Sept. 8, 1931. P. A. GOLLNICK ET AL 1,822,344

HAND OPERATED ADDRESSING MACHINE

Filed June 3, 1929 5 Sheets-Sheet 1

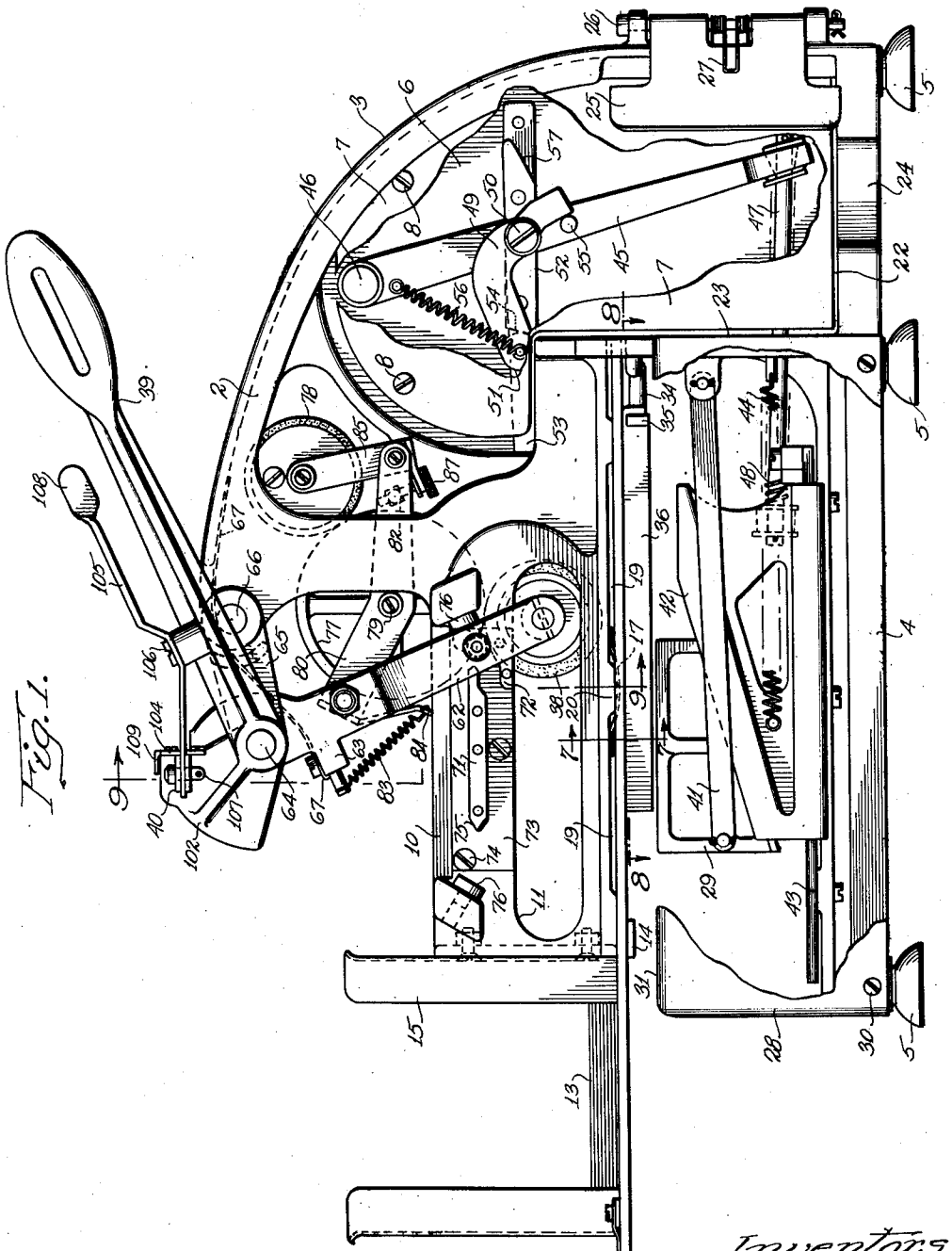


Fig. 1.

Witnesses
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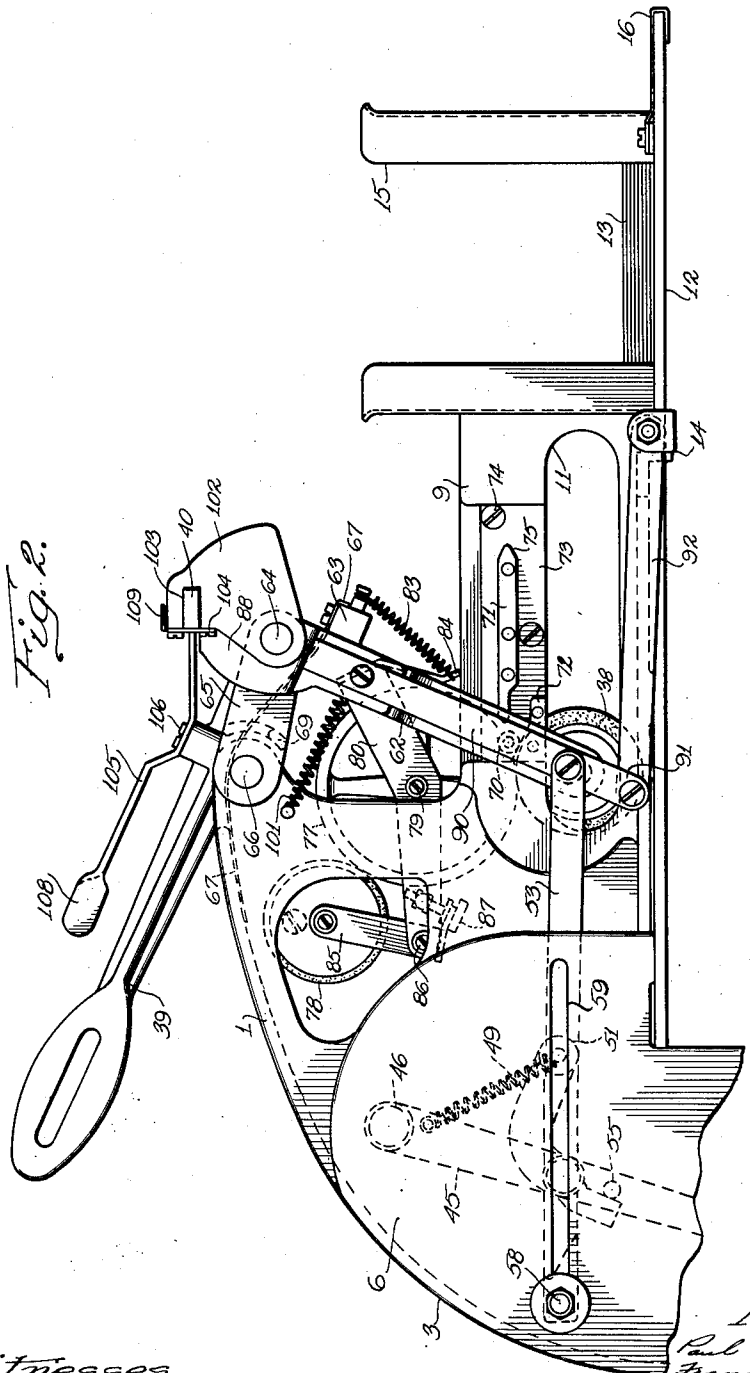
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HAND OPERATED ADDRESSING MACHINE

Filed June 3, 1929 5 Sheets-Sheet 2

Fig. 2.



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HAND OPERATED ADDRESSING MACHINE

Filed June 3, 1929 5 Sheets-Sheet 3

Fig. 3.

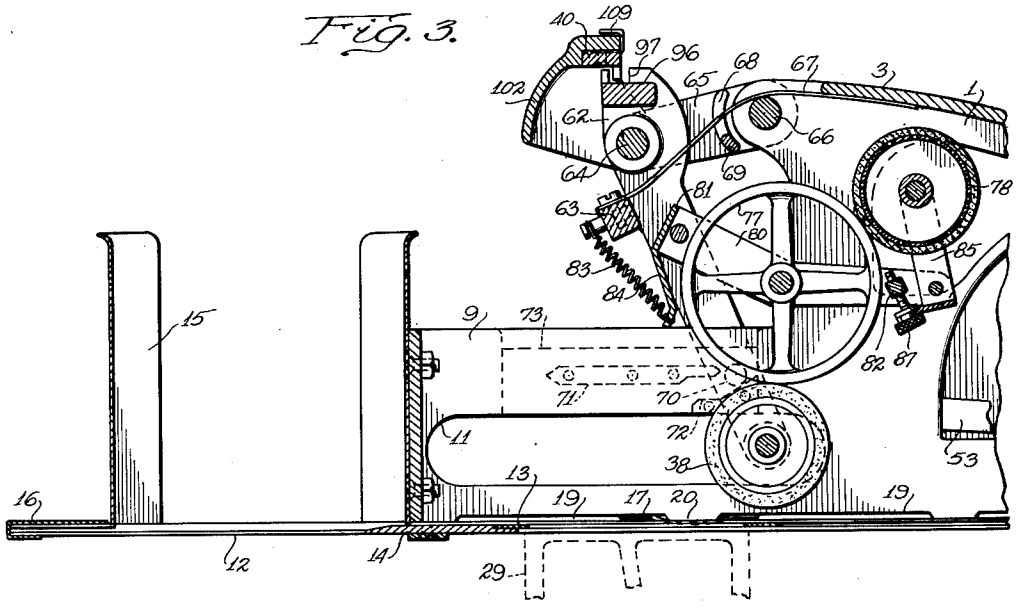
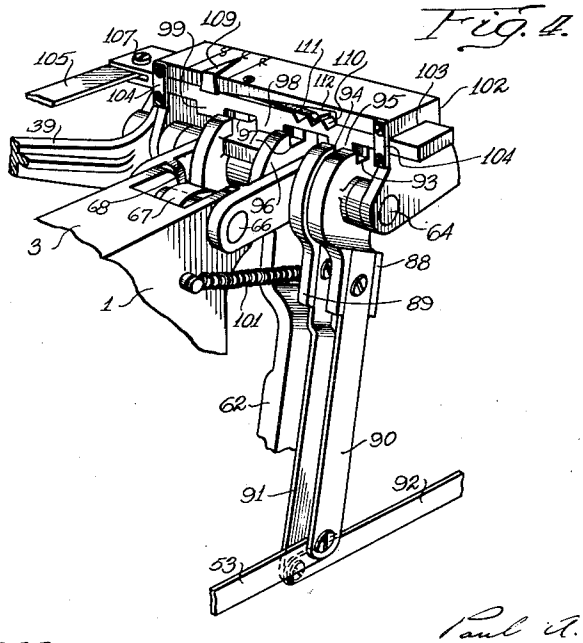


Fig. 4.



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HAND OPERATED ADDRESSING MACHINE

Filed June 3, 1929 5 Sheets-Sheet 4

Fig. 5.

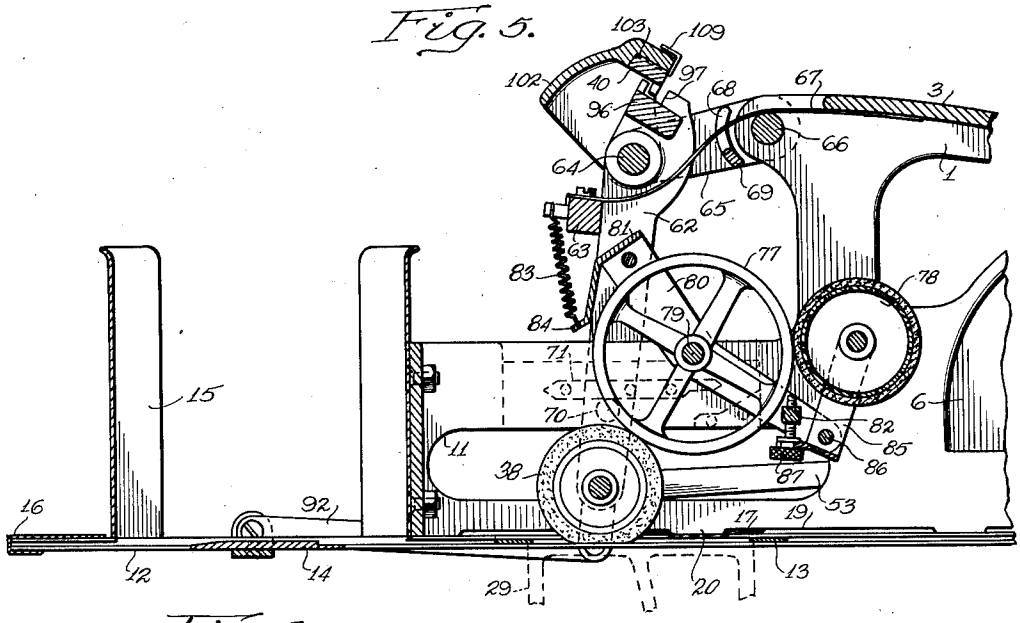


Fig. 6.

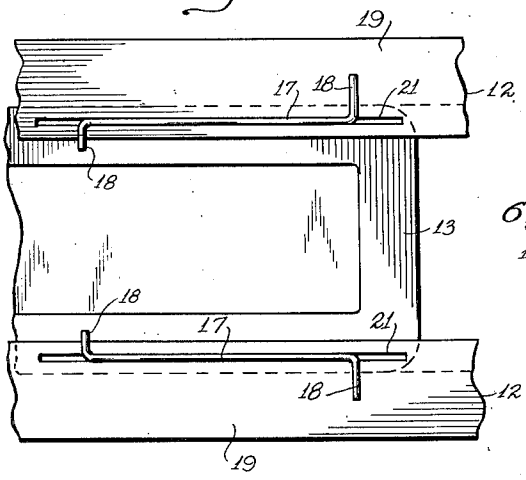


Fig. 7.

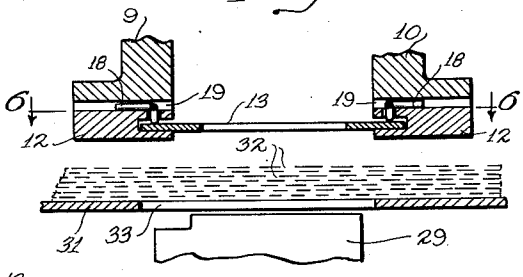
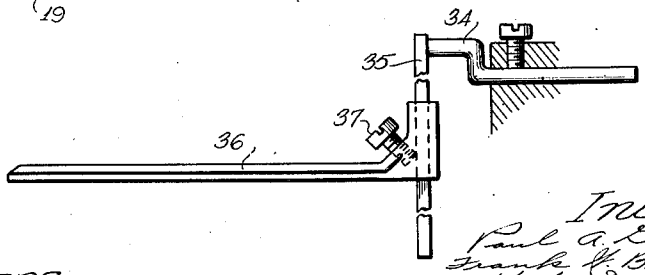


Fig. 8.



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HAND OPERATED ADDRESSING MACHINE

Filed June 3, 1929 5 Sheets-Sheet 5

Fig. 9.

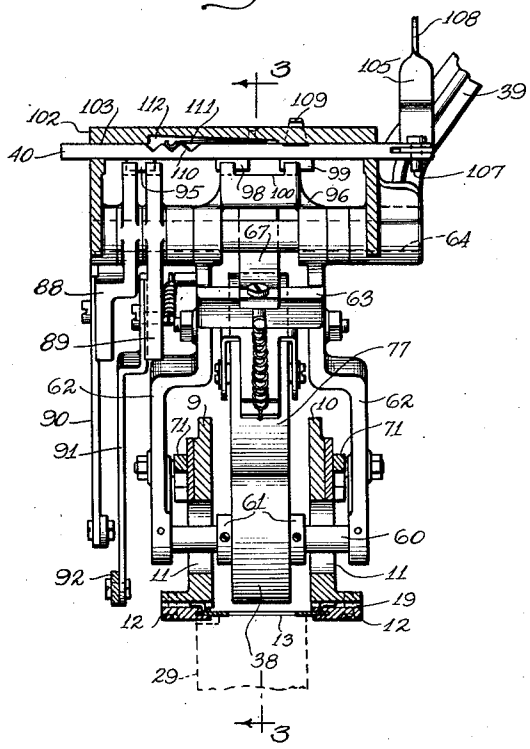


Fig. 10.

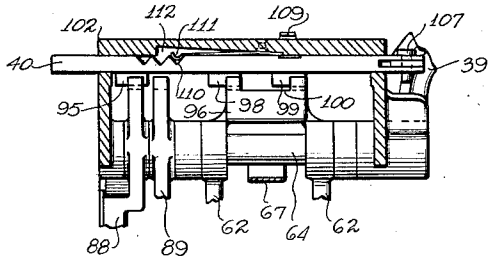
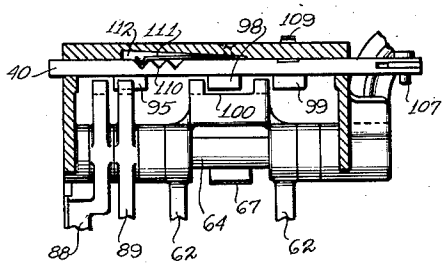


Fig. 11.



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UNITED STATES PATENT OFFICE

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HAND OPERATED ADDRESSING MACHINE

Application filed June 3, 1929. Serial No. 368,062.

This invention relates to printing devices and more particularly to addressing machines for making impressions from stencils which are fed along a guideway to a printing position where they are acted upon, one at a time, by a printing mechanism which forces ink through the stencils for impressing the envelops or other receiving sheets.

The main objects of this invention are to provide a printing mechanism for addressing machines having an improved form and arrangement of carriage for supporting the inking element and for moving it longitudinally of the stencil path; to provide improved mechanism for supplying ink to the inking element; to provide an improved addressing machine of this kind which is operable by a manually actuated handle; to provide improved transmission means for selectively connecting said handle with the stencil feeding means and with said printing mechanism so as to permit in a hand machine the operations of skipping, duplicating, and consecutive printing common in power driven machines; to provide improved transmission means of this kind adapted to be shifted into its various positions by the hand which grasps the operating handle; to provide improved means for securing the stencil against accidental slippage while being acted upon by the printing mechanism; to provide improved means for supporting the envelops or other sheets to be printed and for enclosing the platen located below the guideway; to provide a support of this kind which will permit the placing of a stack of envelops in printing position so as to enable the machine to operate at a much greater speed than is possible in machines which will receive only one envelop at a time; and to provide a hand operated addressing machine of this kind which is simple and compact.

An illustrative embodiment of this invention is shown in the accompanying drawings, wherein:—

Figure 1 is a front elevation of an improved hand operated addressing machine, portions of the casing being broken away.

Fig. 2 is a rear elevation of the upper portion of the improved machine.

Fig. 3 is a fragmentary vertical section of the printing and inking mechanisms, the view being taken on the line 3—3 of Fig. 9.

Fig. 4 is a perspective of a portion of the machine showing the improved selective transmission means.

Fig. 5 is a sectional view similar to Fig. 3, but showing the printing mechanism in a changed position with the inking roller in contact with a stencil.

Fig. 6 is a fragmentary horizontal section of the stencil guideway showing the friction means for securing the stencil against slippage, the view being taken on the line 6—6 of Fig. 7.

Fig. 7 is a fragmentary vertical section taken on the line 7—7 of Fig. 1.

Fig. 8 is a horizontal section of the envelop guide, the view being taken on the line 8—8 of Fig. 1.

Fig. 9 is a vertical section, taken on the line 9—9 of Fig. 1, and showing the transmission member in position to impart movement to the stencil feeding means and the printing mechanism for consecutive printing.

Fig. 10 is a fragmentary view, similar to Fig. 9, but showing the transmission member in changed position for actuating only the printing mechanism to effect "duplication".

Fig. 11 is a view similar to Fig. 10 but showing the transmission member in position for actuating only the stencil feeding means to effect "skipping".

In the embodiment illustrated, the invention is applied to a hand operated machine comprising a frame having a horizontal guideway along which the stencils are fed step-by-step to a printing position where they coact, one at a time, with an improved printing mechanism for impressing envelops stacked below the guideway. The stencil feeding means and the printing mechanism are selectively actuated by a manually operable handle, to which they may be connected by an improved selective transmission member.

The frame of the machine is preferably a casting comprising spaced rear and front wall sections 1 and 2, respectively, connected together by a curved end wall 3 and being in-

tegrally formed on a base 4 provided with suitable feet 5.

The rear wall 1 has a rearwardly projecting portion forming a housing 6 for the platen actuating means hereinafter described. Extending across the front of the housing 6, is a plate 7, which is secured to the rear wall by screws 8, or other suitable fastening means, which will permit removal of the plate for access to the parts located within the housing.

The wall sections 1 and 2 have lateral extensions 9 and 10, respectively, which are provided with longitudinally extending slots 11 for receiving part of the printing mechanism. Located directly below the wall extensions 9 and 10, is a pair of horizontal rails 12 forming a guideway for supporting stencils 13, which are fed intermittently by a reciprocable pusher 14 located directly below an upright delivery magazine 15 mounted at one end of the guideway. The extremity of the guideway adjacent the delivery magazine is closed by a cross bar 16.

In order to secure the stencil against slippage while it is acted upon by the printing mechanism, improved means is provided for frictionally gripping each stencil in the printing position.

In the form shown, the improved stencil gripping means comprises a pair of wire springs 17, having their ends 18, bent at right angles thereto and extending in respectively opposite directions, as shown in Fig. 6. To prevent turning of the springs, the ends 18 are seated in recesses 19 formed in the lower edges of the wall extensions 9 and 10. The central portions of the springs are flexed downwardly around lugs 20 formed in the members 9 and 10, so as to cause the springs to extend downwardly through slots 21, formed in the guide rails 12, for frictionally engaging the stencil frames, as shown in Fig. 7.

At the outlet end of the stencil guideway, is a receiving hopper 22, located below the plane of the guideway for receiving the used stencils. The hopper 22 is defined by the rear plate 7, end wall 3, base 4 and an end wall 23. The base 4 has a recess 24 directly below the hopper to permit the insertion of the operator's fingers below the stack of stencils to facilitate removal of the stencils. The hopper 22 has a front gate 25 hinged to the end wall 3 by a pin 26 and normally urged into closed position by a spring 27.

Mounted on the base 4, directly below the stencil guideway, is a hood 28 forming a housing for a vertically movable platen 29. The hood is detachably secured to the base by screws 30, permitting convenient access to the platen.

The top of the hood 28 is spaced from the stencil guideway and forms a table 31 for supporting a stack of envelops 32, or other sheets, in the printing position. An opening 33 in the table 31 permits the platen to move upwardly into engagement with the envelops.

Mounted on the frame of the machine, is a bracket 34 having a horizontal guide rail 35 on which is slidably mounted an envelop guide 36 adapted to engage the rear edge of the envelop for retaining the envelop in proper position for printing. The guide 36 is adjustably secured to the rail 35 by a set screw 37.

In the construction shown, the printing mechanism, which coacts with the stencils for making the impressions, includes the platen 29, below the stencil guideway and an inking roller 38 located above the guideway and movable longitudinally of the stencil path. The stencil feeding pusher 14 and the printing elements 29 and 38 are adapted to be selectively connected with a manually operable handle 39 by means of a selective transmission member 40.

In the form illustrated, the platen 29 is substantially the same as that described and claimed in the copending application Serial No. 320,110, filed November 17, 1928. The platen 29 is guided in its vertical movement by a link 41 having one end thereof pivotally secured to the frame and having its other end pivotally secured to the platen. The link 41 permits vertical movement of the platen but secures it against appreciable endwise movement during the operation of a wedge 42 on which the platen is supported.

The wedge 42 is mounted on a guideway 43 and it is shaped so that, when it is reciprocated horizontally, the platen reciprocates vertically. The wedge 42 is normally retracted by means of a spring 44 so as to permit the platen to move downwardly by gravity. One end of the spring is secured to the wedge and its other end is secured to the machine frame.

In the form shown, the means for actuating the wedge, includes a lever 45 hinged to the rear wall 1 by a pin 46. The lower end of the lever 45 loosely embraces a rod 47 which is connected to the wedge and which supports a helical spring 48 forming a yielding connection between the wedge and the lever 45 so as to permit a variable stroke of the platen.

The lever 45 carries a detent 49 which is hinged on a pin 50. Mounted on the outer end of the detent, is a roller 51 which is adapted to engage a cam 52 mounted on a horizontally reciprocable bar 53. One end of the cam 52 provides a shoulder 54, which is adapted to engage the roller 51 for actuating the lever 45 to elevate the platen when the bar 53 is shifted under the action of the handle 39, as hereinafter described.

Formed on the lever 45, is a stop pin 55, against which the lower end of the detent is urged by means of a spring 56 for positioning

the roller 51 in the path of the cam 52 during a certain portion of the latter's stroke. Formed on the inner end of the cam, is an inclined shoulder 57 which is adapted to engage the roller 51 upon the return stroke of the bar 53, thereby moving the detent downwardly to permit the roller 51 to ride along the lower edge of the cam 52. When the arm 53 reaches the limit of its return stroke, the spring 56 raises the roller 51 again into the path of the shoulder 54.

Mounted on the rear end of the bar 53, is a pin 58 which rides in a horizontal guide slot 59 formed in the rear wall 1.

In the specific construction illustrated, the inking roller 38 is located between the walls 9 and 10 and is journaled on a shaft 60, which is supported on the lower end of an oscillating carriage. The shaft 60 is disposed transversely of the stencil guideway and its ends project outwardly through the slots 11. Mounted on the shaft, are collars 61 for securing the inking roller against axial shifting.

In the construction shown, the oscillating carriage, which supports the inking roller, is in the form of a yoke comprising a pair of arms 62 and an integral cross bar 63. The upper ends of the arms 62 are hinged to a pin 64, which is carried by an oscillating bearing member 65 hinged to the frame by a pin 66 supported in the walls 1 and 2. With this improved construction and arrangement of parts, the pivotal axis of the inking roller carriage is shiftable vertically for moving the roller into and out of contact with the stencils.

The inking roller carriage is normally elevated, for raising the roller, by means of a leaf spring 67, which is flexed over the hinge pin 66. The rear end of the spring bears against the lower face of the wall 3 and its forward end is secured to the cross bar 63. The central portion of the spring extends through a recess 68 formed in a cross brace 69 integrally formed on the member 65.

Mounted on the carriage arms 62, are rollers 70 adapted to ride between guide tracks 71 and 72 upon the effective stroke of the carriage for positioning the inking roller in contact with the stencil.

In the form shown, the tracks 71 and 72 are supported on plates 73, which are rigidly secured to the outer faces of the walls 9 and 10 by screws 74. The forward etxremities of the tracks 71 are tapered, as shown at 75, for guiding the rollers 70 onto the upper edges of the tracks 71 during the return stroke of the carriage. A pair of buffers 76 are mounted on the wall part 10 for engagement with the arms 62 to limit the stroke of the carriage.

Ink is supplied to the inking roller by an improved inking mechanism located between the walls 1 and 2 and comprising a transfer roller 77 and a supply roller 78. The transfer roller 77 is journaled on a shaft 79 supported in a yoke shaped bearing member having substantially parallel arms 80 hinged on the arms 62 and secured to cross bars 81 and 82.

The transfer roller 77 is yieldingly urged into contact with the inking roller by a spring 83. One end of the spring 83 is secured to the cross bar 63 and its other end is secured to a lug 84 formed on the cross bar 81.

The supply roller 78 is journaled in a yoke 85, which is hinged to the arms 80 by a pin 86. Supported on the base of the yoke 85, is an adjusting screw 87, which has threaded engagement with the bar 82 for shifting the yoke 85 to vary the pressure between the inking rollers 77 and 78.

Also hinged on the pin 64, is a pair of levers 88 and 89, which support arms 90 and 91 for actuating, respectively, the platen 29 and stencil pusher 14. The lower end of the arm 90 is pivotally connected to the bar 53 and the lower end of the arm 91 is pivotally connected to a link 92, which is hinged to the pusher 14. The upper ends of the levers 88 and 89 are notched to provide recesses 93 and 94 respectively for receiving a lug 95 formed on the transmission member 40.

Formed on the upper end of the inking roller carriage, is a bearing part 96, which is notched to provide recesses 97 for receiving lugs 98 and 99 formed on the transmission member 40. Located between the recesses 97, is an opening 100 which is of greater width than either of the lugs 98 and 99, as shown in Fig. 11. The inking roller carriage is normally retracted to its initial position by a spring 101, which is connected to the rear wall 1 and to one of the arms 62.

In the form shown, the operating handle 39 extends longitudinally of the stencil guideway and has an integral bearing member 102, which is hinged on the pin 64. Formed in the upper part of the bearing member 102, is a guideway 103, which slidably supports the transmission bar 40. Straps 104 are detachably secured to the bearing member 102 for slidably engaging one edge of the transmission member.

The transmission member 40 comprises a bar, which is shiftable axially in the guideway 103, for moving its lugs into position to selectively connect the operating handle 39 with the levers 88 and 89 and with the bearing part 96 of the oscillating carriage. The transmission member 40 is actuated by a lever 105 pivotally secured to the handle 39 by a pin 106. One end of the lever 105 is pivotally secured to the transmission bar 40 by a pin 107 and its other end has a finger grip 108 located in position to be actuated by the hand which grasps the handle 39.

Mounted on the transmission bar 40, is an indicator 109, which is adapted to register with any one of three lines on the top face of

the bearing member 102. These lines may be marked S, C and R, respectively, to indicate "Skipping", "Consecutive Printing" and "Repeat". Formed in the upper face of the transmission bar, are three notches 110 adapted to receive the free end of a resilient finger 111 which is supported in a recess 112 formed in the bearing member 102. The finger 111 secures the transmission bar against accidental shifting.

In operation, a stack of stencils is placed in the magazine 15 and a stack of envelops is placed on the table 31 below the guideway. The lever 105 is then shifted for moving the transmission bar until the indicator 109 registers with the line "S". In this latter position, the lug 95 is located in the notch 94 in position to actuate the lever 89, as illustrated in Fig. 11. When the parts occupy the positions shown in Fig. 11, a downward pressure on the handle 39 causes the transmission bar 40 to actuate merely the arm 91 which moves the stencil pusher 14 to the outer limit of its stroke for engagement with the bottom stencil in the magazine 15. Upon the return stroke of the handle 39, the arm 91 is retracted and the pusher 14 shifts the bottom stencil from the magazine toward printing position.

During the "skipping" operation, the notch 100 permits the lug 98 to move back and forth without effecting any movement of the inking roller carriage.

If it is desired to make one impression from every stencil, the lever 105, is shifted for moving the transmission bar until the indicator 109 registers with the line "C". In this latter position, the lug 95 is located in the notches 93 and 94 and the lugs 98 and 99 are located in the notches 97, as illustrated in Fig. 9.

When the parts occupy the positions shown in Fig. 9, a downward pressure on the handle 39 causes the transmission bar 40 to actuate the carriage arms 62, which support the inking roller, and to also actuate the levers 88 and 89. The downward pressure of the hand on the handle 39 causes the bearing member 65 to rock downwardly around its hinge 66, thereby shifting the carriage arms 62 downwardly, so as to bring the rollers 70 into engagement with the tracks 71 and 72. The rollers 70 then ride along the lower edges of the tracks 71 for positioning the inking roller 38 in rolling contact with the stencil.

During the printing stroke of the roller 38, the pusher 14 moves outwardly and the stencil in printing position is secured against slippage by the springs 17. During the printing stroke, the bar 53 is shifted toward the magazine 15, thereby rocking the lever 45 for pushing the wedge 42 into position to elevate the platen 29.

At the end of the printing stroke, when the pressure of the hand on the handle 39 is released, the spring 67 lifts the arms 62 for raising the rollers 70 over the ends 75 of the tracks 71. When the handle 39 is raised, the rollers 70 ride along the upper edge of the tracks 71 and the roller 38 is returned to its initial position out of contact with the stencils. During the return stroke of the inking roller, the pusher 14 moves toward printing position for feeding another stencil from the magazine 15 and for simultaneously feeding the stencils on the guideway one step toward the receiving hopper 22.

When the bar 53 reaches the forward limit of its operative stroke, the roller 51 slips over the top edge of the shoulder 54, so as to permit the spring 48 to retract the arm 45. Then, upon the return stroke of the bar 53, the inclined edge 57 of the cam 52 forces the detent 49 downwardly to permit the lower edge of the cam 52 to ride over the roller 51 as more fully described in said co-pending application Serial No. 320,110.

When duplication of impressions is desired as, for instance, when it is necessary to print the same name and address on more than one sheet, the transmission bar is shifted to the position shown in Fig. 10. In this position, the indicator 109 registers with the line "R". When the parts occupy the positions shown in Fig. 10, the inking roller carriage and the platen are actuated in the same manner as hereinbefore described with regard to consecutive printing but the lug 95 does not engage the lever 89 and, therefore, the stencil pusher remains idle.

In operating this improved addressing machine, the handle 39 is grasped with one hand and with the other hand the operator removes the top envelop from the stack after each impression.

Although but one specific embodiment of this invention has been herein shown and described, it will be understood that numerous details of the construction shown may be altered or omitted without departing from the spirit of this invention as defined by the following claims.

We claim:

1. A printing device comprising a guideway for stencils, means for intermittently feeding the stencils along said guideway, an ink applying roller movable longitudinally of said guideway, means normally lifting said roller away from said guideway, a track for positioning said roller in contact with a stencil during the movement of said roller in one direction, said track forming an obstruction for securing said roller against contact with a stencil upon the movement of said roller in the opposite direction, and an operating element for actuating said roller.

2. A hand operated addressing machine comprising a frame, a horizontal guideway on said frame for stencils, means for intermittently feeding the stencils along said

guideway, an oscillating carriage on said frame, an ink applying roller supported on said carriage and movable longitudinally of said guideway for contact with a stencil, the pivotal axis of said carriage being shiftable vertically for moving said roller into and out of contact with the stencils, and a handle for oscillating said carriage.

3. A hand operated addressing machine comprising a frame, a horizontal guideway on said frame for stencils, means for intermittently feeding the stencils along said guideway, an oscillating carriage on said frame, an ink applying roller supported on said carriage and movable longitudinally of said guideway for contact with a stencil, the pivotal axis of said carriage being shiftable vertically, a spring normally urging said carriage upwardly to lift said roller away from said guideway, and a manually operable handle adapted to oscillate and lower said carriage for positioning said roller in contact with a stencil.

4. A hand operated addressing machine comprising a frame, a horizontal guideway on said frame for stencils, means for intermittently feeding the stencils along said guideway, a bearing member hinged on said frame, an oscillating carriage pivotally supported on said member, a roller supported on said carriage and movable longitudinally of said guideway for contact with a stencil, the pivotal axis of said carriage being shiftable vertically for moving said roller into and out of contact with the stencils, and a handle for oscillating said carriage.

5. A hand operated addressing machine comprising a frame, a horizontal guideway on said frame for stencils, means for intermittently feeding the stencils along said guideway, a bearing member hinged on said frame, an oscillating carriage pivotally supported on said member, an inking roller supported on said carriage and movable longitudinally of said guideway for contact with a stencil, the pivotal axis of said carriage being shiftable vertically, a track adapted to engage said carriage for positioning said roller in contact with a stencil during the movement of said carriage in one direction, a spring for raising said carriage upon its return stroke, and a handle for oscillating said carriage.

6. A hand operated addressing machine comprising a frame, a horizontal guideway on said frame for stencils, means for intermittently feeding the stencils along said guideway, a bearing member hinged on said frame, an oscillating carriage pivotally supported on said member, an inking roller supported on said carriage and movable longitudinally of said guideway for contact with a stencil, the pivotal axis of said carriage being shiftable vertically, a track on said frame, a part on said carriage adapted to engage said track for positioning said roller in contact with a stencil upon one stroke of said carriage, a spring for raising said carriage upon its return stroke, and a handle for oscillating said carriage.

7. A hand operated addressing machine comprising a frame, a horizontal guideway on said frame, means for intermittently feeding stencils along said guideway, a carriage on said frame, inking means mounted on said carriage for contact with a stencil, an operating handle hinged on said frame, and a selective transmission member adapted to operatively connect said handle with either one separately or both of said means.

8. A hand operated addressing machine comprising a frame, a horizontal guideway on said frame, means for intermittently feeding stencils along said guideway, a carriage on said frame, inking means mounted on said carriage for contact with a stencil, an operating handle hinged on said frame, and a selective transmission member movably mounted on said handle and adapted to operatively connect said handle with either one separately or both of said means.

9. A hand operated addressing machine comprising a frame, a horizontal guideway on said frame, means for intermittently feeding stencils along said guideway, an oscillating carriage hinged on said frame, an element mounted on said carriage for contact with the stencils, an operating handle hinged on said frame, and a selective transmission member adapted to operatively connect said handle with said feeding means or with said carriage or simultaneously with both said means and said carriage.

10. A hand operated addressing machine comprising a frame, a horizontal guideway on said frame, means for intermittently feeding stencils along said guideway, an oscillating carriage hinged on said frame, an element mounted on said carriage for contact with the stencils, an operating handle hinged on said frame, a selective transmission bar slidably mounted on said handle, and shoulders on said bar adapted to be shifted into position to transmit movement from said handle to said feeding means or to said carriage or to both said means and said carriage simultaneously.

11. A hand operated addressing machine comprising a frame, a horizontal guideway on said frame, a pusher for intermittently feeding stencils along said guideway, a lever pivoted on said frame and operatively connected with said pusher, an oscillating carriage hinged on said frame, an inking element mounted on said carriage for contact with the stencils, an operating handle hinged on said frame, a selective transmission bar slidably mounted on said handle and adapted to selectively connect said handle with said carriage and with said lever, and means on

said handle for shifting said transmission bar.

12. A hand operated addressing machine comprising a frame, a horizontal guideway on said frame, a pusher for intermittently feeding stencils along said guideway, a lever pivoted on said frame and operatively connected with said pusher, an oscillating carriage hinged on said frame, an inking element mounted on said carriage for contact with the stencils, a movable platen located below said stencil guideway, a lever pivoted on said frame and operatively connected with said platen, an operating handle hinged on said frame, and a selective transmission member for selectively connecting said handle with said carriage and with either or both of said levers.

13. A hand operated addressing machine comprising a frame, a horizontal guideway on said frame for stencils, a series of stencils, means for intermittently feeding the stencils along said guideway, an oscillating carriage on said frame, an impression roller supported on said carriage and movable longitudinally of said guideway for contact with a stencil, the pivotal axis of said carriage being shiftable vertically for moving said roller into and out of contact with the stencils, and a handle for oscillating said carriage.

Signed at Chicago this 31st day of May 1929.

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