Nov. 27, 1934. E. C. COLYER 1,982,374

PRINTING MACHINE

Filed Jan. 5, 1931 9 Sheets-Sheet 1

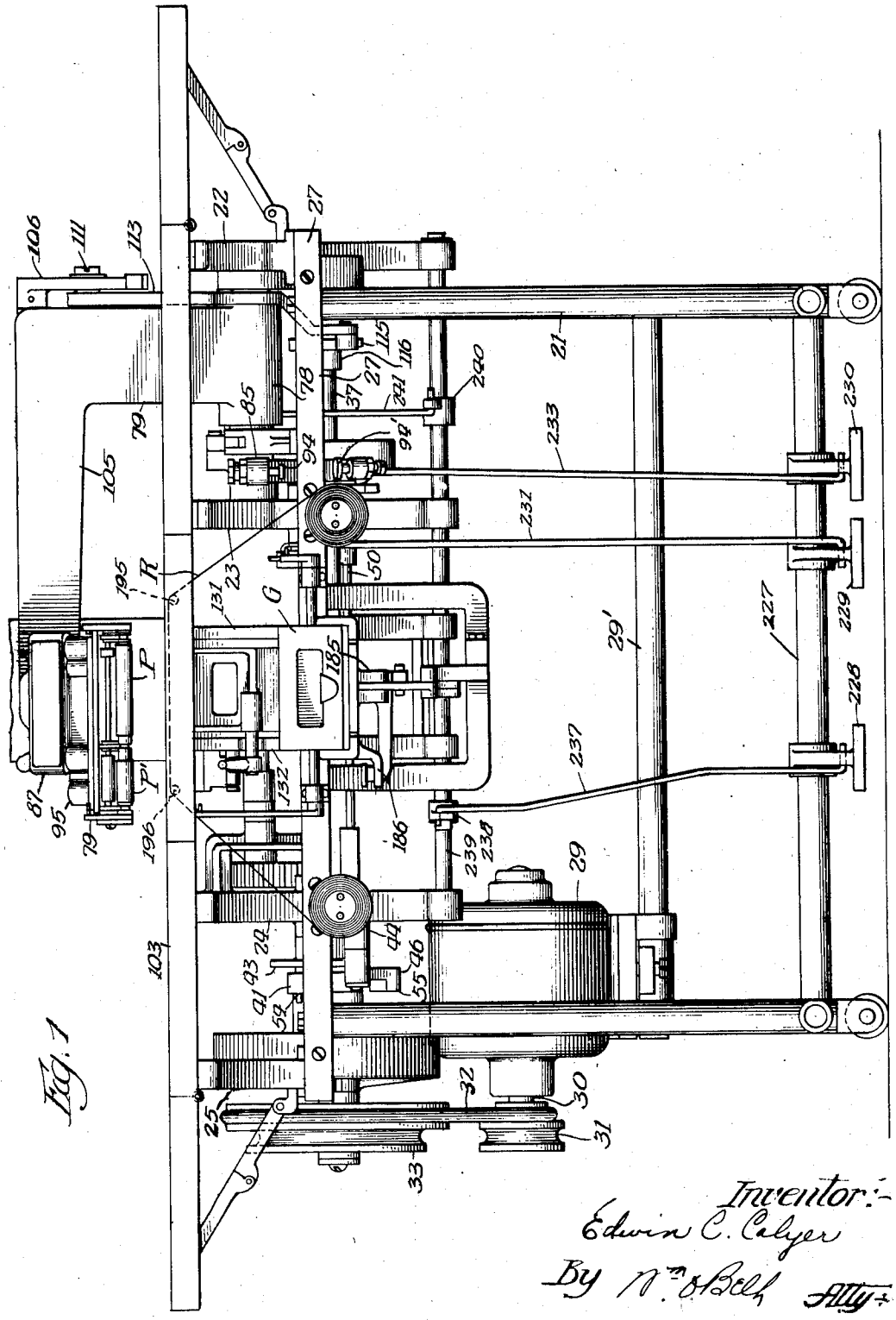


Fig. 1

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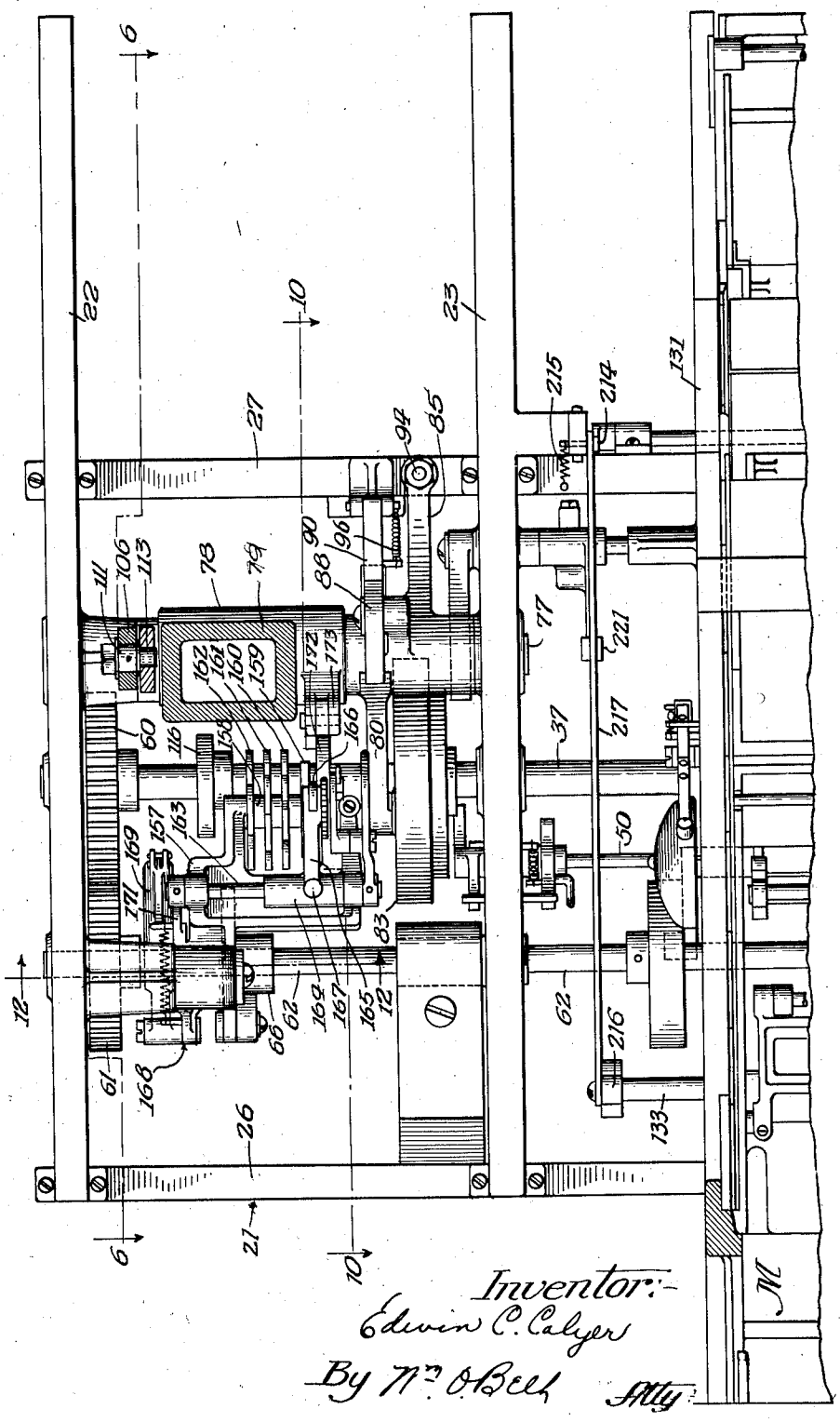


Fig. 2

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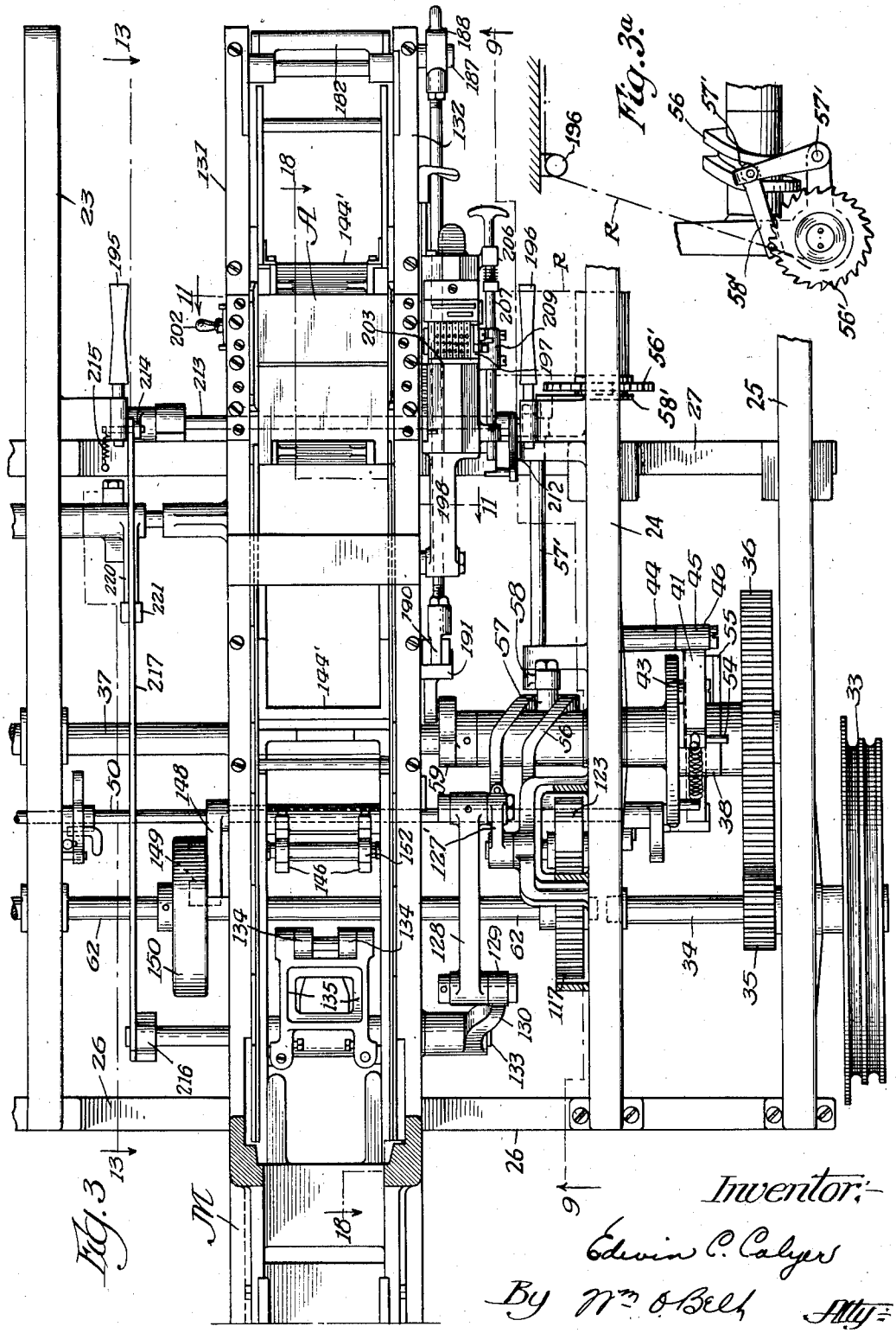


Fig. 3

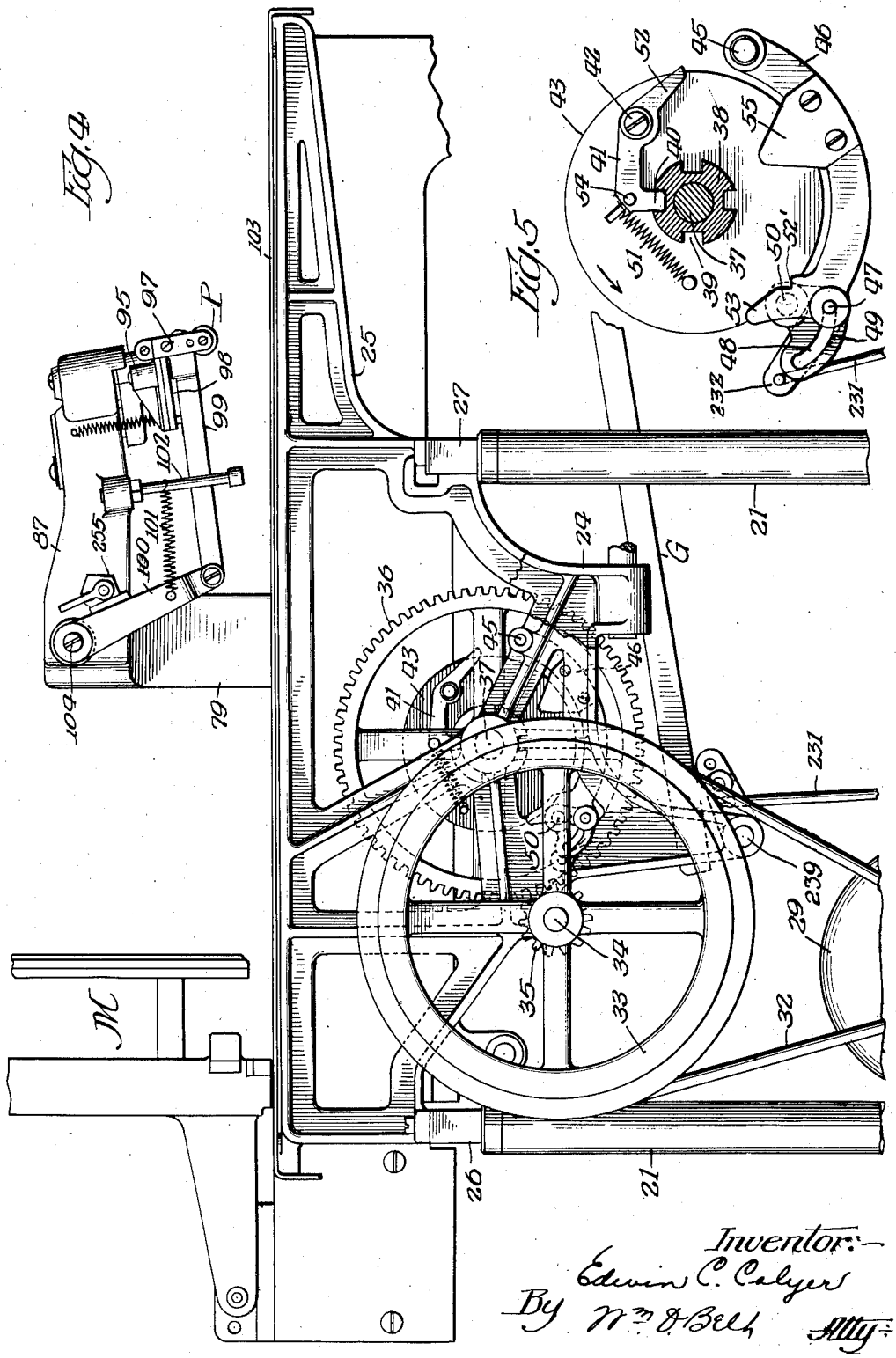
Fig. 3a

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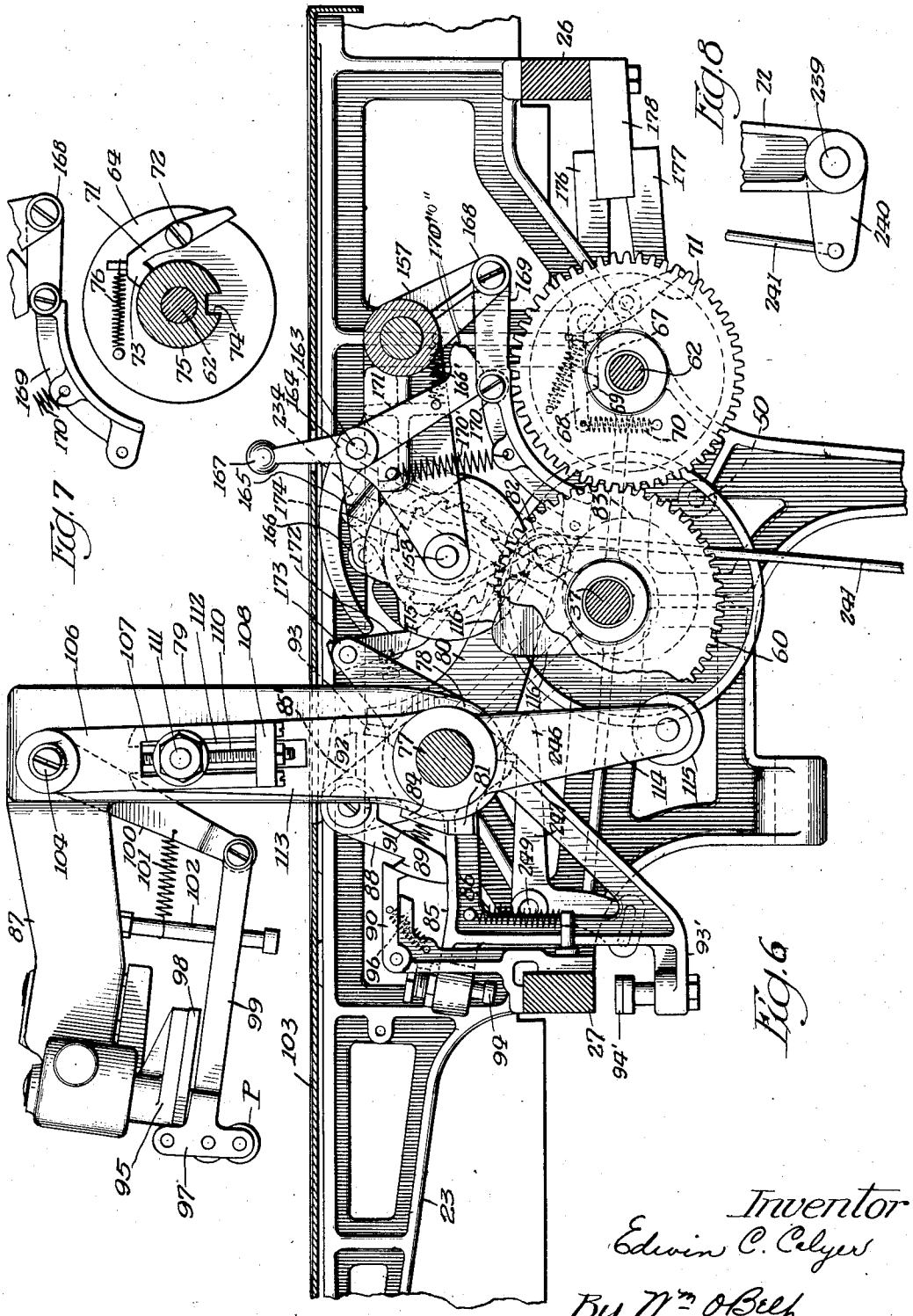


FIG. 7

FIG. 8

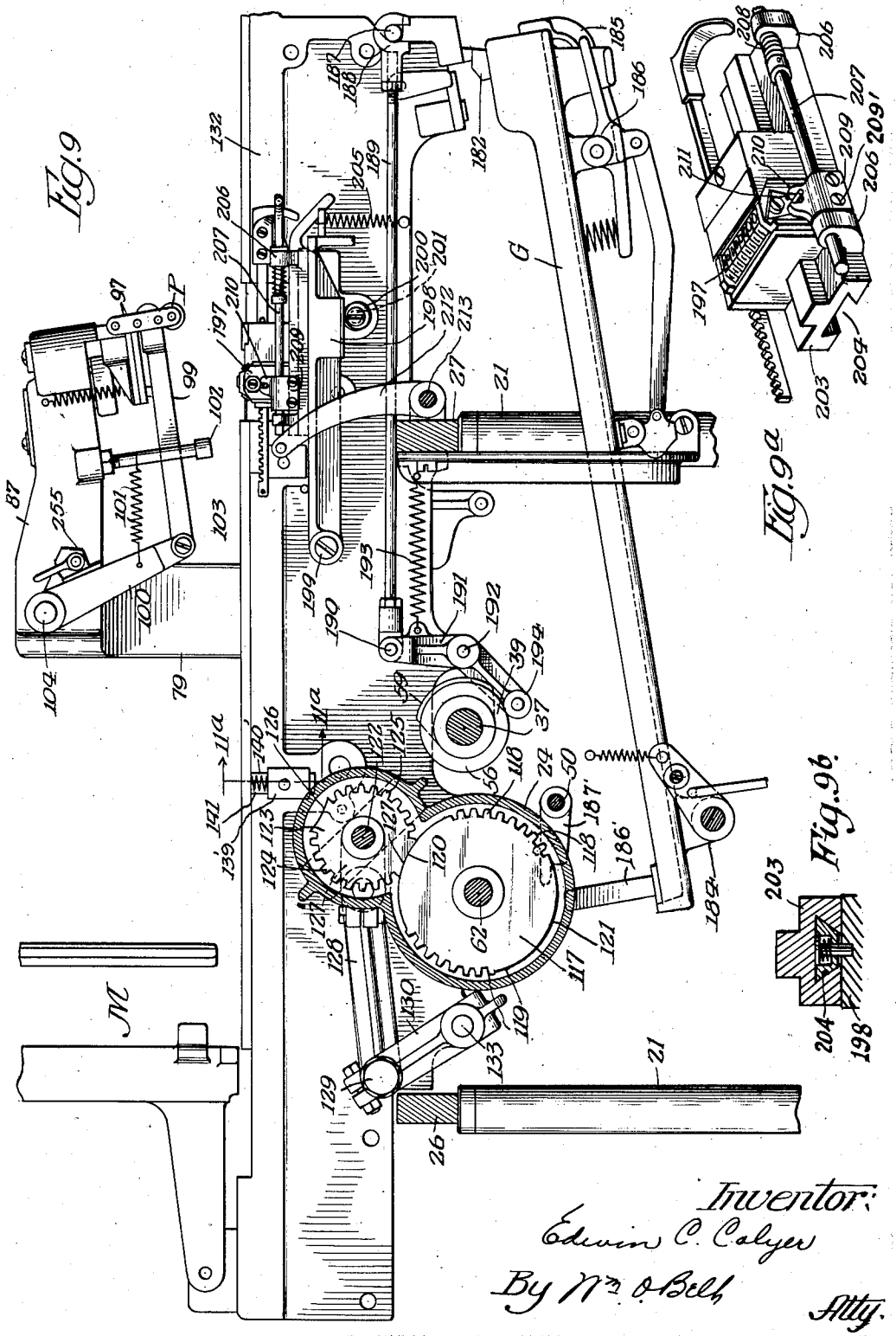
FIG. 6

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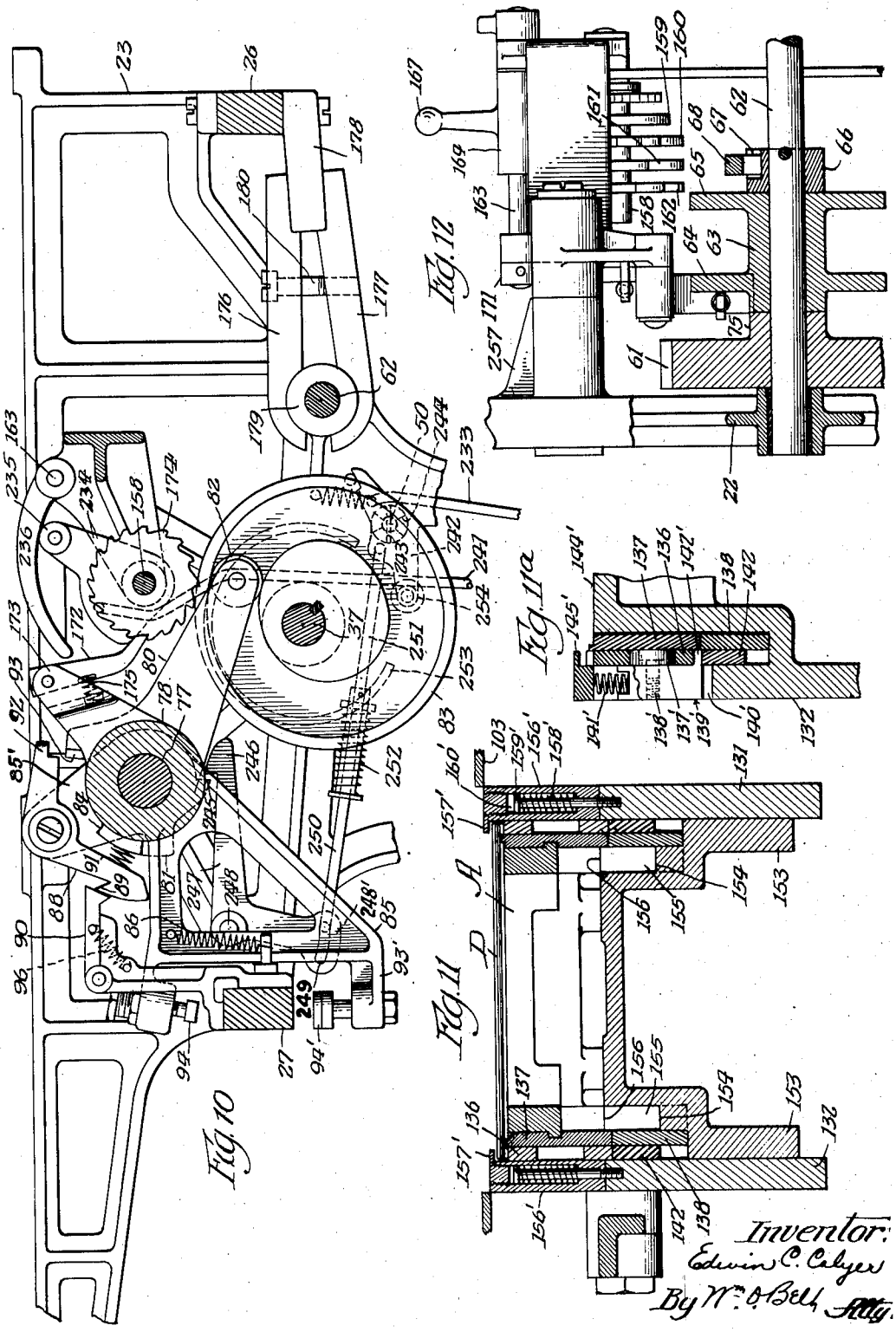


Fig. 10

Fig. 11

Fig. 11a

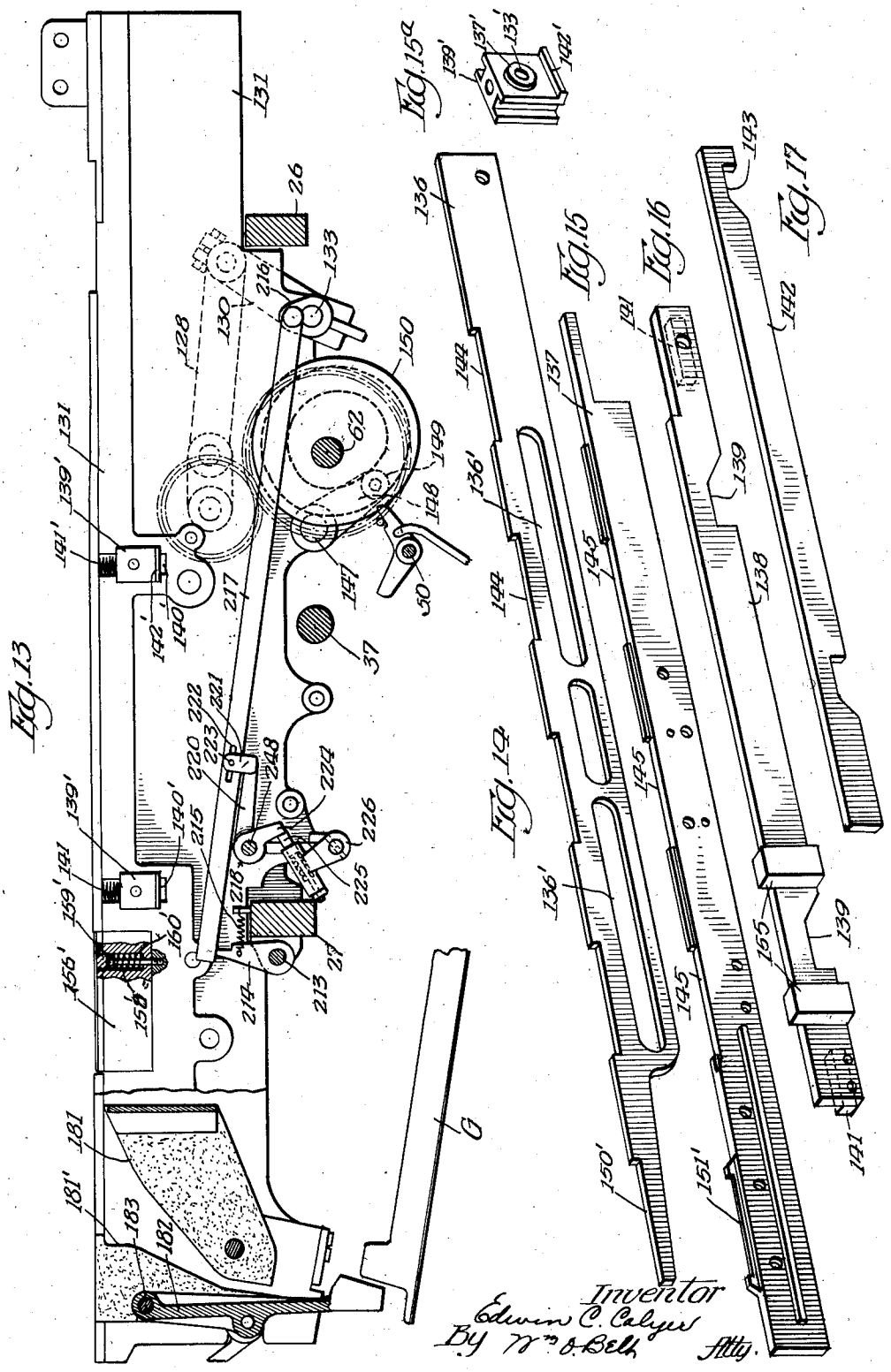
Fig. 12

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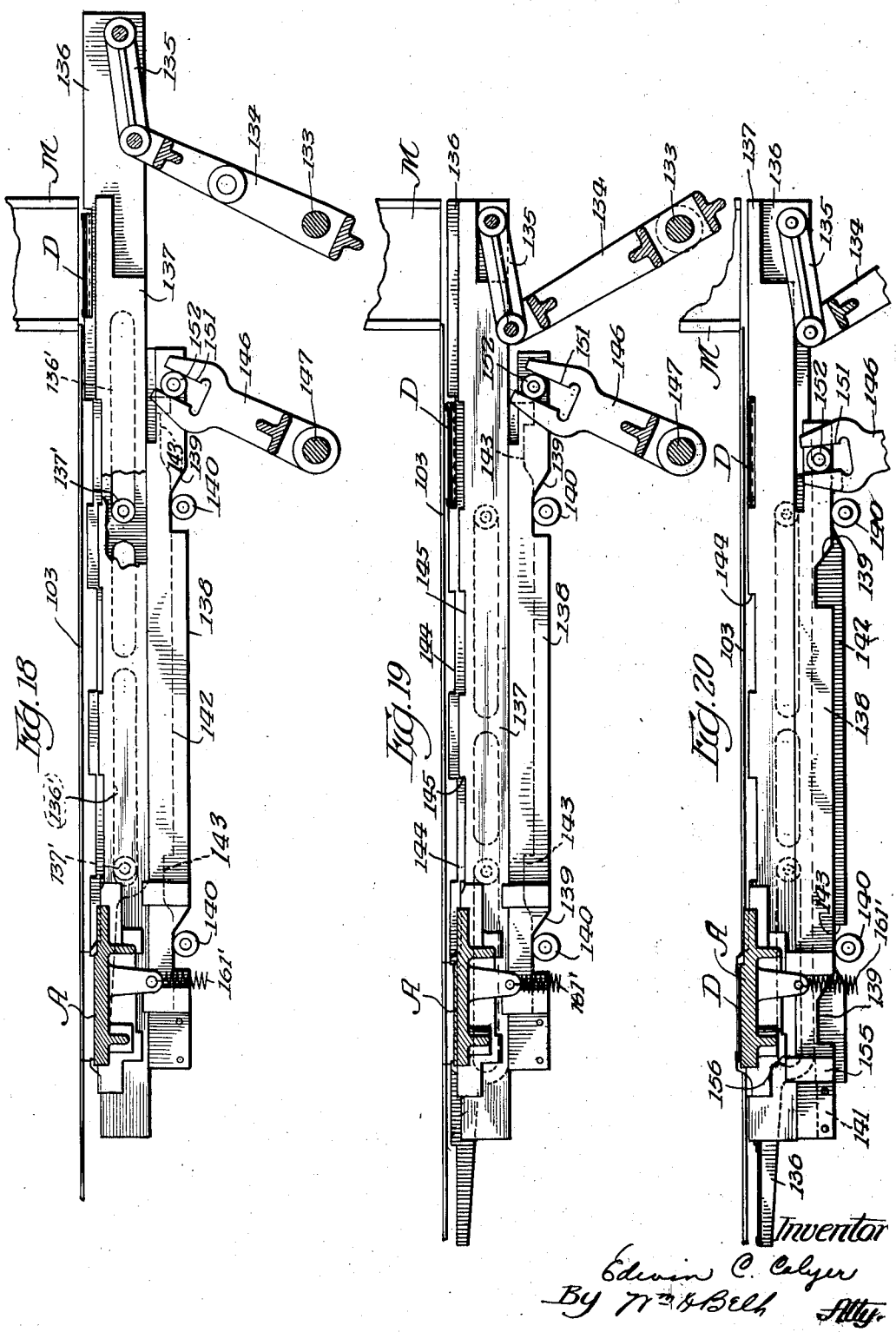
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Filed Jan. 5, 1931 9 Sheets-Sheet 9



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Patented Nov. 27, 1934 1,982,374

UNITED STATES PATENT OFFICE

1,982,374

PRINTING MACHINE

Edwin C. Colyer, Chicago, Ill., assignor to Addressograph Company, Wilmington, Del., a corporation of Delaware

Application January 5, 1931, Serial No. 506,533

84 Claims. (Cl. 101—57)

This invention relates to printing machines of the kind wherein impressions are made from printing devices sequentially passed therethrough, and the salient object is to provide a novel machine of economical construction and simple operation.

Further objects of the invention are to feed the printing devices through the machine with a step-by-step movement and to so feed the devices that jamming thereof and the like will be prevented; to so feed the printing devices that they will be held from detrimental engagement with other parts of the machine during movement thereof; to move the printing devices into and to retain them in operative position so that the work will not be distorted during an impression operation; to make impressions by an adjustable impression mechanism affording varied operation; to interconnect the driving portions with the driven portions in the machine in such a manner that these parts will separate in event of improper operation; to provide a machine embodying a novel arrangement whereby multiple impressions may be made from each of the printing devices; and to provide a novel machine which may be either automatically or manually operated.

In the selected embodiment of the invention illustrated in the accompanying drawings

Fig. 1 is a front elevational view of a machine constructed in accordance with my invention;

Fig. 2 is a fragmentary plan view of the right hand side of the machine, in which certain parts are shown in section;

Fig. 3 is a fragmentary plan view of the left hand side of the machine;

Fig. 3*a* is a fragmentary front view of the means for driving the ribbon mechanism;

Fig. 4 is a fragmentary elevation of the left hand side of the machine;

Fig. 5 is a detail view of the main control clutch;

Fig. 6 is a transverse sectional view taken substantially on the line 6—6 on Fig. 2;

Fig. 7 is a detail view of another clutch structure employed in the machine;

Fig. 8 is a fragmentary detail view;

Fig. 9 is a transverse sectional view taken substantially on the line 9—9 on Fig. 3;

Fig. 9*a* is a perspective detail view of the numbering device;

Fig. 9*b* is a sectional detail view illustrating the removable mounting for the numbering device;

Fig. 10 is a sectional detail view taken substantially on the line 10—10 on Fig. 2;

Fig. 11 is a transverse sectional view taken substantially on the line 11—11 on Fig. 3;

Fig. 11*a* is a view taken substantially on the line 11*a*—11*a* on Fig. 9;

Fig. 12 is a detail view taken substantially on the line 12—12 on Fig. 2;

Fig. 13 is a sectional view taken substantially on the line 13—13 on Fig. 3;

Figs. 14 and 15 are detail views of parts of the printing device feeding mechanism;

Fig. 15*a* is a perspective detail view of a connecting member for the feeding device mechanism;

Figs. 16 and 17 are detail views of operating members for the feeding device mechanism;

Fig. 18 is a sectional view taken substantially on the line 18—18 on Fig. 3; and

Figs. 19 and 20 are views similar to Fig. 18 showing the parts in other positions.

In the selected embodiment of the invention illustrated in the accompanying drawings 21 indicates generally the frame of the machine which includes four parallel castings 22, 23, 24, and 25 (Figs. 2 and 3) extended transversely of the machine and secured to frame members or bars 26 and 27 extended at right angles thereto. Suitably mounted on a frame brace 29′ is an electric motor 29 including a shaft 30 having a driving pulley 31 thereon and an endless belt 32 is directed therearound and also around the flywheel pulley 33 mounted on the stub shaft 34 journaled in the frame members 24 and 25. Fast on the shaft 34 is a pinion 35 meshing with a spur gear 36 rotatably mounted on the main drive shaft 37 extended transversely across the machine and journaled in the castings 22, 23, 24, and 25. The hub 38 (Figs. 3 and 5) of the gear 36 has notches 39 in the periphery thereof spaced at ninety degree intervals and engageable by the nose 40 on the pawl 41 pivotally mounted at 42 on the disc 43 fast on the shaft 37. The casting 24 includes a bracket 44 (Fig. 3) and pivotally mounted thereon at 45 is an arcuate arm 46 (Fig. 5) having a pin 47 therein extended through the cam slot 48 in the cam member 49 fast on the clutch shaft 50. In a manner to be described movement is imparted to the clutch shaft 50 whereby the cam member 49 is rotated and by reason of the eccentricity of the cam slot 48 relative to the shaft 50 the arcuate arm 46 is pivoted upwardly. The nose 40 is urged toward the periphery of the hub 38 and into the notches 39 by the spring 51 and is unseated from one of

the notches 39 by the engagement of the tail 52 of the pawl with the boss 53 on the arm 46. When the nose 40 is disposed in one of the notches 39 the disc 43 is rotated in the direction of the arrow shown in Fig. 5, and when the boss 53 is moved into the path of the tail 52 to be engaged thereby the nose is unseated from the notch, but due to the momentum of the parts, the tail 52 travels along the boss 53 and the upper surface of the arcuated arm 46 until the pin 54 (Figs. 3 and 5) engages the lobe 55 on the arm 46, the abutment of said pin against said lobe serving to stop the disc 43 and the parts operated therewith in the same position each time the machine is stopped. At the time the pin 54 engages the lobe 55, the tail 52 seats in the notch 52' in the boss 53. Thus, by reason of the engagement of the pin with the lobe and the seating of the tail in the notch, movement in both directions is prevented, the seating of the tail in the notch particularly preventing rebounding of the parts when the pin engages the lobe. When, however, the arm 46 is moved to disengage the lobe 55 from the pin 54 and the tail 52 from the arm 46, the nose 40 will seat in a notch 39 to thereby interconnect the disc 43 to the gear 36 to receive motion therefrom and consequently the shaft 37 will be rotated.

Mounted on the shaft 37 inwardly of the casting 24 is a track cam 56 (Fig. 3) and arranged therein is a roller 57 carried by the arm 58 that operates a suitable mechanism for moving the ink ribbon R. The arm 58 is mounted on a shaft 57' journaled in suitable brackets on the casting 24. This shaft extends forwardly from the arm 58 and at the forward end thereof carries a pawl 58' engageable with a ratchet 56' connected in a suitable manner with a spool on which the ribbon is to be wound. When the shaft 37 rotates, the cam 56 acts on the roller 57 to impart a rocking action to the rocker 58 which rocks the shaft 57' and therefore reciprocates the pawl 58' to impart a step-by-step movement to the ratchet 56'.

Fixed on the shaft 37 inwardly of the track cam 56 is a cam 59 (Fig. 3) which imparts movement to a packer mechanism to be described more fully hereinafter.

Fast on the shaft 37 inwardly of and adjacent the casting 22 is a spur gear 60 (Fig. 2) meshed with a spur gear 61 rotatably mounted on the shaft 62. Also rotatably mounted on the shaft 62 is a hub 63 (Fig. 12) having flange plates 64 and 65 at opposite ends thereof. Fast on the shaft 62 is a collar 66 having a notch 67 (Fig. 6) in the periphery thereof including a tapered edge. Pivotally mounted on the plate 65 is a pawl 68 (Figs. 6 and 12) having a nose 69 thereon normally held in the notch 67 by a spring 70. On the plate 64 a pawl 71 (Figs. 6 and 7) is pivotally mounted at 72 and includes a nose 73 engageable in the notch 74 on the hub 75 of the gear 61 (Figs. 7 and 12), said nose being urged into engagement with the periphery of said hub and into said notch by the spring 76. When the nose 73 is seated in the notch 74, movement is transmitted through the hub 63 and pawl 68 to collar 66 and the shaft 62 to impart rotation thereto. In event mechanisms operated by the shaft 62 fail to operate properly so as to tend to retard rotation of said shaft, the boss 69 will move up the tapered edge of the slot 67 to thereby disconnect the pawl 68 and free the shaft 62. The shaft 62 serves to operate the printing device feeding mechanism while the other mechanisms in the machine are operated from the shaft 37.

As best shown in Fig. 2, a shaft 77 is journaled in and extends between the castings 22 and 23 and fixed thereon is the bearing 78 of the platen arm 79. Freely mounted on the shaft 77 is a rocker 80 (Figs. 6 and 10) carrying at one end thereof a roller 82 disposed in the track cam 83 fast on the shaft 37. Fast on the rocker 80 is a ledge 81 engageable with a ledge 84 mounted on the arm 85 fast on shaft 77. A spring 86 extends between the rocker 85 and a pin carried by the frame and tends to pivot the arm 79 in a counter-clockwise direction as viewed in Fig. 6. When the rise on the cam 83 engages the roller 82, the ledge 81 is moved from engagement with the ledge 84 and the arm 79 and rocker 85 so pivot that the platen carrying arm 87 thereof will move downwardly. Carried by the arm 85' fast on shaft 37 is a bell crank 88 having a hook portion 89 thereon urged into engagement with a stop 90 by a spring 91. As the rocker 80 moves downwardly the hook portion 89 will disengage the stop 90 and therefore the bell crank 88 will be pivoted so that the shoulder 92 thereon will move into the path of the abutment 93 on the arm 80 and this will occur at the time the platen P carried by the arm 87 is disposed in close relationship with the printing device from which a printing impression is to be made as will be described more fully hereinafter. Immediately after the shoulder 92 has engaged the abutment 93 the spring-pressed plunger 94 carried by the arm 85 will engage the rail 27 and will tend to snub the downward movement of the arm 87 to thereby dissipate the shock attendant to the engagement of the platen P in printing position. As soon as the platen P has performed a printing operation the rise on the cam 83 will move the rocker 80 and ledge 93 out of engagement with the bell crank 91 and ledge 92 and therefore the parts will again move upwardly into the position previously described, by reason of the interengagement of the ledges 81 and 84 and during this upward movement the stop 90, which is normally urged into position by the spring 96, is pivoted out of position to permit the shoulder 89 to move thereby. Upward movement of the platen P is snubbed by engagement of the bumper 93' with the rail 27, this bumper having a pad 94' thereon made of a material having sound deadening properties, such as felt or the like.

The platen used herein is of the character known as a roller platen and is carried by a bracket 97 (Figs. 4 and 6) having rollers therein movable along trackways 98 provided on the head 95 on the arm 87. An arm 99 of the bracket 97 extends rearwardly and connected thereto is an arm 100 acted on by a spring 101 to hold the platen P in the forward position shown in Fig. 6.

The spring 101 is extended between a presser foot 102 and the arm 100. The presser foot 102 engages the table top 103 when the arm 87 moves downwardly to reduce the tendency of the arm 87 to spring, which might result in chattering operation of the platen. The arm 100 is mounted on a shaft 104 extended through the arm 105 (Fig. 1) which interconnects the arms 87 and 79. On the opposite end of the shaft 104 is an arm 106 (Fig. 6) having a bifurcation 107 therein closed by a plate 108. Extended through the plate 108 and medially through the bifurcation 107 and into the arm 106 is an adjusting screw 110 that passes through a pin 111 mounted in the bifurcation 107, and this pin also extends into a slot 112 in the arm 113 rockably mounted on

the shaft 77. Integral with the arm 113 is an arm 114 depending below the shaft 77 and carrying a roller 115 engageable with a cam 116 (Fig. 6) fast on the shaft 37. When the rise on the cam 116 engages the roller 115, the arms 113 and 114 are pivoted about the shaft 77, and the pivotal movement imparted to the arm 113 is transmitted through the pin 111 in the slot 112 therein to the arm 106 and through the shaft 104 to the arm 100 to move the platen P rearwardly in equal amounts on each operation and the utility of this arrangement will be set forth hereinafter. As best shown in Figs. 3 and 9, a gear 117 is fast on the shaft 62 adjacent and inwardly of the casting 24. This gear is of the intermittent type, that is, it is provided with sets of teeth 118 and 119, intermediate of which are pitch-line dwells 120 and 121. Mounted on the stub shaft 122 carried by the casting 24 is an intermittent gear 123 having sets of teeth 124 and 125 thereon, intermediate of which are pitch-line dwells 126 and 127. When movement is imparted to the shaft 62 to rotate the same in a clockwise direction, the teeth 118 will engage the teeth 125 and rotate the gear 123 and consequently the stub shaft 122 until the dwell 120 engages the dwell 127 when no further movement will be imparted to the gear 123 until the teeth 119 engage the teeth 124 at which time the gear 123 will again be rotated substantially one-half revolution. Therefore, it is manifest that an intermittent motion is imparted to the shaft 122. Fast on the shaft 122 is a crank 127' (Figs. 3 and 9) to which one end of a link 128 is pivotally connected and the opposite end of said link is pivotally connected at 129 to a rocker 130. The printing devices from which the impressions are made through a suitable ink ribbon R by the platen P are introduced into a magazine M arranged at the rear of the machine and extended above the table top. Arranged intermediate the castings 23 and 24 in alignment with the magazine M and below the table top are two castings 131 and 132 in which the printing device guideways are provided and through which guideways the printing devices are passed in a step-by-step manner from the magazine through printing position to a collecting galley arranged below the castings. Journaled in the castings 131 and 132 is a shaft 133 (Figs. 3, 9, and 18) on one end of which a rocker 130 is fixed. Printing devices are moved in a step-by-step manner by carrying bars 136 (Figs. 11*a*, 14 and 18), which carrying bars are arranged inwardly of each of the castings 131 and 132. In the carrying bars 136 are slots 136' in which rollers 137' are arranged. The rollers 137' are carried by studs 138', respectively mounted in the blocks 139' (Figs. 11*a*, 13 and 15*a*) slidably mounted in slots 140' in the castings 131 and 132 and normally urged downwardly by springs 141'. As best illustrated in Figs. 11*a* and 15*a*, the blocks 139' include ledges 142'. Since the carrying bars are supported by the rollers 137', it is manifest that these bars may be reciprocated horizontally and since the blocks 139' are mounted for vertical movement it is manifest that a vertical movement may be imparted to the carrying bars 136. Therefore, these bars may be moved in a rectangular orbit.

Assuming the carrying bars to be in the position illustrated in Fig. 18, movement may be imparted thereto as follows: The carrying bars will first be moved forwardly in a horizontal plane, then downwardly, then rearwardly, and then upwardly back into the position illustrated in Fig. 18, and it is this rectangular movement that imparts the step-by-step movement to the printing devices. Arranged between the castings 131 and 132 are castings 144' (Figs. 3 and 11*a*) and arranged between these castings and the carrying bars are locking bars 137 (Fig. 15) which are thereby retained in position for only vertical movement. These locking bars engage and hold the printing devices during the time the carrying bars are moving downwardly, rearwardly, and upwardly, as previously described. In order to impart an up and down movement to the locking bars and the rectangular movement to the carrying bars, I arrange below these bars so-called cam bars. Arranged below and engaging the locking bars 137 are cam bars 138 (Fig. 16) and mounted at the ends thereof on the sides disposed toward the carrying bars 136 are blocks 141. Arranged between the blocks 141 below the ledges 142' are cam bars 142 and since these bars are mounted between the blocks 141, it is manifest that these cam bars are movable horizontally with the cam bars 138. Mounted on the castings 131 and 132 at spaced intervals are rollers 140 (Fig. 18). In the cam bars 138 are cam notches or grooves 139 and arranged in the cam bars 142 are cam notches or grooves 143.

At the beginning of an operation, as shown in Fig. 18, the cam bars are so disposed that the rollers 140 engage the dwells in the cam grooves 139 and these rollers also engage the lower edges of the cam bars 142 adjacent the cam grooves 143. Therefore, the locking bars 137 are held in a downward position and the carrying bars 136 are held in an upward position. In the upper surface of the carrying bars 136 at regularly spaced intervals are recesses 144 and similar recesses 145 are provided in the upper surface of the locking bars 137. The recesses 145 are disposed at the dwell positions of the printing devices D as they move along printing device guideways provided below the track members 145' (Fig. 11*a*). When the parts are in the position illustrated in Fig. 18, the most rearward of the notches 144 are disposed below the lower end of the magazine M and when the carrying bars are moved forwardly the upper surfaces of the rear ends of said bars move into position below the magazine to prevent the printing devices therein from moving therefrom. The lowermost of the printing devices in the magazine M are manifestly moved into the rearwardmost of the recesses 144 when these recesses are disposed therebelow. Thus, when the shaft 122 is operated, the crank 127' will transmit movement through the link 128 to the rocker 130, and this movement will be transmitted to the shaft 133 through the rockers 134 and links 135, pivotally connected to the upper ends of said rockers and to the carrying bars 136, and as the rockers 134 move from the position illustrated in Fig. 18 into the position illustrated in Fig. 19 the carrying bars are moved forwardly and the printing device D that has moved into the rearwardmost of the recesses 144 will be moved forwardly to be aligned with the rearwardmost of the recesses 145. When the rockers 134 move forwardly from the position illustrated in Fig. 18 into the position illustrated in Fig. 19, movement wil be imparted to the locking bars to move the same upwardly and to the carrying bars to move the same downwardly, and this is brought about by the track cam 150 (Figs. 3 and 13) fixed on the shaft 62. When the locking bars attain their upper position, the rear ends thereof prevent the printing devices from moving

from the magazine at the time the carrying bars are lowered. Engaged in the track of the cam 150 is a roller 149 carried by an arm 148 fixed on the shaft 147 journaled in the castings 131 and 132. Fixed on the shaft 147 (Figs. 3 and 18) are rockers 146 having bifurcations 151 in the upper ends thereof. Rollers 152 mounted on the cam bars 138 are disposed in the bifurcations 151 and when the shaft 147 is actuated by the cam 150, the rockers 146 move forwardly. Therefore, the tapered portions of the cam grooves 139 will engage the rollers 140 which will cause the cam bars 138 to be moved upwardly, and the upward movement of the cam bars 138 is transmitted to the locking bars 137 that rest thereon. Thus, since the carrying bars 136 have moved forwardly to align the printing device D disposed in the rearwardmost of the recesses 144 with the rearwardmost of the recesses 145, this upward movement of the locking bars 137 will cause this printing device to be engaged in the rearwardmost recesses 145. The tapered portions of the cam grooves 143 are so disposed that, as soon as the cam bars 138 have been moved upwardly and have engaged the printing device D, the tapered surfaces thereof will move into alignment with the rollers 140 and continued forward movement of the cam bars as caused by the rockers 146 will cause the rollers 140 to enter the cam grooves 143 to thereby lower the cam bars 142 and the springs 141' will therefore expand to cause lowering of the carrying bars 136 and the cam bars 142 and thus the parts will be positioned as illustrated in Fig. 20. Immediately after this lowering of the carrying bars 136 the shaft 122 will again be actuated, for during this lowering movement dwells on the gears 117 and 123 will have been in engagement and the shaft will not have been turning, and the shaft 133 will be motivated to move the rockers 134 rearwardly and after they have moved back into the position shown in Fig. 18, the cam 150 will again actuate the shaft 147 to move the rockers 146 rearwardly. Then the above described movement will be reversed, that is, first the carrying bars 136 will be moved upwardly against the action of the springs 141' and, after these carrying bars have moved upwardly, the locking bars 137 will move downwardly. The printing device D which was moved forwardly on the previous operation of the carrying bars will be engaged in the next to the rearwardmost of the recesses 144 while the lowermost of the printing devices in the magazine will move into the rearwardmost of said recesses. Thus, when the above described operations are repeated, the first released printing device D will be moved into alignment with the next to the rearwardmost of the recesses 145 and the above described operation will be repeated and in this instance the locking bars 137 will engage and lock two printing devices. When the above described operations are again repeated, the locking bars will be engaged with three printing devices D and by referring to Fig. 15 it may be seen that these bars are provided with three recesses 145. Under certain conditions it may be desirable to provide a greater or less number of recesses but this will depend upon the space between the magazine and printing position in the machine.

If desired, openings may be provided in the table top in alignment with the two sets of recesses 145 forwardly of the rearwardmost of these recesses and these openings will preferably be closed by glass plates to thereby permit the operator to examine the printing devices prior to movement thereof into printing position, such an arrangement being shown and described in the application of Emmett C. Hartley, Serial No. 503914, filed December 22, 1930.

Upon the next operation of the carrying bars 136 the first released of the printing devices D will be moved into recesses 151' above the anvil A, which recesses are in a plane above the plane of the recesses 145. The anvil is secured to and extends between the locking bars 137 on opposite sides of the printing device guideway. The anvil A is aligned with the area through which the platen P operates and the impression is made from the printing devices carried by this anvil through the ribbon R extended thereover between the castings 131 and 132. The anvil is carried by the locking bars and the printing device is moved thereonto when the anvil is in a lower position, for the anvil moves with the locking bars and, as has been previously described, forward movement is imparted to the carrying bars when the locking bars are in a lower position. Thus, the printing devices D move onto the anvil in a position well below the plane of the ribbon R and the likelihood of these devices catching on the ribbon is thereby substantially obviated. The piece of work on which the impression is to be made rests on the table top and when acted on by the platen is forced toward the printing characters on the printing device. It is therefore advantageous to position the printing characters in the plane of the table top so that the piece of work will need not be distorted during the printing operation which will be conducive to a better impression. Therefore, the anvil A is so connected to the locking bars that when these locking bars are moved upwardly to lock the printing device during the downward, rearward, and upward movement of the carrying bars, the printing device on the anvil A will be moved into a position below the ink ribbon R in the plane of the table top, and thus when the platen operates thereon, the work rested on the table top will not be distorted.

Sufficient pressure is exerted by the platen P to make a neat impression from the device through the ink ribbon. In order that this pressure will not need be dissipated through the locking bars and the parts associated with the same, shoulders 154 (Fig. 11) are provided on the bracing member 153 disposed between the castings 131 and 132. On the cam bars 138 are blocks 155 and after the anvil has moved upwardly into its operative position, these blocks 155 move with the cam bars 138 between the shoulders 154 and the shoulders 156 on the anvil and thus the anvil is rigidly supported from the bracing member 153 and therefore the printing pressure exerted by the platen is dissipated through the castings 131 and 132 which embody sufficient rigidity to prevent springing.

In the castings 131 and 132 adjacent the anvil are openings in which blocks 156' (Figs. 11 and 13) are arranged, and these blocks include lips 157' which overhang the guideways through which the printing devices move and when the anvil is moved upwardly the edges of the printing device engage these lips and move the blocks upwardly against the action of the springs 158' arranged about studs 159' in the openings 160' in the blocks. In this way the printing devices are securely held on the anvil. When the anvil is lowered by the spring 161' (Fig. 18) after the

retraction of the blocks 155, the blocks 156' will be repositioned by the springs 158'.

It is sometimes desirable to make more than one impression from a printing device moved onto the anvil A. In my improved machine this may be done manually or automatically. Means are provided in the machine whereby a printing device moved onto the anvil may be held in printing position until duplicate, triplicate, or other multiplicate operations have been made therefrom. To this end, means are provided whereby the shaft 62, which operates the printing device feeding mechanisms, may be rendered inoperative while the platen P remains operative, and this means includes the following mechanisms: A bracket 157 (Fig. 2) carries a shaft 158 on which, in the present instance, four discs 159, 160, 161, and 162 (Figs. 2 and 12) are mounted. The disc 159 is merely a circular plate. The disc 160 is a circular plate on the periphery of which are alternately arranged lobes and depressions of equal size. The disc 161 is a circular plate having alternately arranged lobes and depressions on the periphery thereof and the lobes are twice the length of the depressions. On the periphery of the circular plate 162 alternately arranged lobes and depressions are provided and the lobes are three times the length of the depressions. These circular plates 159 to 162, inclusive, provide consecutive, duplicate, triplicate, and quadruplicate impressions, respectively, and if a greater number of impressions were desired additional discs would be provided having lobes and depressions thereon suitably arranged. In the bracket 157 a shaft 163 (Figs. 2 and 12) is journaled and keyed thereto to be slidable therealong and movable therewith is a bearing 164 including an arm 165 carrying a roller 166. A handle 167 on the bearing 164 facilitates sliding thereof along the shaft whereby the roller 166 may be aligned with any one of the discs. When the roller is aligned with the disc 159 it rides on the periphery thereof without imparting any movement to the shaft 163. When the roller 166 is aligned with the disc 160 an oscillatory movement is imparted to the shaft 163 since the roller will alternately engage equal sized lobes and depressions. And similarly when the roller is aligned with other of the discs having lobes and depressions thereon an oscillatory movement is imparted to the shaft 163 in accordance with the lobe and depression arrangement on the periphery of the disc with which the roller is engaged. Therefore, by positioning the roller in alignment with a selected disc the nature of operation of the printing device feed mechanisms is determined; that is, it is arranged to retain the printing device on the anvil for consecutive, duplicate, or other multiplicate printing operations. This is controlled by the movements imparted to the shaft 163 to which a crank 171 (Figs. 2 and 6) is secured. Pivotally mounted at 168 on the bracket 157 (Fig. 2) carried by the casting 22 is a shroud 169 and a roller 170 thereon is held against the crank 171 by the spring 170'. Thus, when the shaft 163 is moved the shroud 169 will also be moved and this shroud is movable into the path of the tail of the pawl 71. When the tail of the pawl engages the shroud, the nose 73 thereof is disengaged from the notch 74 and therefore no movement is imparted to the shaft 62. Movement is not imparted to the shaft 163, when the roller 166 is aligned with the disc 159 and the shroud 169 is held out of the path of the tail of the pawl 71 but when the roller 166 is aligned with a disc which has lobes thereon, and this roller engages a lobe, the shroud is positioned in the path of the tail and therefore on certain operations of the platen no movement will be imparted to the shaft 62 and thus the printing device feeding mechanism will be rendered inoperative and therefore the printing device on the anvil will not be moved therefrom. The roller 166 is held against the disc with which it is aligned by a spring 166'. In order that the shaft 163 will receive movement in accordance with the operations of the platen, I drive the shaft 158 carrying the discs by a pawl 172 (Figs. 6 and 10 mounted on an arm 173 on the platen bearing 78 and this pawl is held in engagement with a ratchet 174 on the shaft 158 by a spring 175. Thus upon each operation of the platen, movement will be imparted to the shaft 158 and this movement, as above described, will control the operation of the printing device feeding mechanisms in accordance with the disposition of the roller 166.

It is therefore manifest that the shaft 62 is sometimes disconnected from the mechanisms operating the same and in order to insure that said shaft will not overrun and thus destroy the timing of the parts, a drag brake is applied thereto which consists of the arms 176 and 177 (Fig. 10) carried by a plate 178 secured to the rail 26. These arms are urged into gripping engagement with a collar 179, fixed on the shaft 62, by a screw 180 which may be tightened to apply proper tension through the arms 176 and 177 onto the collar 179.

Assuming that the machine is set for consecutive operation after a printing device has moved onto the anvil in the previously described manner and an impression has been made therefrom, this printing device will be moved from the anvil upon the next operation of the carrying bars 136, this being brought about by the engaging of the recesses 150' with this printing device. As clearly illustrated in Fig. 14, there are no shoulders at the forward ends of the recesses 150' and thus the printing devices will be moved forwardly but will not be moved rearwardly and when the carrying bars have been moved rearwardly this printing device will fall by its own weight onto the printing device guiding members 181 and 181' (Fig. 13) made of fibrous material or other material having sound deadening properties. This is particularly advantageous since the printing devices are usually metallic and if these guiding members are also metallic, objectionable noise results when the printing devices fall into engagement therewith.

The upper edges of the guiding members 181 are shaped to direct the released printing devices to the packer member 182 pivotally mounted at 183 and these devices are guided by this packer member into the galley G, which is in the nature of a removable drawer, the rear end of which is supported by a bracket 184 (Fig. 9) and the forward end of which is supported by a bracket 185. A suitable manually operable latching device generally indicated by 186 is provided for holding the bracket 185 and the forward end of the galley G in the upper position illustrated in Fig. 9, whereby the packer 182 will extend thereinto and thus a printing device passing over the guide members 181 to the packer 182 will be directed into the galley G. On the packer 182 there is a stud 187 (Figs. 3 and 9) and detachably engaged therewith is a hook 188 on the outer end of the rod 189, the other end of said rod being pivotally connected at 190 to one end of the lever 191 piv-

otally mounted on the casting 132 at 192. A spring 193 acts on the lever 191 to urge the link 189 forwardly. On the lever 191 there is a roller 194 which is urged toward the cam 59 by the action of the spring 193 and thus when the cam 59 is operated with the shaft 37 a reciprocatory movement is imparted to the packer to force the printing devices D rearwardly in the galley against the action of a follower member arranged therein since the cam 159 is formed to impart a rocking movement to the lever 191.

It has been pointed out that the impressions are made through an ink ribbon R. This ink ribbon is wound upon spools shown in Fig. 1 which are respectively supported on castings 23 and 24. The ribbon extends across the front of the machine and movement is imparted to the ink ribbon through a suitable ink ribbon feeding and reversing device operated from the lever 58 (Fig. 3) which carries the roller 57 arranged in the cam groove 56. The ribbon is directed over guide pins 195 and 196 (Fig. 3) carried by brackets secured to the castings 23 and 24, respectively.

It is often desirable to provide identifying data, such as numbers on the work, and in the present instance I have provided a numbering device generally indicated by 197 (Figs. 3, 9, and 9a). This numbering device is associated with the casting 132 but it might be associated with the casting 131 and under certain conditions a numbering device might be associated with both castings. The numbering device is aligned with the anvil A and is disposed on an adjustable gib on its support so that it may be disposed in different positions relative to the anvil. The numbering device is disposed below the ink ribbon and an impression is made therefrom through the ribbon by the auxiliary platen P' associated with the main platen and aligned with the numbering device, two such auxiliary platens being provided when two numbering devices are used. The numbering device is mounted on an arm 198 (Fig. 9) pivotally mounted at 199 on the casting 132, which arm is held against a cam 200 by a spring 205 to hold the numbering device in printing position, and the cam is mounted on the shaft 201 journaled in the castings 131 and 132 and has a handle 202 thereon (Fig. 3). By rotating the shaft through manipulation of the handle, the cam may be disposed to permit the numbering device to lower out of printing position. The frame of the numbering device 197 has a dovetail slot 204 therein and a dovetail shaped strip (Fig. 9b) is yieldably held on the arm 198 by springs or the like and when disposed in the dovetail slot it clamps the frame to the arm and, if desired, a locating pin may be provided to properly position the frame on the arm. The frame is held on the arm in this manner so that it may be moved into different positions along the arm whereby the impression taken from the numbering device may be made on the sheet in different relative positions with respect to the impression taken from the adjacent printing device. The previously referred to gib is provided on the frame and the body of the numbering device is movable along this gib. In order to manually manipulate the numbering device a handle is provided on the rod 207 slidably journaled in bearings 206 on the frame 203 which rod is acted on by a spring 208.

A split block 209 is clamped on the rod 207 by the screws 209' and has a bifurcation 210 therein in which the pin 211 on the operating handle for the numbering device is removably arranged and when the rod 207 is moved against the action of the spring 208, the block 209 is moved to impart movement to position the pin 211 to thereby operate the numbering device in a manner well understood in the art. When the frame of the numbering device is adjusted along the arm on which it is mounted, the block 209 is adjusted along the rod 207 to insure alignment of the bifurcation 210 with the pin 211. Movement is imparted to the rod 207 by an arm 212 fixed on the shaft 213 journaled in bearings provided on the rail 27. Fixed on the shaft 213 is a shouldered dog 214 (Figs. 3 and 13) and a spring 215 acts thereon to hold the dog and therefore the arm 212 in the position shown in Figs. 9 and 13. On the shaft 133 is a crank 216 and one end of a link 217 is pivotally connected thereto and the other end of this link normally engages the shouldered dog 214. Therefore, each time the shaft 133 is operated to advance a new printing device onto the anvil A the numbering device will be operated but in the event no new printing device is advanced the numbering device will not be operated.

Frequently a selector mechanism, of the character shown and described in the application of Walter T. Gollwitzer, Serial No. 511670, filed January 28, 1931, is associated with machines of this character which serves to render the platen inoperative under certain conditions and furthermore I have provided a means to be described hereinafter for manually rendering the platen inoperative while the printing device feed continues to operate. Under such conditions a printing device will be advanced onto the anvil A but no impression will be made therefrom and when this is done it is desirable that the numbering device not be operated. I therefore provide a bell crank 218 (Fig. 13) fast on a rotatable shaft 248 journaled in the casting 23 and the arm 220 of this bell crank includes a bifurcated boss 221 in which the link 217 is rested. The link 217 has a slot 222 therein and a pin 223 extends through the boss 221 and this slot to interconnect the boss and link. The arm 224 of the bell crank 218 rests against a spring urged plunger 225 carried by a rocker 226, which is operable by the selector device previously referred to. When the selector device is operated, movement is imparted to the rocker 226 which is transmitted through the spring urged plunger 225 to the arm 224 of the bell crank which pivots to elevate the arm 220 thereof to thereby dispose the end of the link 217 out of engagement with the shouldered dog 214, as illustrated in Fig. 13, and therefore under this condition the numbering device will not be operated even though the printing device feeding mechanisms are operated. Movement of the bell crank 218 induced by the plunger 225 and rocker 226 when actuated by the selector device rotates shaft 248 to render the platen inoperative, as will be described.

At the lower end of the frame 21 is a supporting shaft 227 (Fig. 1) on which three foot pedals 228, 229, and 230 are pivotally mounted. The lower end of a rod 231 (Figs. 1, 4, and 5) is connected to the foot pedal 229 and the upper end thereof is connected to a rocker 232 fast on the clutch shaft 50. Thus, when the foot pedal is depressed the shaft 50 is rocked and the pin on the arm 46 moves through the cam slot 49 to operate the arcuate arm 46 of the main clutch and, in the machine as constructed, depression of the foot pedal 229 moves the arcuate arm from retaining position to permit the nose 40 to seat in one of the

notches 39 to thereby impart movement to the shaft 37. As long as the pedal 229 is held downwardly the machine will continue to operate but as soon as this pedal is permitted to move upwardly the arcuate arm 46 will move into the path of the tail 52 to disengage the nose 40 from a notch 39. When the shaft 37 is operated, movement will be transmitted through the gears 60 and 61 and when the nose 73 is seated in the notch 74, the shaft 62 will be operated to thereby operate the printing device feeding mechanism. The printing device feeding mechanism will be operated in accordance with the disposition of the roller 166, as previously described, and therefore printing devices D will be withdrawn from the magazine M and fed to the anvil A.

It has been pointed out that the printing devices may be viewed prior to passage thereof into printing position and it may sometimes be desirable to make repetitious impressions from a printing device moved onto the anvil A, and I have provided manually operable means for accomplishing this. This means includes the rod 237 (Fig. 1), the lower end of which is connected to the foot pedal 228 and the upper end of which is connected to the arm 238 fixed on the shaft 239 journaled in the castings 22, 23, and 24. On the shaft 239 is an arm 240 (Figs. 1 and 8) to which a link 241 is connected, which link is also connected to the rocker 234 (Figs. 6 and 10) pivotally mounted on the shaft 158. Thus, when the pedal 228 is depressed the shaft 239 is rocked, and this movement is imparted through the arm 240 and rod 241 to the rocker 234 and this rocker moves the pawl 172 from engagement with the ratchet 174. This interrupts movement of the shaft 158 and therefore the position of the discs thereon is not altered and thus normal automatic operation of the machine will be resumed when the foot pedal 228 is raised. It is also necessary that the printing device feed be interrupted when the foot pedal 228 is operated and to this end I have provided a roller 235 (Fig. 10) on the rocker 234 movable over an arm 236 fast to the shaft 163 and when the rocker is moved in the manner described the shaft 163 will be moved to position the shroud 169 in the path of the tail of the pawl 71 to thereby disconnect the nose 73 from the notch 74. Thus, any desired number of repeat impressions may be made from a printing device moved onto the anvil A by manipulating the foot pedal 228.

It is of course to be understood that the foot pedal 229 must be held downwardly when the foot pedal 228 is operated in order that the machine will continue operating so that the platen will function. However, under certain conditions it is desirable that the platen be rendered inoperative and that the printing device feed mechanisms remain operative. To this end, a rod 233 (Fig. 1) is connected to the foot pedal 230 and to a rocker 242 (Fig. 10). The rocker 242 includes a hub portion having notches 243 therein into which a pin 244 fast in the shaft 50 extends. Thus, when the rod 233 is moved downwardly by manipulation of the foot pedal 230, the pin will engage edges of the notches 243 and the shaft 50 will be turned to operate the main machine clutch and also to render the platen inoperative in a manner to be described. However, this arrangement is such that when the shaft 50 is moved due to manipulation of the pedal 229 no movement will be imparted to the rocker 242. In the periphery of the bearing portion 78 is a notch 245 (Figs. 6 and 10) engageable by the hook 246 on the bell crank 247 fast on shaft 248. When rocker 226 is actuated by the selector device and rotates shaft 248 as described, the hook 246 engages the shoulder 245 and renders the platen inoperative. The bell crank 247 has a slot 249 in the arm 248' thereof in which one end of a rod 250 is connected. A rod 251 is connected to the rocker 242 and the rods 250 and 251 are interconnected by an expansion coupling 252. Thus, when the rocker 242 is moved the rod 251 and consequently the rod 250 are moved, and this movement is imparted to the arm 248' of the bell crank 247 and the hook 246 is moved upwardly to engage the shoulder 245. Since it is necessary that this operation should occur at the start of an operation the rocker 242 is arranged on the shaft 50 in order that the main clutch of the machine may be controlled by the same pedal serving to render the platen inoperative. Thus, as long as the hook 246 engages the shoulder 245, the platen will not be free to fall and since the platen does not fall, the pad 93 will pass, but not engage, the shoulder 92. It is necessary that the hook 246 engage the shoulder 245 during substantially a complete operation of the machine and in order that the operator will need not hold the pedal 230 downwardly I provide a cam strip 253 on the cam 83 and I provide a roller 254 on the rocker 242. When the rocker 242 is motivated and the shaft 37 is set in operation the roller 254 moves through the opening between the ends of the cam strip 253 and engages the same and is therefore held upwardly and thus the foot pedal 230 may be released and operation of the machine will not be interrupted until the roller 254 falls from engagement with the cam strip 253. Thus, the platen may be rendered inoperative while the printing device feeding mechanism remains operative and therefore a printing device may be passed onto and be ejected from the anvil A without a printing impression being made therefrom or it may be, as termed in the art, skipped. When a printing device is skipped by the manual means just described, it is desirable that the numbering device be rendered inoperative. It has been pointed out that the bell crank 218 is securely fastened on the shaft 248, and this is the same shaft as that on which the bell crank 247 is fast. Therefore, when the bell crank 247 is moved as just described, the bell crank 218 is moved to disengage the link 217 from the shouldered dog 214, in the manner above described, and therefore the numbering device will not be operated when the machine is manually conditioned for skipping.

Under certain conditions it may be desirable to make a large number of impressions from a printing device moved into printing position. I therefore provide a formed portion 170'' (Fig. 6) on the arm 171 and by moving the handle 167, this formed portion 170'' may be engaged with the roller 170. The shape of this portion cooperates with the roller and holds the parts in position and the resulting operation is similar to that brought about by the movement of the rocker 234 as caused when the link 241 is moved.

Printing devices of the character used in this invention usually have a name, street address, and post office address arranged thereon in vertical alignment and in addition to this a salutation is sometimes provided on the printing devices. Thus, the printing devices may be used to address or fill in the salutation on a letter. However, when the printing devices are used,

purely for addressing purposes, as on envelopes, it is desirable that the salutation be omitted. Because of the foregoing conditions, it is therefore desirable, under certain conditions that portions of the printing devices not be printed. Heretofore, this has been done by masking the undesired portions. I have, however, provided an arrangement whereby portions of the printing devices may not be printed or, as it is termed, cut off and such a cut-off device is clearly illustrated in Figs. 4 and 9. It has been pointed out that the spring 101 urges the arm forwardly. This is limited by engagement of the arm 100 with the stop member 255 pivotally mounted on the platen arm 89. The stop member 255, in the present instance, has a polygonal periphery and the polygonal faces are spaced in different amounts from the pivotal mounting thereof. Any one of these faces may be moved into stopping relation with the arm 100 to limit the forward movement thereof and by reason of the difference in center lengths between the faces and the pivotal mounting of the stop member, the forward position of the platen P may be varied. By thus determining the forward position of the platen P, certain of the lines of type characters on the printing devices will not be printed, or will be cut off, and in this manner the salutation sometimes provided on the printing devices may be omitted or any desired omission may be made. The rearward stroke of the platen P may be determined by adjusting the disposition of the bolt 111 to vary the stroke imparted to the arm 106 from the arm 113.

When the galley is lowered in the manner previously described, an arm 186' thereon (Fig. 9) seats below the shouldered dog 187' fast on the shaft 50 and thereby prevents movement of the shaft 50 by manipulation of the foot pedals until the galley G has been repositioned as shown in Fig. 9.

The printing machine herein described embodies a printing device feeding mechanism which operates to advance the printing devices into printing position in a step-by-step manner. The portions of this mechanism causing the advancement of the printing devices are only engaged therewith when positioned to cause advancement of the devices, for other means are provided to retain the printing devices during other phases of the operation. This mechanism therefore advances the printing devices without jamming the same and moreover it operates to feed the printing devices in such a manner that they are prevented from contacting with other portions of the machine. Furthermore, I am enabled to feed the printing devices onto an anvil and then move this anvil to position the printing devices in the same plane as the piece of work and therefore when the work is forced against the printing device, to receive a printing impression, it is not distorted and therefore clear impressions may be made, which is particularly important when carbon copies are being printed. Furthermore, I have provided a very simple arrangement for setting the machine for automatic operation so that a printing device may be passed onto the anvil and a single impression made therefrom or the machine may operate to move a printing device onto the anvil and retain the same thereon while multiplicate impressions are made therefrom. Furthermore, I have provided a platen which does not receive printing impetus until it is arranged in close juxtaposition to the printing device from which the impression is to be made and in this manner I provide a safety which will obviate the likelihood of an operator's fingers being crushed. Furthermore, I have embodied in the machine manually operable means which may be employed to so condition the machine that multiplicate impressions may be made from printing devices on the anvil and which may also be operated to condition the machine to pass a printing device therethrough without an impression being made therefrom. Furthermore, I provide a numbering device in the machine, and this numbering device is operated to advance only when a printing device from which an impression is to be made moves onto the anvil. Furthermore, the anvil which supports the printing devices is movable and includes portions which engage the printing device during upward movement to thereby securely clamp it in position to prevent movement thereof when an impression is made therefrom and therefore clear and neat impressions may be made. Moreover, I have provided a snubbing arrangement for counteracting the operation of the platen in order to reduce jar attendant to the operation thereof. In addition, I have so arranged various portions of the machine that they may be constructed of a material having sound deadening properties to reduce the noise attendant to the operation of the machine. The machine is also constructed in an advantageous manner conducive to economical construction and simple operation and embodies many other advantages, particularly pointed out in the appended claims.

The machine herein described is but a selected embodiment of my invention and is capable of variation and modification, and I therefore do not wish to be limited to the precise details set forth but desire to avail myself of such changes and alterations as fall within the purview of the following claims.

I claim:

1. In a printing machine, means for moving printing devices therethrough, a platen for making impressions from the printing devices through an ink ribbon, an ink ribbon moving device motivating means, a galley, a packer for collecting the printing devices in the galley after movement thereof past the platen, an operating shaft for the printing device moving means, a rotary drive shaft, and independent means on the drive shaft for operating the platen, the ink ribbon moving device motivating means, the operating shaft, and the packer.

2. In a printing machine, means for moving printing devices therethrough, a platen for making impressions from the printing devices through an ink ribbon, an ink ribbon moving device motivating means, an operating shaft for the printing device moving means, a rotary drive shaft, and independent means on the drive shaft for operating the platen, the ink ribbon moving device motivating means, and the operating shaft.

3. In a printing machine, means moving printing devices therethrough and including a rotative part, impression means for making impressions from the printing devices, a frame, a rotary drive shaft journaled in and extending across said frame, operating means on the drive shaft for operating said impression means, and other means on the drive shaft spaced from said operating means for operating the rotative part of said printing device moving means.

4. In a printing machine, a table, means mov-

ing printing devices through the machine and including a rotative part, impression means, a frame supporting the table, a drive shaft journaled in and extending across the frame beneath the table, operating means on the drive shaft for operating the impression means, and other means on the drive shaft spaced from said operating means for operating the rotative part of said printing device moving means.

5. In a printing machine, a frame, a table supported on the frame, a platen, means moving printing devices through the machine and including a rotative part, means moving an ink ribbon over the printing devices whereby the platen may make impressions from the printing devices onto sheets interposed between the ink ribbon and the platen, a drive shaft journaled in and extending across the frame beneath the table, operating means for the platen on said drive shaft, operating means for the ink ribbon moving means and mounted on the drive shaft in spaced relation with the first-named operating means, and other operating means for operating the rotative part of said printing device moving means and mounted on the drive shaft in spaced relation with the other operating means.

6. In a printing machine, means for moving printing devices therethrough, a platen for making impressions from the printing devices, an operating shaft for the printing device moving means, a drive shaft for operating the platen and the operating shaft, and releasable means for connecting the operating shaft to the drive shaft and adapted to disconnect said operating shaft under abnormal operation thereof.

7. In a printing machine, printing means including means moving printing devices through the machine, an operating shaft for the printing device moving means, a drive shaft, and releasable means for connecting the operating shaft to the drive shaft and adapted to disconnect the operating shaft upon abnormal operation of the shaft or devices operated thereby.

8. In a printing machine, means moving printing devices therethrough, a platen for making impressions from the printing devices, an operating shaft for the printing device moving means, a drive shaft for operating the platen and the operating shaft, means for transmitting movement from the drive shaft to the operating shaft and including a part freely mounted on one of said shafts, and relasable means for connecting the freely mounted part to the shaft on which it is mounted and adapted to disconnect said part from the shaft upon abnormal operation of the operating shaft or devices operated thereby.

9. In a printing machine, means moving printing devices therethrough, a platen for making impressions from the printing devices, an operating shaft for the printing device moving means, releasable means for connecting the operating shaft to the drive shaft and including a collar on one of said shafts having a notch in the periphery thereof including a tapered edge, and a pawl engageable in said notch, said pawl separating from said notch to disconnect said shafts upon abnormal operation of the operating shaft or devices operated thereby.

10. In a printing machine, means moving printing devices therethrough, a platen for making impressions from the printing devices, an operating shaft for the printing device moving means, a drive shaft for operating the platen and the operating shaft, means for transmitting movement from the drive shaft to the operating shaft and including a part freely mounted on one of said shafts, releasable means for connecting the freely mounted part to the shaft on which it is mounted and including a collar fast on the shaft and having a notch in the periphery thereof including a tapered edge, and a pawl pivotally mounted on said part and normally engaged in said notch, said pawl disengaging said notch upon abnormal operation of the operating shaft or devices operated thereby.

11. In a printing machine, means for moving printing devices therethrough, a platen for making impressions from the printing devices, an operating shaft for the printing device moving means, a rotary drive shaft, independent means on the drive shaft for operating the platen and the operating shaft, and separable connecting means for interconnecting the operating shaft to the operating means therefor on the drive shaft and adapted to be disconnected whereby said drive shaft may be rotated independently of the operating shaft.

12. In a printing machine, means for moving printing devices therethrough, a platen, an operating shaft for the printing device moving means, a drive shaft for operating the platen and the operating shaft, separable connecting means for interconnecting the operating shaft to the drive shaft whereby the drive shaft may be operated independently of the operating shaft, and means for releasably connecting said operating shaft to the drive shaft and adapted to be released under abnormal operation of the machine.

13. In a printing machine, means for moving printing devices therethrough, a platen, an operating shaft for the printing device moving means, a rotary drive shaft, independent means on the drive shaft for operating the platen and the operating shaft, means for connecting the operating shaft to the operating means therefor on the drive shaft, and manually operable means for disconnecting said connecting means whereby said drive shaft may be rotated independently of the operating shaft.

14. In a printing machine, means for moving printing devices therethrough, a platen, an operating shaft for the printing device moving means, a drive shaft, independent means on the drive shaft for operating the platen and the operating shaft, means connecting the operating shaft to the operating means therefor on the drive shaft, and selective means for disconnecting the connecting means during a predetermined number of operations of the drive shaft.

15. In a printing machine, means for moving printing devices therethrough, a platen, an operating shaft for the printing device moving means, a drive shaft, independent means on the drive shaft for operating the platen and the operating shaft, means connecting the operating shaft to the operating means therefor on the drive shaft, means for disconnecting the connecting means while said drive shaft continues to operate, and means for preventing movement of the operating shaft when it is disconnected from the drive shaft.

16. In a printing machine, means moving printing devices therethrough, a platen, an operating shaft for the printing device moving means, a drive shaft, independent means on the drive shaft for operating the platen and the operating shaft, means connecting the operating shaft to the operating means therefor on the drive shaft, means for disconnecting the connecting means while the drive shaft continues to operate, means

for preventing movement of the operating shaft when it is disconnected from the drive shaft and including brake means, and manual means for adjusting the tension of the brake means.

17. In a printing machine, means moving printing devices therethrough, a platen, an operating shaft for the printing device moving means, a drive shaft, independent means on the drive shaft for operating the platen and the operating shaft, means connecting the operating shaft to the operating means therefor on the drive shaft, means for disconnecting the connecting means while the drive shaft continues to operate, means for preventing movement of the operating shaft when it is disconnected from the drive shaft and including a disc on the shaft, arms engaging said disc, and manually adjustable means for clamping said arms on said disc.

18. In a printing machine, means for moving printing devices therethrough, a platen, an operating shaft for the printing device moving means, a drive shaft, independent means on the drive shaft for operating the platen and the operating shaft, means for connecting the operating shaft to the operating means therefor on the drive shaft, selective means for disconnecting the connecting means during a predetermined number of operations of the drive shaft, said selective means including a plurality of discs, means controlled by said discs embodying a member movable into alignment with a selected one of said discs, and means for imparting movement to said discs.

19. In a printing machine, means for moving printing devices therethrough, a platen, an operating shaft for the printing device moving means, a drive shaft, independent means on the drive shaft for operating the platen and the operating shaft, means for connecting the operating shaft to the operating means therefor on the drive shaft, selective means for disconnecting the connecting means during a predetermined number of operations of the drive shaft, said selective means including a plurality of discs, means controlled by said discs embodying a member movable into alignment with a selected one of said discs, and means operable from the platen for imparting movement to said discs.

20. In a printing machine, means for moving printing devices therethrough, a platen, an operating shaft for the printing device moving means, a drive shaft for operating the platen and the operating shaft, means for connecting the operating shaft to the drive shaft, selective means for disconnecting the operating shaft from the drive shaft during a predetermined number of operations of the drive shaft, said selective means including a plurality of discs, means controlled by said discs embodying a member movable into alignment with a selected one of said discs, means for imparting movement to said discs, and manually operable means for rendering said movement imparting means inoperative whereby said discs may be held against movement.

21. In a printing machine, means moving printing devices therethrough, means operating said moving means, means releasably connecting the moving means to the operating means, settable means for releasing the connecting means, a plurality of discs having formed peripheries, and means selectively movable into alignment with any one of said discs to receive movement from the formed peripheries thereof and including means for determining the position of said settable means.

22. In a printing machine, means moving printing devices therethrough, means operating said moving means, a clutch connecting the moving means to the operating means therefor, a plurality of discs having formed peripheries, means for rotating said discs, selective means movable into alignment with any one of said discs and engageable with the formed peripheries thereof to receive movement therefrom in accordance with the formation thereon, and means controlled by the selective means and operable to disconnect said clutch whereby disengagement of said clutch renders said moving means inoperative as said operating means continues to operate.

23. In a printing machine, means moving printing devices therethrough, means operating said moving means, a clutch connecting the moving means to the operating means therefor, a plurality of discs having formed peripheries, selective means movable into alignment with any one of said discs and engageable with the formed peripheries thereof to receive movement therefrom in accordance with the formation thereon, means controlled by the selective means and operable to disconnect said clutch to render said moving means inoperative as said operating means continues to operate, and means moving said discs and operable from said operating means.

24. In a printing machine, means moving printing devices therethrough, means operating said moving means, a clutch connecting the moving means to the operating means therefor, a plurality of discs having a predetermined formation, a rocker selectively movable into alignment with any one of said discs and engageable therewith, means operating said discs to operate said rocker in accordance with the formation of the disc with which the rocker is engaged, and means controlled by said rocker for regulating said clutch.

25. In a printing machine, means moving printing devices therethrough, means operating said moving means, a clutch connecting the moving means to the operating means therefor, a plurality of discs having a predetermined formation, a shaft, a rocker keyed to said shaft and slidable therealong to be aligned with any one of said discs, means operating said discs to operate said rocker in accordance with the formation of the disc with which the rocker is aligned, and means connected to said shaft for regulating said clutch.

26. In a printing machine, means moving printing devices therethrough, means operating said moving means, a clutch connecting moving means to the operating means therefor, a plurality of discs having formed peripheries, means selectively movable into alignment with any one of said discs and engageable with the formed peripheries thereof to receive movement therefrom in accordance with the formation thereon whereby said clutch may be disconnected to render said moving means inoperative as said operating means continues to operate, means moving said discs and operable from said operating means, and manually operable means for disconnecting said clutch and the moving means for said discs.

27. In a printing machine, means moving printing devices through printing position in the machine, a printing member, a variable printing means, movable means supporting said variable printing means in a position whereat impressions may be made therefrom by said printing member upon operation of said printing member to make an impression from the printing device in printing position, means securing said variable printing means on said movable means and affording adjustment of said variable printing means on said

movable means relative to printing position, means for varying said variable printing means and operable with said printing device moving means, and manually operable means for moving said supporting means whereby said variable printing means is moved from position whereat said printing member may make impressions therefrom.

28. In a printing machine including a printing position, means moving printing devices through said printing position, a numbering device, a platen for making impressions from said printing devices and numbering device, an arm for supporting said numbering device, and means securing said numbering device on said arm for movement therealong whereby said numbering device may be adjusted along the arm relative to said printing position.

29. In a printing machine including a printing position, means moving printing devices through said printing position, a numbering device, a platen for making impressions from said printing devices and numbering device, said numbering device including a frame having a slot therein, an arm, and a member yieldingly secured on said arm and extended into the slot in the frame of the numbering device to secure said numbering device on said arm for movement therealong whereby said numbering device may be adjusted along the arm relative to said printing position.

30. In a printing machine including a printing position, means moving printing devices through said printing position, a numbering device, a platen for making impressions from said printing devices and numbering device, an arm for supporting said numbering device, means securing said numbering device on said arm for movement therealong whereby said numbering device may be adjusted along the arm relative to said printing position, bearings on said arm, a rod journaled in said bearings, and means on said rod and connected to the operating means of the numbering device whereby said numbering device is advanced when said rod is moved in said bearings.

31. In a printing machine including a printing position, means moving printing devices through said printing position, a numbering device, a platen for making impressions from said printing devices and numbering device, an arm for supporting said numbering device, means securing said numbering device on said arm for movement therealong whereby said numbering device may be adjusted along the arm relative to said printing position, bearings on said arm, a rod journaled in said bearings, a member on said rod and connected to the operating means of the numbering device whereby the numbering device is advanced when said rod is moved in said bearings, and means adjustably securing said member on said rod whereby said member may be moved along said rod as the numbering device is moved along said arm to be adjusted relative to said printing position.

32. In a printing machine, means moving printing devices therethrough, a variable printing device, a platen for making impressions from said printing devices and said variable printing device, operating means, means for connecting said platen to said operating means, means for connecting said variable printing device to said operating means, and means connected to a common member to be operable with said common member for preventing operation of said platen and said variable printing device with said operating means upon operation of said common member.

33. In a printing machine, means moving printing devices therethrough, a numbering device, a platen for making impressions from said printing devices and said numbering device, operating means, a link connected to said operating means to be movable therewith, a member engageable with said link to be movable therewith to advance said numbering device when said link is moved with said operating means, a shaft, means for preventing operation of said platen and mounted on said shaft, means for preventing operation of said member with said link and mounted on said shaft, and means for imparting movement to said shaft to render operative simultaneously the means for preventing operation of said platen and the means for preventing operation of said member with said link.

34. In a printing machine, means moving printing devices therethrough, a platen, a galley for receiving printing devices after passage through printing position in said machine below said platen, a packer for collecting printing devices in said galley, operating means, a clutch for connecting said printing device moving means, platen, and packer to said operating means, and means on said galley for disengaging said clutch to disconnect said printing device moving means, platen, and packer from said operating means when said galley is moved out of receiving position.

35. In a printing machine, means moving printing devices therethrough, a platen, a galley for receiving printing devices after passage through printing position in said machine below said platen, a packer for collecting printing devices in said galley, operating means, a clutch for connecting said printing device moving means, platen and packer to said operating means, a shaft, means on said shaft for controlling said clutch, and means on said galley and engageable with a member on said shaft to effect disengagement of said clutch when said galley is moved out of receiving position.

36. In a device for feeding printing devices through a printing machine in a step-by-step manner, means moving in a substantially rectangular orbit for feeding said devices, and means for operating said moving means to advance said devices a step in the step-by-step movement thereof in each orbital movement of the moving means, the operating means moving said moving means in an amount greater than the length of the printing devices whereby said printing devices are moved in an amount greater than their length in each orbital movement of the moving means.

37. In a device for feeding printing devices through a printing machine in a step-by-step manner, means moving in a substantially rectangular orbit for feeding said devices, means for operating said moving means to advance said devices a step in the step-by-step movement thereof in each orbital movement of the moving means, the operating means moving said moving means in an amount greater than the length of the printing devices whereby said printing devices are moved in an amount greater than their length in each orbital movement of the moving means, and means for holding the printing device against movement intermediate the advancing thereof by the moving means.

38. In a device for feeding printing devices

through a printing machine in a step-by-step manner, carrying bars for feeding the printing devices in spaced relation one with the other through the machine and movable in a substantially rectangular orbit, and means for moving said carrying bars through said substantially rectangular orbit to advance the printing devices a step in the step-by-step movement thereof in each orbital movement of the carrying bars.

39. A printing device moving means for printing machines comprising carrying bars movable in substantially rectangular orbits and engageable with the printing devices during a portion of the orbital movement thereof for imparting a step-by-step movement to the printing devices, and locking bars for holding the printing devices during the other portions of said orbital movement.

40. In a printing machine, a printing device magazine, and means for feeding printing devices withdrawn from the magazine through the machine in spaced relation with each other and in a step-by-step manner and including carrying bars movable in a substantially rectangular orbit, and means for operating said carrying bars to withdraw a printing device from the printing device magazine and to advance the printing devices a step in the step-by-step movement thereof in each orbital movement of the carrying bars.

41. In a printing machine, a printing device magazine, carrying bars for withdrawing a printing device from the magazine and for moving it through the machine, means for moving said carrying bars in substantially rectangular orbits, and locking bars for holding the printing devices against movement during a portion of the rectangular movement of the carrying bars.

42. In a printing machine, a printing device magazine in which a plurality of printing devices may be stored, means for feeding printing devices withdrawn from the magazine through the machine in spaced relation with each other and in a step-by-step manner and including carrying bars movable in a substantially rectangular orbit, and means for operating said carrying bars to withdraw a printing device from the printing device magazine and to advance the printing devices a step in the step-by-step movement thereof in each orbital movement thereof of the carrying bars, and means for preventing printing devices in the magazine from moving therefrom until said devices are withdrawn from the magazine by said carrying bars.

43. In a printing machine, a printing device magazine, carrying bars for withdrawing a printing device from said magazine, means moving said carrying bars, means on said carrying bars for preventing movement of the other printing device from said magazine during the forward movement of said carrying bars, and locking bars engageable with the printing device withdrawn from the magazine for holding it against movement during movement of the carrying bars back into position to engage another printing device.

44. In a printing machine, a printing device magazine, carrying bars for withdrawing a printing device from said magazine, means moving said carrying bars, means on said carrying bars for preventing movement of the other printing device from said magazine during the forward movement of said carrying bars, locking bars engageable with the printing device withdrawn from the magazine for holding it against movement during movement of the carrying bars back into position to engage another printing device, said locking bars engaging a printing device remaining in said magazine to prevent movement thereof from the magazine during the movement of said carrying bars into position to withdraw another printing device from said magazine.

45. In a printing machine, a printing device magazine, carrying bars having recesses in the upper edges thereof engageable with the lowermost printing device in the magazine, means moving said carrying bars to move the printing device engaged in said recesses forwardly, and locking bars having recesses therein engageable with the printing device to hold it against movement during movement of said carrying bars back into position to receive another printing device from said magazine.

46. In a printing machine, a printing device magazine, carrying bars having recesses in the upper edges thereof to receive printing devices withdrawn from said magazine, means imparting horizontal movement to said carrying bars, and means imparting vertical movement to said carrying bars whereby said carrying bars may be moved in a substantially rectangular orbit to move the printing devices through said machine in spaced relation with each other and in a step-by-step manner.

47. In a printing machine, a printing device magazine, carrying bars having recesses in the upper edges thereof engageable with printing devices withdrawn from said magazine, means imparting horizontal movement to said carrying bars, locking bars having recesses in the upper edges thereof engageable with said printing devices to hold said printing devices against movement, and means imparting vertical movement to said locking bars and said carrying bars.

48. In a printing machine, a printing device magazine, carrying bars having recesses in the upper edges thereof engageable with printing devices withdrawn from said magazine to move said printing devices through said machine, means imparting forward movement and rearward movement to said carrying bars, locking bars having recesses in the upper edges thereof engageable with said printing devices to hold the same against movement, and means vertically moving said locking bars and said carrying bars whereby said locking bars are disposed below the plane of said printing devices disposed in the recesses in the carrying bars during the forward movement of the carrying bars and whereby the recesses in said locking bars are engaged with the printing devices during downward, rearward, and upward movement of the carrying bars.

49. In a printing machine, carrying bars movable in substantially rectangular orbits for moving printing devices through the machine, locking bars engageable with the printing devices during a portion of the movement of said carrying bars through said substantially rectangular orbits, means vertically moving said carrying bars and said locking bars, means imparting horizontal movement to said carrying bars including the constantly operated shaft, and intermittently operating means interconnecting said horizontal movement imparting means to said constantly operated shaft.

50. A printing device moving means for printing machines comprising a carrying bar, operating means imparting horizontal movement to said carrying bar, means imparting vertical

movement to said carrying bar and cooperating with said operating means whereby said carrying bar is moved in a substantially rectangular orbit.

51. A printing device moving means for printing machines and comprising a carrying bar, a locking bar, operating means for imparting horizontal movement to said carrying bar, means for effecting vertical movement of the carrying bar, means for effecting vertical movement of the locking bar, and means for imparting movement to said carrying and locking bars to impart vertical movement thereto, the vertical movement of said carrying bar cooperating with the horizontal movement thereof whereby said bar is moved in a substantially rectangular orbit.

52. A printing device moving means for printing machines comprising carrying bars, means for imparting vertical movement to said carrying bars, locking bars, means for imparting vertical movement to said locking bars, operating means, and other means for imparting a horizontal movement to said carrying bars and cooperating with the operating means and the means imparting vertical movement to said carrying bars to move said carrying bars in substantially rectangular orbits.

53. In a printing machine, a printing device guideway, means supporting a carrying bar in said printing device guideway for horizontal and vertical movement, operating means for imparting horizontal movement to said carrying bar, and other means for imparting vertical movement to said carrying bar and cooperating with said operating means whereby said carrying bar is moved in a substantially rectangular orbit to move a printing device through the printing device guideway in a step-by-step manner.

54. In a printing machine, a printing device guideway, a carrying bar, yieldable means urging said carrying bar in a vertical plane, means holding said carrying bar against the action of said yieldable means, and means for effecting movement of said carrying bar with and against the action of said yieldable means.

55. In a printing machine, a printing device guideway, a carrying bar, yieldable means urging said carrying bar in one direction, means holding said carrying bar against the action of said yieldable means, means for effecting movement of said carrying bar with and against the action of said yieldable means, and means for imparting additional movement to said carrying bar.

56. In a printing machine, a printing device guideway, a carrying bar, yieldable means urging said carrying bar in one direction, cam means regulating the action of said yieldable means, and means operating said cam means to effect movement of said carrying bar with and against said yieldable means.

57. In a printing machine, a printing device guideway, a carrying bar, yieldable means urging said carrying bar in one direction, cam means regulating the action of said yieldable means, means operating said cam means to effect movement of said carrying bar with and against said yieldable means, and means for moving said carrying bar substantially at right angles to the direction of movement with and against the yieldable means and cooperating with the operating means for the cam means to move said carrying bar in a substantially rectangular orbit.

58. In a printing machine, a printing device guideway, a carrying bar, means supporting said carrying bar for horizontal movement, yieldable means urging said carrying bar in one direction, cam means cooperating with said yieldable means to impart vertical movement to said carrying bar, and operating means for said carrying bar horizontally and cooperating with said cam means to move said carrying bar in a substantially rectangular orbit.

59. In a printing machine, a printing device guideway, a carrying bar having a slot therein, yieldable supporting means engaged in said slot, cam means controlling the action of said yieldable means to impart vertical movement to said carrying bar, and means for imparting horizontal movement to said carrying bar and cooperating with said cam means whereby said carrying bar is moved in a substantially rectangular orbit.

60. In a printing machine, a printing device guideway, means for moving printing devices through said guideway in a step-by-step manner, retaining means for holding said printing devices in said guideway during the at rest intervals in the step-by-step movement of the printing devices, and means for retracting said retaining means from said printing devices as the means imparting step-by-step movement to said printing devices are moving said printing devices through said guideway.

61. In a printing machine, a printing device guideway, means for moving printing devices through said guideway in a step-by-step manner, retaining means for holding said printing devices in said guideway during the at rest intervals in the step-by-step movement of the printing devices, cam means controlling the operation of said retaining means, and means for actuating said cam means to retract said retaining means during movement of said printing devices and to engage said retaining means with the printing devices during the at rest intervals in the step-by-step movement of the printing devices.

62. In a printing machine, a printing device guideway, means for moving printing devices through said printing device guideway in a step-by-step manner, a locking bar for holding said printing devices in said printing device guideway during the at rest intervals in the step-by-step movement thereof, means supporting said locking bar for vertical movement, and means for retracting said locking bar from engagement with the printing devices as the means moving the printing devices is imparting movement thereto.

63. In a printing machine, a printing device guideway, a carrying bar in said printing device guideway, means for moving said carrying bar in a substantially rectangular orbit to impart a step-by-step movement to printing devices in said printing device guideway, a locking bar, and means for engaging said locking bar with the printing devices during the at rest intervals in the step-by-step movement of the printing devices to retain said printing devices in predetermined positions in said printing device guideway.

64. In a printing machine, a printing device guideway, a carrying bar, a locking bar, means for imparting vertical movement to said carrying bar, means for imparting movement to said locking bar, and means for imparting horizontal movement to said carrying bar intermediate the vertical movements thereof.

65. In a printing machine, a printing device guideway, a carrying bar, a locking bar, independent cam means disposed below said carrying and locking bars, means for operating said cam

means to impart opposite vertical movement to said carrying and locking bars, and means for imparting horizontal movement to said carrying bar.

66. In a printing machine, a printing device guideway, a carrying bar, a locking bar, independent cam bars mounted below said carrying and locking bars and having oppositely arranged cam slots therein, supporting means cooperating with said cam slots, and means for imparting movement to said cam bars to successively move said cam slots into association with said supporting means to impart opposite vertical movement to said carrying and locking bars.

67. In a printing machine, a printing device guideway, a carrying bar, a locking bar, independent cam bars mounted below said carrying and locking bars and having oppositely arranged cam slots therein, supporting means cooperating with said cam slots, means for imparting movement to said cam bars to successively move said cam slots into association with said supporting means to impart opposite vertical movement to said carrying and locking bars, and means for imparting horizontal movement to said carrying bar and cooperating with said cam bar and supporting means and cam slot to move said carrying bar in a substantially rectangular orbit.

68. A printing device moving means for printing machines and comprising a carrying bar for moving the printing devices through the machine in spaced relation with each other, means imparting horizontal movement to said carrying bar, means for operating the means imparting horizontal movement to said bar and including an intermittently operated part whereby horizontal movement of the carrying bar is interrupted during the at rest intervals in the movement of the intermittently operated part, and means for imparting vertical movement to the carrying bar during said at rest intervals whereby said bar is moved in a substantially rectangular orbit.

69. In a printing machine, a printing device guideway, a carrying bar for moving the printing devices through the guideway in spaced relation with each other, means imparting horizontal movement to said carrying bar, and means for operating the means imparting horizontal movement to said carrying bar and including an intermittently operated part whereby horizontal movement of the carrying bar is interrupted during the at rest intervals in the movement of the intermittently operated part, and cam means for imparting vertical movement to the carrying bar during said at rest intervals whereby said bar is moved in a substantially rectangular orbit.

70. In a printing machine, a printing device guideway, a carrying bar, means imparting horizontal movement to said carrying bar, and means for operating the means imparting horizontal movement to said carrying bar and including intermittent gears whereby horizontal movement of said carrying bar is interrupted during the at rest intervals in the operation of said intermittent gears, and cam means for imparting vertical movement to the carrying bar during said at rest intervals whereby said bar is moved in a substantially rectangular orbit.

71. In a device for feeding printing devices through a printing machine in a step-by-step manner, means moving in a rectangular orbit for feeding said devices, means for operating said moving means to advance said devices a step in the step-by-step movement thereof in each orbital movement of the moving means, locking means for the printing devices and movable in a plane substantially at right angles to the direction of movement of said printing devices, and means for engaging said locking means with the printing devices intermediate the advancing movement thereof by the moving means.

72. In a printing machine, means for supporting the work, a printing device guideway, an anvil mounted in said printing device guideway for movement therein toward and away from the plane of the work supporting means, means for moving printing devices through the printing device guideway in a step-by-step manner to successively position the printing devices on said anvil, means operable with the printing device moving means for moving the anvil in the printing device guideway to position the printing characters on the printing device thereon in the plane of the work supporting means, and means for making an impression from the printing device on the anvil onto work supported on the work supporting means without distorting the work.

73. In a printing machine, means supporting the work, an anvil, means moving printing devices in a step-by-step manner onto and from said anvil, retaining means for holding the printing devices during the at rest intervals in the step-by-step movement thereof, and means operable with the retaining means and moving said anvil to move the type characters on the printing device into the plane of the work whereby an impression may be made therefrom without distorting the work.

74. In a printing machine, means supporting the work, an anvil, means moving printing devices in a step-by-step manner onto and from said anvil, retaining means for holding the printing devices during the at rest intervals in the step-by-step movement thereof, means operable with the retaining means and moving said anvil to move the type characters on the printing device into the plane of the work whereby an impression may be made therefrom without distorting the work, and means positioned by said retaining means for rigidly supporting said anvil during the time an impression is being made from a printing device thereon.

75. In a printing machine, a printing device guideway, an anvil, means in the printing device guideway supporting the anvil for vertical movement therein, means for moving the printing devices through the printing device guideway in a step-by-step manner to successively position the printing devices on said anvil, means operable with the printing device moving means for vertically moving the anvil in the printing device guideway, and yieldable means mounted in alignment with the anvil and including parts overlying the edges of the printing device guideway and adapted to engage marginal edges of a printing device on an anvil to firmly clamp the printing device on the anvil upon vertical movement of the anvil effecting tensioning of said yieldable means.

76. In a printing machine, means supporting the work, an anvil, means moving printing devices in a step-by-step manner onto and from said anvil, retaining means for holding the printing devices during the at rest intervals in the step-by-step movement thereof, means operable with the retaining means and moving said anvil to position the type characters on the printing device on the anvil in the plane of the work whereby an impression may be made therefrom without distorting the work, and means firmly

clamping the printing device on the anvil upon movement of the anvil to dispose the printing characters of the printing devices thereon in the plane of the work.

77. In a printing machine, means for moving printing devices therethrough, a platen, operating means, a clutch controlling the operation of said operating means, a member controlling the operation of said clutch, a latch for holding said platen in inoperative position during a cycle of operation of the operating means, means for operating said latch, means for operating said member without operating the means operating said latch to effect engagement of said clutch, and means for operating said member to effect engagement of said clutch and to operate said latch whereby the machine may be operated without operating said platen.

78. In a printing machine, means for moving printing devices therethrough, a platen, operating means, a clutch controlling the operation of said operating means, a member controlling the operation of said clutch, a latch for holding said platen in inoperative position during a cycle of operation of the operating means, means for operating said latch, manually operable means for operating said member without operating the means operating said latch and to effect engagement of said clutch, other manually operable means for operating said member to effect engagement of said clutch and to operate the means operating said latch whereby the machine may be operated without operating said platen, and means for holding said latch in engaged position during a cycle of operation of the operating means independent of the manually operable means effecting operation of the means operating said latch.

79. In a printing machine, a platen, means for operating the platen, means sequentially moving the printing devices through printing position in the machine, means for operating the printing device moving means, a shaft, manually operable means connected to said shaft for imparting movement thereto, a clutch for controlling the operation of said platen operating means and the means operating said printing device moving means, and means on said shaft and operable therewith for controlling said clutch.

80. In a printing machine, a platen, means for operating the platen, means sequentially moving printing devices through printing position in the machine, means for operating the printing device moving means, a shaft, manually operable means connected to said shaft for imparting movement thereto, a clutch for controlling operation of the platen operating means and the means operating the printing device moving means, means on said shaft and operable therewith for engaging said clutch upon movement of said manually operable means, a rocker on said shaft, means controlled by said rocker for preventing operation of the platen, means for manually moving said rocker, and means for connecting said rocker to said shaft whereby said shaft may be operated to effect engagement of said clutch to effect operation of the means operating the printing device moving means without operating said platen upon movement of said rocker by the manually operable means for moving said rocker.

81. In a printing machine, a platen, means for operating the platen, means sequentially moving printing devices through printing position in the machine, means for operating the printing device moving means, a shaft, manually operable means connected to said shaft for imparting movement thereto, a clutch for controlling operation of the platen operating means and the means operating the printing device moving means, means on said shaft and operable therewith for engaging said clutch upon movement of said manually operable means, a rocker on said shaft, means controlled by said rocker for preventing operation of the platen, means for manually moving said rocker, and means for connecting said rocker to said shaft whereby said shaft may be operated to effect engagement of said clutch to effect operation of the means operating the printing device moving means without operating said platen upon movement of said rocker by the manually operable means for moving said rocker, said connecting means including devices affording relative movement between said rocker and said shaft whereby the manually operable means connected to said shaft may be operated to move said shaft without moving said rocker.

82. In a printing machine, a platen, means for moving printing devices through printing position in said machine, operating means for said platen and said printing device moving means, a clutch for connecting said printing device moving means to said operating means, means for controlling the operation of said clutch to regulate the feeding of the printing devices whereby said platen may make one or more impressions from each printing device moved into printing position, and manually operable means for disengaging said clutch and for rendering the means regulating the feed of the printing devices inoperative.

83. In a printing machine, a main drive shaft, a platen, means on the main drive shaft for operating the platen, means for preventing operation of the platen, means sequentially moving printing devices through printing position in the machine, means operable from the main drive shaft for operating the printing device moving means, a control shaft, manually operable means connected to said control shaft for imparting movement thereto, a clutch for controlling the operation of said main drive shaft, means on the control shaft and operable therewith for controlling said clutch, and means on the main drive shaft and cooperating with the part on the control shaft to hold said means for preventing operation of the platen operative for a cycle of operation of the machine subsequent to movement and release of said manually operable means.

84. In a printing machine, a main drive shaft, a platen, means on the main drive shaft for operating the platen, means for preventing operation of the platen, means sequentially moving printing devices through printing position in the machine, means operable from the main drive shaft for operating the printing device moving means, a control shaft, manually operable means connected to said control shaft for imparting movement thereto, a clutch for controlling the operation of said main drive shaft, means on the control shaft and operable therewith for controlling said clutch, means on the main drive shaft for holding said means for preventing operation of the platen operative subsequent to movement and release of said manually operable means and including a strip arranged circumferentially about said main drive shaft and having spaced ends, and means on said control shaft and including a part movable between the spaced ends of said strip to engage said part with said strip.

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