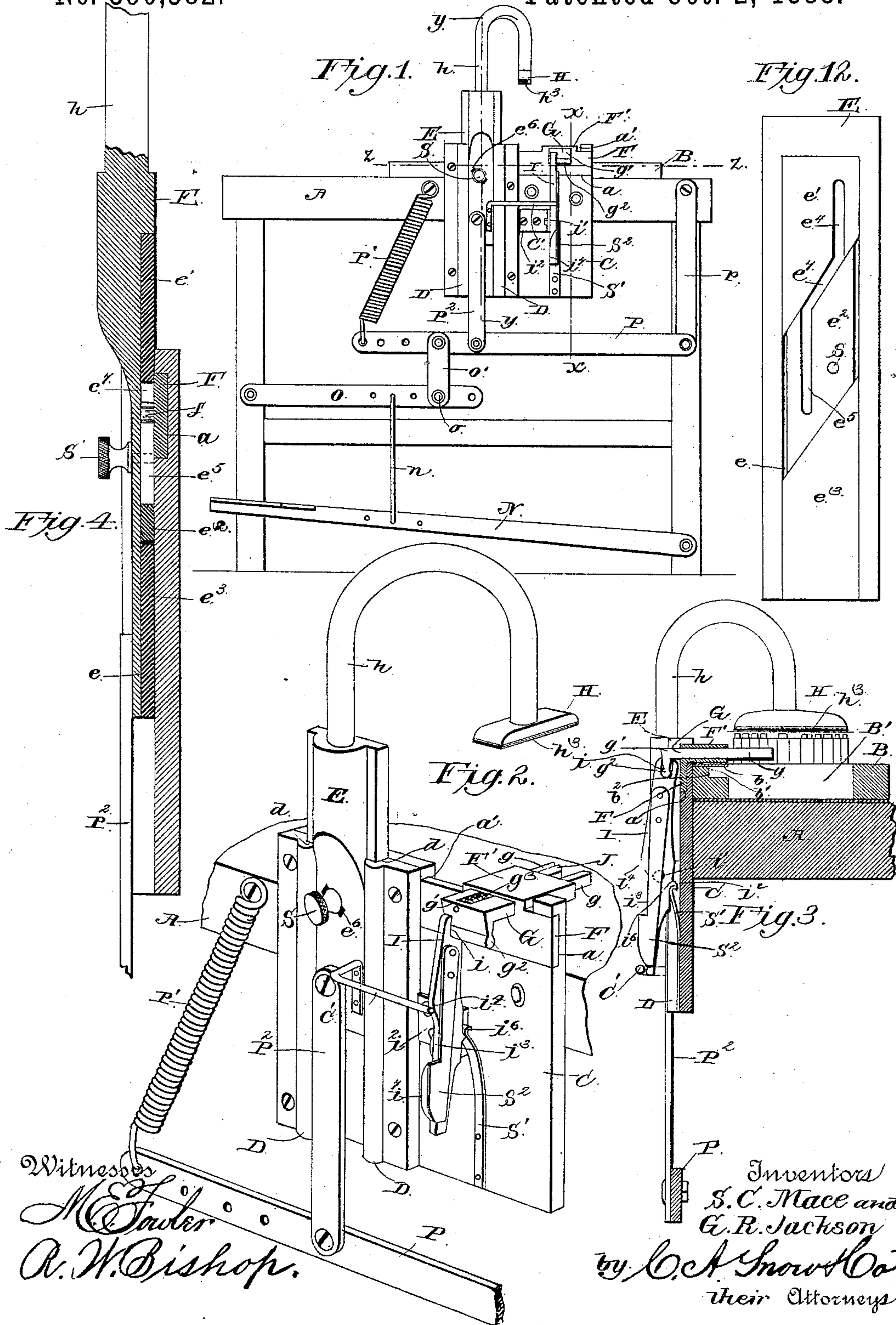


S. C. MACE & G. R. JACKSON.

ADDRESSING MACHINE.

No. 390,382.

Patented Oct. 2, 1888.



Witnesses
M. E. Fowler
A. W. Bishop.

Inventors
S. C. Mace and
G. R. Jackson
by C. A. Snow & Co
their Attorneys

(Model.)

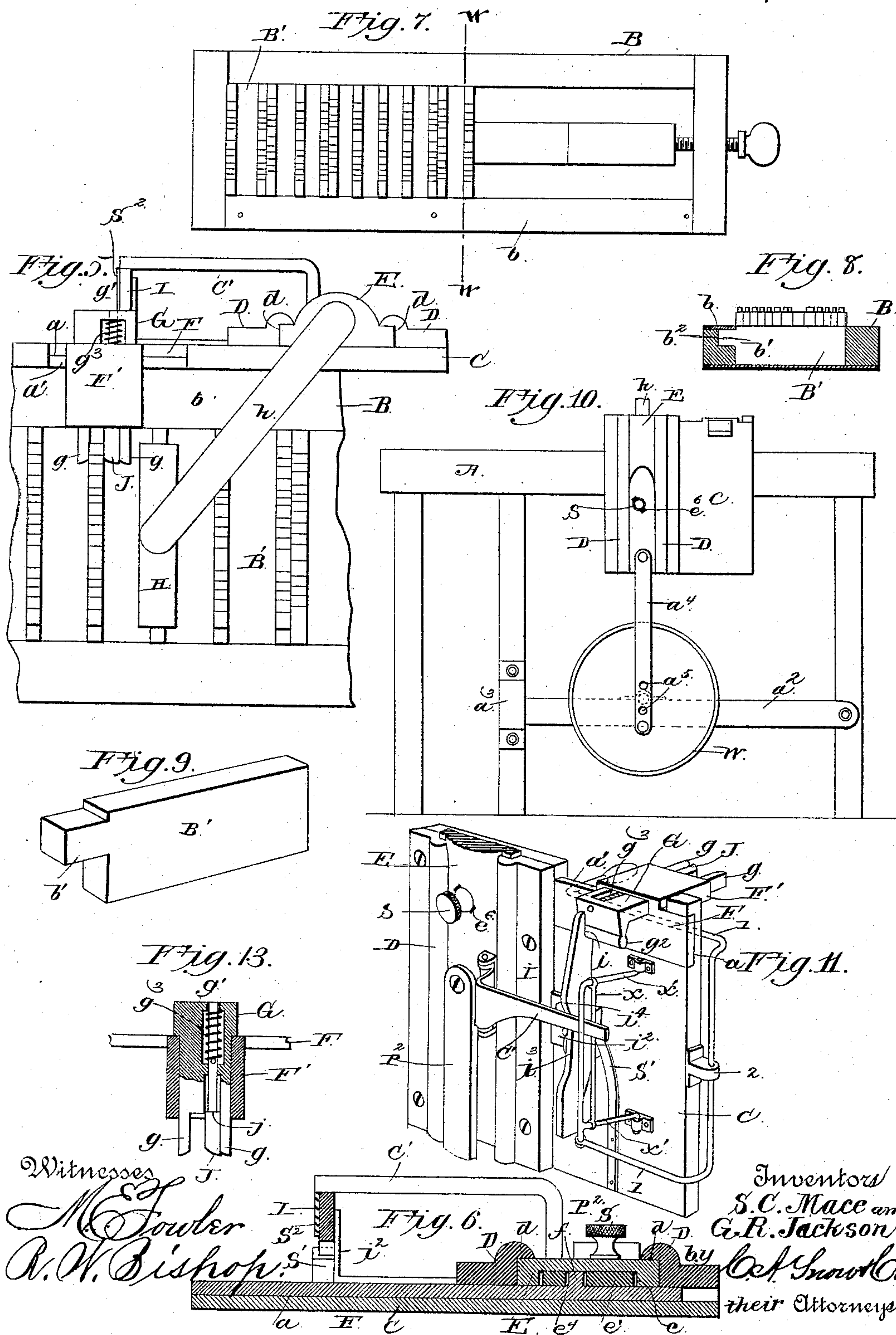
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UNITED STATES PATENT OFFICE.

SEBASTIAN C. MACE AND GEORGE R. JACKSON, OF CLINTON, MISSOURI.

ADDRESSING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 390,382, dated October 2 1888.

Application filed August 17, 1887. Serial No. 247,196. (Model.)

To all whom it may concern:

Be it known that we, SEBASTIAN C. MACE and GEORGE R. JACKSON, citizens of the United States, residing at Clinton, in the county of Henry and State of Missouri, have invented a new and useful Improvement in Addressing-Machines, of which the following is a specification.

Our invention relates to an improved machine for printing addresses on newspapers, pamphlets, envelopes, and other matter; and it consists in the combination and novel construction and arrangement of the various parts, which will be more fully hereinafter set forth, and pointed out in the claims.

The primary object of our invention is to provide a machine for printing the addresses upon newspapers and the like for mailing purposes, the operation of which will be under control of the operator or attendant, and is adapted to automatically feed a type-galley forward a predetermined distance to bring it in position beneath the reciprocating platen to deliver the impression from the inked faces of the type in the galley upon the newspapers, &c., interposed between the type and the platen, and also to provide means for automatically withdrawing the type-moving device from engagement with the type-line after one impression has been made and operating the type-moving device to engage with the succeeding line of type and thereby produce a simultaneous adjustment between the platen and the galley.

The secondary object of our invention is to provide means for adjusting or regulating the length of the stroke or movement of the type-moving device to accommodate it to the space between the lines of type; to provide means for causing the type-moving device to engage with a single or double line of type with equal facility and without requiring any readjustment, and, finally, to so construct the parts of the machine as to render them simple and effective in their operation.

We attain these objects by the mechanism illustrated in the accompanying drawings, wherein like letters and figures of reference indicate similar parts in the several views, and in which—

Figure 1 is an elevation of an addressing-machine embodying our invention, showing it

adapted as a foot-power machine and in position to engage the type galley and feed the same forward. Fig. 2 is a perspective view of the machine with the foot-power mechanism removed. Fig. 3 is a vertical sectional view on the line $x x$ of Fig. 1, showing the platen in position to act on the paper and the type-moving device adjusted or thrown to the rear and out of engagement with the type-line. Fig. 4 is a vertical section on the line $y y$ of Fig. 1. Fig. 5 is a top plan view. Fig. 6 is a horizontal sectional view on the line $z z$ of Fig. 1. Fig. 7 is a top plan view of the galley. Fig. 8 is a cross-sectional view on the line $w w$ of Fig. 7. Fig. 9 is a detail perspective view of one of the reglets. Fig. 10 is a side elevation of a portion of the machine shown in connection with a belt-power mechanism. Fig. 11 is a perspective view of the throw-off attachment. Fig. 12 is a rear view of the carrier-plate. Fig. 13 is a detail sectional view of the type-moving device.

A designates the bed or table of the machine, which is supported in the elevated position above the floor at a suitable height, and on this bed the galley B is arranged to move.

The galley B consists, essentially, of the ordinary construction, with the exception of a plate, b , mounted on the top portion of one side thereof. Immediately under this plate b a groove or recess, b' , is formed in the top inner edge of the side of the galley, which is adapted to be engaged by projections b^2 , formed with one end of reglets B' , thereby preventing the reglets rising above the side of the galley and interfering with the feeding or type-moving belts. The said reglets are constructed either of wood or metal, but preferably of bell-metal, which is found to be more durable and applicable for the purpose. The remaining construction of the galley is well known to the art and need not be further enlarged upon. The type used in printing the addresses, and which are mounted in the galley, as shown, are suitably arranged in series and isolated or separated by the reglets B' , said type being inked by mechanism or devices of any well-known construction.

C represents a vertically-disposed base-plate which is arranged on one side of the bed or table A, and is rigidly secured thereto in any suitable manner, preferably by bolts. This

plate C is constructed of a single piece of metal, and has a transversely - arranged groove, *a*, formed in its upper portion, in which a transverse sliding bar, F, is mounted, having a stud or pin, *f*, mounted on its side, which projects outward from the front side of the machine. Near one end of the plate C cleats or ways D are secured on the outer face side thereof, arranged a short distance from and parallel with each other, the inner opposing edges thereof having longitudinal grooves *d* cut or otherwise formed therein. In these grooves *d* a reciprocating carrier-plate, E, is mounted and has a free vertical sliding movement therein. A curved or bow-shaped arm, *h*, projects from the upper end of the plate E, and the projecting end of said arm carries the platen H, which is preferably formed integral with the said projecting end and arranged in a plane parallel with the type-lines in the galley. This arm *h* may, if desired, be secured to the outer face of the plate E. The lower end of the plate E has an arm, C', secured thereto, which projects over one of the cleats and a portion of the said plate, for a purpose hereinafter set forth.

The under side of plate E is constructed with a groove, *e*, in which three strips, *e'*, *e''*, and *e'''*, are mounted. The upper and lower strips, *e'* and *e'''*, are stationary, and the central strip, *e''*, is narrower and movable, and consequently capable of adjustment upward and downward in the groove *e*. The lower end of the upper strip, *e'*, and the upper end of the lower strip, *e'''*, is cut off at an incline, thereby providing a diamond-shaped space between the ends of said strips in the groove *e*, and the central strip, *e''*, is of like configuration, but narrower, as hereinbefore stated, to cause a movement thereof in said space. The one side of the strip *e'* is formed with a slot, *e¹*, which opens into the space between the lower and upper ends of the strips *e'* and *e'''*, respectively. In the strip *e''*, near that edge farthest from the slot *e¹*, another slot, *e²*, is formed, which opens adjacent to the lower edge of the upper strip, *e'*, an open space, *e³*, being formed between the meeting edges of the plates *e'* *e''* and connecting the said slots *e¹* *e²*.

Through the face side of the plate E an obliquely-arranged slot, *e⁴*, is formed, through which a thumb-screw, S, passes and engages with the central strip, *e''*, and by means of which the said strip may be adjusted and held in a fixed position. This adjustment may be either to lengthen or shorten the continuous slot formed by and in the strips *e'* and *e''*, and, consequently, lengthen or shorten the stroke of the sliding bar F. It will be observed that the slot formed by the strips *e'* and *e''* consists of two vertical slots united by an oblique slot, which acts to draw the sliding bar F across the plate. The stud or pin *f*, secured in the end of the said bar F, engages with the slot formed by the strips *e'* and *e''*, and, as the reciprocating plate E moves, the said sliding bar F, consequently, is operated, the length of stroke of

which will be governed by the adjustment of the set-screws S, as above described.

At or near the free end of the slide F a sleeve or extension, F', is secured, which projects over the upper edge of the base-plate C, through a notch, *a'*, formed therein. Within this sleeve or extension the type-moving device G is mounted, and comprises two parallel arms, *g*, which are connected at their rear ends by a cross-bar, *g'*, which is provided with an angular lip or rib, *g²*, which is rounded or curved in cross section and fits in a notch, *i*, formed in the upper end of an oscillating bar or plate, I, which is arranged in a vertical position and pivoted or fulcrumed at *i'* in an angular bracket-arm or fulcrum-plate, *i''*, secured to the plate C.

The free ends of the parallel arms *g* of the type-moving device are beveled or inclined to adapt them to take snugly around the type-line on opposite sides thereof, and the arms are spaced apart, so that the intervening opening is equal to the width of the two rows of type, which comprise one address; but it is obvious that the arms can be held apart a shorter distance to enable a single line of type to enter between them. When the arms are arranged to receive two lines of type at one time, we employ a supplemental spring actuated arm, J, which is of the width equal to the size of the type, and this arm J is arranged in contact with one of the arms *g*, and thus held from contact with the other arm, and provides a space between the arm J and one of the arms *g* to receive a single line of type. This arrangement adapts the type-moving device to engage a type line for a single address; but when the type-moving device encounters a double-line address of type the arm J is forced inwardly to permit the arms *g* to straddle the type very snugly and carry it and the galley B beneath the platen H. The rear end of the auxiliary arm is reduced to form a shoulder, *j*, and the reduced end of the arm passes through and is free to slide in an opening in the cross bar *g'*, while a coiled spring, *g³*, encircles the reduced end of the arm, one end of the spring bearing against the bar *g'* and the other against the shoulder *j* to normally force the auxiliary arm outwardly, so that its outer end is flush with the free ends of the arms *g*. It will thus be seen that the galley is fed forward the same distance with every stroke of the sliding bar F, so as to always bring the type into proper position.

The oscillating plate or bar I is provided with a cut-out portion, *i³*, which provides the cam-shaped shoulder *i⁴*, on which impinges the arm C', which is secured to the lower portion of the plate E. Immediately in rear of the plate or bar I, and secured to the base-plate C, is a spring, S', the free end of which engages with a projection, *i⁵*, formed in the rear side of the said plate or bar I, which is adapted to hold the arm or bar in position at either end of its movement. On the side of the bar or plate I farthest away from the plate E a spring,

5 S^2 , is secured, on the lower end of which, and resting on the front edge of the said bar, a lug, i^7 , is secured, which when in position virtually forms a part of the said bar or plate over which the arm C' rides in its upward movement. As the said arm C' descends, it pushes the lug i^7 aside without changing the position of the bar or plate I , and by this means the type-moving device is caused to remain stationary and hold the type in position until the impression is made. This prevents any possibility of the galley being thrown past the point of impression.

15 When the reciprocating plate E is forced downward, the slide F will be propelled forward by reason of the pin f riding in the slot $e^4 e^5 e^7$, as will be readily understood, and of course the type-moving device is carried forward by the slide. When the plate E is at the lowest point of its movement, the arm C' will be just below the lower end of the lug e^7 , as shown. When the plate E is moved upward, the arm C' will ride over the said lug e^7 , thereby forcing the lower end of the bar I inward, and consequently throwing its upper end outward, releasing the type-moving device from engagement with the type. As the upward movement of the plate E continues, the slide F will be returned to its initial position, carrying the type-moving device into position to engage another line of type, and the arm C' will act upon the shoulder i^4 to throw the bar I inward and cause the type-moving device to engage another line of type.

35 The machine, as shown in Fig. 1, is adapted to be operated by a system of levers, which will now be described.

40 N designates a treadle which is pivotally connected by a link, n , with a pivoted lever, O , which is provided with a series of openings, through one of which a pin, o , passes, and is adapted to pivotally connect one end of the link O' thereto, and the opposite end of this latter link is likewise adjustably connected to another lever, P , which is pivoted at one end to a depending hanger, p , and the free end thereof is normally elevated by a coiled retracting spring, P' , which is connected to the bed A , the said lever P being connected to the reciprocating carrier by a link, P^2 , so that the carrier is normally held in an elevated position for instant operation.

55 In Fig. 10 an attachment is illustrated adapted to be used in connection with machines run by power or crank and balance-wheel to change stroke of impression-arm in order to accommodate the impression to varying thicknesses of paper. The bar a^2 is pivoted in one of the standards of a suitable frame at its one end, and its other free end moves under a socket-plate, a^3 , secured to the opposite standard, the said socket-plate preventing lateral play of the bar a^2 and guiding it in its vertical movement. A crank or pulley, W , is carried by the bar a^2 , and a connecting-link, a^4 , having a series of apertures, a^5 , is secured to said crank or pulley at one end and to the reciprocating carrier

or plate E at its upper end. The said link is readily adjustable, and the length of stroke of the carrier E is governed thereby. The pulley receives its motion from a suitable motor by means of a driving-belt, (not shown,) and the carrier-plate is thereby reciprocated. The length of the stroke of the carrier can be changed by adjusting the link a^4 , as just stated, and also by raising or lowering the free end of the bar a^2 and securing it in the keeper by any convenient means, as will be readily understood.

80 In Fig. 11 a throw-off attachment is illustrated. This device is an attachment to a power-machine for the purpose of instantly arresting the movement of the galley. It will be understood that running at a rapid rate there is a liability of failing to get the papers always in position, and that in case of failure an address would be skipped, necessitating the stopping of the machine and pushing the galley back to the name or names missed. This would occasion great inconvenience and much time would be lost. In this instance the arm C' is hinged to the reciprocating carrier instead of being rigidly fastened, as heretofore described. A guide, x , is provided, which is constructed of two parallel bars supported at both ends by angular projections x' , of a length sufficient to raise and lower the guide, the said projections x' being hinged to the plate C . When in working position, it leans over and holds the point of the arm C' , which rests between the parallel bars in its proper position for actuating the rocking bar or plate I . To stop the motion of the galley, the guide x is raised by the levers 1, hinged or pivoted at the point 2, which are worked by a handle in front of the machine convenient to the operator. When the guide x is raised, the arm C' is lifted from the plate or bar I , and, though the machine continues running, the galley remains stationary until the guide is thrown back into position, when the type-moving device is again set in motion.

110 This being the construction of our invention, the operation thereof is as follows: The type carried by the galley are first inked and the galley is moved so that the type-moving device engages the first line of type. The operator now depresses the treadle to move the reciprocating carrier downwardly, and the pin f rides in the slots $e^4 e^7 e^5$ on the under side of the plate to draw the slide F and the type-moving device laterally, which brings the line of type immediately beneath the platen, which is depressed simultaneously with the lateral movement of the type-moving device and the galley, and as the newspaper, envelope, or other article to be printed is interposed by the operator between the platen and the type the impact thereon of the platen forcibly impresses it against the type to receive the impression therefrom. The foot-pressure on the treadle being released, the retracting spring elevates the reciprocating carrier and causes the parts to assume their normal position for

again feeding the galley and the type carried thereby beneath the platen. Upon the ascent of the reciprocating carrier the platen is elevated therewith out of the plane of the type, the slide and type-moving device forced away from position near the platen, and the arm C' acts on the shoulder i' of the oscillating bar or plate I to depress the upper end thereof and force the type-moving device in engagement with the succeeding type-line. The parts are now in position for operation, and when the treadle is depressed the above-described movement of the parts is repeated to transfer the addresses from the inked faces of the type to the paper, &c., that is interposed between the type and platen.

The bow-shaped arm h of the platen is arranged to one side of the reciprocating carrier to adapt the platen to lie in line with the type-moving device when the latter carries the line of type to its adjusted position, and the under face of the platen has an elastic cushion, h^3 , suitably secured thereon to deaden the blow or reduce the shock to a minimum.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The combination of the reciprocating carrier-plate having a platen formed on its upper end, a laterally-movable slide actuated by the carrier-plate, a type-moving device mounted on the upper edge of the said slide, an oscillating bar actuated by the carrier-plate and connected to the type-moving device to move the same transversely of the slide, and suitable operating mechanism, as set forth.

2. The combination of the reciprocating carrier-plate having a platen, the laterally-movable slide actuated by said carrier-plate, a type-moving device carried by said slide, a pivoted bar acting on the type-moving device, an arm projecting from the carrier-plate to actuate the pivoted bar, and suitable operating mechanism, as set forth.

3. The combination of the carrier-plate having a platen, the slide actuated by said plate and carrying a type-moving device, and a set-screw mounted in the carrier-plate to adjust the throw of the slide, as set forth.

4. The combination of the carrier-plate, the strips secured to the rear side of the same, forming a slot, the platen at the upper end of the carrier-plate, the slide having a pin engaging the slot formed on the rear side of the carrier-plate, a type-moving device carried by the slide, and suitable operating mechanism, as set forth.

5. The combination of the carrier-plate, the slide actuated thereby, the sliding type-moving device carried by the slide, the oscillating bar engaging the type-moving device and having a cam-shoulder, the arm projecting from the carrier-plate and acting on the cam-shoulder of the oscillating bar, and suitable operating mechanism, as set forth.

6. The combination of the carrier-plate, the slide actuated thereby and having a hollow extension or sleeve, the sliding type-moving device mounted in said hollow extension or sleeve, and suitable operating mechanism, as set forth.

7. The combination of the carrier-plate provided with a slot in its rear side and having its upper end curved to one side and carrying a platen, the slide having a pin engaging the slot in the rear side of the carrier-plate, the type-moving device carried by the slide, an oscillating bar for actuating the type-moving device, and suitable operating mechanism, as set forth.

8. The combination of the reciprocating carrier having the under groove, as set forth, the slide having a pin fitted in the slot, the strips e' , e^2 , and e^3 , the set-screw for securing the strip e^2 in its adjusted position, and a type-moving device carried by the slide, substantially as described.

9. The combination, with the slide having the extension, of the type-moving device having the connected arms and a spring actuated auxiliary arm intermediate of the said connected arm, substantially as described.

10. The combination, with the bed, of the base-plate having the ways, a reciprocating carrier fitted between the ways and having the slot and an arm, C', a platen having the cushioned face and supported on a standard formed with the carrier, a transversely-movable slide arranged in rear of the carrier and having a pin projecting into the slot thereof, a sliding type-moving device carried by the slide and having an auxiliary arm, and an oscillating pivoted bar having the cam-shoulders adapted to be operated upon by the arm C', and suitable operating mechanism, substantially as herein shown and described.

11. The combination, with the carrier E, of the connecting link a^4 , having a series of apertures, a^5 , the crank or pulley W, and the bar a^2 , mounted as set forth, substantially as described.

12. The herein-described carrier-plate E, having a groove, e , in its rear side and provided with the strips e' , e^2 , e^3 , the strips e' , e^3 being rigidly secured in position and the strip e^2 adjustably secured, as set forth.

13. The combination of the carrier-plate, the slide, the type-moving device, the oscillating bar I, the spring S', bearing on the rear side of said bar, the spring S², secured to the side of said bar, and the lug i' , secured to the spring S², as set forth.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in presence of two witnesses.

SEBASTIAN C. MACE.
GEORGE R. JACKSON.

Witnesses:

C. H. SNYDER,
GEO. S. HOLLIDAY.