Sept. 14, 1943. W. B. PAYNE 2,329,646

CHECK PROTECTING MACHINE OR THE LIKE

Filed July 30, 1940 7 Sheets-Sheet 1

Fig. 1

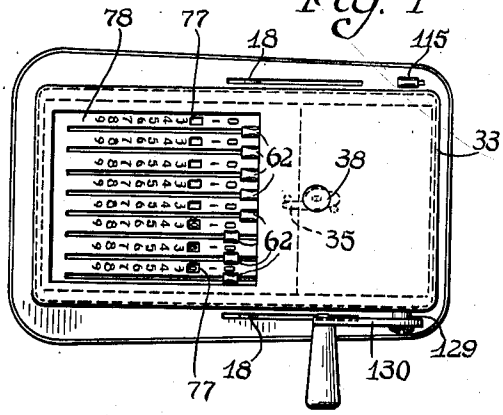


Fig. 3

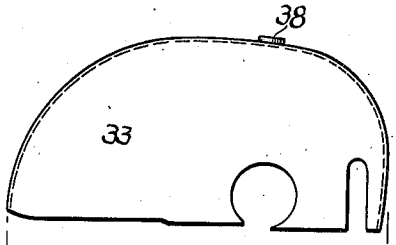
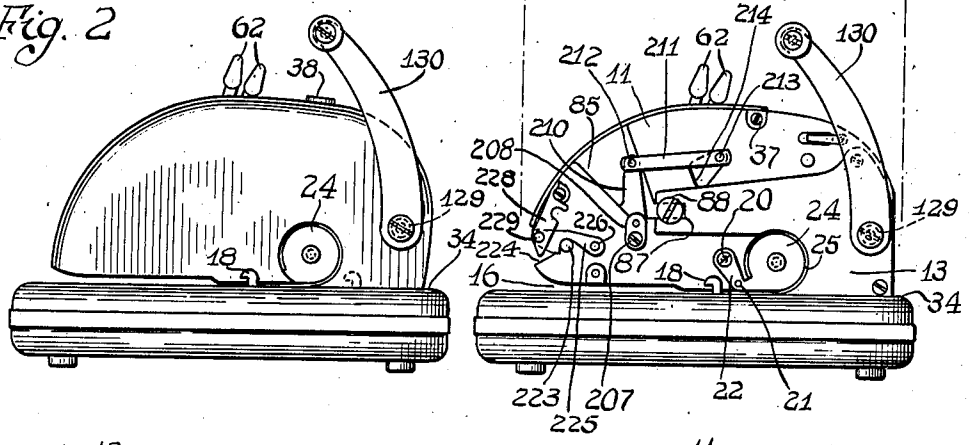


Fig. 2



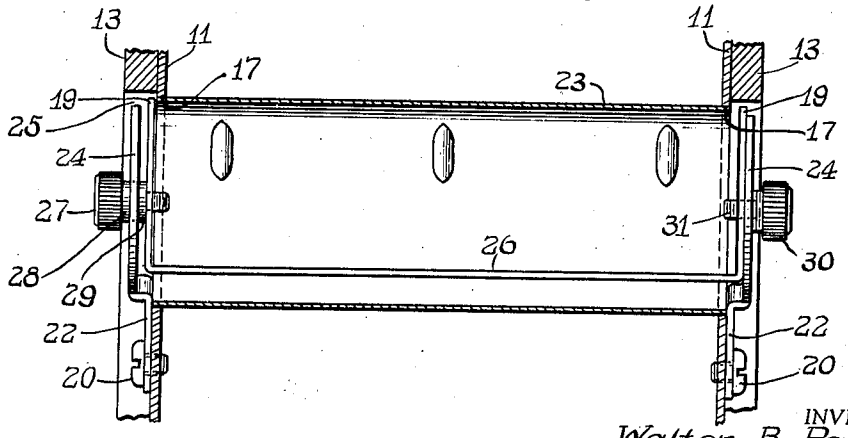


Fig. 12

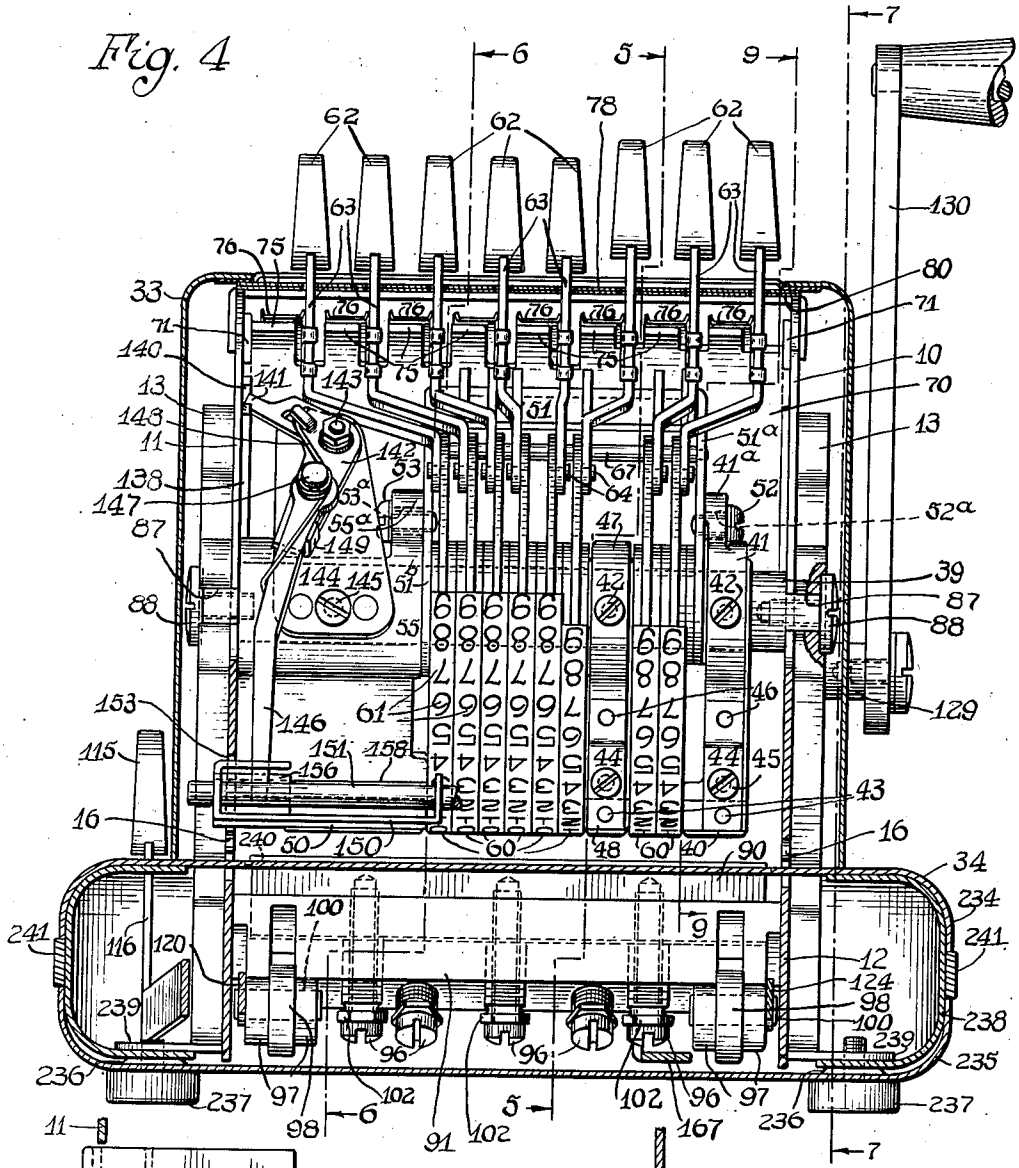
INVENTOR.
Walter B. Payne
BY Raymond E. Cohen
his ATTORNEY.

Sept. 14, 1943. W. B. PAYNE 2,329,646

CHECK PROTECTING MACHINE OR THE LIKE

Filed July 30, 1940 7 Sheets-Sheet 2

Fig. 4



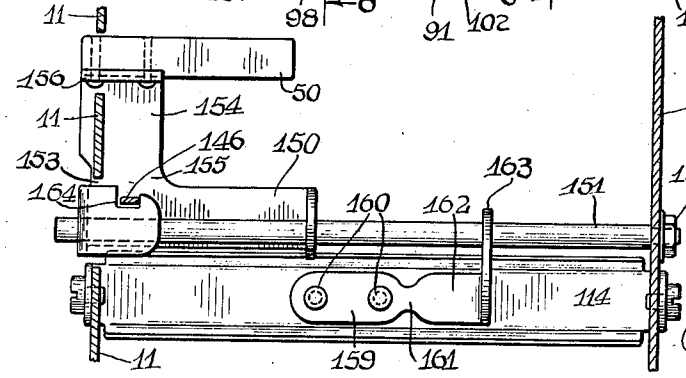


Fig. 11

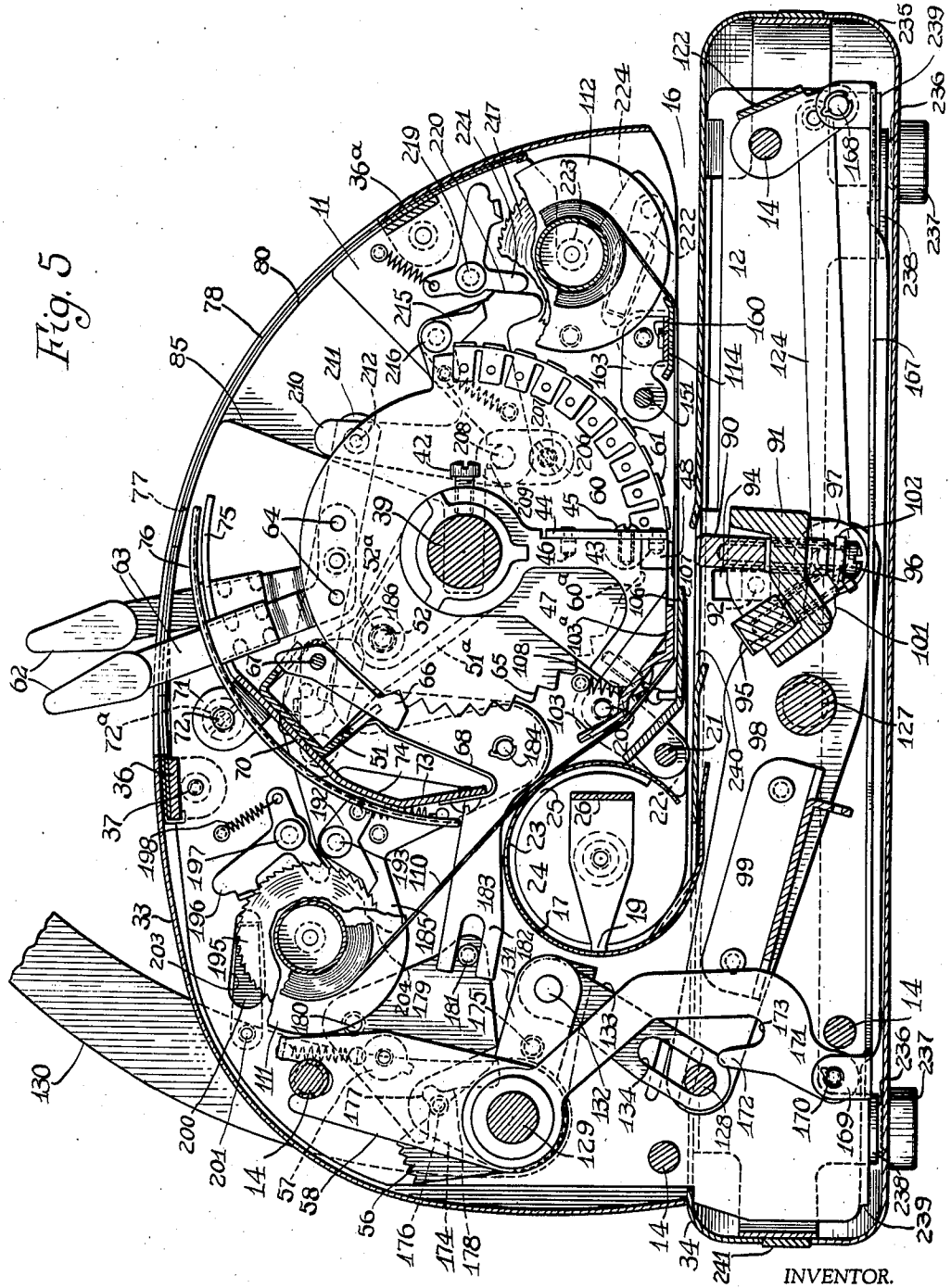
INVENTOR.
Walter B. Payne
Raymond L. Cohen
his ATTORNEY.

Sept. 14, 1943. W. B. PAYNE 2,329,646

CHECK PROTECTING MACHINE OR THE LIKE

Filed July 30, 1940 7 Sheets-Sheet 3

Fig. 5



INVENTOR.
Walter B. Payne

BY Raymond F. Bohren
his ATTORNEY.

Sept. 14, 1943. W. B. PAYNE 2,329,646

CHECK PROTECTING MACHINE OR THE LIKE

Filed July 30, 1940 7 Sheets-Sheet 4

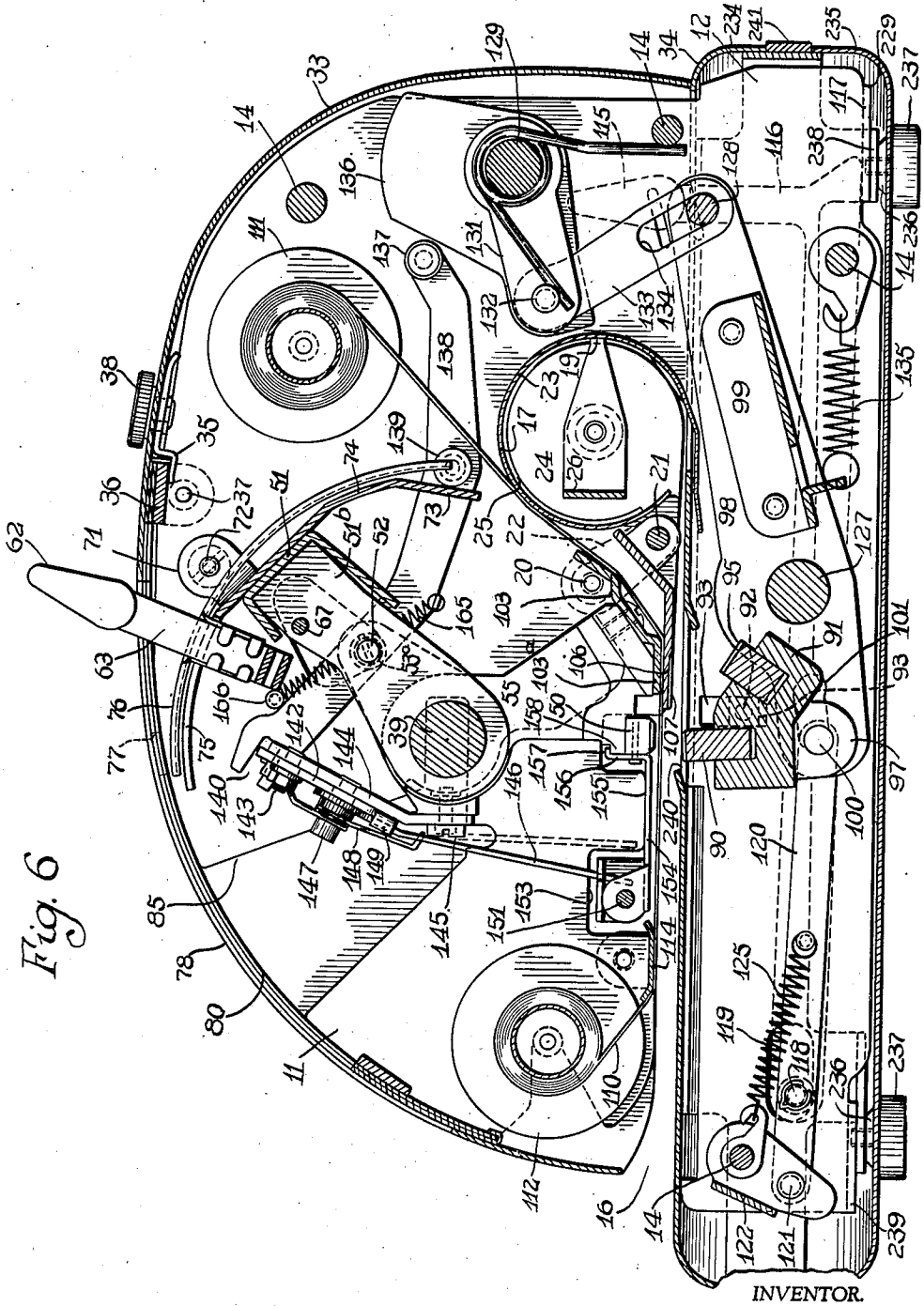


Fig. 6

INVENTOR.
Walter B. Payne

BY Raymond L. Bohrer
his ATTORNEY.

Sept. 14, 1943. W. B. PAYNE 2,329,646

CHECK PROTECTING MACHINE OR THE LIKE

Filed July 30, 1940 7 Sheets-Sheet 5

Fig. 7

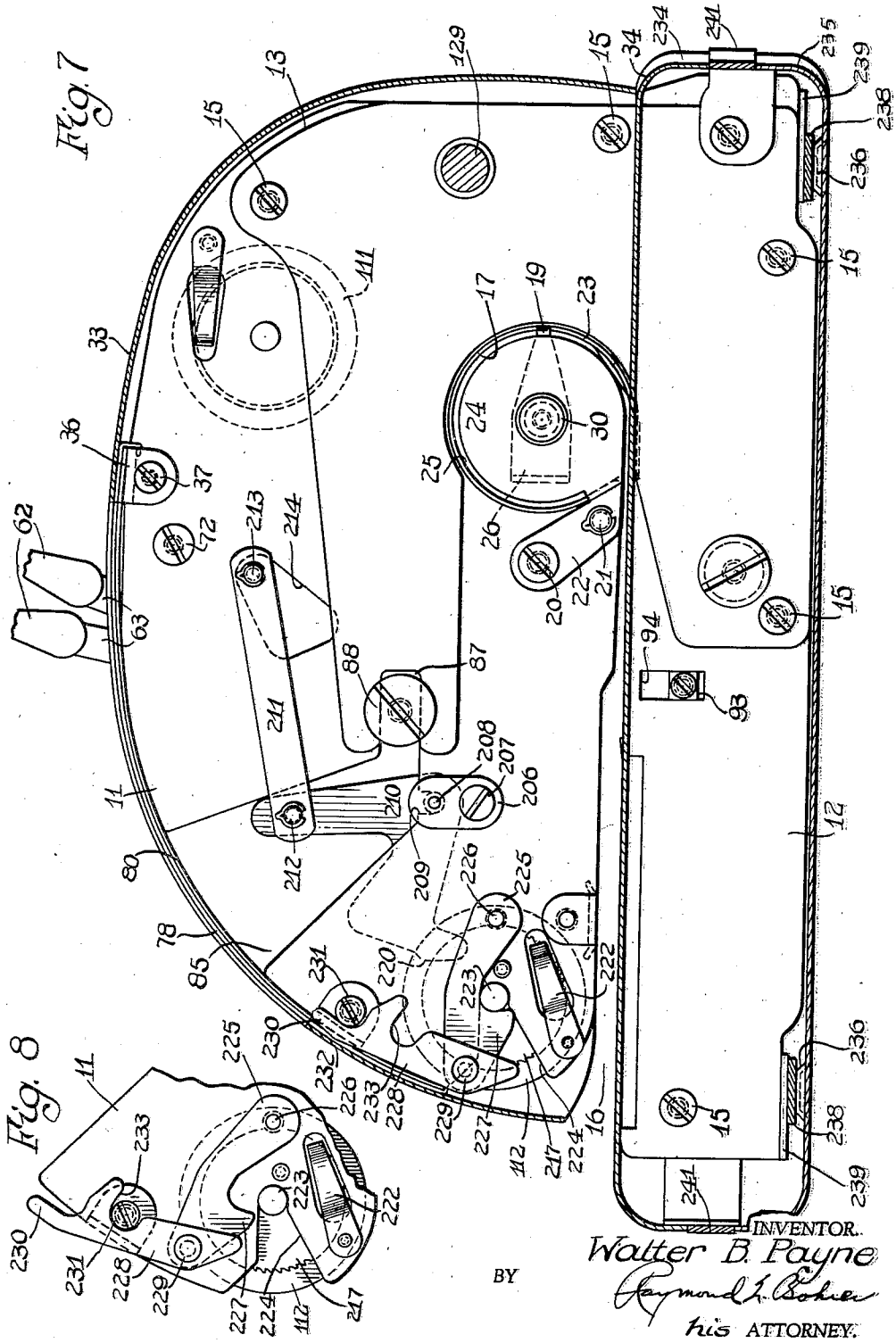


Fig. 8

INVENTOR.
Walter B. Payne
BY Raymond L. Cohen
his ATTORNEY.

Sept. 14, 1943. W. B. PAYNE 2,329,646

CHECK PROTECTING MACHINE OR THE LIKE

Filed July 30, 1940 7 Sheets-Sheet 6

Fig. 9

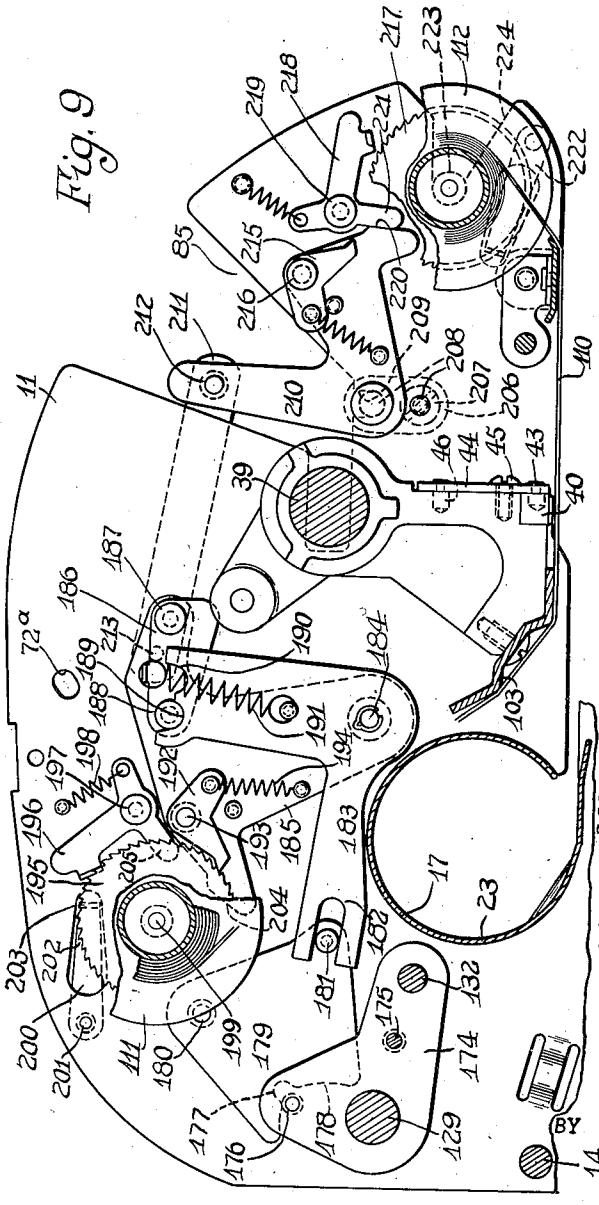
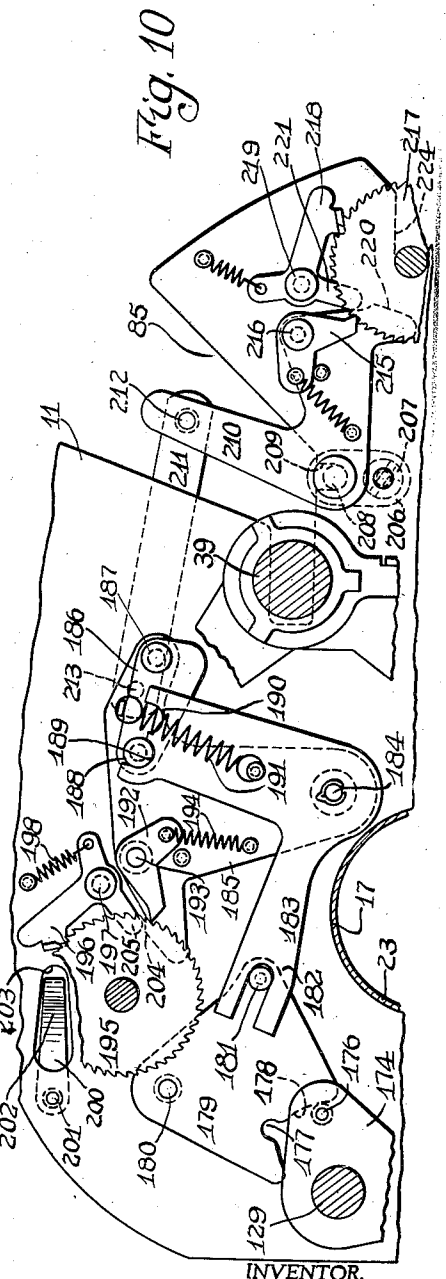


Fig. 10



INVENTOR.
Walter B. Payne
Raymond L. Cohen
his ATTORNEY.

Sept. 14, 1943. W. B. PAYNE 2,329,646

CHECK PROTECTING MACHINE OR THE LIKE

Filed July 30, 1940 7 Sheets-Sheet 7

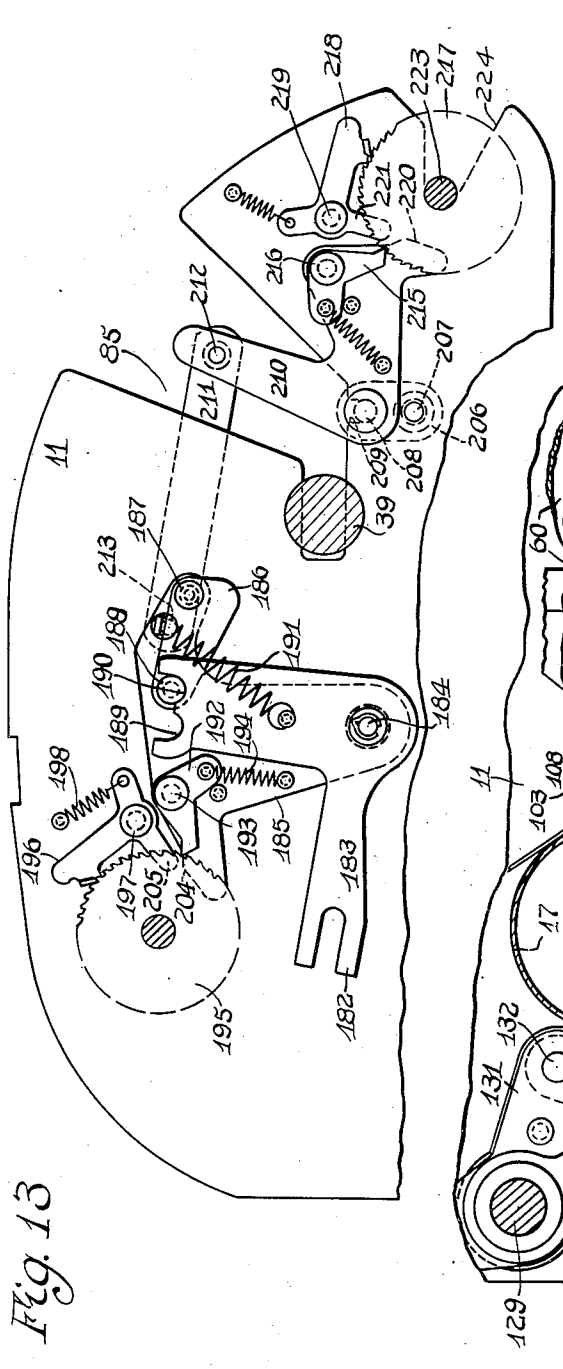


Fig. 13

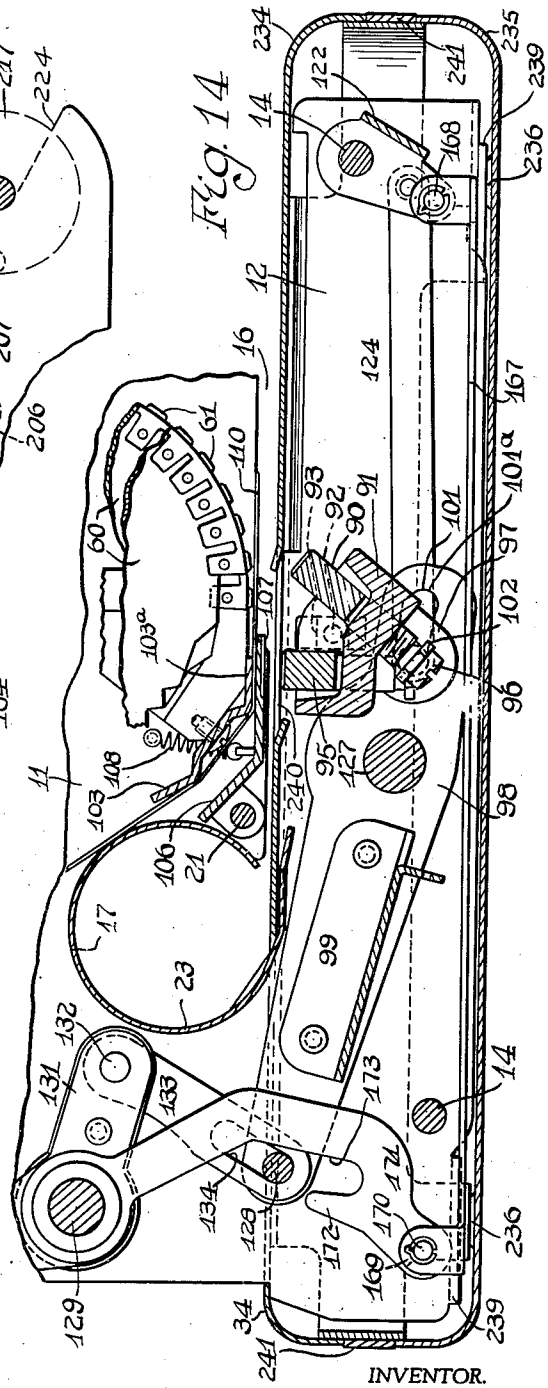


Fig. 14

INVENTOR.
Walter B. Payne
BY Raymond L. Bohren
his ATTORNEY.

Patented Sept. 14, 1943

2,329,646

UNITED STATES PATENT OFFICE

2,329,646

CHECK PROTECTING MACHINE OR THE LIKE

Walter B. Payne, Rochester, N. Y., assignor to The Todd Company, Inc., Rochester, N. Y., a corporation of New York

Application July 30, 1940, Serial No. 348,420

8 Claims. (Cl. 101—20)

This invention relates to a machine of the type commonly known in the art as a check writing machine by which an amount may be printed on a bank check or other instrument, and by selective adjustment, the machine is capable of crimping or scarifying another portion, such as the payee line, of an instrument. It is an object of the invention to provide an improved form and arrangement of parts by which the operating mechanism of the machine is retarded from entering the printing or scarifying part of the cycle of operation unless the selected platen is properly aligned with respect to its cooperating member to insure proper registration of the printing or scarifying couples.

Another object of the invention is the provision of a simple and novel means for selectively shifting a common platen carrier with relation to its actuating means so as to accurately position either the printing or serrating platen for engagement with its respective cooperating member of an operating couple. The arrangement further provides for movement of the selected platen in a direction substantially perpendicular to the face of its cooperating member for parallel engagement of the faces of the member of the operating couple.

Still another object of the invention is the provision of a machine so designed that various important parts of the machine are constructed as adjustable unitary assemblages, and which may be readily inserted and removed from the machine as a unit.

A further object is the provision of a machine which is improved in many different details and respects, as will be apparent from the following description.

To these and other ends the invention resides in certain improvements and combination of parts, all as will be hereinafter more fully described, the novel features being pointed out in the claims at the end of the specification.

In the drawings:

Figs. 1 is a plan view of a check imprinting machine constructed in accordance with a preferred embodiment of the invention;

Fig. 2 is a side elevation thereof;

Fig. 3 is a similar view but disclosing the removable portion of the casing displaced from the machine frame to allow access to and operation of certain of the parts of the machine;

Fig. 4 is a fragmentary vertical section through the front of the machine with certain parts removed in order to disclose the printing couple;

Fig. 5 is a vertical section through the machine taken longitudinally on a line 5—5, of Fig. 4, showing the printing platen in selected position;

Fig. 6 is a similar view taken on the line 6—6 of Fig. 4;

Fig. 7 is a similar view taken on the line 7—7 of Fig. 4;

Fig. 8 is a fragmentary view showing the upper portion of the casing of the machine removed and the ribbon spool retaining means latched in its non-holding position to permit removal and insertion of the front supply ribbon spool in the machine frame;

Fig. 9 is a fragmentary vertical section taken substantially on the line 9—9 of Fig. 4 showing the ribbon reversing mechanism operative to wind the ribbon on the rear spool;

Fig. 10 is a similar view but showing the ribbon reverse mechanism in an off-normal position assumed when the operating mechanism is in the forward portion of its operating cycle;

Fig. 11 is a fragmentary sectional view of the machine showing details of the shiftable type member carrier and the adjustable support therefor;

Fig. 12 is a fragmentary sectional plan view showing the cylindrical opening in the machine and the adjustable check gauge;

Fig. 13 is a fragmentary vertical sectional view similar to Fig. 9 but showing the ribbon reversing mechanism shifted and operative to wind the ribbon on the front supply spool;

Fig. 14 is a fragmentary vertical sectional view similar to Fig. 5, showing the platen member for scarifying the payee line of a check in selected operative position.

Like parts are indicated by similar characters of reference through the several views.

Referring now to the drawings, there is illustrated a machine comprising two vertical main frames 10 extending along each side of the machine and composed of upper frame portions 11 and base portions 12. As best seen in Figs. 4 and 7 of the drawings, the supplemental C-shaped plates 13 adjacent the outside walls of each frame plate 10 serve to strengthen the main frames at the point of greatest strain. Tie-rods such as shown at 14 are disposed between the plates 10 and 13, and the screws 15 retain the frames together to form a rigid construction.

The frames 10 are provided with a check receiving slot 16 intermediate the portions 11 and 12 thereof. The slot 16 is open at one end and the opposite closed end is enlarged adjacent the printing line of the machine to form a cylindrical

opening 17 in the side frames 10. It is preferable to have the slot 16 tangentially enter the enlarged opening 17 so that the end of a sheet may readily enter the cylindrical opening. A tubular shell 23, Figs. 7 and 12, is arranged within the opening 17 to assist in guiding the end of a sheet about the opening. The shell 23 terminates at the side frame 11 and does not extend into the circular portions of the supplemental frames 13.

In the use of the machine, a conventional size check or other instrument is inserted into the open end of the slot 16, and aligned with respect to the printing line by the adjustable stops 18, Figs. 1 and 2. However, when a larger sheet, such as a voucher check or letter of credit is to be imprinted, the stops 18 are displaced or shifted to the dotted line position shown in Fig. 2, out of the path of entry of the sheet. The larger sheets are then aligned and positioned by the adjustable radial stops 19 within the cylindrical opening 17.

Referring to Figs. 2, 7, and 12, guide plates 22 are supported on the outside of each upper frame 11 by the screws 20 and the cross rod 21. The plates 22 are provided with offset circular portions 24 which are concentric with the opening 17 but smaller in diameter than the cylindrical shell 23. Therefore, because of the circular portions 24 being of a smaller diameter than the opening 17 or the shell 23, a slot-like opening 25 is formed between the parts to assist in guiding the end of a sheet as it enters the enlarged opening of the check receiving slot. As a matter of fact, the arrangement results in slot 25 forming a continuation of the narrow check receiving slot 16. This provides that larger sheets may be accurately positioned into the machine with their ends against the stops 19 with the minimum of difficulty.

A yoke member 26 is rotatably supported on the axis or center of the circular portion 24 of the plates 22. Projecting ends 19 of the yoke 26 form the sheet stops disposed in the path of the sheet as it enters the slot 25. An adjusting knob 27 on the left side of the machine, Fig. 12, is provided with a reduced shank 28 which passes through an opening in the circular portion 24 of the guide plate 22 and a spacing collar 29. The end of the shank 28 is fixed to the side portion of the yoke 26. Therefore, it will be seen that upon manually turning the knob 27 the yoke 26 may be adjusted about its axis to set the stops 19 so as to position a larger sheet or voucher check with relation to the printing line of the machine. A knob 30 on the right side of the machine is provided with a reduced portion 31 which passes through an opening in the plate 24, and screws into the yoke 26. Therefore, upon tightening the knob 30, the yoke 26 and the stops 19 may be secured in any adjusted position. The particular construction of the work positioning means here shown for illustrative purposes forms no part of the present invention per se, but comprises the subject matter of a copending divisional application, Serial No. 434,838, and to which cross reference is made.

The upper side frames 11 and the operating mechanism supported thereby are covered by a removable casing 33, extending from above the check receiving slot 16 at the front of the machine and having its rear portion abutting the base cover 34. The front portion of the base cover 34 serves as a shelf for the sheet inserted into the check receiving slot 16. The removable cover 33 is held in position on the frames by the latch 35 carried thereby and having a portion adapted to engage a cross member 36. The member 36 is formed with downwardly projecting ears secured to the plates 11 by the screws 37. The latch 35 is provided with a knurled knob 38 which serves to rotate the latch to and from engagement with the cross rail 36. When it is desired to remove the casing 33, the knob 38 is rotated to release the latch 35 from the rail 36 after which the cover may be raised for removal from the machine as shown in Fig. 3.

The machine is provided with a printing couple for imprinting a value upon a check or other instrument, as well as a crimping couple for serrating another portion of a check such as the payee line. By selective adjustment either the printing couple or the crimping couple may be rendered effective for operation when the operating handle 130 is actuated through its cycle of operation.

The printing couple includes the type assemblage or unit made up of stationary and shiftable printing type characters. The type assemblage is adapted to be bodily inserted or removed from the machine frame 10 as a unit so as to facilitate assembly and subsequent servicing of the machine. The type unit consists of type members and other parts either secured to or mounted on the cross shaft 39. As best shown in Fig. 4, the type shaft carries the fixed supports 41, 47, and 55. The type segments 60 are rotatably mounted on the shaft 39 and adapted to be adjusted to position a predetermined character thereon at the printing line of the machine.

Referring to Figs. 4 and 9, the supports 41 and 47 are fastened to the shaft 39 by the setscrews 42. Both of these supports are recessed for the reception of type blocks 40 and 48 bearing "cts," "dollars," or other suitable words or symbols. The type blocks 40 and 48 are held in the recesses of the supports by dowels 43 carried by the plates 44 which engage holes in the blocks. The screws 45 serve to fasten the plates 44 to the supports 41 and 47 and the dowels 46 in the other end of the plates 44 to prevent displacement of the plates 44 with relation to the supports. It will be seen that if it is desired to remove and replace either of the type blocks 40 and 48, it is only necessary to withdraw the screw 45. The support 55, among other things, serves to guide one end of the prefix type carrier 150 and to resist the pressure applied to the prefix type during printing, as will be hereinafter described.

A bracket member 51 is formed with parallel side portions 51*a* and 51*b* which are mounted on the shaft 39. The member 51 is adjustably held by the screw 52 passing through an enlarged opening 52*a* of an extending portion 41*a* of the support 41, and by the screw 53 passing through enlarged opening 53*a* of an extending portion 55*a* of the support 55. Therefore, the bracket 51 supported on shaft 39 forms an integral part of the type unit and is removable therewith. This arrangement permits the type line of the type segments to be adjusted relatively to the type line of the type supports 41, 47, and 55.

Each type segment 60 is provided with type characters 61 representing numerical values from "0" to "9." While the "0" type of the segments for cents and units of dollars are normally at the printing line, the segments for the rest of the denominational places are normally at "blank" position. The latter segments are cut away as at 60*a* to provide for the lateral shift-

ing of the prefix character adjacent the digit of the highest order of a selected amount.

The type segments 60 are adjusted by means of the finger pieces 62 carried by the stems 63 securely fastened to the type segments at 64. Each segment 60 is provided with a plurality of notches 65 adapted to be engaged by a centering dog 66 mounted on the rod 67 having its ends carried by the side portions of the bracket 51. Each dog 66 is under the tension of the spring 68 and serves to assist in centering a segment to the proper position. Downwardly projecting portions of the bracket 51 are slotted for reception of the dogs 66 and serve to prevent lateral shifting of the dogs on the rod 67.

As shown in Figs. 5 and 6, a formed member 70 is rigidly secured to the upper part of the bracket 51. The plate 70 is provided with upwardly formed ears 71 adapted to receive the screws 72 passing through slots 72a in the frames 11 on each side of the machine.

The formed plate 70 fixed to the bracket 51 and secured to the side frames 11 by the screws 72 is provided with a plurality of arcuate shaped fingers 75 extending toward the front of the machine. The fingers 75 are arranged between the stems 63 of the type segments. The plate 70 also has a downwardly extending portion on the side opposite the fingers 75. The downwardly extending portion comprises an arcuate part 74 and an offset portion 73, as best seen in Fig. 5. The portion 73 of the plate 70 carries the comb-shaped spring member 68.

The stems 63 of the type segments 60 are each provided with an arcuate dial plate 76 bearing numerals corresponding to the type character 61. The projecting fingers 75 and the surface 74 of the plate 70 are arranged beneath the path of travel of the dial 76 movable with the type segments. While these portions of the plate 70 do not normally engage the dials 76 they serve to prevent a serious accidental displacement of the dials 76.

Referring to Figs. 1, 4, and 5 the machine is provided with stationary dial plate 78 having a plurality of slots for the reception of the stems 63. Shown in Fig. 1, the dial plate 78 is provided with digit characters corresponding to the type on the segment 60. In the operation of the machine the finger pieces 62 and stems 63 are adjusted in alignment with the characters on the dial plate 78 to position a predetermined setting of the type segments. The dial plate 78 is provided with a plurality of sight openings 77 through which the characters on the dial plate 76 are visible in the setting of the machine.

The dial plate 78 is suitably secured to a supporting plate 80 lying beneath the dial plate 78 and suitably secured to the cross rails 36 and 79 carried by the side frames 11. The supporting plate 80 is provided with slots and sight openings similar to the dial plate 78. The slots in the plates 78 and 80 are enlarged adjacent the cross rail 36 to permit of clearance of the finger pieces 62 when the plates are removed from the machine.

As shown in Figs. 5, 6, and 9 the supports 41, 47, and 55 fixed on the shaft 39 are provided with rearwardly extending portions 41a, 48a, and 50a. These rearwardly extending portions support the ribbon guard plate 103 which extends substantially the full width of the type unit.

It is desirable in a printing machine of the type embodied in this application to provide for removal and insertion of the type assemblage and associated parts as an integral unit. Referring to Figs. 4, 6, and 7 the side frames 11 are provided with aligned openings generally indicated by the reference numeral 85. The mouths of the openings 85 along the top edge of the frames 11 are arranged at one side of the vertical axis through the printing line of the machine and taper downward at an angle to a point approximately in alignment with the horizontal axis through the center of the type shaft. The openings 85 are provided with a closed end portion having parallel sides adapted to receive the flattened end portions of the type shaft 39. The supplemental frames 13 are also slotted at 87 for the reception of the reduced flattened ends of the type shaft 39. The screws 88 in the opposite ends of the type shaft 89 serve to retain the shaft in position in the slot 85. The supplemental frames 13 are recessed as shown in Fig. 4 for the reception of the enlarged heads of the screws 88. The engagement of the heads of the screws 88 into the recesses of the supports 33 assist in preventing any displacement of the shaft 39 in the horizontal portion of the slot 85.

The arrangement of the openings 85 provides that the side frames 11 and 13 are adapted to resist any upward pressure placed on the type shaft 39 during the operation of the platen mechanism. Furthermore, it will be seen that upon removing the screws 88 from the ends of the type shaft 39, the printing type and other parts associated with the shaft 39 may be readily removed from the machine frame. Obviously, before the shaft 39 carrying the printing unit may be moved through the openings 85 it will be necessary to also remove the screws 72 engaging in the ears 71 of the plate 70. The screws 72 pass through slots or holes 72a in the side frames 11 which permits of limited shifting of the type unit about the axis of the shaft 39. This feature provides for adjusting the type line of the unit with respect to the printing line of the machine due to manufacturing or other inaccuracies of the parts. The supports 41, 47, and 55 may be independently adjusted on the shaft 39 by loosening the set screws 42 and 142.

Referring to Figs. 5, 7, and 14, the guide plate 103 is secured to supports 41, 47, and 55 carried on the shaft 39. This guide plate 103 serves to guide the ribbon from the supply spool 112 past the type assemblage to the winding spool 111. A cross rod 21 having its ends supported in the side frames 11 carries the upper crimper member 106. An extending portion 107 of the crimper member 106 has its under surface grooved or otherwise roughened for cooperation with corresponding grooves in the crimping platen 95. A light tension spring 108 tends to move the crimping member about cross rod 21 in the direction of the guide 103. It will be seen that the ribbon 110 is threaded between the guide plate 103 and the crimper member 106. However, the tension of the spring 108 is not sufficient to impair the step by step advance of the ribbon. The portion 103 of the guide plate extends beneath the supports 41, 47, and 55 and resists any pressure exerted upon the crimping member 106 by a cooperative engagement of the platen 95.

A platen carrier 91 arranged in the base section of the machine has its opposite ends pivoted at 92 to blocks 93 mounted for sliding movement in the vertical slots 94 of the frames 12, as best shown in Figs. 4, 5, and 14 of the drawings. The printing platen 90 and the serrating platen 95 are adjustably supported in the carrier 91 by the

screws 96 which pass through adjustable bushings 102. The bosses 97 of the holder 91 are adapted to receive the ends of the platen arms 98 arranged adjacent the side frames 12. The platen arms 98 are mounted on the platen shaft 127 and connected together by the cross member 99. The pins 100 carried by the bosses 97 of the platen carrier 91 engage the slots 101 formed in the ends of the platen arms 98 so that any movement of the platen arm is transferred to the carrier.

The slots 101 of the platen arms 98 are formed with recess portions 101*a* at its ends for the reception of pin 100 in the adjustment of the carrier 91 on the platen arm 98 and serve to assist in retaining the carrier in a selective position at either end of the slot. The platens 90 and 95 are arranged on the carrier with the center line thereof converging toward the pivoted pin 100 or substantially toward the pivotal center of the platen carrier 91. Therefore, it will be seen that the arrangement provides that upon movement of the platen arm 98, the carrier rocks slightly about its pivot 92, and the selected platen is moved substantially perpendicular to the face of its cooperating member. As seen in Fig. 5, a platen 90 is adjusted to operative position and upon actuation of the platen arm 98 it will be moved substantially perpendicular to the type faces at the printing line of the machine. In Fig. 14 the platen 95 is shown adjusted to operative position and in this instance upon rocking the platen arm 98 it will be moved substantially perpendicular to the grooved face of the crimping member 106.

In prior machines due to the location of the pivotal center of the platen levers the direction of the motion of the platen at the point of contact with the type face has not been perpendicular to the type face but rather at an angle thereto. In such machines the members of an operating couple did not move into cooperative engagement with the faces thereof in parallel relation with the result that the side farthest from the point of pivot received a lighter impression. It has also been found that the angular engagement of the members of an operating couple tend to displace a sheet from the position initially set in the machine, that is, the engagement and disengagement of the operating couple at an angle tends to move the sheet away from the setting stops of the machine. This shifting of the sheet is extremely detrimental in machines adapted to perform subsequent operations on the same sheet, as any movement causes the next impression to be displaced on the sheet. For example, with the present machine, if the amount was first printed on a check causing the sheet to shift slightly, the next operation of the payee crimper would not be in proper registration with the line on the check provided for the reception of the crimped area, and vice versa.

With my improved platen mechanism wherein the platens move into and out of engagement with their cooperating members in a path substantially perpendicular to the faces thereof, there is no tendency for the sheet to be shifted. Furthermore, the perpendicular movement of the operating member causes the faces of the operating couple to come together in substantially parallel relation with the resultant even imprint. The particular construction of the impression mechanism and related mechanisms here shown for illustrative purposes, forms no part of the present invention per se, but comprises the subject matter of a copending divisional application, Serial No. 475,884, and to which cross reference is made.

The platen carrier 91 is shifted from the printing position shown in Fig. 5 to the crimping position viewed in Fig. 14 by actuation of the selector knob 115. The selector knob 115 is supported on the left side of the base by a slidable lever 116, projecting through the base 34 and having one end resting on the flange 117 of the base frame 12. The opposite end of the lever 116 carries a stud 118 which projects through a slot 119 in the frame 12. The stud 118 has its opposite end connected to a link 120 lying adjacent the inside wall of the frame 12 on the left side of the machine, Figs. 4 and 6. One end of the link 120 is pivoted to the platen carrier stud 100, and the opposite end is pivoted at 121 to a yoke member 122 carried by the cross rod 14 having its ends mounted in the base frames 12. As shown in Figs. 4 and 5, a link 124, similar to the link 120, is connected to the yoke 122 and the platen stud 100 on the right side of the machine. A spring 125 tends to retain the yoke 122 and the parts connected therewith in the forward position shown in Figs. 5 and 6.

When it is desired to shift the platen carrier 91 to displace the printing platen 90 and position the crimping platen 93 for cooperative engagement with the crimping member 106, the selecting part 115 is shifted rearward of the machine against the tension of spring 125. The rearward movement of the knob 115 shifts the lever 116 connected to link 120 which rocks the yoke 122 from the position shown in Fig. 5 to the position shown in Fig. 14. The shifting of the yoke 122 moves the links 120 and 124 rearward of the machine so as to move the platen studs 100 from the forward end of the arcuate slot 101 of the platen arm to the rear end of the slot. In shifting the stud 100 the platen carrier 91 is shifted about its pivot 92 to position the crimping platen 93 for cooperative engagement with the portion 107 of the upper member 106 of the crimping couple. The platen arms 98 mounted on shaft 127 extend rearwardly and carry a rod 128 retained in position by the side frames 10.

The main shaft 129 is supported by the side frames 11 and the supplemental frames 13, and the operating handle 130 is fixed to one end projecting beyond the casing of the machine. A pair of toggle levers 131 on opposite sides of the machine are pinned to shaft 129 and carry studs 132, which pivotally support links 133. The opposite ends of the links 133 have elongated slots 134 which are engaged by the rod 128 carried by the platen arms 98.

It will be seen that upon rocking the main shaft 129 in a clockwise direction as viewed in Fig. 5, or in a counterclockwise direction as viewed in Fig. 6, the first part of the movement will not be conveyed to the platen arms 98 because of the elongated slots 134 formed in the links 133. However, upon the continued rotation of the shaft 129, by the operating handle 130, the end of the slot 134 will be reached and the links 133 will cause the platen arms 98 to rock about the shaft 127 to move the selected platen upward and into engagement with its cooperating member. The spring 135, having one end attached to the cross member 99 and its other end to the tie-rod 14, serves to rock the platen arms 98 to separate the printing couple

when the main shaft 129 is returned to its initial position.

A full stroke mechanism is provided to assure complete operation of the platen means. This mechanism includes the toothed ratchet plate 56 rigid on the shaft 129 and adapted to be engaged by the dog 57. This dog 57 is pivotally supported on the plate 58 carried by the shaft 129 and the cross rod 14, Fig. 5. The full stroke mechanism becomes effective at approximately the same time as the link 133 starts to move the rod 128 and the platen arms 98. Therefore, it will be seen that once the actuation of the platen means is initiated a full and complete movement must be given same which assures uniform action of the printing or crimping couples.

A cam 136 supported on the main shaft 129 has an extending portion engaged by the stud 132 and therefore arranged to be rocked with the toggle member 131. The cam 136 is adapted to engage a roller 137 carried by the lever 138 pivoted intermediate its ends at 139 to the frame portion 11 on the left side of the machine as seen in Fig. 6. The lever 138 extends beyond its pivot toward the front of the machine and is provided with the bifurcate end 140 which is engaged by a projecting portion 141 of an arm 142 pivoted at 143 to a supporting plate 144 secured at 145 to the supporting member 55, Fig. 4. The arm 142 carries an arm 146 pivoted thereto at 147 and a grasshopper spring 148 tends to retain the pivoted arm 146 in engagement with an upwardly formed lug 149 of the lever 142. It will be seen that as the operating shaft 129 is moved in a counterclockwise direction as viewed in Fig. 6, the cam 136 will engage the roller 137 to rock the arm 138 in a counterclockwise direction so that the bifurcate end 140 will move in a downward path. Referring to Fig. 4, when the end 140 of the lever 138 is moved downward it will, through its connection with the arm 142, normally move the lever 146 in a direction toward the right side of the machine. However, if the movement of the lever 146 is retarded, the spring 148 will yield so that the lever 146 will rock about the pivot 147 and thereby permit the arm 142 to continue in its movement conveyer thereto by the action of the cam 136 through the arm 138.

The downwardly projecting portion of the lever 146 as best seen in Figs. 4, 6, and 11 engages in a notch formed in the carrier 150 for the prefix character 50. The carrier 150, Figs. 4 and 11, is supported for sliding movement on the rod 151 supported at one end by the upper side frame 11. This threaded end of the rod 150 passes through the side frames 11 and is held in place by the nut 152. The opposite end of the rod 150 is free and passes through an opening 153 provided in the lower portion of the side frame 11 on the left side of the machine, best seen in Figs. 6 and 11. The extending portion 154 of the carrier 155 is formed upwardly at 156 to which is suitably secured the shiftable prefix type block 50. The formed portion 155 of the carrier projects upwardly beyond the prefix block and is formed at right angles as indicated by the numeral 157. The offset portion 157 is adapted to ride on the surface 158 of the support 55 as the carrier 150 is shifted laterally by the action of the arm 146. This arrangement also prohibits the carrier supported on rod 151 from rocking about its support.

In the operation of the machine, the desired type characters 60 are selectively positioned at the printing or amount line of the machine. The prefix character 50, bearing the word "Exactly" or any other suitable symbol, is adapted upon action of the operating handle 130, through the cam 136, to be shifted adjacent the highest denominational digit set at the printing line. Therefore, the yielding connection, through the lever 146 and the arm 142, permits continued movement of the arm 142 even though the carrier 150 is retarded in its lateral movement due to the abutment of the prefix 50 with the type segment of the highest order set at the printing line.

It is essential that the shiftable prefix block 50 be retained in proper alignment with the printing line of the machine, and the other printing character of the machine. Inasmuch as the type block 50 is shiftably supported independently of the other type of the printing unit, it has been found advantageous and desirable to provide means for adjusting its path of travel. This means includes an additional support for the guide rod 151 comprising a bracket 159 secured at 160 to the cross member 114, Figs. 5 and 11. The bracket 159 has a portion 163 which supports the guide rod 151 beyond its mounting in the side frame. The portion 161 of the bracket is reduced in cross-section so as to provide a weakened portion which permits jacking the mounting 163 to adjust the free end of the guide rod 151, so as to vary the path of the prefix carrier and the type block 50 with relation to the printing line of the machine.

In view of the various uses which are made of an imprinting machine of the character of the present invention, it is desirous to provide for readily removing the prefix character 50 and substituting a character bearing a different sign, word, or symbol. Therefore, with the present construction, the carrier unit 150 which supports the prefix character 50 may be readily withdrawn through the opening 153 in the side frame of the machine. In order to remove the carrier 150 it is necessary to displace the lever 146 from the notch 164 provided in the formed portion of the carrier, Fig. 11. The lever 146 is arranged so that it may be flexed to an extent that it may be removed from the notch 164 as shown by the dotted line position in Fig. 6. This is accomplished by an operator inserting a finger through the slot 85 provided in the side frame 11 and depressing downward on the lever 146. A spring 165, having one end connected to the lever 138 and the opposite end to a stud 166 on the side frame 11, tends to rock the lever 138 in a counterclockwise direction when the cam 136 moves out of engagement with the roller 137.

As previously explained, the platens 90 and 95 are shifted in selectively adjusting the mechanism for printing the amount or scarifying the payee line. Therefore, in order to assure proper actuation of the operating mechanism and prevent damage to the parts, it is essential to provide a control means operatively connected to the selecting lever 115. This control means includes a link 167 pivoted at 168 to the yoke 122, as best seen in Fig. 5 of the drawings. The link 167 extends rearwardly and has its opposite end provided with an offset ear 169 connected at 170 to the control plate 171 supported on the main shaft 129. The tapered projection 172 formed on the plate 171 serves as a stop or centering part de-

pending upon the relative positions to which the platen selecting means may be adjusted.

Normally the parts are in the position shown in Figs. 5 and 6, that is, with the printing platen 90 in alignment with the printing line of the machine. In actuating the machine, the rod 128 connecting the platen arms 98 to the operating shaft 129, is adapted to pass along the outer side of the projecting part 172 so that the machine may be actuated through a normal cycle of operation. However, in the event the lever 115 is actuated to position the serrating platen 95 for cooperative engagement with the member 166, the parts are initially in the position shown in Fig. 14. Under these conditions, the rod 128 will enter and engage the closed end 173 of the slot formed in the control plate 171. Upon engagement of the rod 128 with the end of the slot 173, the operating handle 130 will be retarded from any further movement to prevent excess strain on the parts of the machine and definitely indicate to the operator that the crimping operation of the payee line has been completed. Obviously the control plate 171 when engaged by the rod 128 prohibits movement of the selector 115.

In the event the selector 115 has not been moved to accurately adjust the desired platen in alignment with its respective cooperating members, the rod 128 will engage the projection 172 of the control plate 171 to either automatically align the partially selected platen or prohibit actuation of the operating mechanism. If the selector is in an intermediate position, the rod 128 will engage the end of the projection 172 and thereby prevent continued action of the link 133 connected to the main shaft 129 carrying the operating handle 130. This feature prevents an operator from spoiling checks or other instruments because of improper setting of the operating parts and eliminates the possibility of damaging the machine.

In the course of operation of the machine, the ribbon 110 is automatically fed step by step between the members of the printing couple, from one spool to another. When the ribbon is entirely unwound from the supply spool 112 the reversing mechanism is automatically shifted to reverse the feed of the ribbon. Referring to Figs. 9 and 10 of the drawings, the supply spool is shown at 112 and the receiving spool at 111. In these Figs. of the drawings the parts are shown in the position for winding the ribbon upon the receiving spool 111 in the manner to be hereinafter described.

The main shaft 129 carries a plate 174 connected by studs 132 and 175 to the toggle lever 131, on the right side of the machine, for movement upon rotation of the shaft 129. The plate 174 carries a stud 176 adapted to engage the notch 177 in the cam-like surface 178 of the member 179 pivoted at 180 to the side frame 11. A pin 181 on the member 179 engages the bifurcate end 182 of the rocker arm 183 pivoted on the stud 184 carried by the side frame 11. Therefore, when the operating shaft 129 is rocked in a clockwise direction, as viewed in Fig. 9, upon the forward stroke of the operating handle, the pin 176 will temporarily engage the notch 177 to quickly rock the member 179 about its pivot 180. Upon continued clockwise movement of the plate 174, the stud 176 will pass from the notch 177 and move along the cam surface 178 of the member 179. As the member 179 is rocked, the surface 178 is moved to a point wherein it is concentric with the path of travel of the pin 176. Therefore, after its initial movement, the member 179 will be held in its rocked position during the continued advance of the pin 176 due to the engagement of the pin 176 to the cam surface 178. The intermittent movement of the member 179 is conveyed to the rocker arm 183 upon each actuation of the main shaft 129 by the operating handle through the stud 181.

A T-shaped vibrator lever 185 is also pivoted on the stud 184 carried by the side frame 11, Fig. 9, and operatively connected to the rocker arm 183 by a roller arm 186. An arm 186 is pivoted at 187 to the lever 185 and carries a roller 188 adapted to engage either of the notches 189 or 190 of the rocker arm 183. The spring 191 tends to hold the roller 188 in the proper notch of the rocker arm 183 dependent upon the direction of feed of the ribbon as to be hereinafter set forth.

As seen in Fig. 9, the ratchet dog 192 is pivoted at 193 to the lever 185 and is adapted to engage the ratchet member 195 fixed on the side of the rear ribbon spool 111, that is, the dog engages the member 195 when the ribbon is wound on the spool 111. The tension of the spring 194 tends to move the dog about its pivot and into the path of the ratchet member 195. A dog 196 is pivoted at 197 to the frame 11, and the spring 198 tends to move the dog in a counterclockwise direction and into engagement with the ratchet member 195. When the parts are in the position shown in Fig. 9, the dog 196 prevents any retrograde movement of the ratchet member 195, that is, when the ribbon is being wound upon spool 111. It will now be seen that when the arm 185 is rocked about its pivot 184 and the roller 188 rests in the notch 189, the dog 192 will be correspondingly rocked to move the ratchet dog 192 over a predetermined number of teeth of the ratchet member 195.

In the course of the return stroke of the operating handle, the pin 176 will engage and move the plate 179 rapidly in a counterclockwise direction about its pivot 180. The rapid movement of the plate 179 will rotate the rocker arm 183 and the lever 185 in a clockwise direction. Therefore, the ratchet dog 192 engaged with the ratchet member 195 will rotate the spool 111 and be effective to wind a predetermined length of ribbon 110 thereon and from the front spool 112.

The ribbon spool 111 is provided at its opposite ends with studs 199 suitably supported in the side frame 11. As shown in Figs. 9 and 10, the leaf springs 200 are fastened by rivets 201 to the side frame 11 and have an opposite portion 202 projecting through openings 203 in the side frames 11. The portions 202 of the springs 200 engage the sides of the spool 111 and provide sufficient tension on the spool to prevent free rotation thereof when not under the control of the dogs 192 and 196.

When the lever 185 is shifted with relation to the rocker arm 183 to reverse the direction of feed, the cam portion 204 of the lever 185 engages an extension 205 of the dog 196. The cam portion 204 serves to hold the dog 196 from engagement with the ratchet 195 while the ribbon is being fed from the rear spool 111 to spool 112. Therefore, except for the tension of the springs 202, the spool 111 will be free to rotate for withdrawing the ribbon therefrom and advancing it to spool 112.

As in the conventional practice with ribbon

inked machines, the ribbon 110 is intermittently wound step by step on the spool 111 and passed through the machine until the supply is exhausted from the spool 112. Upon exhaustion of the ribbon from the spool 112 the repeated action of the rocker arm 183, builds up sufficient tension in the ribbon so that the spring 191 yields to permit the roller 188 to shift from the notch 189 to the adjacent notch 190 of the rocker arm 183, that is, from the position shown in Fig. 9 to the position shown in Fig. 13 of the drawings. When the roller 188 rests in the notch 190, the lever 185 is shifted with relation to the rocker arm 183 so that the ratchet dog 192 is no longer effective to rotate the spool 111. The shifting of the roller 188 is effective to position the parts so that the direction of feed is reversed, that is, the mechanism is then effective to wind the ribbon upon the front supply spool 112.

The parts for actuating the ribbon spool 112 are normally ineffective when the ribbon reverse mechanism is operative to wind the ribbon spool 111. Referring to Figs. 7, 9, and 10, a supplemental supporting plate 206 secured to the side frame 11 by the screw 207 carries a stud 208 adapted to fit in a recess 209 formed in the side frame 11 at one side of the opening 85. The stud 208 pivotally supports the lever 210 which is operatively connected to the lever 185 by a link 211. The link 211 is pivoted to the lever 210 at 212 and to the lever 185 by a stud 213 which is carried by the lever 185 and projects through an opening 214 in the side frame 11. It will be seen that the mounting for the lever 210 is removably supported on the side frame 11 so as to allow the lever 210 and the link 212 to be displaced and permit free access to the aligned openings 85 of the side frames 11 upon inserting the type unit as previously described. The lever 210 may be displaced by withdrawing the screw 207 and sliding the stud 208 from the slot 209 in the frame. The lever 210 may be swung on the link 211 about the pivot 213 to a convenient position outside and away from opening 85. This arrangement provides readily detachable means for mounting the lever 210 of the ribbon reversing mechanism.

The actuating dogs for the ribbon spool 112 function substantially similar to those previously described in connection with the actuation of the spool 111. The ratchet dog 215 pivoted at 216 to the lever 210 is adapted to cooperate with the teeth of the ratchet member 217 when the ribbon reversing mechanism is in the position shown in Fig. 13 for winding the ribbon on the spool 112. The dog 218 pivoted at 219 serves to prevent any retrograde movement of the ribbon spool 212 during the feeding operation. Referring to Fig. 9 it will be seen that when the ribbon reversing mechanism is effective to rotate the spool 111 the cam portion 220 of the lever 210 engages the projecting portion 221 of the lever 218 to hold the pawl out of engagement with the ratchet member 217 so that the rotation of the spool 212 is not retarded. The leaf spring 222 engages the side flange of the ribbon spool 112 to provide friction or tension thereon adequate to retard the entirely free rotation of the spool when the dogs 215 and 218 are disengaged therefrom.

The front supply spool 112 is provided with trunnions 223 which are removably supported in the aligned openings 224 in the front of the side frames 11. Displaceable latch means is provided for retaining the trunnions 223 in position in the closed end of the slots 224. Latches 225 are pivoted at 226 on opposite sides of the frames 11. The latches are provided with nose portions 227 adapted to pass over the trunnions and retain them in the closed end of the slots 224, as shown in Fig. 7. Holding members 228 are pivoted at 229 to the latches 225. The holding members 228 are adapted to retain the latches 225 either in the trunnion holding position shown in Fig. 7, or in the displaced position shown in Fig. 8. The member 228 is provided with an extending portion 230 which is adapted to rest on the enlarged head of the screws 231 which serve to support the cross rail 36a. It will be seen from Fig. 7 that when the removable cover 33 is locked in position on the machine frame the portion designated by numeral 232 prevents the holding member 228 from being rocked about its pivot 229. The cover 33 prevents any displacement of the holding member 228 and in turn is adapted to retain the latch members 225 in position to hold the spool trunnions 223 in the closed end of the slots 224 of the frames 11.

In the event it is desired to remove or replace the supply spool 112, the cover latch 35 is released and the cover 33 is slipped from the machine frame. As shown in Fig. 8 after the cover 33 is removed, the holding members 228 may be rocked about the pivot 229 and the latches 225 raised and latched in the position shown. The trunnions 223 of the ribbon spool 112 may then be slipped freely from the openings 224 of the side frames to remove the spool and replace a fresh supply of ribbon. In order to maintain the latch members 225 out of the path of the trunnions 223, the holding members 228 are provided with recesses 233 which are adapted to be dropped over the studs 231 to retain the latch members in the position shown in Fig. 8. It will be obvious that when the parts are in the position shown in Fig. 8, the cover 33 cannot be properly positioned and latched on the machine frame. This arrangement assures that the ribbon supply spool 112 must be properly latched in position before the cover is replaced. Therefore, unless the cover is properly latched on the machine an operator will know that the machine is not conditioned for operation.

The cover for the base section of the machine is made up of the upper case section 234 and the lower case section 235, which are adapted to be formed by the same tools inasmuch as they are of the same size and general contour. However, the base section 235 is subsequently formed with the bosses 236 for the reception of screws which secure the base section 235, the rubber feet 237, and the skeleton frame 238 to offset ears 239 of the base portion 12 of the machine. The upper section 234 may be spot welded or otherwise fastened to the skeleton frame 238. The section 234 is blanked out at 240 approximately at the printing line of the machine to provide an opening for the platen members. This portion is also blanked out towards the rear of the machine as shown in Fig. 6 for the side frames and other operating parts of the machine. A band 241 which passes around the intermediate portion of the base of the machine between the portions 234 and 235 of the base is suitably secured to the skeleton frame 238. The structure of the base covers provides a simple and economical structure adapted to be readily assembled or removed for servicing the machine.

While one embodiment of the invention has been disclosed, it is to be understood that the

inventive idea may be carried out in a number of ways. This application is therefore not to be limited to the precise details described but is intended to cover all variations and modifications thereof falling within the spirit of the invention or scope of the appended claims.

I claim:

1. In a machine of the class described, the combination of spaced supporting frames, of a type assemblage including a shaft and a plurality of type members mounted thereon, a platen member movable into cooperative engagement with the type positioned at the printing line of the machine, said frames having aligned L-shaped guideways disposed inwardly from one edge thereof, said type assemblage being assembled as a unit and the ends of said shaft being capable of being inserted in said guideways for mounting the assemblage in said supporting frames; and means for securing the ends of said shaft in the closed offset ends of said guideways and to prevent any displacement of the type line of said assemblage with respect to said printing line of the machine.

2. In a checkwriter, the combination with spaced supporting frames having substantially L-shaped receiving throats formed therein, of a type assemblage including a shaft and a plurality of type members thereon, a platen member movable into cooperative engagement with the type positioned at the printing line of the machine, said shaft having reduced end portions adapted to be mounted in the closed ends of said receiving throats, said type assemblage being assembled as a unit and said shaft being adapted to be inserted and position in said throats for mounting said assemblage in said supporting frames; means for securing the ends of said shaft in said throats, and means for adjusting said type members of the assemblage on said shaft to correct any misalignment of the type line thereof with the printing line of the machine.

3. In a checkwriter, the combination of a frame, of a plurality of selectively adjustable denominational printing type members, a printing type element adapted to be shifted from a position of rest to a position adjacent the denominational member of the highest order positioned at the printing line of the machine, a removable and shiftable carrier for said type element, a guide rod for said carrier extending across the face of said denominational type members, said rod having one end fixed in said frame and its opposite end free, means for shifting said carrier on said rod, and auxiliary means for adjustably supporting said rod adjacent its fixed end so as to vary the path of travel of the carrier on said rod.

4. In a checkwriting machine, the combination of a frame with an opening in one side, of a plurality of selectively adjustable denominational type members, a type element adapted to be shifted from a position of rest to a position adjacent the denominational member of the highest order positioned at the printing line of the machine, a removable and shiftable carrier for said type element having a formed portion provided with a notch, a support for said carrier including a rod having one end fixed in said frame and its opposite end free, said free end of the rod extending through said side opening in the frame, auxiliary means for adjustably supporting said rod adjacent its fixed end to vary the path of travel of said carrier on said rod, and an actuating means for shifting said carrier, said actuating means including a flexible member normally engaging said notch in said carrier but adapted to be sprung from said notch so as to release said carrier from said actuating means, whereby the carrier may be moved from the free end of said supporting rod and withdrawn through said side opening of the frame.

5. In a machine of the character described, the combination with a pair of spaced supporting frames having aligned offset guideways disposed inwardly from one edge thereof, of a type assemblage including a shaft and a plurality of type members mounted on said shaft, a platen member movable into cooperative engagement with the type of said assemblage positioned at the printing line of the machine, said type assemblage comprising a unit and the ends of said shaft being adapted to be inserted and withdrawn from said guideways; each of said guideways having a portion disposed inwardly from the edge of the frame and positioned to one side of the perpendicular axis passing through the printing plane of the machine, said guideways having an offset closed end portion with substantially parallel side walls and being arranged to intersect at right angles the perpendicular axis passing through said printing plane, said shaft having reduced end portions for engagement with the parallel end portions of said guideways, the arrangement of guideways being such as to provide frame sections on the side of the shaft opposite that of the platen member so as to withstand the thrust resultant from the engagement of the platen with the type assemblage, and means for securing said shaft in the parallel end portions of said guideways of said frames.

6. In a machine of the class described, the combination with spaced side frames having an upper section and a lower section with a sheet receiving throat therebetween, of a type assemblage mounted in said upper frame section including a type shaft and a plurality of type members mounted thereon, a platen member mounted in said lower frame section for movement into cooperative engagement with the type of said assemblage positioned at the printing line of the machine, actuating means for moving said platen, said upper frame section having aligned openings disposed inwardly from the edge opposite that adjacent said base section, said type assemblage being arranged as a unit and the ends of said shaft being adapted to be inserted and withdrawn from said openings, said openings having an open end shaft receiving portion positioned to one side of a perpendicular axis passing through the printing line of the machine and an offset closed end portion intersecting said perpendicular axis, said shaft having reduced ends being adapted to be positioned between the walls of the offset portion of said openings, and means for securing the ends of said shaft in the offset portions of said openings, the arrangement of said shaft receiving openings being such as to extend substantially in the direction of the thrust resultant from the movement of said platen into cooperative engagement with said type assemblage but having offset portions with side walls transverse to the direction of the thrust to support said type shaft and withstand the platen thrust.

7. In a checkwriting machine, the combination of spaced supporting frames having aligned slots disposed inwardly from one edge thereof, of a shaft having reduced end portions being adapted to engage said slots and be removably supported by said frames, of a printing couple including a

type assemblage and a platen member adapted to be moved into cooperative engagement at the printing line of the machine, the type assemblage being supported on said shaft as a unit and removable therewith; said assemblage including a plurality of non-selective type members, a plurality of selective type members and centering mechanism for said selective members, said selective members being provided with centering notches spaced with relation to the type carried by the members, said centering mechanism including a yoke member mounted on said shaft and supporting a plurality of centering devices adapted to cooperate with the notches in said selective members for aligning the type faces positioned at the type line, and releasable means for adjustably securing said yoke member to said supporting frames and being adapted to permit of movement of said centering yoke to correct any misalignment of the type line of said selective members with the printing line of the machine.

8. In a checkwriting machine, the combination of spaced supporting frames having aligned slots disposed inwardly from one edge thereof, of a shaft having reduced end portions removably supported in the slots of said frames, of a printing couple including a type assemblage and a platen member adapted to be moved into cooperative engagement at the printing line of the machine, said type assemblage being supported on said shaft as a unit and removable therewith, said assemblage including a plurality of non-selective type members, a plurality of selective type members and centering mechanism for said selective members, said selective members being provided with centering notches spaced with relation to the type carried by the members, said centering mechanism including a yoke member mounted on said shaft and a plurality of centering devices supported by said yoke, said centering devices being adapted to cooperate with said notches to align the selective members with respect to one another, means for adjustably securing said yoke member to said supporting frames and being adapted to permit of movement of said centering yoke about said shaft to correct any misalignment of said selective members with the printing line of the machine, and means for adjustably securing said non-selective type member to said yoke member and being adapted to permit of movement of said non-selective members to correct any misalignment thereof with said selective type members of the assemblage and the printing line of the machine.

WALTER B. PAYNE.