Nov. 27, 1934. W. T. GOLLWITZER 1,982,380

PRINTING MACHINE

Filed April 15, 1931 12 Sheets-Sheet 1

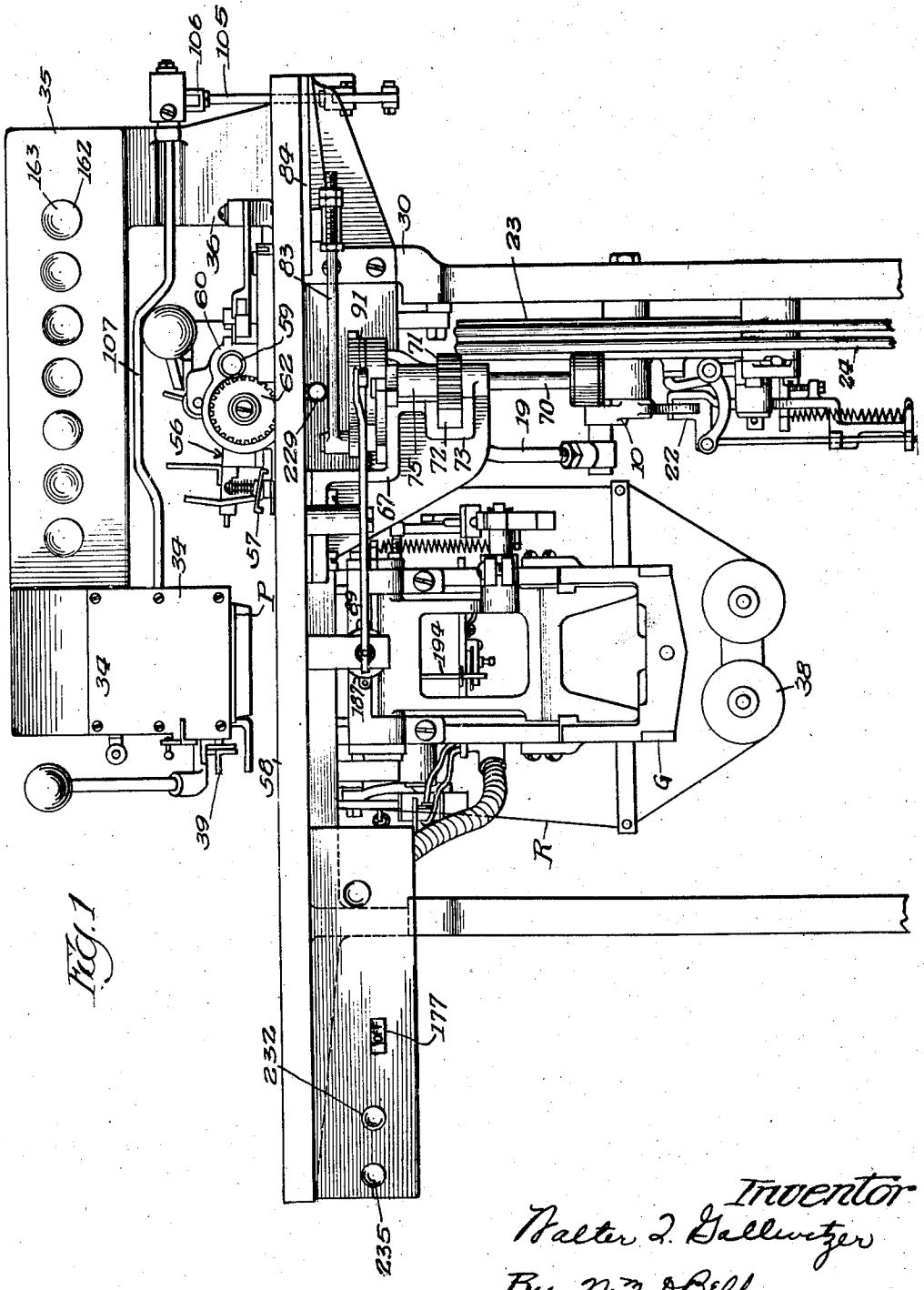


FIG. 1

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By Wm. O. Belk Atty.

Nov. 27, 1934. W. T. GOLLWITZER 1,982,380

PRINTING MACHINE

Filed April 15, 1931 12 Sheets-Sheet 2

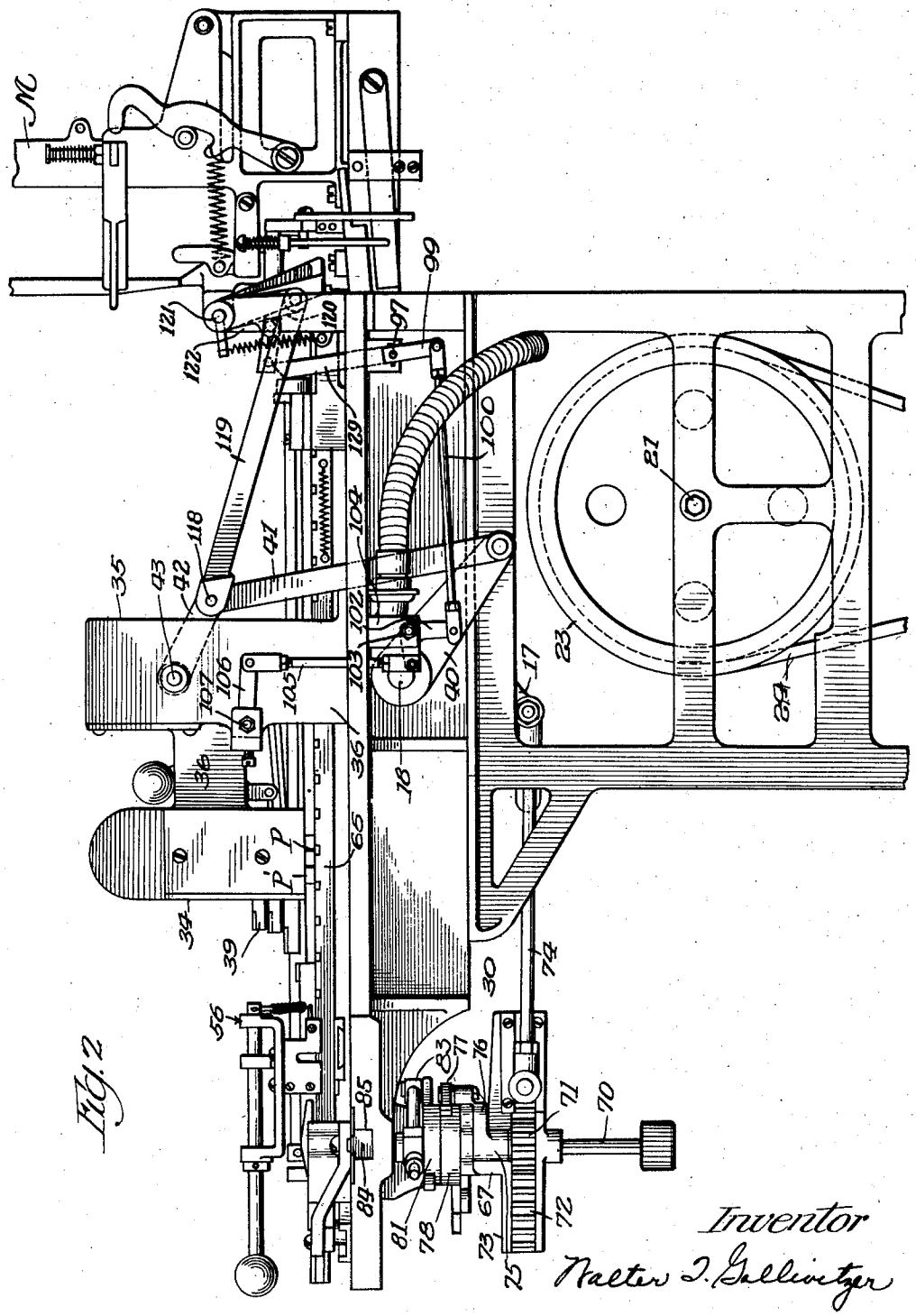


FIG. 2

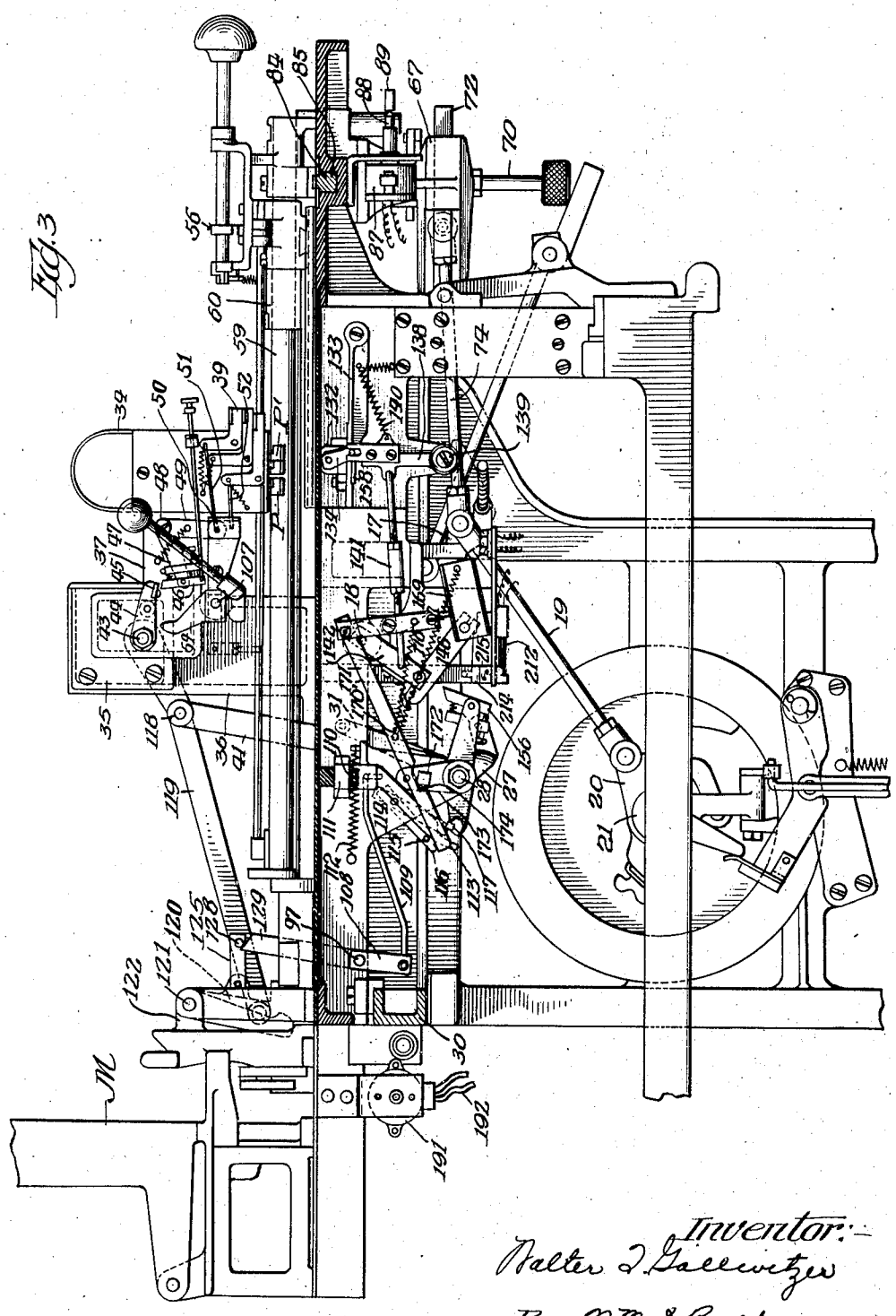
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Nov. 27, 1934. W. T. GOLLWITZER 1,982,380

PRINTING MACHINE

Filed April 15, 1931 12 Sheets-Sheet 3

Fig. 3



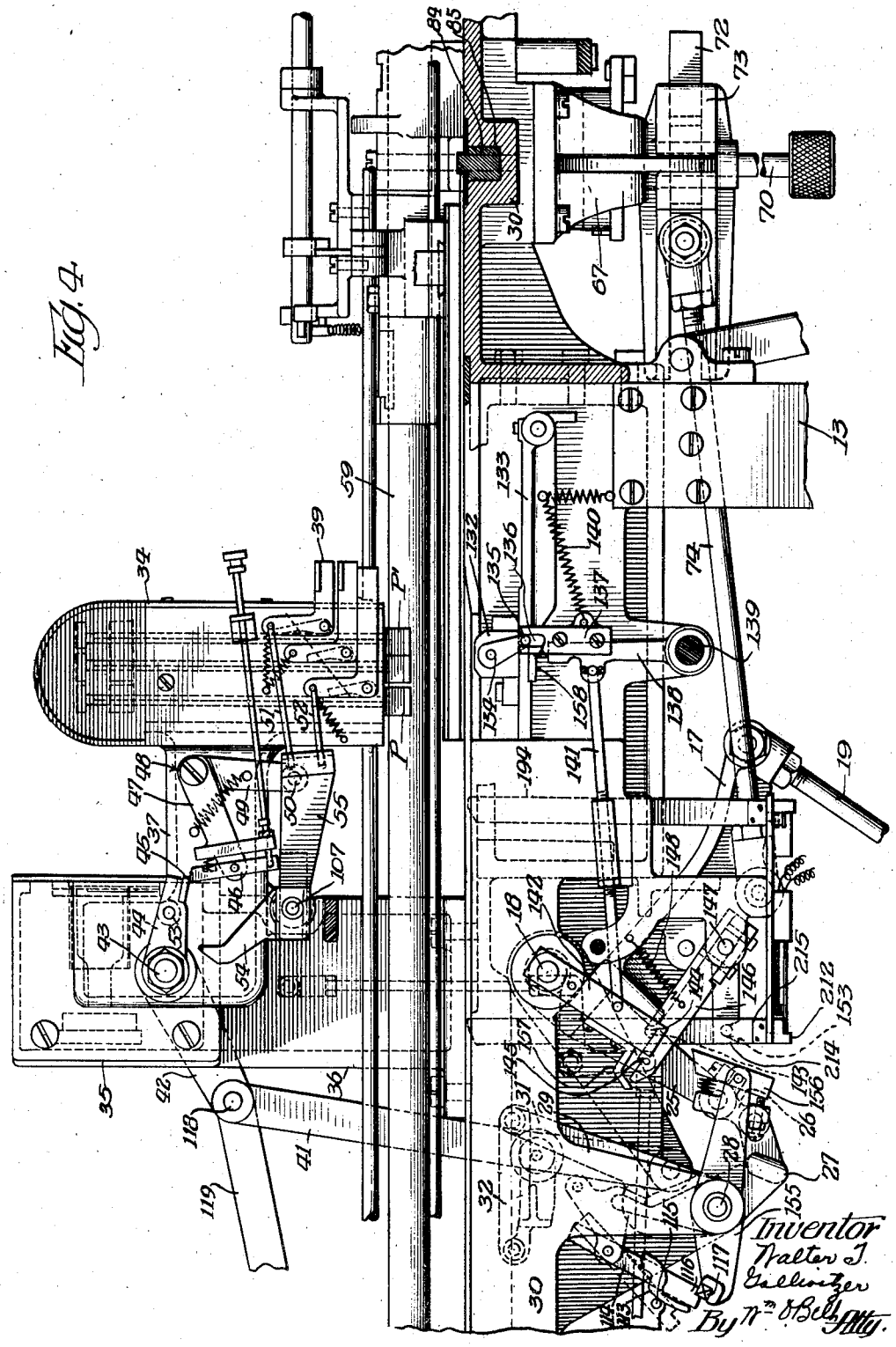
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Nov. 27, 1934. W. T. GOLLWITZER 1,982,380

PRINTING MACHINE

Filed April 15, 1931 12 Sheets-Sheet 4

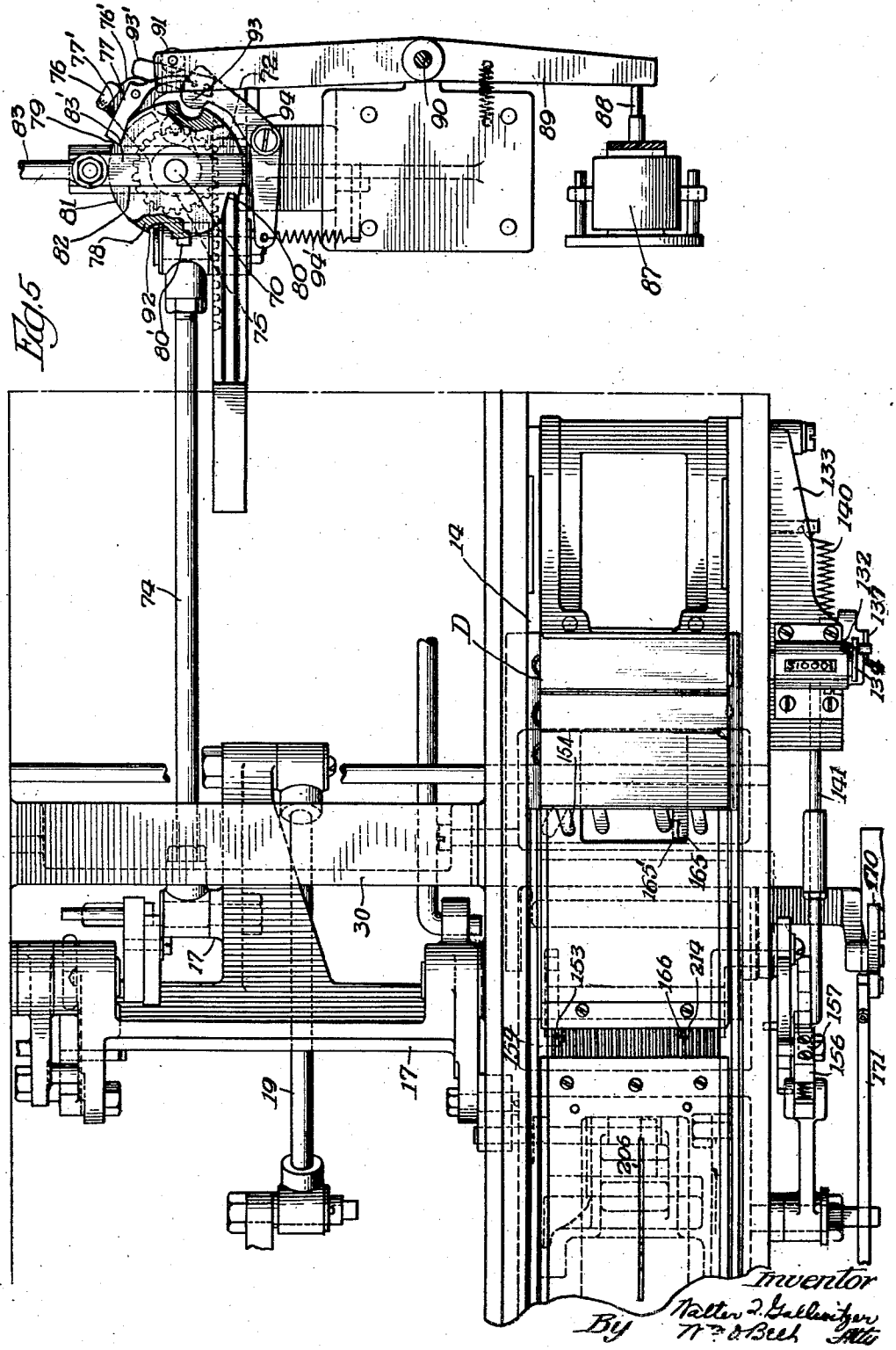
Fig. 4



Nov. 27, 1934. W. T. GOLLWITZER 1,982,380

PRINTING MACHINE

Filed April 15, 1931 12 Sheets-Sheet 5

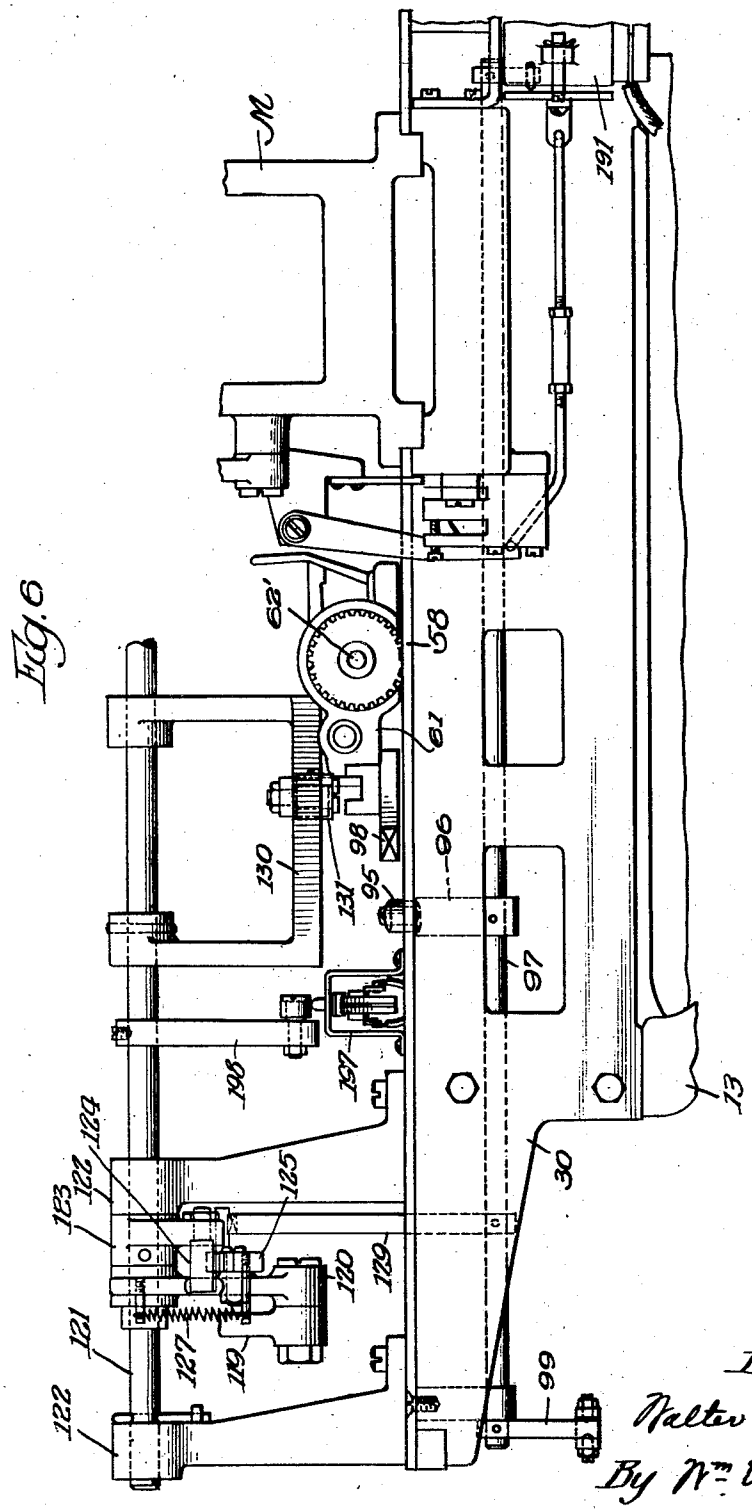


Nov. 27, 1934. W. T. GOLLWITZER 1,982,380

PRINTING MACHINE

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Fig. 6



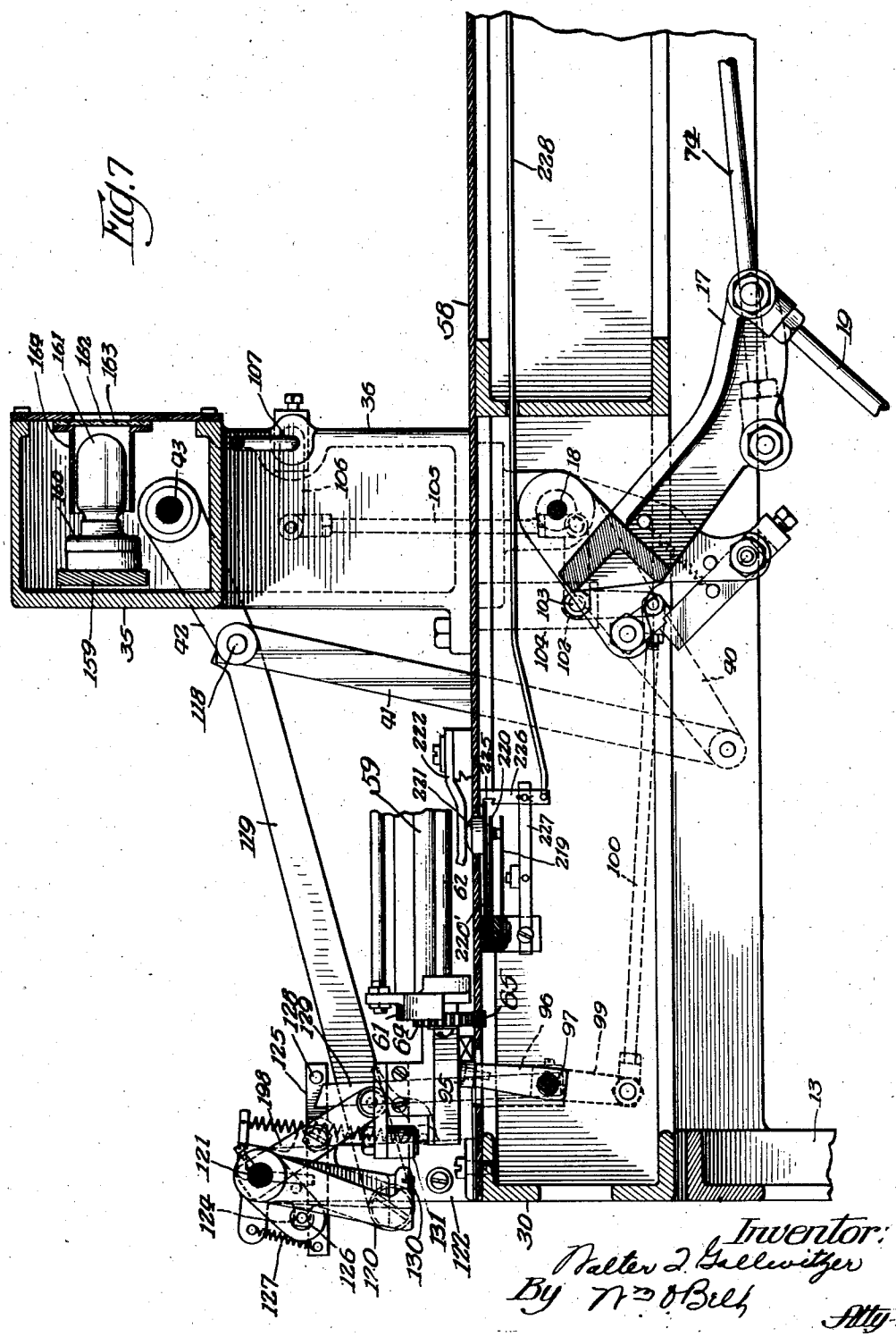
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Nov. 27, 1934. W. T. GOLLWITZER 1,982,380

PRINTING MACHINE

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Fig. 7



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PRINTING MACHINE

Filed April 15, 1931 12 Sheets-Sheet 8

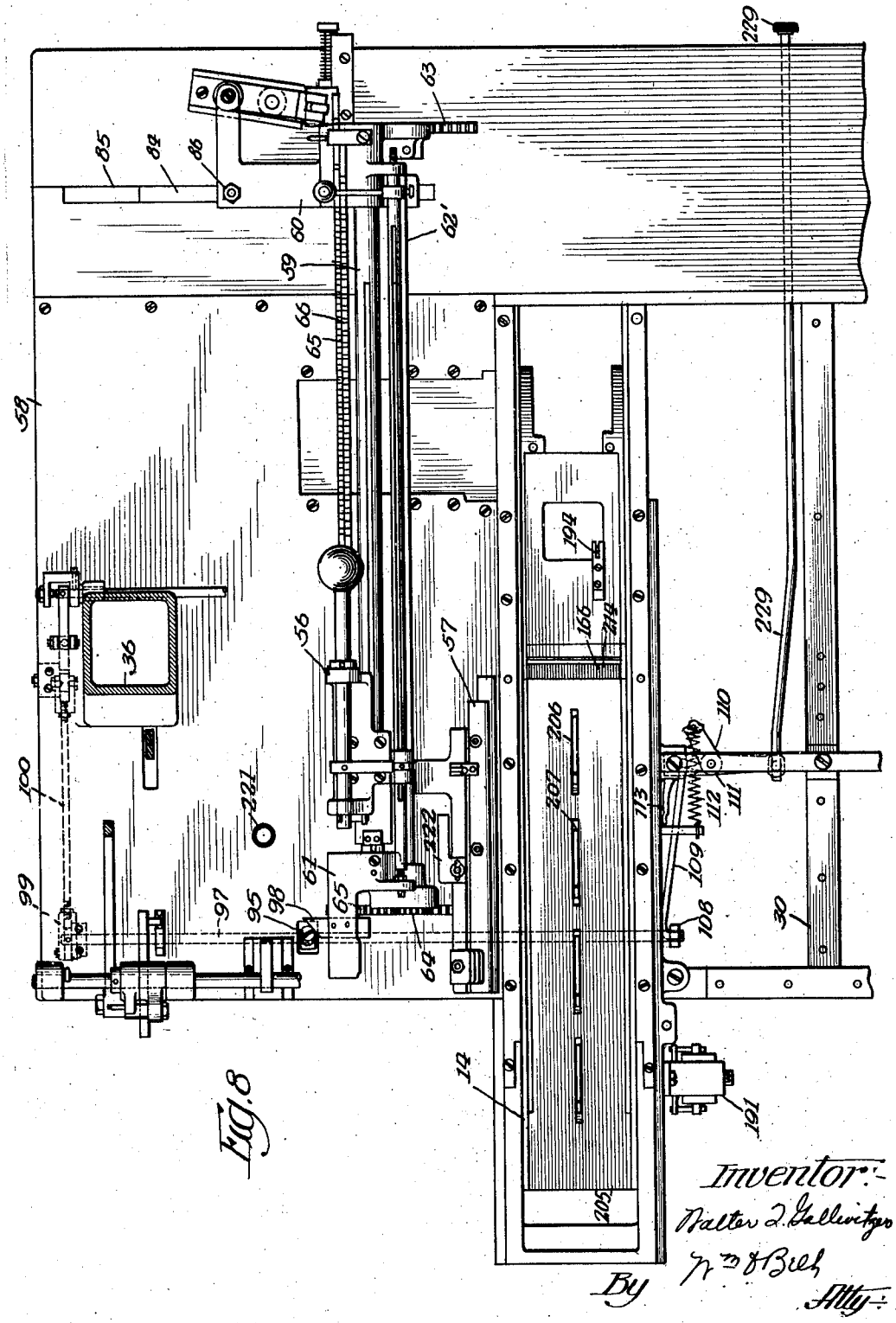


Fig. 8

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PRINTING MACHINE

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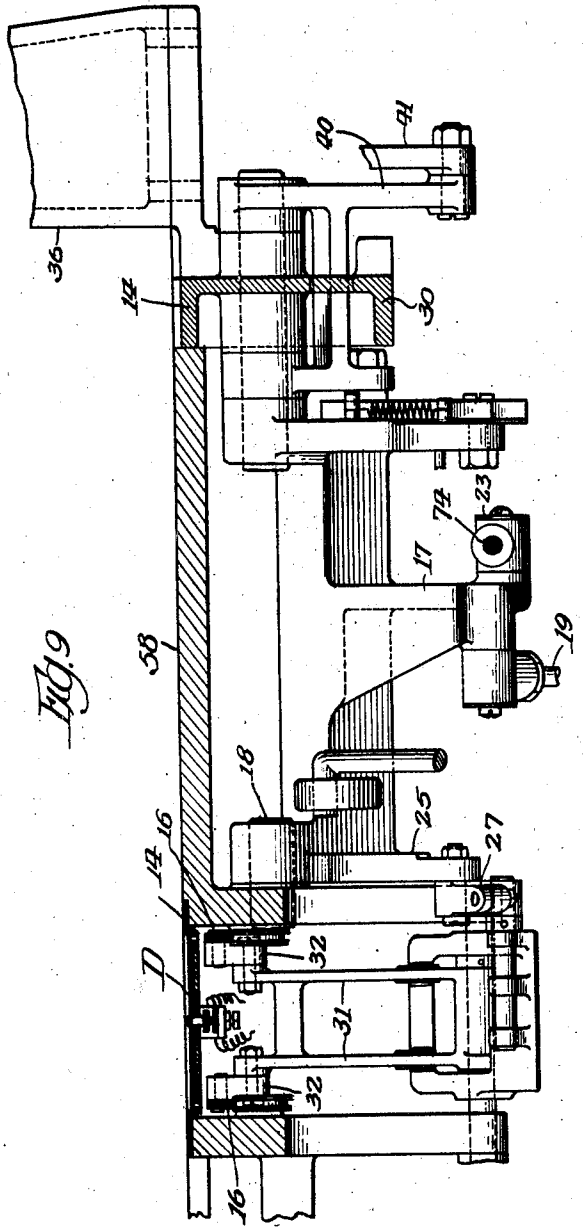


Fig. 9

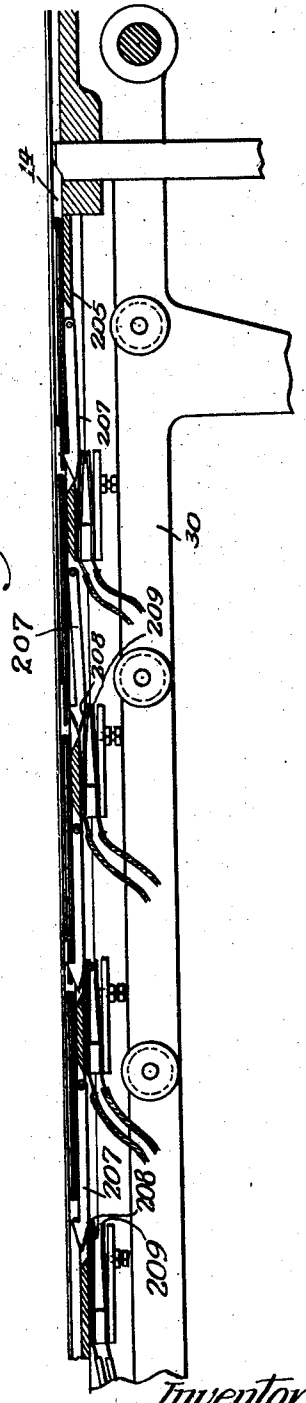


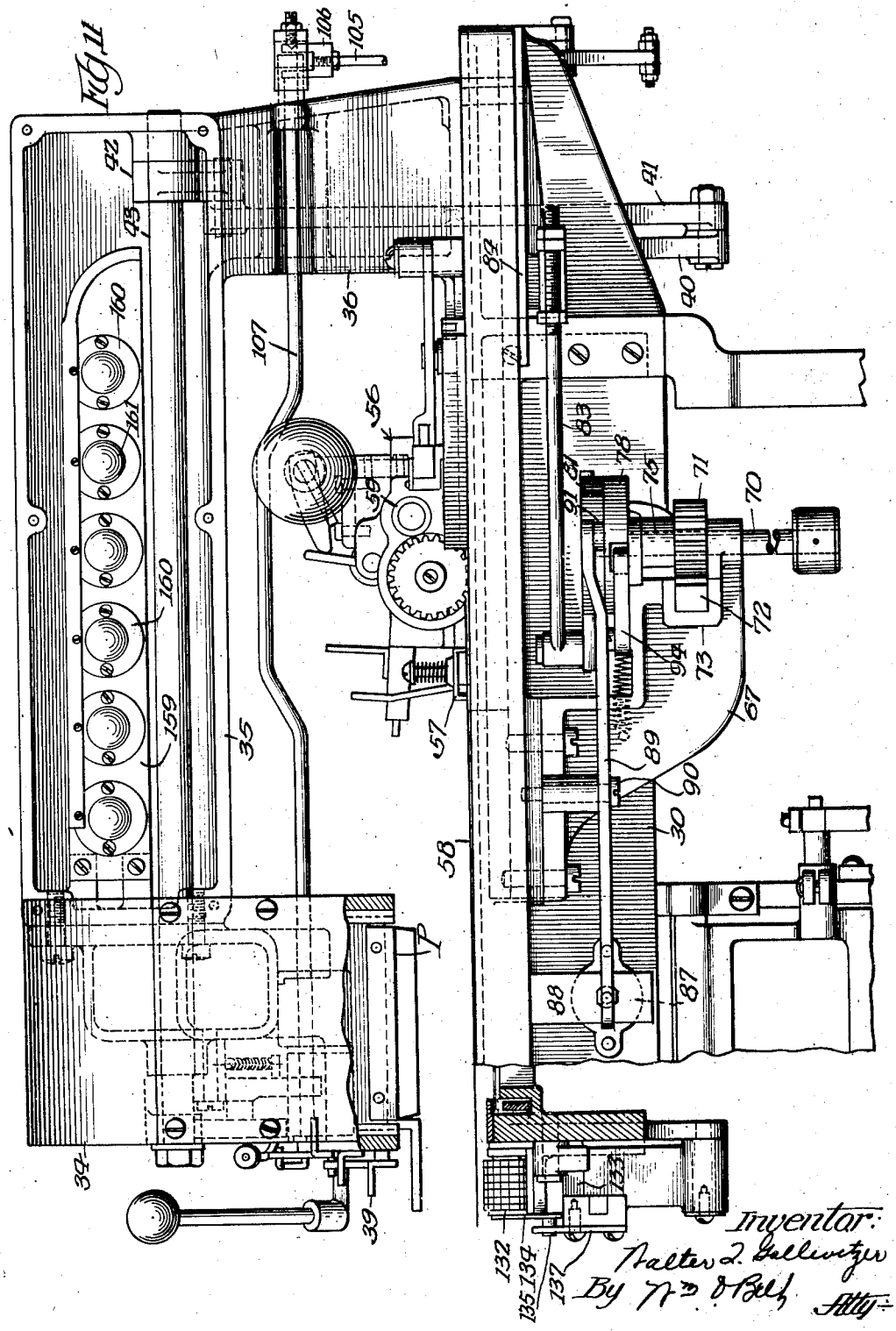
Fig. 10

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Nov. 27, 1934. W. T. GOLLWITZER 1,982,380

PRINTING MACHINE

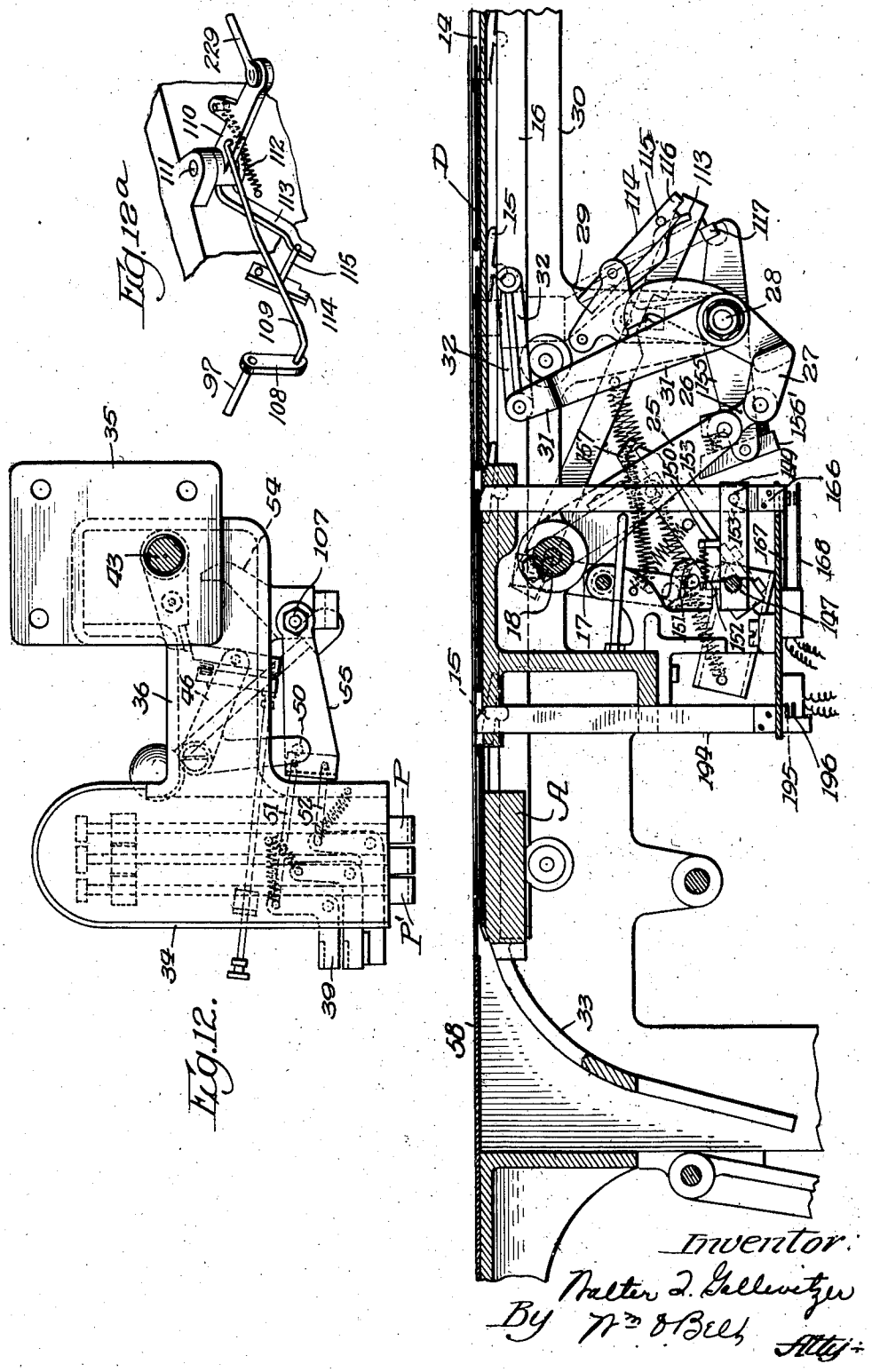
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Nov. 27, 1934. W. T. GOLLWITZER 1,982,380

PRINTING MACHINE

Filed April 15, 1931 12 Sheets-Sheet 12

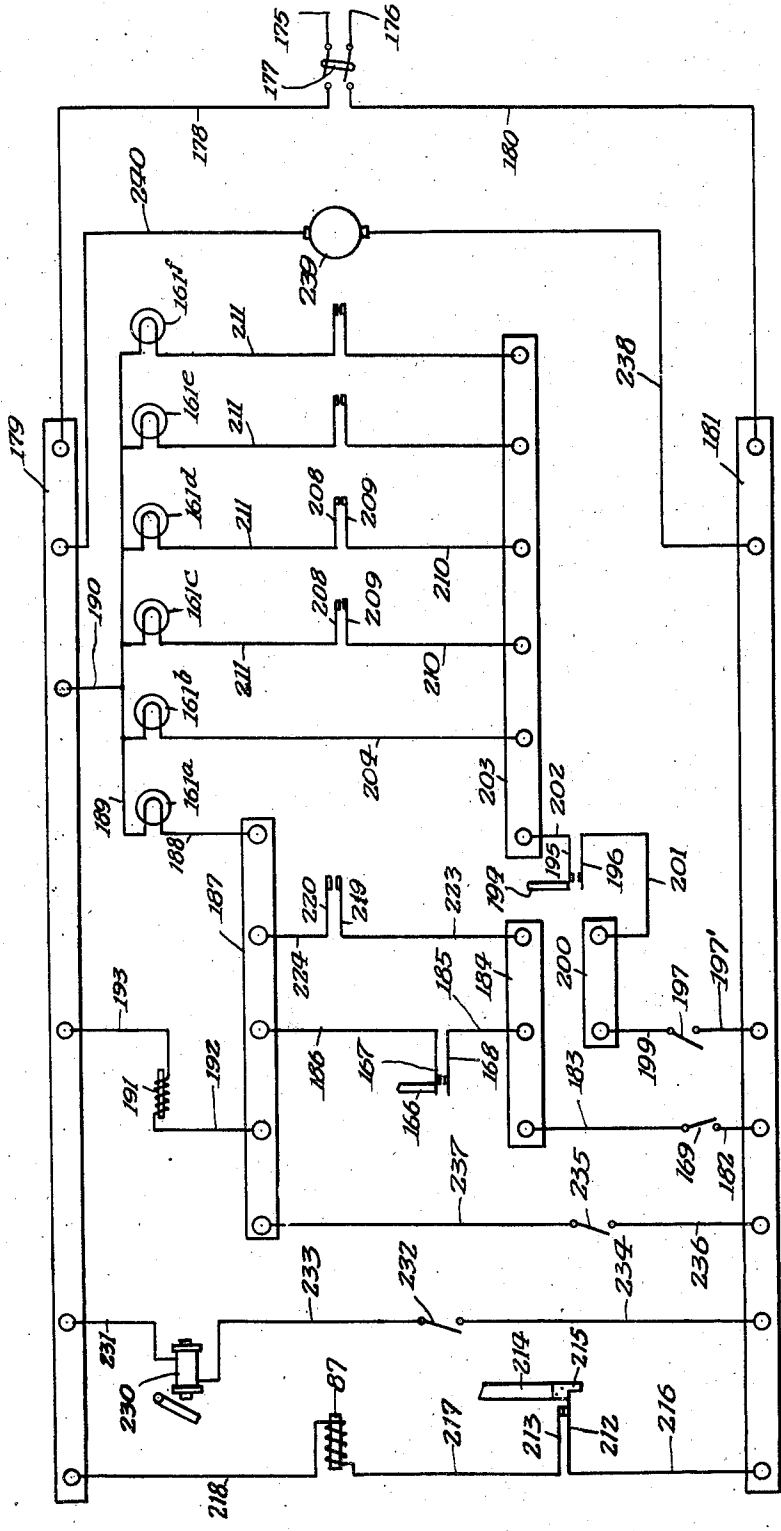


Fig. 13

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Patented Nov. 27, 1934 1,982,380

UNITED STATES PATENT OFFICE

1,982,380

PRINTING MACHINE

Walter T. Gollwitzer, Chicago, Ill., assignor to Addressograph Company, Wilmington, Del., a corporation of Delaware

Application April 15, 1931, Serial No. 530,204

79 Claims. (Cl. 101—58)

This invention relates to printing machines of the character through which variable printing devices are sequentially passed and from which impressions are successively made.

The invention is particularly useful in the printing of tax rolls and especially tax rolls for real property on which the legal description of the property is printed as well as the name and address of the owner. The legal descriptions of parcels of real property are arranged on suitable printing devices and sometimes the descriptions are of such length that each cannot be conveniently placed on but one printing device and in such instances as many printing devices as required are used, and these printing devices are then grouped. The first printing device of such a group, known as the lead printing device, has as much of the legal description as can conveniently be arranged thereon together with the name and address of the owner of the parcel of property. The other or follower printing devices of the group carry only portions of the legal description. In tax rolls it is customary to have the name and address of the owner of the parcel of property in one column on the sheets while the legal description and other pertinent information is in other columns on the sheets. The name and address of the owner of the parcel of property and the legal description are arranged on the lead printing devices in vertical alignment, but this information is printed on the sheet in horizontal alignment. It is therefore one of the objects of my invention to provide a printing machine wherein the vertically aligned data on the printing devices is printed on the tax roll or other sheet in horizontal alignment.

The printing devices bearing the legal descriptions and names and addresses of the owners of the parcels of property are sequentially filed and stored in drawers when not in use and are introduced into the machine when the roll is to be printed. Since the tax roll is printed from the printing devices it is manifest that the sequence of items on the tax roll will correspond to the sequence of the printing devices. Furthermore, when the roll is printed, each parcel or item of property is numbered. It is therefore another object of the invention to number the items as the roll is printed in the machine.

Sometimes a parcel of real property is divided up and sold in units and under such conditions the legal description of the property is changed, for each unit will then have an individual legal description to describe a fragment of that described in the original aggregate description of the parcel. It is customary to change the printing devices at the time a parcel of property is so divided, and it is therefore manifest that new and additional printing devices will be introduced into the sequence of the filed devices. This will of course change the relative sequence between printing devices and the tax roll, and therefore it is still another object to number, under certain conditions, only those items printed from devices in the original sequence, that is, those devices which correspond to the printed roll, but when a new roll is made, impressions are taken from all the printing devices in the sequence, and in this operation all the items are printed.

A tax roll usually consists of a plurality of sheets of a predetermined size and therefore only a certain number of impressions may be made thereon. It has been pointed out that the legal description of parcels of real property are arranged on lead and follower printing devices and that the number of the follower printing devices will vary. It is important that all of the legal description of a parcel of property appear on the same sheet as that having the owner's name and address thereon. Thus, as the impressions are being made adjacent the bottom of the sheet it is desirable that the operator be informed of the number of the follower printing devices behind a lead printing device moving into printing position so that it may be determined whether or not all of the legal description may be printed on the same sheet as that on which the name and address of the owner will be printed. It is therefore another object to indicate the number of follower printing devices behind a lead printing device in printing position. An object, ancillary to the foregoing, is to interrupt operation of the machine when the indicating device is rendered operable.

Other objects of the invention are to provide a printing machine wherein the impression device may be manually operated when so desired; wherein the impression member may be manually rendered inoperative in order that printing impressions will not be performed from determined printing devices; wherein the operations may be controlled by the printing devices; wherein the sheet to be printed is moved to space the items printed thereon in a determined uniform manner; wherein the various operations are performed in an automatic and expeditious manner; and wherein the various mechanisms may be economically manufactured and assembled.

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

Fig. 1 is a fragmentary front elevation of a ma-

chine constructed in accordance with my invention;

Fig. 2 is a side elevation;

Fig. 3 is a longitudinal sectional view of the machine looking in the direction opposite to Fig. 2;

Fig. 4 is a fragmentary sectional view similar to Fig. 3, drawn to an enlarged scale;

Fig. 5 is a fragmentary plan view, the table top having been removed;

Fig. 6 is a fragmentary rear elevational view;

Fig. 7 is a fragmentary vertical sectional view;

Fig. 8 is a fragmentary plan view, the platen mechanisms having been removed;

Fig. 9 is a transverse sectional view;

Fig. 10 is a longitudinal sectional view through the rear end of the printing device guideway;

Fig. 11 is a fragmentary front elevational view;

Fig. 12 is a view partly in elevation and partly in section taken longitudinally through the forward end of the printing device guideway;

Fig. 12a is a perspective view illustrating a linkage employed in the device, isolated from the parts with which it is associated; and

Fig. 13 is a diagrammatic view illustrating the electrical connections employed in the device.

In machines of the character to which this invention pertains printing devices D are introduced into a magazine M arranged at the rear end of the machine, and these printing devices are moved along the printing device guideway 14 (Figs. 5, 8, 9, 10 and 12) by pawls 15 (Fig. 12) pivotally mounted on carrier bars 16 (Figs. 9 and 12). The pawls are urged into position to engage the rear edges of the printing devices by suitable springs and when the carrier bars 16 are moved forwardly, in the reciprocatory movement thereof, these pawls engage rear edges of the printing devices to correspondingly move them but when the carrier bars are moved rearwardly these pawls pass below the printing devices to engage the rear edge of the printing device rearwardly in the guideway of the printing device previously engaged thereby. Thus printing devices are moved through the guideway in a step-by-step manner.

The carrier bars are operated from the main drive rocker 17 (Figs. 3, 4, 7, 9 and 12) which is pivotally mounted at 18. The main drive rocker is operated by a link 19 connected to a crank 20 on the drive shaft 21, a suitable clutch structure, generally indicated by 22 (Fig. 1), being employed to connect the shaft 21 to the flywheel drive pulley 23 which receives movement through belts 24 from a suitable source of power such as an electric motor. When the clutch is engaged the shaft 21 rotates with the flywheel 23 and the crank 20 is operated to thereby impart a reciprocatory movement through the link 19 to the rocker 17. The rocker 17 includes an arm 25 (Figs. 4, 9 and 12) to which a link 26 is connected, said link also being attached to the rocker 27 pivotally mounted at 28 on the boss 29 depending from the frame 30 of the machine. Arranged to operate with the rocker 27 are upwardly extending arms 31 (Figs. 9 and 12) pivotally connected to the carrier bars 16 through links 32. Thus except under conditions to be hereinafter described the carrier bars are operated whenever the main drive rocker 17 is operated. The carrier bars move the printing devices through the guideway 14 from the magazine M to the anvil A (Fig. 12) and when the devices are positioned on said anvil impressions are made therefrom, after which the printing devices move over the guideway 33 to the usual packer mechanism to be stored in the galley G (Fig. 1) in the same sequence as that in which they were arranged when introduced into the magazine M. At the end of each cycle of operation the carrier bars stop in a forward position, that is to say, the position occupied by these bars after they have advanced a printing device into printing position. A platen housing 34 is mounted above and in vertical alignment with the anvil A.

As best illustrated in Figs. 1 and 11, the platen housing 34 is mounted at one end of a horizontally extending arm 35, the opposite end of which is secured to a bracket 36 fastened to the frame 30, the platen housing 34 being supported forwardly of the arm 35 by a bracket 37, as illustrated in Figs. 3 and 4. The platens P and P' are mounted in the platen housing 34 and project from the lower end thereof and in the present instance the platen P' is twice the width of the platen P. These platens are mounted in the housing 34 in a manner substantially similar to that disclosed in my co-pending application Serial No. 451,812, filed May 12, 1930. As therein described these platens are retained in a cocked position under spring tension and when released, move downwardly toward the anvil to make an impression on a sheet positioned below the platens, through an ink ribbon arranged over the printing device between said device and the sheet. This ink ribbon R and associated mechanisms are of the usual type and the ribbon is moved across the printing device step by step, the ends thereof being wound on spools 38 (Fig. 1) positioned below the galley G. The platens may be manually released by operating the buttons 39 or they may be automatically released to perform a printing operation in the following manner:

On the end of the rocker 17 opposite that to which the arm 25 is connected an arm 40 (Fig. 7) is secured and the link 41 is pivotally connected to the outer end of the arm 40. The upper end of the link 41 is pivotally connected to an arm 42 having one end thereof secured to a shaft 43 extended through the arm 35. On the end of the shaft 43 opposite to that to which the arm 42 is connected is a dog 44 (Figs. 3 and 4) having a lip 45 at the outer end thereof. The lip 45 is engageable with one end of a spring-pressed plate 46 pivotally mounted on the arm 47 of the bell crank 48. On the arm 49 of this bell crank is a pin 50 engageable with either the rod 51 or the rod 52 respectively connected to the devices controlling the platens P' and P. Movement imparted to the rocker 17 is transmitted through the arm 40 and link 41 to arm 42, thence through shaft 43 to dog 44 which engages the plate 46 and pivots the bell crank 48 to move the pin 50 thereon into engagement with the end of either the rod 51 or 52, depending upon which is aligned therewith, to thereby release the platen controlled by said rod to perform a printing operation. On the dog 44 is a roller 53 engageable with a finger 54 pivotally mounted and having connected thereto an arm extended into the platen housing. As the dog 44 continues to move after disengagement of the lip 45 from the end of the plate 46, the roller 53 engages the end of a finger 54 and restores the platen which has been released, as described in my previously referred to application. The foregoing movements occur when the rocker 17 is moving in one direction and when said rocker moves in the other direction it is manifest that the lip 45 will pass the

plate 46 and will merely compress the spring acting thereon to thereby permit the lip 45 to be repositioned above the plate 46 to again be in position to operate either the platen P or the platen P'. In order to position one or the other of the rods 51 or 52 in alignment with the pin 50 the ends of these rods are passed into a foot portion on the arm 55, which arm is moved in a manner to be described to dispose one or the other of the rods in alignment with said boss.

The sheet to be printed is clamped in a lister, generally indicated by 56, of the character disclosed in my referred to application. This lister includes clamping devices 57 (Figs. 1, 8 and 11) to receive the sheet which is longitudinally moved past the housing 34 in a step by step manner to receive impressions at intervals thereon spaced apart in predetermined amounts. The lister, and therefore the sheet, are arranged on the table top 58. The lister is movable along a bar 59, the opposite ends of which are supported in suitable brackets 60 and 61. A gear 62 (Fig. 1) is rotatably mounted on one end of a shaft 62' (Fig. 8) journaled in the bracket 60 and meshes with a rack 63 (Fig. 8) on the table top. A gear 64 on the other end of the shaft 62' adjacent the bracket 61 meshes with a rack 65 on the table top. These gears and racks insure movement of the lister in parallelism with a line extending at right angles to the line of movement of the printing devices. To move the lister slide along the bar 59 a locking rack 65 and a spacing rack 66 are provided. Means, to be hereinafter described, engage one end of the spacing rack to dispose it in cocked position from which it is released by suitable means (one form of such means being described in the referred to application), and when released the rack moves from cocked position to advance the lister slide and the sheet longitudinally past the housing 34. When the lister is positioned transversely of the table top 58 to receive impressions from the printing devices in the columns wherein the legal description is to be printed the spacing rack will advance upon each complete cycle of operation of the machine but when the lister is positioned to locate the sheet to receive impressions in the space wherein the name and address of the owner of a parcel of property is printed which is out of transverse alignment with the legal description, the spacing rack will not be operated since the means operating it is rendered inoperative and therefore the sheet will not be advanced.

Normally the lister is in such a transverse position that the portion of the sheet to receive the legal description is aligned with the printing device above the anvil and consequently with the housing 34. When, however, a lead printing device moves into printing position it is desirable that the lister be shifted to align another portion of the sheet with the printing device above the anvil. The means bringing this about function when a lead printing device is moving onto the anvil and include a bracket 67 (Figs. 1, 2, 3, 4, and 11) at the forward end of the bed having bearings therein in which a vertically extending shaft 70 is journaled. A sleeve 75 is disposed about the shaft 70 and a pinion 71 is fast on the sleeve. This pinion meshes with a rack 72 slidable in the guide 73 in the bracket 67. One end of a link 74 is pivotally connected to the rack 72 and the other end is connected to the main drive rocker 17. Each time the drive rocker 17 is moved in one direction the rack 72 is moved through the guide 73 and imparts slightly more than a one hundred eighty degree movement to the pinion 71 and since a reciprocatory movement is imparted to the rack through the link 74 from the drive rocker it is manifest that an oscillatory movement will be imparted to the pinion. On the sleeve 75 is an arm 76 (Figs. 2 and 5) having a pawl 77 pivotally mounted thereon. At the upper end of the shaft 70 there is a disc 78 having diametrically opposed notches 79 and 80 therein. A spring 77' urges the nose of the pawl 77 toward the periphery of the disc 78 and it may therefore seat in either the notch 79 or 80 when aligned therewith unless otherwise prevented, as will be explained.

At the time the main drive rocker is moved rearwardly the carrier bars are similarly moved and a pair of pawls thereon will engage the rear edge of a lead printing device disposed one position out of printing position to move this printing device onto the anvil. When the main drive rocker is moved rearwardly the arm 76 and the pawl 77 are moved in a clockwise direction (as viewed in Fig. 5) and if, for example, the pawl has been seated in the notch 80 it will move to seat in the notch 79, as shown in Fig. 5. When the main drive rocker moves forwardly the carrier bars will move the lead printing device onto the anvil and the pawl 77 will be moved in a counter-clockwise direction (as viewed in Fig. 5) and since the nose of the pawl will at this time be seated in the notch 79 the disc 78 will be turned to rotate the disc 81 positioned above the disc 78 and fast on the shaft 70. In the upper face of this disc is a diametrical slot 82 and adjustably retained therein is a slide 83' and pivotally connected to this slide is a link 83. The other end of this link is connected to a slide 84 mounted in a guideway 85 in the frame 30. The bracket 60 is connected at 86 (Fig. 8) to the slide 84. When the parts are positioned as shown in Fig. 5 and the disc 78 is turned, the disc 81 will be rotated and movement will be transmitted through the link 83 to the slide 84 which will move along the guideway 85. The lister 56, connected to the slide 84, will be shifted transversely of the housing 34 to so position the sheet that an impression may be made thereon in the column in which the name and address of the property owner is to be printed. Upon the next operation of the main drive rocker, during the time it is moving rearwardly, the platen P will be released to print a name and address on the sheet but at this time the carrier bars will be disconnected from the main drive rocker as will be explained. Nevertheless as the main drive rocker moves in this direction it will move the pawl 77 to permit it to seat in the notch 80 which at this time will be in a position diametrically opposite to that illustrated in Fig. 5. Means to be described are provided to prevent the pawl 77 from seating in a notch disposed similarly to the disposition of the notch 80 at this time, but the boss 80' (Fig. 5) on the disc 78 engages a portion of this means and renders it inoperative so that the pawl 77 will seat in this notch 80. The provision of this boss 80' insures that the lister will not remain in the position wherein names and addresses are printed on the sheet for longer than one printing operation. After the pawl 77 has seated in the notch 80 the main drive rocker will again move forwardly and at this time the disc 81 will again be rotated and by reason of the eccentric connection of the link 83 to this disc through the adjustable slide 83' the lister will at this time be shifted back into

its original position. Upon the next operation of the main drive rocker the platen P' will be released to print the portion of the legal description provided on the lead printing device and at this time the carrier bars will again be connected to the main drive rocker to be moved therewith and consequently the pawls thereon will engage the rear edges of the printing devices in the guideway and these printing devices will be moved forwardly.

The printing device following the lead printing device, which has been disposed on the anvil, may either be another lead printing device or it may be a follower printing device. In the event it is a lead printing device, the just described operations will be repeated but should it be a follower printing device the previously referred to means for preventing the pawl 77 seating in one of the notches to shift the lister will be rendered operative. This means includes the solenoid 87 (Fig. 5) having an armature 88 which, when the solenoid is energized, engages one end of a lever 89 pivotally mounted at 90 to dispose the roller 91 on the other end thereof in position to engage the tail of the pawl 77 to hold this pawl from engagement with the periphery of the disc 78. Only when the boss 80' acts as described or when the solenoid 87 is deenergized will the pawl 77 engage and move the disc 78. The boss 80' is on the periphery of the disc 81 and is in the same plane as the arm 89 and consequently when it is in a position opposite to that shown in Fig. 5 it will shift arm 89 slightly in a clockwise direction so that the pawl 77 will seat in the notch to operate the lister to return it to its initial position, and it is only on the succeeding operation that the arm 89 will disengage the pawl 77 to prevent it from seating in a notch on the crank disc.

The solenoid 87 operates early in each cycle of operation and the boss 80' delays the operation of the parts controlled by the solenoid until the lister has returned to its right hand position shown in Fig. 5. To retain the disc in either of the two positions into which it may be moved I provide diametrically opposed recesses 92 in the periphery thereof in which the nose 93 on one arm of the bell crank 94 may seat. The nose is urged toward the notches by the spring 94' acting on the other arm of the bell crank. The nose 93 includes a projection 93' which is engaged by the boss 76' on the arm 76 when said arm moves to position the pawl to seat in a notch to move the disc 78. The solenoid 87 is only deenergized when a lead printing device is to move into printing position and at all other times during the operation of the machine this solenoid is energized and the particular manner in which this is brought about will be described hereinafter.

The lead printing devices are so divided that the name and address of the owner of the parcel of property occupies but a relatively small portion thereof while the legal description is carried by the remaining portion and on the follower printing devices the legal description is mounted on the same portion of the printing device as it is mounted on the lead printing devices. Since the area devoted to the name and address of the parcel of property is relatively narrow and the portion devoted to the legal description is relatively wide I provide correspondingly narrow and wide platens to perform printing operations from the respective portions of the printing device. Thus, when the lister is in normal position transversely of the machine so that the sheet will receive impressions on the portion thereof in which the legal description is to be printed it is desirable that the wider of the platens indicated by P' be operated and when the lister is in the other transverse position so that the sheet is arranged to receive impressions in the portion thereof where the name and address of the owner is to be printed the narrower platen is operated. To bring this about I provide along the rear edge of the machine a roller 95 (Figs. 6, 7, and 8) mounted on an arm 96 fast on a shaft 97 extended transversely of the machine. On the bracket 61 I provide a cam 98 (Figs. 6 and 8) and when the lister is moved into the position other than normal the roller 95 is moved by the cam and rocks the shaft 97. On one end of the shaft 97 is an arm 99 and pivotally connected to the free end thereof is a link 100, the other end of which is pivotally connected to one arm of a bell crank 102 (Fig. 7) pivotally mounted at 103 on the bracket 104. A link 105 is pivotally connected to the other arm of the bell crank and to an arm 106 fast to one end of a shaft 107 journaled in the bracket 36 and the housing 34 and extended across the machine below the arm 35. It has been pointed out that the rods 51 and 52 (Fig. 4) are mounted in the foot portion on the arm 55. This arm 55 is mounted on the shaft 107 which is extended through the hollow shaft carrying the finger 54. Therefore, when the cam 98 moves the roller 95, the shaft 107 will be rocked to move the arm 55 to thereby position the rod 52 in alignment with the pin 50 and thus when the bell crank 48 is moved the platen P will be released. Since this will occur at the time the carriage is positioned out of normal position it is manifest that the name and address of the owner of the parcel of property will be printed on the sheet at the proper place. As soon as the lister moves back into normal position the cam will permit the roller to move obversely to the first movement and the parts will therefore assume the normal position illustrated in Fig. 4, and when in this normal position the rod 51 will be aligned with the pin 50 so that on each operation of the bell crank 48 the platen P' will be operated to print the legal description on the sheet, for the portion of the sheet to receive this will normally be aligned with the platens.

It has been pointed out that the carrier bars are not moved rearwardly to change printing devices when the name and address of an owner of a parcel of property is being printed. It has also been shown that means are rendered operative to cause a particular platen to operate when the name and address is to be printed and since this platen is to operate and the carrier bars are to be rendered inoperative at the same time I utilize the same means to bring about these conditions. It has been pointed out that the shaft 97 is moved when the lister is shifted into position to locate the sheet to receive a name and address impression. Therefore, to the end of this shaft opposite to that to which the arm 99 is connected I secure an arm 108 (Figs. 3 and 8). To the free end of the arm 108 a link 109 is connected and this link is also connected to one arm of the bell crank 110 pivotally mounted at 111. Disposed between an arm of the bell crank 110 and a spring anchor on the frame is a spring 112, and this spring acts through the bell crank 110, link 109, and arm 108 to position the shaft 97 in normal position from which it is moved by the engagement of the cam 98 with the roller 95. Depending from the bell crank 110 is an arm 113. It has been pointed out that the arms 31

are arranged to operate with the rocker 27 and the depending arm 113 controls this operation. On the rocker 27 is a pawl 114 (Figs. 3 and 12) having a pin 115 thereon which is engaged by the depending arm 113 when the arm 108 is moved with the shaft 97, and when this pin is so engaged, the nose 116 of the pawl is disengaged from the block 117 on the arm 31. Thus, when the rocker 27 is moved the pawl 114 will not transmit movement to the arms 31 and consequently the carrier bars will not be moved. Normally the nose 116 of the pawl 114 engages the block 117 and upon each operation of the rocker 27 with the main drive rocker 17 the arms 31 are moved to consequently move the carrier bars.

It has been described how impressions are made in transverse alignment on the sheet from a lead printing device and it has also been stated that the various impressions from different printing devices are made on the sheet in vertical alignment. This vertical alignment of the printing impressions is accomplished by spacing the impressions made from the legal description portion of the printing devices and is carried out immediately after a legal description printing operation has been performed on the sheet. It has been described that the platens are operated through the medium of the link 41 pivotally connected to the arm 42 which has one end secured to the shaft 43. The link 41 and the arm 42 are pivotally connected at 118 and one end of a link 119 (Figs. 2, 3, 4, 6, and 7) is likewise pivotally connected at this point and the other end of said link is pivotally connected to an arm 120 (Figs. 2, 3, 6, and 7) free on but depending from the shaft 121 journaled in the brackets 122 carried by the frame 30. Fixed to the shaft 121 adjacent the arm 120 is an arm 123 (Fig. 6) carrying a square block 124 engageable with a pad on the arm 120 to thereby urge said arm into normal position. Mounted on the arm 120 is a pawl 125 having a notch 126 therein normally engaged with the block 124 by the spring 127 to interconnect the arms 120 and 123 so that they will act as a unit. On the pawl 125 is a pin 128 (Fig. 7) engageable with the tapered end of the arm 129 fast on the shaft 97. When the shaft 97 is operated by the engagement of the cam 98 with the roller 95, the arm 129 is moved into position so that the pin 128 is engaged thereby and the pawl 125 is so pivoted that the notch 126 is disengaged from the block 124 and therefore the arm 121 is disconnected from the arm 120 and upon oscillation of the link 119 no movement is imparted to the shaft 121. However, this only occurs when the lister is in position to print a name and address and consequently when the lister is in the position to print a legal description, operation of the link 119 will cause operation of the shaft 121. Depending from the shaft 121 is a substantially U-shaped bracket 130 (Fig. 6), the bight portion of which is engageable with a roller 131 on the end of the spacing rack of the lister. This spacing rack is substantially similar to and operates in the same manner as that described in my co-pending application, Serial No. 451,812, filed May 12, 1930, and as described therein each operation of the spacing rack causes the lister to be advanced in an amount equal to the spacing of the notches in said rack, this causing vertical spacing between the items printed on the sheet.

It has been pointed out that it is desirable to number the items and this numbering is preferably only carried out when a lead plate is in printing position. An accumulating numbering device 132 (Figs. 3, 4, and 5) is provided having type characters at spaced intervals on the periphery of the numbering wheels thereof and this numbering device is operated in the following manner: On the frame of the machine a shelf 133 is pivotally mounted on which the numbering device 132 is detachably mounted. The operating arm 134 of the numbering device carries a pin 135 arranged in the bifurcation 136 in the plate 137 secured to the casting 138 pivotally mounted at 139 on the frame. The casting 138 and plate 137 are normally held in the position illustrated by the spring 140 extended between the plate and a spring anchor on the shelf 133. Connected to the casting 138 is an adjustable link 141 which is likewise connected to the arm 142 pivoted on the stud 18. The arm 142 carries a pin 143 selectively engageable with either the notch 144 or the notch 145 formed in the arm 146 fast on the shaft 147 journaled in the frame. The arm 146 is urged upwardly by the spring 148 (Fig. 4) to insure engagement of the notches with the pin 143. Freely mounted on the shaft 147 inwardly of the arm 144 is an arm 149 (Fig. 12) having a pin 150 thereon to which one end of a spring 151 is secured, the other end of said spring being secured to a pin 152 fast in the shaft 147. A shoulder on the arm 149 engages the pin 152 to limit the action of the spring 151 to properly position said arm 149. The printing device immediately behind that on the anvil A is in selector position and the detachable tabs or other control means on this device are engageable by detector members. One of these detector members is indicated by 153 (Figs. 4 and 12) and the lower end thereof extends into a bifurcation at the outer end of the arm 149 and engages a pin extended across this bifurcation. When a lead printing device is in selector position and the numbering device is to be operated, as will be explained more fully, it will have a tab 154 thereon disposed in the dotted-line position of Fig. 5 and consequently the detector member 153 will be pivoted downwardly and therefore the arm 149 will be similarly pivoted, thus placing the spring 148 under tension. When the arms 31 (Fig. 4) are operated, the shaft 28 will be turned as these arms are mounted on this shaft. Also mounted on the shaft 28 is an arm 155 (Figs. 4 and 12) having a spring-pressed pawl 156 thereon which, when the shaft 28 is turned, moves upwardly and engages the toe 157 on the arm 142 and consequently the arm 142 will move with the pawl 156 until said pawl has moved in such an amount that the nose thereof disengages the toe and this occurs at a time after the pin 143 has moved beyond the notch 145. As soon as this disengagement occurs the spring 140 will act through the link 141 to pivot the arm 142 in a counter-clockwise direction, as viewed in Fig. 4, and depending upon the position of the arm 146 which is determined by the detector member 153 the pin 143 will seat in either the notch 145 or the notch 144. When the detector member 153 has been moved downwardly by the engagement of a tab therewith the pin will seat in the notch 144 and in moving into engagement with this notch the link 141 will be moved rearwardly and consequently the plate 137 will be so moved and therefore the arm 134 will be moved from a forward position into that illustrated because of the engagement of the pin 135 in the bifurcation 136. When the link 141 is moved by the engagement of the pawl 156 with the toe 157, the casting 138

will so pivot that it will disengage the step 158 (Fig. 4) on the bottom of the shelf 133 and this will permit said shelf to pivot downwardly and it is at this time that the arm 134 will pivot into a forward position, thus causing the numbering device to accumulate. However, when the pin 143 seats in the notch 144 the casting 138 will elevate the shelf 133 as it moves over the rounded corner adjacent the step 158 and when the shelf is elevated the numbering device 132 will be in a position to print when a platen is operated, the numbering device being located in transverse alignment with the anvil A. However, when the detector member 153 does not engage a tab the arm 146 will not be positioned as heretofore described and consequently when the pawl 156 disengages the toe 157 the pin 143 will seat in the notch 145. Therefore, the upper end of the casting 138 will rest on the step 158 and the numbering device will not be elevated nor will the arm 134 be actuated to cause the numbering device to accumulate.

The tab 154 is a pivot tab and may be either disposed in a position to engage the detector member 153 or may be disposed as shown in full lines wherein it will not engage said detector member. This tab has been described as being on a lead printing device and when an original roll is made up all of these tabs on the lead printing devices will be disposed in a similar position as, for example, that shown in dotted lines in Fig. 5. Therefore, as the printing devices are passed through the machine the numbering device will be operated each time a lead printing device moves through selector position and onto the anvil A. Consequently, the impressions made from the lead printing devices will be consecutively numbered. It is important that this consecutive numbering be maintained but it is also possible that additional printing devices will be introduced into the sequence. When these additional printing devices are introduced, the tabs 154 thereon will be disposed in the other of the pivotal positions thereof as, for example, that illustrated in full lines in Fig. 5. Consequently, when these added printing devices are passed through the machine with the other printing devices, the numbering device will not be operated. However, when it is desired, for example, to make up a new roll and to number all of the impressions made from the lead printing devices before it is desirable to change the positions of the pivot tab, an additional detector member similar to the detector member 153 will be installed in alignment with the alternate position of the pivot tab. The arm 149 is so arranged that it will cooperate with this additional detector member in the same manner in which it cooperates with the detector member 153. Therefore, when the printing devices are passed through the machine each lead printing device having a pivot tab thereon will be numbered. However, it may be desirable to again pass the printing devices through the machine and number only those having the pivot tabs thereon in the dotted-line position of Fig. 5, and this may be done by removing the additional detector member. However, after a new roll is made up and all of the impressions made from lead printing devices having a pivot tab thereon in either position have been consecutively numbered and no more sequential passages of the printing devices are required from the old set-up, all of the pivot tabs will be preferably moved into one or the other of the positions and one or the other of the detector members will be removed. This permits additional printing devices to be introduced into the sequence, for the pivot tabs 154 of these added printing devices may be disposed in the other of the positions and consequently only those printing devices numbered on the master or first sequential passage will be numbered on subsequent passages of the printing devices. The two detector members are used when it is desired to make up a new tax roll and at all other times only one detector member is used. Consequently, the old tax roll may be readily distinguished until all of the tabs are moved into similar positions, at which time the printing devices will be arranged in accordance with the new tax roll and, as stated, the sequence of this new tax roll will not be altered by the addition of other printing devices, providing the pivot tabs 154 thereon are disposed in the other of the pivotal positions.

It has been described that the tax roll is printed on sheets of a determined size and it has also been stated that all of the legal description may be arranged on a single lead printing device or that it may be arranged on a lead printing device and one or more follower printing devices. It is also desirable that all of the legal description appear on the same sheet of the roll as that on which the name and address of the owner appears. If, however, a lead printing device should move into position to be printed and this lead printing device should have four follower printing devices and there would only be three lines left on the sheet, it is manifest that this lead printing device should not be printed since it would be necessary under this condition to print a portion of the legal description on the subsequent sheet. I have therefore provided an indicating arrangement whereby as each lead printing device moves into printing position the number of follower printing devices associated therewith will be indicated. Furthermore, I have so arranged the device that when a lead printing device not having any follower printing devices moves into printing position this indicating device will not be operated, for when the indicating device is operated operation of the machine is interrupted. In the present instance, I have provided a plurality of signal lights to indicate the number of follower printing devices and the manner in which these signal devices are arranged and the operation thereof will now be described. Supported within the arm 35 is a plate 159 (Fig. 7) and mounted thereon at spaced intervals are a plurality of electric lamp sockets 160 (Fig. 11) having electric lamps 161 therein. In the front wall of the arm 35 are a plurality of openings 162 (Figs. 1 and 7) closed by lenses 163 held in position by flanges at the ends of tubular shields 164 surrounding the lamps 161. These lenses may be made of different colors as will be described.

On the lead printing devices another tab 165 is provided which may either be a full width or a half width tab. When a lead printing device has no follower plates then the half tab, indicated in full lines in Fig. 5, is used but when the lead printing device has one or more follower printing devices a full tab, indicated by 165' (Fig. 5) is used. A detector member 166 (Fig. 12) is arranged to engage only a tab such as 165'. The lower end of the detector member 166 rests on a spring contact 167 disposed above and normally spaced from a spring contact 168. When the detector member engages a tab 165' it is forced downwardly and engages the spring contact 167 with the spring contact 168, thereby arranging the circuit including these contacts to be oper-

able when the timing switch therefor is closed. This timing switch 169 (Fig. 3) is mounted on the frame of the machine. A double-armed lever 170 is pivotally mounted on the frame of the machine and one arm thereof engages the operating lever of the timing switch 169 and connected to the other arm thereof is a link 171 which rests on a block 172 on an arm 173 fast on the shaft 28. Thus, each time the arms 31 move rearwardly to cause the pawls on the carrier bars to engage the rear edges of succeeding printing devices the block 172 engages a shoulder 174 on the link 171 and thereby motivates the double-armed lever 170 to close the timing switch 169. As will be described, when this timing switch is operated the circuit to the stopping mechanisms will be rendered operative to disconnect the main driving clutch and this occurs after the carrier bars have moved forwardly to advance the printing devices notwithstanding the fact that the circuit will be closed before the carrier bars have reached forward position for the stopping lug will not disconnect the clutch until such position is reached. This closing of the timing switch, when the contacts 167 and 168 are engaged, likewise closes a circuit to one of the lamps 161 as will now be explained by referring to the wiring diagram (Fig. 13).

The line wires 175 and 176 are passed through the main control switch 177 (Fig. 1) and the line wire 178, which is a continuation of the line wire 175, is directed to a contact strip 179. The wire 180 which is a continuation of the line wire 176 is directed to a contact strip 181. A conductor 182 extends between the contact strip 181 and the timing switch 169. A conductor 183 extends between the timing switch and the contact strip 184. A conductor 185 extends between the contact strip 184 and the contact 168. A conductor 186 extends between the contact 167 and a contact strip 187. A conductor 188 extends between the contact strip 187 and the lamp 161*a* and this lamp is arranged behind the lens at the left hand end of the series as shown in Fig. 1. The lens 163 associated with this lamp is preferably colored red although any distinguishing color may be used. A conductor 189 extends from the lamp 161*a* and is connected to one terminal of each of the other lamps 161 and a conductor 190 connects this conductor to the contact strip 179. Consequently, when the main switch 177 is closed and when the contacts 167 and 168 are engaged by the action of a tab 165' on the detector member 166 and when the timing switch 169 is closed, a circuit to the lamp 161*a* will be set up in the following manner: from contact strip 181, conductor 182, closed timing switch 169, conductor 183, contact strip 184, conductor 185, contact 168, contact 167, conductor 186, contact strip 187, conductor 188, lamp 161*a*, conductor 189, conductor 190, to contact strip 179.

In my co-pending application, Serial No. 451,812, filed May 12, 1930, I describe a stop mechanism rendered operable when the last of the printing devices moves from the magazine and as described therein this stop mechanism includes a solenoid which when energized operates through suitable linkage to disconnect the main operating clutch. Herein this solenoid is indicated by 191 (Fig. 3). As illustrated in Fig. 13 a conductor 192 extends from the contact strip 187 to one terminal of the solenoid 191 and a conductor 193 extends from the other terminal of this solenoid to the contact strip 179. Thus, the solenoid 191 is connected in parallel with the lamp 161*a* and consequently each time the lamp 161*a* is rendered operative the solenoid 191 will be energized to operate the stop mechanism. Thus, each time a lead printing device having a full tab 165' thereon moves into printing position operation of the machine will be interrupted. The circuit which energizes the relay 191 and operates the lamp 161*a* will be operative only so long as the timing switch 169 is closed. Consequently, as the arm 173 turns, the edge of the block 172 extending at right angles to that which engaged the shoulder 174 will engage the link 171 and pivot the same upwardly to thus disengage the block from the shoulder which occurs at the extreme rearward position of the carrier bars and this permits the spring 170' (Fig. 3) to move the arm of the lever 170 from engagement with the operating lever of the switch 169. However, the machine will not stop until the carrier bars have moved the printing devices forwardly. The opening of the switch closely follows the closing of the circuit so that the lamp 161*a* and the relay 191 are operated only momentarily.

It has been pointed out that it is desirable to indicate the number of follower printing devices associated with the lead printing device in printing position to permit the operator to determine whether or not all of the follower printing devices can be printed on the same sheet as that on which the information contained on the lead printing device will be printed. Interruption of operation of the machine may be brought about by other means than the movement of a lead printing device into printing position having follower printing devices. Consequently, I provide an indicating means which will show that the interruption of the operation of the machine has been brought about by a lead printing device with follower printing devices. The lamp 161*b*, juxtaposed the lamp 161*a*, is arranged behind a lens 163 which may be, for example, colored blue and when the operation of the machine is interrupted as just described this lamp 161*b* is rendered operative. The detector member 166 is arranged at selector position in the machine and aligned therewith but disposed at printing position is a detector member 194 (Fig. 12) which, when a lead printing device having a tab 165' thereon moves into printing position, is operated. This detector member 194 rests on a spring contact 195 associated with a spring contact 196 and when the detector member 194 is moved downwardly these contacts are engaged. However, the circuit through these contacts will not be closed until the operation of the machine is interrupted at which time the timing switch 197 (Fig. 6) will be rendered operative. It has been described that the shaft 121 is operated upon each printing device feeding operation of the main drive rocker 17 and as the lead printing device will have just been fed it is manifest that this shaft will have been operated. Consequently, the arm 198 thereon will be operated, and this arm carries a roller which will engage the operating lever of the timing switch 197 to close this timing switch at the time the machine comes to rest to therefore hold this timing switch closed. Consequently, a circuit will then be closed to the lamp 161*b* in the following manner: from the contact strip 181, through conductor 197', switch 197, conductor 199, contact strip 200, conductor 201, contact 196, contact 195, conductor 202, contact strip 203, conductor 204, lamp 161*b*, conductor 189, conductor 190, to contact strip 179. The switch 197 will be held closed

until the shaft 121 is operated at the time the lead printing device moves from printing position. Therefore, the operator may readily ascertain that the machine has been stopped by the movement of a lead printing device into printing position which has a follower plate. If this lead printing device has but one follower plate, in the machine as arranged, no other indicating means will be rendered operative save the lamp 161*b* but, if desired, an indicating means such as that now to be described may be provided which may be rendered operative under such a condition. However, should the printing device have two or more follower printing devices an additional indicating means will be rendered operative and in the present instance this additional indicating means is arranged to care for a lead printing device having as many as five follower printing devices, for it has been found that this number is sufficient to care for the majority of situations.

The follower printing devices will be in the printing device guideway between printing position and the magazine M and sufficient space is provided to accommodate five follower printing devices therein. It has been pointed out that no signal, other than lamp 161*b*, is provided when there is but one follower printing device. Signals, however, are provided for more than this number up to five and these signals are rendered operative by switches associated with the printing device guideway. A plate 205 (Figs. 8 and 10) extends across the portion of the printing device guideway 14 between the selector position and the magazine M and has aligned slots 206 therein. Pivoted fingers 207 include head portions extendible through these slots and these fingers rest on spring contacts 208 arranged above and normally spaced from spring contacts 209. On the follower printing devices tabs are provided which, when a lead printing device is in printing position, engage the fingers 207 and force them downwardly. Thus, should a lead printing device having three follower printing devices move into printing position the tabs on the second and third printing devices will engage the first two fingers 207 nearest printing position. Consequently, the contacts 208 and 209 cooperating with these fingers will be engaged and circuits will be closed through the lamps 161*c* and 161*d*. These lamps will be rendered operative simultaneously with the lamp 161*b* since the lamps 161*c* and 161*d* are connected in parallel with the lamp 161*b*, this being shown in Fig. 13 wherein it is illustrated that conductors 210 extend between the contact strip 203 and the various contacts 209. From the various contacts 208 to the respective lamps 161*c* to 161*f*, inclusive, conductors 211 are extended. Thus, depending upon which of the contacts 208 and 209 are engaged the lamps 161*c* to 161*f* will be operated and in the present instance these will be the lamps 161*c* and 161*d*. If desired, suitable indicia may be associated with the lenses of these lamps which will indicate the number of follower printing devices. The operator in the described arrangement will ascertain whether or not there are three lines remaining on the sheet and if this is true the main operating clutch will be reengaged and operation of the machine resumed.

When a lead printing device is in printing position two impressions are made therefrom and the lister is shifted but the lister does not shift when follower printing devices are in printing position. The shifting of the lister is prevented by the energized solenoid 87. This energized solenoid is in circuit with two contacts 212 and 213 (Fig. 4). A detector member 214 is provided at selector position in the machine and has at the lower end thereof an insulated part 215 which normally rests on the contact 212. The detector member 214 is aligned with the half tab 165 and consequently the detector member 214 will be moved downwardly each time a lead printing device moves into selector position whether or not this lead printing device has follower printing devices. This downward movement of the detector member 214 separates the contacts 212 and 213 and thereby opens the following circuit which includes the solenoid 87. From the contact strip 181 a conductor 216 is directed to the contact 212 and from the contact 213 a conductor 217 extends to the solenoid 87 from whence a conductor 218 extends to the contact strip 179. This deenergizes the solenoid 87 and permits the lever 89 to function as described.

It is desirable that operation of the machine be interrupted when the sheet carried by the lister moves into position so that the lowermost portion or last line thereon is in printing position. I therefore provide a switch consisting of the contacts 219 and 220 (Fig. 7) and the insulating strip 220′ having a button 221 thereon. When the lister moves into such a position that the last line of the sheet is in printing position the finger 222 on the lister engages the button 221 to thereby engage the contacts 219 and 220 and closes the following circuit: from contact strip 181, through conductor 182, timing switch 169, conductor 183, contact strip 184, conductor 223, contact 219, contact 220, conductor 224, contact strip 187 and thence through the circuit to energize the solenoid 191 and lamp 161*a* which stops the machine as previously described. In order to insure that operation of the machine not be resumed until the lister has been repositioned the contacts 220 and 221 are preferably latched in engagement with each other. When the button 221 is moved downwardly the end of the insulating strip 220′ moves into the notch 225 in the arm 226 medially mounted on the support 227. To the end of the arm 226 opposite that having the notch 225 therein a link 228 is connected, which link extends to the front of the machine and has a button 229 (Fig. 1) thereon, which button must be pushed to move the rod 228 to release the insulating strip 220′ from the notch 225.

The main drive clutch is engaged by a magnet 230 connected through a conductor 231 to the contact strip 179. The magnet is likewise connected to a push button switch 232 (Fig. 1) through a conductor 233, which switch is also connected by a conductor 234 to the contact strip 281. By closing the switch 232 the magnet 230 may be energized to thereby engage the main operating clutch. When it is desired to stop the machine, the push button switch 235 (Fig. 1) is closed which closes a circuit from the contact strip 181 through conductor 236, switch 235, conductor 237 to contact strip 187 and thence through lamp 161*a* and solenoid 191, as previously described. When the main switch 177 is closed, the motor 239 is set in operation at once although the machine does not begin operating until the magnet 230 is energized to engage the main operating clutch. The motor is connected between the contact strips 179 and 181, a conductor 238 extending between the motor and the contact

strip 181 while a conductor 240 extends between the motor and the contact strip 179.

It is manifest from the foregoing description that I have provided a printing machine through which a sequence of lead and follower printing devices may be passed. The operation of the machine is controlled from the lead printing devices and the functioning of the various mechanisms therein is not altered by the follower printing devices as these devices pass through selector and printing positions in the machine. Moreover, the machine is arranged to stop under certain conditions of operation and a signal is provided to indicate when the operation of the machine has been interrupted by the functioning of certain of the instrumentalities provided therein. The machine also includes a signal which will indicate that the machine has been stopped for a special purpose as, for example, when a lead printing device having follower printing devices moves into printing position. A signal is also provided for indicating the number of follower printing devices and this is rendered operative when a lead printing device moves into printing position so that the operator may determine whether or not the information contained on the follower printing devices may be printed on the same sheet as that on which the information on the lead printing device is printed. Operation of the machine will also be interrupted when the last line on a sheet moves into printing position and when operation of the machine is interrupted by the functioning of this means a manually controlled device is provided which must be operated before operation of the machine can be resumed.

This machine is particularly useful in connection with the printing of tax rolls and as it is desirable to number the items appearing on a tax roll I have provided a numbering device in the machine. The operation of this numbering device is controlled by the lead printing devices and as it is desirable to correspondingly number the various lead printing devices on different passages thereof through the machine I have provided an arrangement whereby only those lead printing devices which were numbered on a prior passage of the printing devices will be numbered on subsequent passages even though additional lead printing devices are introduced into the sequence.

I have illustrated and described a selected embodiment of my invention and have described the same in connection with the printing of tax rolls, but it is to be understood that the machine is not limited to this usage. Furthermore, changes and alterations may be made in the construction of the machine without departing from the purview of the following claims:

I claim:

1. In a printing machine, means for moving groups of printing devices through the machine, and means for indicating the number of printing devices in a group thereof being moved through the machine.

2. In a printing machine, means for making impressions from printing devices passed through the machine in groups, and means for indicating the number of printing devices in each group prior to the operation of the impression means on any of the printing devices in the group.

3. In a printing machine, means for making impressions from printing devices sequentially passed through the machine in groups, means for indicating the number of printing devices in the groups, and means operated from one of the printing devices of a group for controlling the indication of the number of printing devices in said group.

4. In a printing machine, means for making impressions from printing devices sequentially passed through the machine in groups, means for indicating the number of printing devices in the groups, and means operated from the first of the printing devices of a group when it is in a predetermined position in the machine for controlling the indication of the number of printing devices in the group.

5. In a printing machine through which groups of printing devices are passed, indicating means, and means controlled by the printing devices of a group for operating said indicating means to indicate the number of printing devices in said group.

6. In a printing machine through which groups of printing devices are passed, means for indicating the number of printing devices in a group, means controlling the operation of the indicating means and including devices operable from the printing devices of a group, and means for rendering said indicating means operative at a predetermined time in the cycle of operation in the machine.

7. In a printing machine through which groups of printing devices are passed, electrical indicating means, and switches controlling the operation of said indicating means operable from the printing devices of the group to thereby indicate the number of printing devices in said group.

8. In a printing machine through which groups of printing devices are passed, electrical indicating means, switches controlling the operation of said indicating means operable from the printing devices of the group to thereby indicate the number of printing devices in said group, and means for closing the circuit to said switches at a predetermined time in the cycle of operation in the machine.

9. In a printing machine through which groups of printing devices are passed, electrical indicating means, means operable from the first of the printing devices of a group thereof for controlling the operation of said indicating means, and means operable from the other printing devices of a group for indicating the number of printing devices in said group.

10. In a printing machine through which groups of printing devices are passed, electrical indicating means, means operable from the first of the printing devices of a group thereof for controlling the operation of said indicating means, means operable from the other printing devices of a group for indicating the number of printing devices in said group, and means for closing the circuit to said switches at a predetermined time in the cycle of operation of said machine.

11. In a printing machine, operating means, means for moving groups of printing devices through the machine, means for indicating the number of printing devices in a group thereof being moved through the machine, and means for interrupting said operating means when said indicating means is rendered operable.

12. In a printing machine, operating means, means for moving groups of printing devices through the machine, means for indicating the number of printing devices in a group thereof being moved through the machine, means for interrupting said operating means when said indicating means is rendered operable, and means for indicating the operation of said interrupting means.

13. In a printing machine, operating means,

means for interrupting operation of said operating means, a plurality of control devices for effecting operation of the interrupting means and connected to an interconnection common thereto and to said interrupting means, means for indicating operation of the control devices and connected to said common means, and other means for indicating which of the control devices operated said interrupting means.

14. In a printing machine, operating means, electrically operated means for interrupting operation of said operating means, a plurality of electrical control devices for effecting operation of the interrupting means and connected to an interconnection common thereto and to said interrupting means, electrically operated means for indicating operation of the control devices and connected to said common means, and other means independent of said common interconnection for indicating which of the control devices operated said interrupting means.

15. In a printing machine, means feeding printing devices through the machine, said printing devices being arranged in groups and having means thereon for identifying the groups, operating means, means controlled by the identifying means on the printing devices for interrupting operation of said operating means when one of a group of said printing devices moves into a predetermined position in the machine, means for indicating the operation of said interrupting means, and means for indicating the number of printing devices in the group thereof in which the printing device carrying the identifying means causing operation of said interrupting means is included.

16. In a printing machine, means feeding printing devices through the machine, said printing devices being arranged in groups and having means thereon for identifying the groups, operating means, means controlled by the identifying means on the printing devices for interrupting operation of said operating means when one of a group of said printing devices moves into a predetermined position in the machine, means for indicating the operation of said interrupting means, means for indicating the number of printing devices in the group thereof in which the printing device causing operation of said interrupting means is included and including means for indicating that said interrupting means has been operated by a printing device in said group.

17. In a printing machine, printing means, means sequentially moving lead and follower printing devices past the printing means, and means for indicating the number of follower printing devices associated with a lead printing device and operable when said lead printing device is positioned in said machine relative to said printing means.

18. In a printing machine, printing means, means sequentially moving lead and follower printing devices past the printing means, means for indicating the number of follower printing devices associated with a lead printing device and operable when said lead printing device is positioned in said machine relative to said printing means, and means for interrupting the operation of said machine upon operation of said indicating means.

19. In a printing machine, printing means, means sequentially moving lead and follower printing devices past the printing means, means for indicating the number of follower printing devices associated with a lead printing device and operable when said lead printing device is positioned in said machine relative to said printing means, means for interrupting the operation of said machine upon operation of said indicating means, and means for indicating the operation of said interrupting means.

20. In a printing machine, printing means, means sequentially moving lead and follower printing devices past the printing means, means operating means for said printing means and moving means for indicating the number of follower printing devices associated with a lead printing device and operable when said lead printing device is positioned in said machine relative to said printing means, means for interrupting the operation of said operating means upon operation of said indicating means, and means for indicating operation of said interrupting means.

21. In a printing machine, printing means, means sequentially moving lead and follower printing devices past the printing means, means for interrupting operation of said machine, means for indicating operation of said interrupting means, and means for indicating the number of follower printing devices associated with a lead printing device and operable upon the operation of said interrupting means.

22. In a printing machine, printing means, means sequentially moving lead and follower printing devices past the printing means means for interrupting operation of said machine, a control device for controlling operation of the interrupting means, means for indicating operation of said interrupting means, and means for indicating the number of follower printing devices associated with a lead printing device and operable upon the operation of said interrupting means, said means for indicating the number of follower printing devices including means for indicating the operation of said control device.

23. In a printing machine, printing means, means sequentially moving lead and follower printing devices past the printing means, means for indicating positioning of a lead printing device having follower printing devices in a position in said machine relative to said printing means, and means for indicating the number of follower printing devices associated with said lead printing device.

24. In a printing machine, printing means, means sequentially moving lead and follower printing devices past the printing means, means for indicating positioning or a lead printing device having follower printing devices in a position in said machine relative to said printing means, means for indicating the number of follower printing devices associated with said lead printing device, and means for interrupting operation of said machine upon operation of said indicating means.

25. In a printing machine, means sequentially feeding printing devices through the machine, numbering means, printing means for making impressions from said printing devices and numbering means, and means for controlling the impression operations made from said numbering means and including a locating member moving means and including a locating member movable into alternate positions to locate said numbering means in and out of printing position, means controlling the positioning of said locating member and including a latchable part, means for latching said latchable part in alternate positions to thereby retain said locating member in one of its alternate positions, means

movable with the printing device feeding means and engageable with said latchable part during a part of the operation of the feeding means and disengageable therefrom to permit latching of the latchable part by the latching means, and means controlled from the printing devices for positioning the latching means to thereby determine the position of the latchable part and the locating member to thereby locate said numbering means in or out of printing position.

26. In a printing machine, means sequentially feeding printing devices through the machine, numbering means, printing means for making impressions from said printing devices and numbering means, and means for controlling the impression operations made from said numbering means and including a locating member movable into alternate positions to locate said numbering means in and out of printing position, means operable from said locating member for accumulating said numbering means, means controlling the positioning of said locating member and including a latchable part, means for latching said latchable part in alternate positions to thereby retain said locating member in one of its alternate positions, means movable with the printing device feeding means and engageable with said latchable part during a part of the operation of said feeding means and disengageable therefrom to permit latching of the latchable part by the latching means, and means controlled from the printing devices for positioning the latching means to thereby determine the position of the latchable part and the locating member to thereby locate said numbering means in or out of printing position and control the accumulation of said numbering means.

27. In a printing machine, means sequentially feeding printing devices through the machine, numbering means, a support for the numbering means, printing means for making impressions from said printing devices and numbering means, and means for controlling the impression operations made from said numbering means and including a locating member movable into alternate positions, means on said support and cooperating with said locating member in the alternate positions thereof to locate said numbering means in and out of printing position, means controlling the positioning of said locating member and including a latchable part, means for latching said latchable part in alternate positions to thereby retain said locating member in one of its alternate positions, means movable with the printing device feeding means and engageable with said latchable part during a part of the operation of the feeding means and disengageable therefrom to permit latching of the latchable part by the latching means, and means controlled from the printing devices for positioning the latching means to thereby determine the position of the latchable part and the locating member to thereby locate said numbering means in or out of printing position.

28. In a printing machine, means sequentially feeding printing devices having identifying means thereon through the machine, numbering means, printing means for making impressions from said printing devices and said numbering means, and means for controlling the impression operations made from said numbering means and including a locating member movable into alternate positions to alternately locate said numbering means in and out of printing position, means controlling the positioning of said locating member and including a latchable part, means for latching said latchable part in alternate positions to thereby retain said locating member in one of its alternate positions, means movable with the printing device feeding means and engageable with said latchable part during a part of the operation of the feeding means and disengageable therefrom to permit latching of the latchable part by the latching means, and means for positioning the latching means to thereby determine the position of the latchable part and the locating member to thereby locate said numbering means in or out of printing position and including detecting means cooperating with the identifying means on the printing devices and a yieldable portion intermediate the detecting means and the latching part of the latching means.

29. In a printing machine, means sequentially feeding printing devices having identifying means thereon movable into alternate positions through the machine, numbering means, printing means for making impressions from said printing devices and said numbering means, and means for controlling the impression operations made from said numbering means and including a locating member movable into alternate positions to alternately locate said numbering means in and out of printing position, means controlling the positioning of said locating member and including a latchable part, means for latching said latchable part in alternate positions to thereby retain said locating means in one of its alternate positions, means movable with the printing device feeding means and engageable with said latchable part during a part of the operation of the feeding means and disengageable therefrom to permit latching of the latchable part by the latching means, means for positioning the latching means to thereby determine the position of the latchable part and the locating member to thereby locate said numbering means in or out of printing position and including detecting members, and means for removably retaining said detecting members in the machine whereby said detecting members may be removed or installed to cooperate with the identifying means in either or both of the alternate positions into which said identifying means may be moved.

30. In a printing machine, means sequentially feeding lead and follower printing devices through the machine, said lead printing devices having identifying means thereon, numbering means, printing means for making impressions from said printing devices and numbering means, and means for controlling the impression operations made from said numbering means and including a locating member movable into alternate positions to locate said numbering means in and out of printing position, means controlling the positioning of said locating member and including a latchable part, means for latching said latchable part in alternate positions to thereby retain said locating member in one of its alternate positions, means movable with the printing device feeding means and engageable with said latchable part during a part of the operation of the feeding means and disengageable therefrom to permit latching of the latchable part by the latching means, and means controlled by the identifying means on the lead printing devices for positioning the latching means to determine the position of the latchable part and the locating member to thereby locate

said numbering means in printing position upon cooperation with the identifying means on the lead printing devices and to locate said numbering means out of printing position upon movement of the follower printing devices into printing position.

31. In a printing machine, means sequentially feeding lead and follower printing devices through the machine, said lead printing devices having identifying means thereon movable into alternate positions, numbering means, printing means for making impressions from said printing devices and numbering means, and means controlling the impression operations made from said numbering means and including a locating member movable into alternate positions to locate said numbering means in and out of printing position, means controlling the positioning of said locating member and including a latchable part, means for latching said latchable part in alternate positions to thereby retain said locating member in one of its alternate positions, means movable with the printing device feeding means and engageable with the latchable part during a part of the operation of the feeding means and disengageable therefrom to permit latching of the latchable part by the latching means, means for positioning the latching means to thereby determine the position of the latchable part and the locating member to thereby locate said numbering means in or out of printing position and including detecting members adapted to cooperate with the identifying means on the lead printing devices, and means for removably retaining said detecting members in the machine whereby said detecting members may be removed or installed to cooperate with the identifying means in either or both of the alternate positions into which said identifying means may be moved whereby said numbering means may be located in printing position upon engagement of a detecting member with identifying means on the lead printing devices and located out of printing position when a detecting member does not cooperate with such identifying means.

32. In a printing machine, means sequentially feeding lead and follower printing devices through the machine, said lead printing devices having identifying means thereon, numbering means, printing means for making impressions from said printing devices and numbering means, and means for controlling the impression operations made from said numbering means and including a locating member movable into alternate positions to locate said numbering means in and out of printing position, means operable from said locating member for accumulating said numbering means, means controlling the positioning of said locating member and including a latchable part, means for latching said latchable part in alternate positions to thereby retain said locating member in one of its alternate positions, means movable with the printing device feeding means and engageable with said latchable part during a part of the operation of the feeding means and disengageable therefrom to permit latching of the latchable part by the latching means, and means controlled by the identifying means on the lead printing devices for positioning the latching means to determine the position of the latchable part and locating member to thereby locate said numbering means in printing position upon cooperation with the identifying means on the lead printing devices and to control the accumulation of said numbering means and to locate said numbering means out of printing position upon movement of the follower printing devices into printing position.

33. In a printing machine, printing means, means sequentially moving printing devices past the printing means, bodily movable means in which a sheet is retained and movable relative to the printing device aligned with the printing means, and means for holding said sheet moving means against bodily movement until predetermined printing devices move into alignment with said printing means.

34. In a printing machine, printing means, means sequentially moving lead and follower printing devices past printing means, bodily movable means for moving a sheet relative to the printing device aligned with the printing means, and means for holding said sheet moving means against bodily movement until the lead printing devices move into alignment with said printing means.

35. In a printing machine, printing means, means sequentially moving groups of printing devices past the printing means, bodily movable means for moving a sheet relative to the printing device aligned with the printing means, and electrically operated means controlled by the printing devices for holding the sheet moving means against bodily movement until predetermined printing devices in said groups move into alignment with said printing means.

36. In a printing machine, printing means, means sequentially moving lead and follower printing devices past the printing means, bodily movable sheet holding means, means for bodily moving said sheet holding means relative to the printing means, and means for preventing operation of the moving means when follower printing devices are positioned below the printing means.

37. In a printing machine, means sequentially moving lead and follower printing devices through printing position in the machine, sheet clamping means, means for moving the sheet clamping means relative to printing position, means normally holding said sheet clamping means inoperative, and means controlled from the lead printing devices for effecting operation of said sheet moving means.

38. In a printing machine, means sequentially moving lead and follower printing devices through printing position in the machine, means for moving a sheet relative to printing position, means normally holding said sheet moving means inoperative, means for causing operation of said sheet moving means when a lead printing device moves into printing position, printing means including platens, means selectively operating said platen and controlled by position of said sheet moving means, and common means for controlling the operation of the printing device moving means and the selection of the platens.

39. In a printing machine, printing means, means sequentially moving printing devices past said printing means, a shifting lister carrying a sheet adapted to receive impressions from said printing devices, means for shifting said lister into alternate positions, means normally holding said shifting means against operation, and means controlled from said printing devices for causing operation of said shifting means.

40. In a printing machine, printing means, means sequentially moving printing devices past the printing means, a lister carrying a sheet adapted to receive impressions from the printing

devices, means for shifting the lister into alternate positions, means for operating the lister to move the sheet to space the impressions made thereon, and common means for controlling operation of the printing device moving means and the means operating said lister to space the impressions made on the sheets.

41. In a printing machine, a bed operating means, printing means, a lister mounted on said bed, and means operable from the operating means for shifting the lister on said bed to align different transverse portions of a sheet carried by the lister with the printing means and including a member movable in a step-by-step manner, a moving means for imparting step-by-step movement to said member, and normally operative means adapted to be rendered inoperative to prevent said moving means from operating the member movable in a step-by-step manner upon predetermined operations of said operating means.

42. In a printing machine, a bed operating means, printing means, a lister mounted on said bed, and means operable from the operating means for shifting the lister on said bed to align different transverse portions of a sheet carried by the lister with the printing means and including a member movable in a step-by-step manner, a moving means for imparting step-by-step movement to said member, normally operative means adapted to be rendered inoperative to prevent said moving means from operating the member movable in a step-by-step manner, and means on said member movable in a step-by-step manner for rendering said normally operative means inoperative when said member movable in a step-by-step manner is in a predetermined position.

43. In a printing machine, a bed operating means, printing means, a lister mounted on said bed, and means operable from the operating means for shifting the lister on said bed to align different transverse portions of a sheet carried by the lister with the printing means and including a member movable in a step-by-step manner, a moving means for imparting step-by-step movement to said member, electrically operated disconnecting means, means normally closing the circuit to said electrically operated disconnecting means, and means on said member movable in a step-by-step manner for rendering said disconnecting means inoperable when said member movable in a step-by-step manner is in a predetermined position.

44. In a printing machine, means for moving groups of printing devices through the machine, a plurality of indicating devices, and means for operating said indicating devices to indicate the number of printing devices in a group being moved through the machine.

45. In a printing machine, means for moving groups of printing devices through the machine, a plurality of electric lamps, and means for selectively rendering said lamps operative to indicate the number of printing devices in a group being moved through the machine.

46. In a printing machine, means for moving groups of printing devices through the machine and which groups contain one or more printing devices, indicating means, means for rendering said indicating means operative when a group of printing devices containing more than one printing device is positioned in the machine, and other means for indicating the number of printing devices in the group.

47. In a printing machine, a printing device guideway, means moving printing devices through said guideway, means indicating the positioning of a printing device at a predetermined place in said guideway, and means indicating the number of printing devices in said guideway related to the positioned printing device.

48. In a printing machine, operating means, means moving printing devices through the machine in a step-by-step manner and operated by said operating means, detecting means operable on said printing devices during and at-rest interval in the step-by-step movement thereof, means controlled by said detecting means for interrupting the operation of said operating means, and means controlling operation of said detecting means and operable during a cycle of operation of said operating means and subsequent to an at-rest interval in the operation of the moving means in which said detecting means operate on said printing devices and when said detecting means operate on predetermined of said printing devices.

49. In a printing machine, operating means, means moving printing devices through the machine in a step-by-step manner and operated by said operating means, detecting means operable on said printing devices during an at-rest interval in the step-by-step movement thereof, means controlled by said detecting means for interrupting the operation of said operating means, means controlling operation of said detecting means and operable during a cycle of operation of said operating means and subsequent to an at-rest interval in the operation of the moving means in which said detecting means operate on said printing devices and when said detecting means operate on predetermined of said printing devices, and means for indicating the operation of said interrupting means.

50. In a printing machine, operating means, means moving printing devices through the machine in a step-by-step manner and operated by said operating means, detecting means operable on said printing devices during an at-rest interval in the step-by-step movement thereof, means controlled by said detecting means for interrupting operation of said operating means, means controlling operation of said detecting means and operable during a cycle of operation of said operating means and subsequent to an at-rest interval in the operation of the moving means in which said detecting means operate on said printing devices and when said detecting means operate on predetermined of said printing devices, indicating means, and detecting means spaced from the first detecting means and adapted to operate the indicating means after interruption of operation of said operating means by the cooperation of the first detecting means with said predetermined printing devices.

51. In a printing machine, operating means, means moving printing devices through the machine in a step-by-step manner and operated by said operating means, detecting means operable on said printing devices during an at-rest interval in the step-by-step movement thereof, means controlled by said detecting means for interrupting operation of said operating means, means controlling operation of said detecting means and operable during a cycle of operation of said operating means and subsequent to an at-rest interval in which said detecting means operate on said printing devices and when said detecting means operate on predetermined of said printing devices, indicating means operated

by said detecting means, other indicating means, and other detecting means spaced from the first detecting means and adapted to operate on the other indicating means after interruption of operation of said operating means by the cooperation of the first detecting means with said predetermined printing devices.

52. In a printing machine, operating means, means moving printing devices through the machine in a step-by-step manner and operated by said operating means, detecting means operable on said printing devices during an at-rest interval in the step-by-step movement thereof, means controlled by said detecting means for interrupting operation of said operating means, means controlling operation of said detecting means and operable during a cycle of operation of said operating means and subsequent to an at-rest interval in which said detecting means operate on said printing devices and when said detecting means operate on predetermined of said printing devices, indicating means operated by said detecting means, other indicating means, other detecting means spaced from the first detecting means and adapted to operate on the indicating means after interruption of operation of said operating means by the cooperation of the first detecting means with said predetermined printing devices, additional indicating means, and means cooperating with printing devices behind the printing device operated on by the aforesaid detecting means and adapted to operate the additional indicating means to indicate the number of printing devices related to the printing device operated on by the aforesaid detecting means.

53. In a printing machine, operating means, means moving printing devices through the machine in a step-by-step manner and operated by said operating means, detecting means operable on said printing devices during an at-rest interval in the step-by-step movement thereof, means controlled by said detecting means for interrupting the operation of said operating means, switch means controlling operation of said detecting means and operable during a cycle of operation of said operating means and subsequent to an at-rest interval in which said detecting means operate on said printing devices and when said detecting means operate on predetermined of said printing devices, and means on the printing device moving means for operating said switch means to time the operation of the interrupting means.

54. In a printing machine, a printing device guideway, means moving printing devices through the guideway in a step-by-step manner, detecting means positioned at one of the at-rest positions of the printing devices in said guideway, other detecting means positioned at an at-rest position of the printing devices in said guideway but one position away from the first detecting means, means independent of each other and controlled by the separate detecting means upon cooperation thereof with predetermined of the printing devices, and means for effecting operation at a predetermined time in the operation of the machine of the means controlled by one of said detecting means when such detecting means cooperate with said predetermined printing devices.

55. In a printing machine, a printing device guideway, means moving printing devices having control means thereon through the guideway in a step-by-step manner, detecting means adapted for cooperation with said control means and positioned at one of the at-rest positions of the printing devices in said guideway, other detecting means positioned at an at-rest position of the printing devices in said guideway and adapted for cooperation with said control means, means independent of each other and controlled by the separate detecting means upon cooperation thereof with said control means, and means for effecting operation at a predetermined time in the operation of the machine of the means controlled by the first named detecting means when such detecting means cooperate with said predetermined printing devices.

56. In a printing machine, a printing device guideway, means moving printing devices having control means thereon through the guideway in a step-by-step manner, detecting means adapted for cooperation with said control means and positioned at one of the at-rest positions of the printing devices in said guideway, other detecting means positioned at an at-rest position of the printing devices in said guideway and adapted for cooperation with the same control means on said printing devices as the first detecting means and adapted to cooperate with said control means subsequent to the cooperation of the first detecting means with said control means, and means independent of each other operated by the separate detecting means upon cooperation thereof with said control means.

57. In a printing machine, a printing device guideway, means moving printing devices having control means thereon through the guideway in a step-by-step manner, detecting means adapted for cooperation with said control means and positioned at one of the at-rest positions of the printing device positions in said printing device guideway, other detecting means positioned at an at-rest position of the printing devices in said guideway but one position away from the first detecting means and adapted for cooperation with the same control means on said printing devices as the first detecting means, a means adapted to be operated upon cooperation of the second detecting means with said control means, and a means adapted to be operated by the first detecting means upon cooperation thereof with said control means and arranged to have the operation thereof delayed until the operation of the means operated by the second detecting means.

58. In a printing machine, printing means, a lister, means for shifting the lister to align different transverse portions of a sheet carried thereby with the printing means, a movable member, means on said movable member and engageable with said lister upon shifting thereof to impart movement to said movable member, operating means, means for moving printing devices past the printing means and operable from said operating means, and means connected to said movable member to be movable therewith and adapted to disconnect said printing device moving means from said operating means.

59. In a printing machine, printing means, a lister, means for shifting the lister to align different transverse portions of a sheet carried thereby with the printing means, a movable member, means on said movable member and engageable with said lister upon shifting thereof to impart movement to said movable member, said printing means including a plurality of platens adapted to be selectively operated, means connected to said movable member for selecting the platen to next be operated to make an impression on the sheet carried by said lister, means

for operating said lister to space the same to bring successive longitudinally spaced portions of the sheet into alignment with the printing means, and means controlled by said movable member for regulating the lister operating means.

60. In a printing machine, printing means, a lister, means for shifting the lister to align different transverse portions of a sheet carried thereby with the printing means, a movable member, means on said movable member and engageable with said lister upon shifting thereof to impart movement to said movable member, said printing means including a plurality of platens adapted to be selectively operated, means connected to said movable member for selecting the platen to next be operated to make an impression on the sheet carried by said lister, operating means, means for moving printing devices past the printing means and operable from said operating means, and means connected to said movable member to be movable therewith at the time said movable member operates to disconnect the printing device moving means from said operating means.

61. In a printing machine, operating means, printing means, means for operating the printing means from the operating means, means for moving printing devices past the printing means and operable from the operating means, a lister, means for shifting the lister to align different transverse portions of a sheet carried thereby with the printing means, said printing means including a plurality of platens adapted to be selectively operated, means connected to the operating means for said printing means for operating said lister to move the sheet carried thereby past the printing means in a step-by-step manner, a movable member, means on said movable member and engageable with said lister upon shifting thereof to impart movement to said movable member, means connected to said movable member for selecting the platen next to be operated to make an impression on the sheet carried by the lister upon operation of said movable member, means connected to said movable member for disconnecting said printing device moving means from the operating means upon operation of said movable member, and means connected to said movable member and movable therewith to disconnect the means operating said lister to move the sheet carried thereby in a step-by-step manner.

62. The combination in a machine for printing from groups of printing devices in successive order on a sheet, of printing means, means sequentially moving the printing devices through printing position, said printing devices having identifying means thereon and each of said groups containing one or more printing devices, operating means, detecting means adapted for cooperation with the identifying means, and controlled by said detecting means for automatically interrupting operation of said operating means upon cooperation of said detecting means with identifying means on a printing device in a group containing more than one printing device.

63. The combination in a machine for printing from groups of printing devices in successive order on a sheet, of printing means, means sequentially moving the printing devices through printing position, said printing devices having identifying means thereon and each of said groups containing one or more printing devices, operating means, detecting means adapted for cooperation with the identifying means, and controlled by said detecting means for automatically interrupting the operation of said operating means when the first device of each group containing more than one printing device and having predetermined identifying means thereon reaches printing position.

64. A machine for printing from groups of printing devices in successive order on a sheet and comprising printing means, means sequentially moving the printing devices through printing position, each of said groups containing one or more printing devices, means for indicating the number of printing devices in a group containing more than one printing device, and means controlled by the lead printing device of a group containing more than one printing device for rendering said indicating means operative.

65. The combination with a printing means arranged at printing position in a machine and adapted to successively cooperate with each printing device of a group containing more than one printing device, of such a group of printing devices, means sequentially feeding the printing devices of the group through selecting and printing positions in the machine, operating means, means for interrupting operation of said operating means, and means including a detecting part at selecting position to cooperate with the printing devices and a timing part operated by the feeding means for operating the interrupting means when the first printing device of the group moves from cooperation with the detecting part into printing position to permit the operator to ascertain the operative condition in the machine before said printing means operates to make impressions from the printing devices of the group.

66. The combination with a printing means arranged at printing position in a machine and adapted to successively cooperate with each printing device of a group containing more than one printing device, of such a group of printing devices, means sequentially feeding the printing devices of the group through selecting and printing positions in the machine, operating means, means for interrupting operation of said operating means, means including a detecting part at selecting position to cooperate with the printing devices and a timing part operated by the feeding means for operating the interrupting means when the first printing device of the group moves from cooperation with the detecting part into printing position to permit the operator to ascertain the operative condition in the machine before said printing means operates to make impressions from the printing devices of the group, and means for indicating the operation of the means operating said interrupting means.

67. The combination with a printing means arranged at printing position in a machine and adapted to cooperate with a printing device having identifying means thereon, of such a printing device, means feeding the printing device through selecting and printing positions in the machine, operating means, means for interrupting the operation of said operating means, and means including a detecting part at selecting position to cooperate with the identifying means on the printing device and a timing part operated by the feeding means for operating the interrupting means when the detecting part cooperates with the identifying means and the printing device moves from cooperation with the detecting part into printing position to permit the operator to ascertain the operative condition in the machine before the printing means operates to

make an impression from the printing device.

68. The combination with a printing means arranged at printing position in a machine and adapted to cooperate with a printing device having identifying means thereon, of such a printing device, means feeding the printing device through selecting and printing positions in the machine, operating means, means for interrupting the operation of said operating means, means including a detecting part at selecting position to cooperate with the identifying means on the printing device and a timing part operated by the feeding means for operating the interrupting means when the detecting part cooperates with the identifying means and the printing device moves from cooperation with the detecting part into printing position to permit the operator to ascertain the operative condition in the machine before the printing means operates to make an impression from the printing device, and means for indicating the operation of the means for operating said interrupting means.

69. The combination with a printing means arranged at printing position in a machine and adapted to successively cooperate with each printing device of a group containing more than one printing device, of such a group of printing devices, each of said groups containing one or more printing devices, means sequentially feeding the printing devices of the group through selecting and printing positions in the machine, operating means, means for interrupting operation of said operating means, means including a detecting part at selecting position to cooperate with the printing devices and a timing part operated by the feeding means for operating the interrupting means when the first printing device of the group containing more than one printing device moves from cooperation with the detecting part into printing position to permit the operator to ascertain the operative condition in the machine before said printing means operates to make impressions from the printing devices of the group, means for indicating the operation of the means for selectively operating said interrupting means, and means for indicating the number of printing devices in the group.

70. The combination with a printing means arranged at printing position in a machine and adapted to successively cooperate with each printing device of a group containing more than one printing device, of such a group of printing devices, each of said groups containing one or more printing devices, means sequentially feeding the printing devices of the group through selecting and printing positions in the machine, operating means, means for interrupting operation of said operating means, means including a detecting part at selecting position to cooperate with the printing devices and a timing part operated by the feeding means for operating the interrupting means when the first printing device of the group containing more than one printing device moves from cooperation with the detecting part into printing position to permit the operator to ascertain the operative condition in the machine before said printing means operates to make impressions from the printing devices of the group, and means for indicating the number of printing devices in the group.

71. The combination with a printing means arranged at printing position in a machine and adapted to cooperate with a printing device having identifying means thereon, of such a printing device, means feeding the printing device through selecting and printing positions in the machine, operating means, means for interrupting the operation of said operating means, means including a detecting part at selecting position to cooperate with the identifying means on the printing device and a timing part operated by the feeding means for operating the interrupting means when the detecting part cooperates with the identifying means and the printing device moves from cooperation with the detecting part into printing position to permit the operator to ascertain the operative condition in the machine before the printing means operates to make an impression from the printing device, and other means for operating said interrupting means.

72. The combination with a printing means arranged at printing position in a machine and adapted to cooperate with a printing device having identifying means thereon, of such a printing device, means feeding the printing device through selecting and printing positions in the machine, operating means, means for interrupting the operation of said operating means, means including a detecting part at selecting position to cooperate with the identifying means on the printing device and a timing part operated by the feeding means for operating the interrupting means when the detecting part cooperates with the identifying means and the printing device moves from cooperation with the detecting part into printing position to permit the operator to ascertain the operative condition in the machine before the printing means operates to make an impression from the printing device, other means for operating said interrupting means, and means for indicating the operation of said interrupting means.

73. The combination with a printing means arranged at printing position in a machine and adapted to cooperate with a printing device having identifying means thereon, of such a printing device, means feeding the printing device through selecting and printing positions in the machine, operating means, means for interrupting the operation of said operating means, means including a detecting part at selecting position to cooperate with the identifying means on the printing device and a timing part operated by the feeding means for operating the interrupting means when the detecting part cooperates with the identifying means and the printing device moves from cooperation with the detecting part into printing position to permit the operator to ascertain the operative condition in the machine before the printing means operates to make an impression from the printing device, other means for operating said interrupting means, and means for indicating the operation of said interrupting means by the means including the detecting and timing parts.

74. The combination with a printing means arranged at printing position in a machine and adapted to cooperate with a printing device having identifying means thereon, of such a printing device, means feeding the printing device through selecting and printing positions in the machine, operating means, means for interrupting the operation of said operating means, means including a detecting part at selecting position to cooperate with the identifying means on the printing device and a timing part operated by the feeding means for operating the interrupting means when the detecting part cooperates with the identifying means and the printing device moves from cooperation with the detect-

ing part into printing position to permit the operator to ascertain the operative condition in the machine before the printing means operates to make an impression from the printing device, other means for operating said interrupting means, and means for indicating the operation of said interrupting means.

75. The combination with a printing means arranged at printing position in a machine and adapted to successively cooperate with each printing device of a group containing more than one printing device, of such a group of printing devices, means sequentially feeding the printing devices of the group through selecting and printing positions in the machine, operating means, means for interrupting operation of said operating means, means including a detecting part at selecting position to cooperate with the printing devices and a timing part operated by the feeding means for operating the interrupting means when the first printing device of the group moves from cooperation with the detecting part into printing position to permit the operator to ascertain the operative condition in the machine before said printing means operates to make impressions from the printing devices of the group, other means for operating said interrupting means, means for indicating the operation of said interrupting means, and means for indicating the number of printing devices in the group containing said first printing device moved into printing position upon operation of said interrupting means.

76. The combination with a printing means arranged at printing position in a machine and adapted to successively cooperate with each printing device of a group containing more than one printing device, of such a group of printing devices, means sequentially feeding the printing devices of the group through selecting and printing positions in the machine, operating means, means for interrupting operation of said operating means, means including a detecting part at selecting position to cooperate with the printing devices and a timing part operated by the feeding means for operating the interrupting means when the first printing device of the group moves from cooperation with the detecting part into printing position to permit the operator to ascertain the operative condition in the machine before said printing means operates to make impressions from the printing devices of the group, other means for operating said interrupting means, means for indicating the operation of said interrupting means, and means for indicating the number of printing devices in the group containing said first printing device moved into printing position upon operation of said interrupting means, said means for indicating the number of printing devices in a group including means for indicating the operation of said interrupting means by the means including the detecting and timing parts.

77. The combination with a printing means arranged at printing position in a machine and adapted to successively cooperate with each printing device of a group containing more than one printing device, of such a group of printing devices, means sequentially feeding the printing devices of the group through selecting and printing positions in the machine, a lister for longitudinally moving a sheet through printing position, operating means, means for interrupting operation of said interrupting means, means including a detecting part at selecting position to cooperate with the printing devices and a timing part operated by the feeding means for operating the interrupting means when the first printing device of the group moves from cooperation with the detecting part into printing position to permit the operator to ascertain the operative condition in the machine before said printing means operates to make impressions from the printing devices of the group, and means operated by said lister for operating said interrupting means when a predetermined portion of the sheet carried by the lister moves into printing position.

78. The combination with a printing means arranged at printing position in a machine and adapted to cooperate with a printing device having identifying means thereon, of such a printing device, means feeding the printing device through selecting and printing positions in the machine, a lister for longitudinally moving a sheet in a step-by-step manner through printing position, operating means, means including a detecting part at selecting position to cooperate with the identifying means on the printing device and a timing part operated by the feeding means for selectively operating the interrupting means when the detecting part cooperates with the identifying means and the printing device moves from cooperation with the detecting part into printing position, and means operated by said lister for operating said interrupting means when a predetermined portion of the sheet carried by the lister moves into printing position.

79. A machine for printing from groups of printing devices in successive order on a sheet and comprising printing means, means sequentially moving the printing devices through printing position, each of said groups containing one or more printing devices, a lister for moving the sheet through printing position, operating means, means for automatically interrupting operation of said operating means for each group containing more than one printing device, and means operated by said lister for operating said interrupting means when a predetermined portion of the sheet carried by the lister moves into printing position.

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