ABSTRACT: A platen assembly for use with a money order printing machine or the like having a frame, means defining a printing line, type segments having printing characters positionable on the printing line and an operating lever. The platen assembly comprises a platen supported by rocker arms, and actuating mechanism means interconnecting the rocker arms with the operating lever. The actuating mechanism includes compression springs disposed between the rocker arms and the operating lever and control links adapted to selectively prevent rocking movement of the platen support arms. Initial movement of the operating lever toward a printing position creates potential energy through compression of the springs, which energy is released as the operating lever is moved substantially to its printing position and releases the control links thereby effecting impact movement of the platen into pressure contact with an instrument disposed between the platen and the printing line.
PLATEN ASSEMBLY FOR CHECK WRITERS

BACKGROUND OF THE INVENTION

The present invention relates generally to check writer and money order printing machines and the like, and more particularly to new and novel platen assembly means for use with such machines.

Known check writers and money order printing machines employ platens which are movable between positions spaced from printing lines on the machines and printing positions in pressure contact with instruments disposed between the platens and printing characters positioned on the printing lines. The platens are generally mounted on support arms rockable through actuating mechanism interconnecting the arms to an operating lever. Movement of the operating lever toward a printing position effects movement of the platen into pressure contact with the instrument disposed between the platen and the printing characters. During operation of the known check writers and money order printing machines having platens movable to effect printing as described, movement of the platen is uniform with movement of the operating lever toward its printing position such that the force applied by the platen during printing is substantially determined by the force applied to the operating lever by the operator. While these known check writers have generally been satisfactory in operation, it has been found that the present invention provides improved printing through novel movement of the platen into engagement with an instrument disposed between the platen and printing characters positioned on the printing line of the machine.

The known check writers and money order printing machines generally employ unitary platens which extend transversely of the machines a distance sufficient to simultaneously contact all of the printing characters positioned on the printing lines. Such unitary platens have the disadvantage that they do not provide means for varying the pressure contact against selected printing indicia positioned on the printing line. One embodiment of the present invention overcomes this disadvantage by employing segmented platens with each platen segment or portion being supported for individual adjustment to vary the pressure contact between the different segments and their corresponding printing characters.

SUMMARY OF THE INVENTION

One of the primary objects of the present invention is to provide new and novel platen assembly means for use with check writers and money order printing machines and the like, which platen assembly means includes actuating mechanism means adapted to effect impact movement of a platen into pressure contact with an instrument disposed between the platen and printing characters positioned on the printing line of the machine.

Another object of the present invention is to provide platen assembly means as described including a platen mounted on rockable support arms, the support arms being connected to an operating lever through means adapted to create potential energy during initial movement of the operating handle toward a printing position and selectively release the potential energy to effect impact movement of the platen to its printing position.

Another object of the present invention is to provide platen assembly means as described wherein the means connecting the platen support arms to the operating lever includes coil compression springs and control links, the control links being adapted to prevent rocking movement of the platen support arms until the compression springs have been compressed to create potential energy whereupon the control links are caused to release the platen support arms and effect impact movement of the platen into its printing position.

A further object of the present invention is to provide new and novel platen assembly means as described including limiting links operatively associated with the platen support arms to limit upward movement of the platen during impacting movement of the platen to its printing position.

Another object of the present invention is to provide platen assembly means wherein the platen comprises at least two segmented platen portions each having actuating mechanism means associated therewith for effecting impact movement of the platen portions to their printing positions, the platen actuating mechanism means being adapted to effect variable impacting pressure between the platen portions and their corresponding printing characters.

In carrying out the above objects of my invention, I employ a check writer having conventional upstanding spaced side plates defining a frame means, a plurality of adjustable-type segments having printing characters thereon positionable on a printing line, and an operating lever. I provide platen assembly means including a platen mounted on arms rockably supported by the frame means, and actuating mechanism means for connecting the platen support arms to the operating lever for effecting impact movement of the platen to its printing position upon movement of the operating lever to a printing position. The actuating mechanism means includes a toggle yoke pivotally supported in transverse relation to the sideplates, a pair of toggle links connecting the toggle yoke to limiting levers pivotally supported by the platen support arms, and an operating link connecting the toggle yoke to the operating lever such that movement of the operating handle toward its printing position effects movement of the limiting links to allow upward rocking movement of the platen support arms. Potential energy creating means comprising coil compression springs are disposed between the toggle yoke and the platen support arms such that movement of the operating lever toward its printing position urges the platen toward its printing position. A pair of control links are pivotally supported on the upstanding side plates and have lower hooked end portions adapted in a first position to prevent movement of the platen to its printing position. The control links and compression springs are associated with the toggle yoke such that as the operating lever is initially moved toward its printing position, the control links prevent rocking movement of the platen support arms and effect compression of the compression springs to create potential energy therein. The control links are adapted to release the platen support arms when the operating lever has been moved substantially to its printing position and substantial potential energy has been created in the springs such that the potential energy is released to effect impact movement of the platen into pressure contact with an instrument disposed between the platen and printing characters positioned on the printing line of the machine. Rearward movement of the operating lever to its nonprinting position serves to return the platen to a nonprinting position spaced from the printing line whereupon the control links are returned to positions preventing rocking movement of the platen support arms preparatory to a subsequent printing operation.

An alternative embodiment of a platen assembly means in accordance with my invention utilizes two platen segments or portions each mounted on a pair of rockable platen support arms. Each of the platen portions has associated therewith an actuating mechanism including a control link and coil compression springs disposed between a toggle yoke and the platen support arms. Movement of the operating lever to its printing position effects impact movement of the separate platen portions to printing positions against an instrument disposed between the platens and corresponding printing characters positioned on the printing line of the check writer.

Further objects and advantages of my invention, together with the organization and manner of operation thereof, may best be understood by reference to the following description taken in conjunction with the accompanying drawings, in which like reference numerals designate like parts throughout the several views.
FIG. 1 is a partial side view of a check writer embodying my invention with the upper portion of the casing omitted for clearness of illustration; FIG. 2 is a partial sectional side view of the check writer of FIG. 1 considered in a vertical plane taken slightly inwardly of the upstanding sideplate shown in FIG. 1 and with the casing partially illustrated; FIG. 3 is a partial rear view of the check writer of FIG. 1 with elements not essential to the platen assembly means being omitted for clearness of illustration; FIG. 4 is a partial sectional view taken substantially along the line 4–4 of FIG. 3; FIG. 5 is a partial sectional view similar to FIG. 4 but illustrating the platen actuating mechanism in an intermediate position; FIG. 6 is a partial sectional view similar to FIG. 4 but illustrating portions of the actuating mechanism of the platen assembly means in positions effecting pressure contact between the platen and an instrument disposed between the platen and printing characters positioned on the printing line of the check writer; FIG. 7 is a view taken substantially along the line 7–7 of FIG. 2 partially showing the platen support means and actuating mechanism; FIG. 8 is a rear view similar to FIG. 3 illustrating an alternative embodiment of platen assembly means employing two platen portions and associated actuating mechanism means; and FIG. 9 is a view similar to FIG. 7 but illustrating the segmented platen assembly of FIG. 8.

DESCRIPTION OF PREFERRED EMBODIMENTS

Referring now to the drawings, and in particular to FIGS. 1 and 2, I have illustrated my invention, by way of example as embodied in a check writer generally similar to that disclosed in U.S. Pat. No. 2,697,981 to A.G. Rindfleisch. Portions of the cited Rindfleisch patent which, form no part of the present invention will not be described in detail herein, reference being had to the Rindfleisch patent for a more detailed description of the check writer. As will be understood, in its broader aspects my invention may be applied to any suitable check writer, money-order-printing machine or analogous machine such as those disclosed in my U.S. Pat. Nos. 3,118,371 and 3,142,248.

The check writer illustrated in FIG. 1 includes a casing or housing 20, the upper portion of which has been omitted for clearness of illustration, suitably mounted upon the main frame of the check writer. The main frame comprises spaced upstanding side frame members or plates 22 and 24 of which sideplate 22 is shown in FIG. 1. The upstanding sideplates 22 and 24 are of irregular polygonal shape each having a forwardly extending base element enclosed in the lower or base portion of the casing 20, the latter defining with the upper body portions of the plates a rearwardly extending slot 26 for insertion of a money order blank or like instrument into the check writer. The sideplates 22 and 24 are secured together in upstanding spaced parallel relation by cross rods 28 suitably secured to the side plates in generally transverse relation thereto.

Noting FIG. 2, a cross shaft 30 is mounted on and between the spaced sideplates 22 and 24 by means of reduced studs (not shown) at its opposite ends providing shoulders abutting the inner faces of the sideplates and restraining the shaft against endwise movement. A plurality of type segments or printing members 32 are mounted upon the cross shaft 30 for rotational or turning movement thereon and are maintained in spaced relation on the shaft by spacing collars (not shown) in a manner as described in the above referenced Rindfleisch patent. The number of type segments selected for use in the check writer with which my invention is illustrated may be varied as desired, the number of type segments employed having no bearing upon the instant invention. Each of the type segments 32 includes an arcuate type bar 34 for movement therewith. Each type bar 34 is provided upon its printing face with a series of printing characters or numerals generally ranging from zero to nine and arranged in reverse seriatom order from the leading end of the bar to the rearward end thereof. Each type bar is relieved adjacent its zero printing character such as at 36 to provide a blank or nonprinting position for the associated type segment 32, thereby allowing the type segments to be selectively moved to nonprinting positions. A guide bar 38 is secured to and between the upstanding sideplates 22 and 24 in transverse relation thereto and is provided with transverse slots, one of which is shown at 40, to receive the type bars 34 of the type segments 32 and restrain them against transverse movement. As will become more apparent hereinbelow, the check writer includes means defining a printing line forwardly of the guide bar 38 with the type segments 32 being individually adjustable to selectively align the printing characters on the printing line.

Each of the type segments 32 includes a forwardly projecting finger portion 42 which is suitably secured an actuating lever 44. Each actuating lever 44 is received through an elongated slot 46 provided in an upper plate portion 48 of the casing 20 in a known manner and has a finger grip or cap 50 frictionally secured to the outer end thereof. A number or index strip 52 is secured to each of the actuating levers 44. The index strips 52 are generally concentric with the cross shaft 30 and underly the top plate portion 48 of the casing 20. Each of the index strips 52 includes a series of characters thereon corresponding to the printing characters of the respective type segments. An opening (not shown) is provided in each of the elongated slots 46 in overlying relation to the corresponding index strip 52 such that the character visible through any one of the openings indicates the printing character on the corresponding type segment 32 which is then positioned on the printing line of the machine. As more fully described in the above referenced Rindfleisch patent, the slots 46 receiving the actuating levers 44 therethrough are given lengthwise dimensions to allow movement of the corresponding type segments 32 to selectively position the printing characters in printing position or to allow the type segments to be moved to nonprinting positions wherein the cutouts 36 are disposed on the printing line.

Each of the type segments 32 is provided with a two-way rack 58 formed by cutting teeth in the hub portion thereof. The racks 58 cooperate with spring ball detents 60 mounted in an index bar 62 extending between and secured to the sideplates 22 and 24 in overlying relation to the rearward portions of the type segments 32. The index bar 62 and associated ball detents 60 provide means for maintaining the type segments 32 in their selected adjusted positions in a known manner. A clearing yoke 64 is rockably mounted on the cross shaft 30 and suitable means is provided for swinging the yoke forward and downward after completion of a printing operation to return all of the type segments 32 to normal nonprinting or zero printing positions as desired. The clearing yoke and its associated operating means may be similar to those disclosed in the above identified Rindfleisch patent and, need not be described in greater detail herein.

Noting FIG. 1, means, indicated generally at 66, are provided for inking the printing characters positioned on the printing line of the check writer. The inking means may be of any suitable known type, such as that illustrated in my above referenced U.S. Pat. No. 3,142,248. Briefly, the inking means includes a first inking arm (not shown) secured on the cross shaft 30 adjacent the inner surface of sideplate 24 and extending forwardly and downwardly from the shaft. A second inking arm 68 is secured on the shaft 30 adjacent the inner surface of sideplate 22 and extends forwardly and downwardly from the shaft as well as rearwardly thereof. Each of the inking arms is provided at its forward end with an upwardly and rearwardly opening hook element 70. An inking tray 72, carrying three
Inking rollers 74, 76 and 78, is mounted on the hooks 70 of the inking arms through headed studs 80 in a known manner. Tor- sion springs 120 are mounted on one arm of each spring engaging the upper forward edge portion of tray 72 and the other arm engaging a notch in a finger extending inwardly from the corresponding inking arm. During the printing operation the inking assembly 66 is moved upward and forward so as to clear the printing segments and the inking rollers are rotated to assure an adequate supply of ink to the roller 78. An operating lever or handle 86 is secured on the outer end of a bushing 87 (FIG. 3) which is rockably mounted on a stub shaft secured in normal relation to the upstanding sideplate 22 in a known manner. A cam 88 is secured on the bushing 87 and has a pin and slot connection to the inking arm 68 for swinging the spaced inking arms forward and upward as the operating handle 86 is swung forward and downward for effecting a printing operation. The operating lever 68 is nor- mally maintained in its rearward nonprinting position as shown in FIG. 1 in which the cam 88 holds the inking tray 72 depressed with the inking roller 78 spaced downwardly from the printing line of the check writer. To this end, the cam 88 includes a lobe 90 which engages a roller 92′ coaxial with the inking roller 78 when the operating lever is in its rearward nonprinting position. The initial movement of the operating lever 86 the inking tray 72 is released for upward movement and the roller 78 is rotated for inking the printing characters positioned on the printing line in a known manner.

Referring now to FIGS. 2–7, platen assembly means are provided on the check writer, which assembly means includes platen means, indicated generally at 92, and actuating mechanism means, indicated generically at 93. The platen means 92 is supported by the upstanding sideplates 22 and 24 for movement between a first position spaced from the printing characters positioned on the printing line and a second position in pressure contact with an instrument disposed between the platen means and the printing characters positioned on the printing line. The platen means 92 includes a platen bar 94 suitably mounted at the forward ends of two parallel spaced support arms 96 rockably mounted on a cross shaft 98 extending between and mounted in the base portions of the upstanding sideplates 22 and 24. The platen bar 94 is adjustably mounted on a platen supporting bar 100 secured to and between the forward ends of the arms 96 in similar fashion to the above identified Rindfleisch patents 110 to cam 88 on the inner side thereof. The end of the operating link 108 opposite the pivotal connection 110 is pivotally connected to a pintle shaft 112 outwardly of the upstanding sideplate 22. The pintle shaft 112 is carried by a toggle yoke 114 and extends transversely of the check writer with opposite end portions 112′ being received within arcuate slots 116 formed in the upstanding sideplates 22 and 24. The toggle yoke 114 is pivotally supported at its upper end by a cross shaft 118 secured to and between the upstanding sideplates 22 and 24. The arcuate slots 116 are concentric with the pivot axis of cross shaft 118 to allow rearward pivotal movement of the toggle yoke 114 upon forward and downward movement of the operating handle 86 in a known manner.

A pair of toggle links 120 have their inner ends pivotally connected to the pintle shaft 112 through elongated slots 122 which provide limited motion connections between the toggle links and the pintle shaft. The pintle shaft is provided at the end thereof generally adjacent sideplate 24 with a circumferential groove which receives a lock washer 124 for confining the upper end of the corresponding toggle link 120 between the side edge of the toggle yoke 114 and an annular spacer 126 (FIG. 3). The end of each of the toggle links 120 opposite its pivotal connection to the pintle shaft 112 is pivotally connected to the rearward end of a limiting link 128. The limiting link 128 is pivotally supported on one arm of each spring engaged to the upper forward edge portion of tray 72 and the other arm engaging a notch in a finger extending inwardly from the corresponding inking arm. During the printing operation the inking assembly 66 is moved upward and forward so as to clear the printing segments and the inking rollers are rotated to assure an adequate supply of ink to the roller 78. An operating lever or handle 86 is secured on the outer end of a bushing 87 (FIG. 3) which is rockably mounted on a stub shaft secured in normal relation to the upstanding sideplate 22 in a known manner. A cam 88 is secured on the bushing 87 and has a pin and slot connection to the inking arm 68 for swinging the spaced inking arms forward and upward as the operating handle 86 is swung forward and downward for effecting a printing operation. The operating lever 68 is nor- mally maintained in its rearward nonprinting position as shown in FIG. 1 in which the cam 88 holds the inking tray 72 depressed with the inking roller 78 spaced downwardly from the printing line of the check writer. To this end, the cam 88 includes a lobe 90 which engages a roller 92′ coaxial with the inking roller 78 when the operating lever is in its rearward nonprinting position. The initial movement of the operating lever 86 the inking tray 72 is released for upward movement and the roller 78 is rotated for inking the printing characters positioned on the printing line in a known manner.

Referring now to FIGS. 2–7, platen assembly means are provided on the check writer, which assembly means includes platen means, indicated generally at 92, and actuating mechanism means, indicated generically at 93. The platen means 92 is supported by the upstanding sideplates 22 and 24 for movement between a first position spaced from the printing characters positioned on the printing line and a second position in pressure contact with an instrument disposed between the platen means and the printing characters positioned on the printing line. The platen means 92 includes a platen bar 94 suitably mounted at the forward ends of two parallel spaced support arms 96 rockably mounted on a cross shaft 98 extending between and mounted in the base portions of the upstanding sideplates 22 and 24. The platen bar 94 is adjustably mounted on a platen supporting bar 100 secured to and between the forward ends of the arms 96 in similar fashion to the above identified Rindfleisch patents 110 to cam 88 on the inner side thereof. The end of the operating link 108 opposite the pivotal connection 110 is pivotally connected to a pintle shaft 112 outwardly of the upstanding sideplate 22. The pintle shaft 112 is carried by a toggle yoke 114 and extends transversely of the check writer with opposite end portions 112′ being received within arcuate slots 116 formed in the upstanding sideplates 22 and 24. The toggle yoke 114 is pivotally supported at its upper end by a cross shaft 118 secured to and between the upstanding sideplates 22 and 24. The arcuate slots 116 are concentric with the pivot axis of cross shaft 118 to allow rearward pivotal movement of the toggle yoke 114 upon forward and downward movement of the operating handle 86 in a known manner.
with the portion of the cross shaft disposed between the platen support arms 96, which shoulders about the inner surfaces of the platen support arms to maintain them in spaced relation. Annular sleeves 176 are received over the reduced diameter end portions 174 of the cross shaft 172 and serve to maintain the corresponding rollers 170 in outward spaced relation from the associated platen support arms. Means such as snap rings 178 are provided on the outermost ends of the shaft end portions 174 to maintain the associated rollers 170 thereon. Noting FIG. 2, the control links 154 have profile configurations such that when the control links are positioned in their extreme counterclockwise positions with the arm portions 160 abutting the stops 166, a forward lower edge portion 180 will be spaced rearwardly from the corresponding roller 170. The forward edge portion 180 of each of the control links 154 overlies the corresponding arcuate slot 116 adjacent the inner surface of the associated upstanding sideplate 22, 24 so as to be in the path of travel of the corresponding outer end portion 112 of the pintle shaft 112 when the pintle shaft is moved substantially its full rearward path of travel within the elongated slots.

Having thus described a check writer incorporating a platen means 92 and actuating mechanism means 93 in accordance with one embodiment of the present invention, its operation will now be briefly described. FIGS. 1, 2, and 4 illustrate the platen means 92 and actuating mechanism means 93 in their normally extending positions with the operating handle 86 in its rearward nonprinting position. In this position, the toggle yoke 114 and toggle links 120 are in their collapsed position with the limiting shoulders 130 on the limiting links 128 engaging the stop pins 132 on the platen support arms 96 and maintaining the platen 94 in a downward nonprinting position. In the nonprinting position, the compression springs 138 of the potential energy creating means 136 are in generally extended slightly compressed states; the compression forces in the compression springs being sufficient to urge the head yoke 146 against the pintle shaft 112. After a blank check or analogous instrument is inserted into the rearward extending slot 26 in the check writer preparatory to printing indicia such as a dollar amount thereon, the operating handle 86 is brought forwardly and downwardly. As the operating handle 86 is moved forwardly the operating link 108 effects rearward movement of the pintle shaft 112 within the arcuate slots 116. Such rearward movement of the pintle shaft 112 begins to compress the compression springs 138 and create potential energy within the compression springs. As noted above, the elongated slots 122 in the links 120 provide lost motion with the link 120 during initial rearward movement of the pintle shaft and therefore do not initially effect clockwise pivotal movement of the limiting links 128 about their pivot axis 98 as viewed in FIG. 2. As the pintle shaft 112 is moved further rearwardly within the arcuate slots 116 upon continued forward movement of the operating handle 86, the toggle links 120 effect downward or clockwise rotation of the limiting links 128 about their pivot axis 98 to raise the limiting shoulders 130 above the corresponding stop pins 132 on the platen support arms 96. Simultaneously with such pivotal movement of the limiting 128, the compression springs 138 are compressed and urge the platen support arms 96 in a counterclockwise direction, as considered in FIG. 5. Such movement of the platen support arms is limited through engagement of the rollers 170 with the hook portions 168 of the control links 154. After the rollers 170 have engaged the hook portions 168 of the control links 154, the compression springs 138 continue to be compressed with a corresponding increase in the potential energy created therein. When the pintle shaft 112 reaches a rearward position as shown in FIG. 5, the outer end portions 112' of the pintle shaft engage the forward edge portions 178 of the control links 154. The control links 154 in a counterclockwise direction to release the hook portions 168 from below the rollers 170 on the platen control arms. The configurations of the control links 154 are such that the control links are not released from their positions underly-

ing the rollers 170 until the compression springs 138 have been substantially compressed. Thereafter, further rearward movement of the pintle shaft 112 through completion of forward movement of the operating lever will effect release of the control links from their underlying positions relative to the rollers 170 and allow the compression springs 138 to release their potential energy in an expansion movement and effect downward movement of the rearward ends of the platen support arms 96 whereby to effect upward impact movement of the platen 94 into pressure contact with the instrument shown in phantom lines at 182 in FIG. 6. Pressure contact of the platen 94 against the under surface of the blank instrument 182 effects printing on the upper surface of the instrument through the printing characters positioned on the printing line of the check writer.

Upon such impact movement of the platen 94 into pressure contact with the blank instrument to effect printing thereon, the operating handle 86 is moved upwardly and rearwardly to its nonprinting position as shown in FIG. 1. Such rearward movement of the operating handle 86 causes the pintle shaft 112 to be returned to its initial position within the arcuate slots 116 with simultaneous counterclockwise movement of the platen support arms about their pivot axis 98 due to the toggle links 120 effecting counterclockwise pivotal movement of the limiting links 128 whereby to cause the limiting shoulders 130 to engage the stop pins 132 and force the forward ends of the platen support arms downwardly. With the pintle shaft 112 in its forwardly nonprinting position the platen 94 is returned to its nonprinting position by the tension springs 162 returning the control links 154 to their normal positions as shown in FIGS. 2 and 4 preparatory to a subsequent printing operation.

FIGS. 8 and 9 illustrate an alternative embodiment of platen assembly means in accordance with my invention. The elements common to the embodiment of FIGS. 8 and 9 and the embodiment described with respect to FIGS. 1—7 are identified by identical reference numerals. The platen assembly means of FIGS. 8 and 9 comprises platen means and actuating mechanism means which find particular application where it is desired to have a segmented platen. For example, where it is desired that different portions of a platen be adapted to engage portions of an instrument against associated platen support arms independently of each other and to support a platen (not shown) thereabove in guided relation within slots 196 provided in the upper edge portions of the pairs of platen support arms. The respective longitudinal lengths of the platen-supporting bars 194 and corresponding platens received within the slots 196 may be varied as desired without departing from my invention.

Each set of platen support arms 190, 192 has a cross shaft 198 supported therebetween and adjacent the rearward end portions thereof, each of the cross shafts 198 having reduced diameter opposite end portions 200 rotatably received within appropriate openings in the pairs of platen support arms. Potential-energy-creating means, indicated generally at 202, are disposed between each of the cross shafts 198 on the platen support arm 190 and are engaged with a pintle shaft 112 secured within the lower end of a toggle yoke 204 in similar fashion to the above described potential-energy-creating means 136. The toggle yoke 204 is pivotally supported in transverse relation to the upstanding sideplates 22 and 24 through a
cross shaft 118 and has a longitudinally extending slot 206 herein exposing the corresponding portion of the pindle shaft 112. Each of the potential energy creating and storing means 202 includes a pair of coil compression springs 208 disposed about guide pins 210 which have lower end portions slidably received through appropriate throughbores in the cross shafts 198. The upper ends of each pair of guide pins 210 are secured to an elongated head yoke 112 having a longitudinally extending radial slot adapted to receive and abut the corresponding portion of the pindle shaft 112 in similar fashion to the above described head yoke 146. The potential energy creating and storing means 202 are generally similar to the above described potential-energy-creating means 136.

A pair of spaced parallel toggle links 214 are pivotally connected to the pindle shaft 112 through elongated slots 216 in the upper ends thereof, which elongated slots provide limited lost motion between the pindle shaft and the toggle links in similar fashion to the above described toggle links 120. The lower ends of the toggle links 214 are pivotally connected to limiting links 128 which are pivotally mounted on the opposite outer end portions of the cross shaft 98 and cooperate with the stop pins 132 secured to the outer platen support arms 190 as above described. Spacer cross shafts 218 are secured to and between the pairs of platen support arms 190, 192 and have reduced diameter outer end portions supporting rollers 170 thereon similar to the above described spacer cross shaft 172. The actuating mechanism means illustrated in FIGS. 8 and 9 further includes control links 154 having lower hook end portions adapted to underly the rollers 170 when the platens are disposed in their nonprinting positions. As described above, the pindle shaft 112 is operatively connected to the operating handle 86 through the operating link 108 and cam 88.

In operation, movement of the platen supporting bars 194 and associated platens (not shown) to their printing positions through the actuating mechanism means including the operating link 108, toggle yoke 204, pindle shaft 112 and potential energy creating means 202 is generally similar to the operation of the embodiment above described with respect to FIGS. 1—7. Briefly, movement of the operating handle from a non-printing position to a forward printing position affects movement of the shoulders 130 on the limiting links 128 to positions raised above the stop pins 132 in the outer platen support arms 190, and simultaneously effects the creation of potential energy in the respective sets of coil compression springs 208 until such time as the outer ends 112' of the pindle shaft 112 engage the control links 154 to release them from under the rollers 170. Thereafter, the potential energy established in the coil compression springs 208 is released to effect upward impact movement of the platens into pressure contact with an instrument disposed between the platens and corresponding printing characters positioned on the printing line of the check writer. The spring rates of the respective sets of coil compression springs 208 may be selectively varied between the pairs of platen support arms 190, 192 such that during operation of a check writer employing platen assembly means as illustrated in FIGS. 8 and 9, different contact pressures will be effected between the different platen segments and the corresponding printing characters positioned on the printing line of the machine.

While the platen means and actuating mechanism means illustrated in FIGS. 8 and 9 has been described as employing two platen supporting bars for supporting a pair of generally longitudinally aligned platens, it will be understood that more than two platen segments may be provided, each segment being supported for independent rockable movement and having potential energy creating means associated therewith whereby to effect various contact pressures between the different platen segments and their corresponding printing characters.

While preferred embodiments of my invention have been shown and described, it will be understood that changes and modifications may be made therein without departing from my invention in its broader aspects.

I claim:

1. In a machine for printing money orders and like instruments, the combination comprising a frame, means defining a printing line, a plurality of type segment members supported by said frame and having printing characters thereon individually positionable on said printing line, platen means supported by said frame for movement between a first position spaced from printing characters positioned on said printing line in a pressure contact with an instrument disposed between said platen means and said printing characters positioned on said printing line, an operating lever supported by said frame for movement between a first position and a second position for effecting a printing operation, and actuating mechanism means interconnecting said platen means and said operating lever, said actuating mechanism means including means for creating potential energy upon initial movement of said operating lever toward its said second position, said potential energy creating means being adapted to release said potential energy and effect impact movement of said platen means to its said second position, and control link means pivotally supported by said frame independently of said actuating means comprising said actuating mechanism means, said control link means being normally urged to a position preventing movement of said platen means to its said second position during initial movement of said operating lever toward its said second position, said control link means being adapted to release said platen means for movement thereof to its said second position responsive to movement of said operating lever substantially to its said second position.

2. The combination of claim 1 wherein said actuating mechanism means includes toggle yoke means pivotally supported by said frame and adapted to engage said control link means and effect release of said platen means for movement to its said second position upon movement of said operating lever substantially to its said second position.

3. The combination of claim 2 including spring means operatively associated with said control link means and adapted to urge said control link means to said position preventing movement of said platen means to its said second position.

4. The combination of claim 1 wherein said platen means includes a pair of spaced generally parallel platen support arms and a platen member supported by said support arms for movement to a position in pressure contact with an instrument disposed between said platen means and the printing characters positioned on said printing line.

5. In a machine for printing money orders and like instruments, the combination comprising a frame, means defining a printing line, type segment members supported by said frame and having printing characters thereon positionable on said printing line, platen means including a pair of spaced parallel platen support arms and a platen member affixed thereon, said platen support arms, having forward and rearward end portions and being rockably supported by said frame intermediate said end portions, said platen member being supported generally adjacent said forward end portions of said support arms for movement between a first position wherein said platen member is spaced from printing characters positioned on said printing line and a second position wherein said platen member is in pressure contact with an instrument disposed between said platen means and the printing characters positioned on said printing line, an operating lever supported by said frame for movement between a first position and a second position for effecting a printing operation, and actuating mechanism means including compression spring means operatively associated with said platen support arms and said operating lever, said spring means being operative to create potential energy upon initial movement of said operating lever toward its said second position and release said potential energy to effect impact movement of said platen means to its said second position upon movement of said operating lever substantially to its said second position.

6. The combination of claim 5 wherein said actuating mechanism means includes limiting links pivotally supported by said frame and operatively associated with said platen sup-
port arms and said operating lever, said limiting links being adapted to engage said platen means and maintain said platen means in its first position with said platen member spaced from printing characters positioned on said printing line, said limiting links being movable in response to movement of said operating lever toward its printing position to release said platen means and allow movement of said platen support arms for effecting pressure contact between said platen member and an instrument disposed between said platen means and the printing characters positioned on said printing line.

7. The combination of claim 1 wherein said platen means includes a plurality of platen members each supported independently of the others and movable between nonprinting and printing positions, said platen members being positioned in generally longitudinal alignment when in said nonprinting positions.

8. The combination of claim 1 wherein said actuating mechanism means includes means operatively associated with each of said platen members and adapted to effect substantially simultaneous movement of said platen members into pressure contact with an instrument disposed between said platen means and printing characters positioned on said printing line upon movement of said operating lever to its said second position.

9. The combination of claim 8 wherein said actuating mechanism means includes means disposed between said operating lever and each of said platen members for creating potential energy upon initial movement of said operating lever toward its second position, said potential energy creating means being operative to release potential energy and effect impact movement of said platen members into pressure contact with an instrument disposed between said platen means and printing characters positioned on said printing line upon movement of said operating lever substantially to its said second position.

10. The combination of claim 1 wherein said platen means includes two platen members supported in generally transverse relation to said frame, and including separate potential energy creating means operatively associated with each of said platen means and said operating lever.

11. The combination of claim 1 wherein said platen means includes a pair of rockably supported platen support arms supporting each of said two platen members, and wherein said potential energy creating means comprises coil compression spring means operatively associated with each of said pairs of platen support arms and said operating lever such that movement of said operating lever toward its said second position creates potential energy which is released upon movement of said operating lever substantially to its second position, release of said potential energy serving to effect movement of said platen members into pressure contact with an instrument disposed between said platen means and printing characters disposed on said printing line.
CERTIFICATE OF CORRECTION

Patent No. 3,585,929 Dated June 22, 1971

Inventor(s) Ardath A. Gopperton

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

Column 10, line 46, change "line" to -- like --.

Signed and sealed this 25th day of January 1972.

(Seal)
Attest:

EDWARD M. FLETCHER, JR.
Attesting Officer

ROBERT GOTTSCHALK
Commissioner of Patents