

July 4, 1939.

H. L. PITMAN  
TYPEWRITING MACHINE

2,164,422

Filed Jan. 2, 1936

4 Sheets-Sheet 1

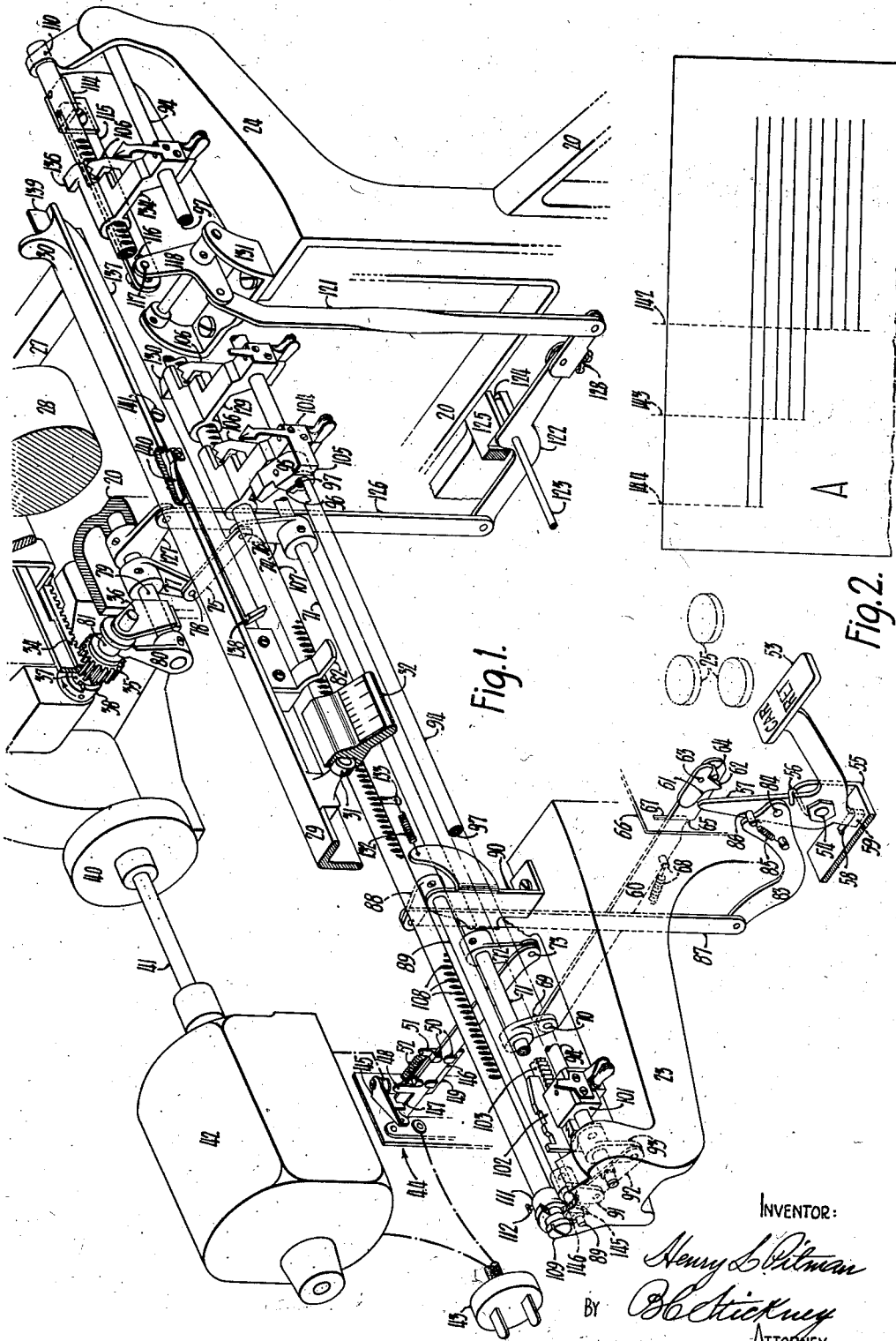


Fig. 1.

Fig. 2.

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4 Sheets-Sheet 2

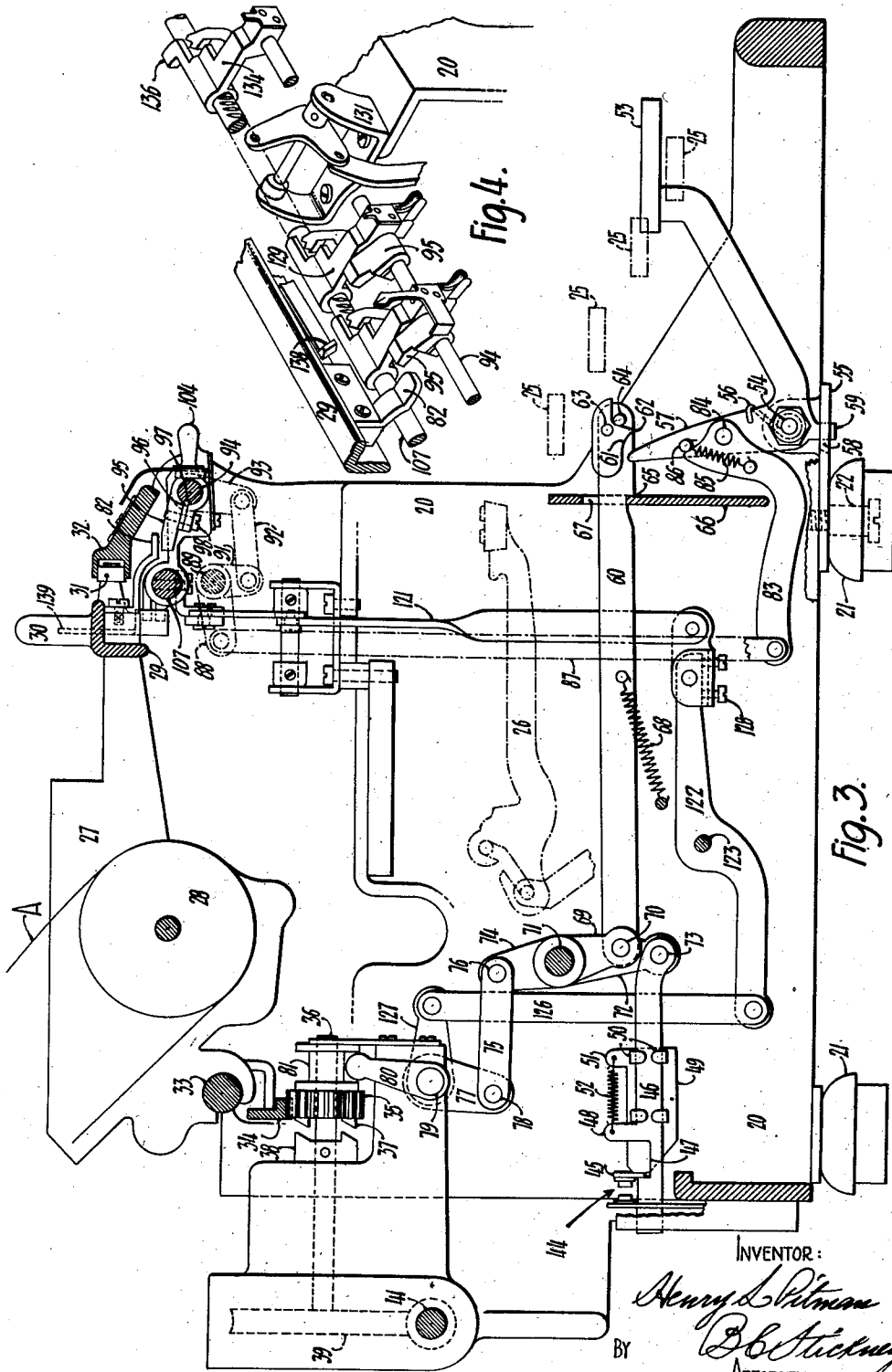


Fig. 4.

Fig. 3.

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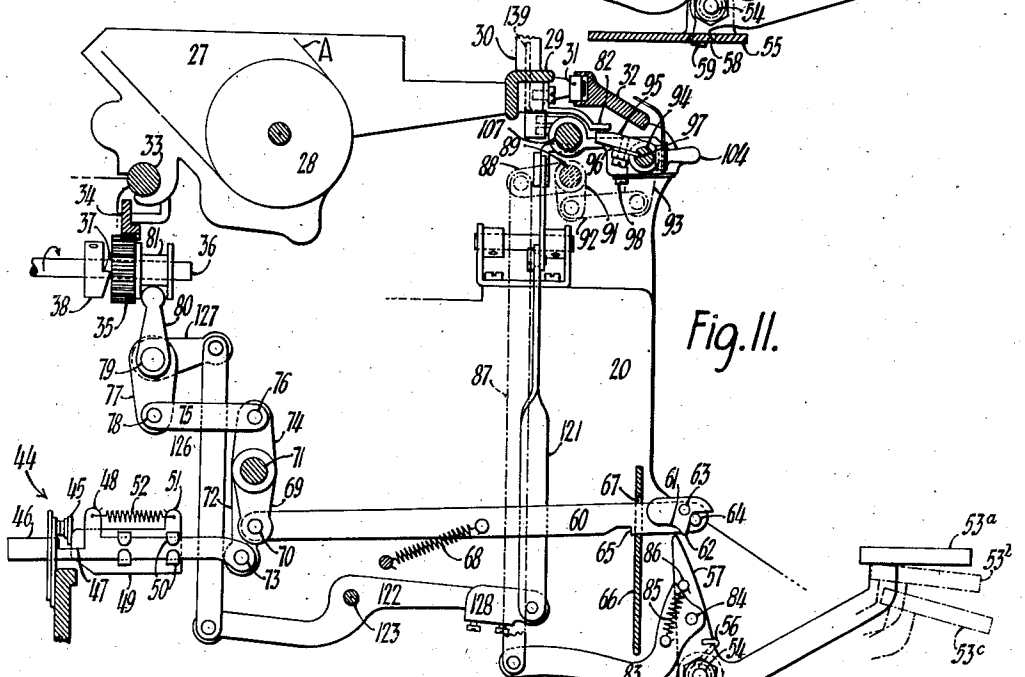
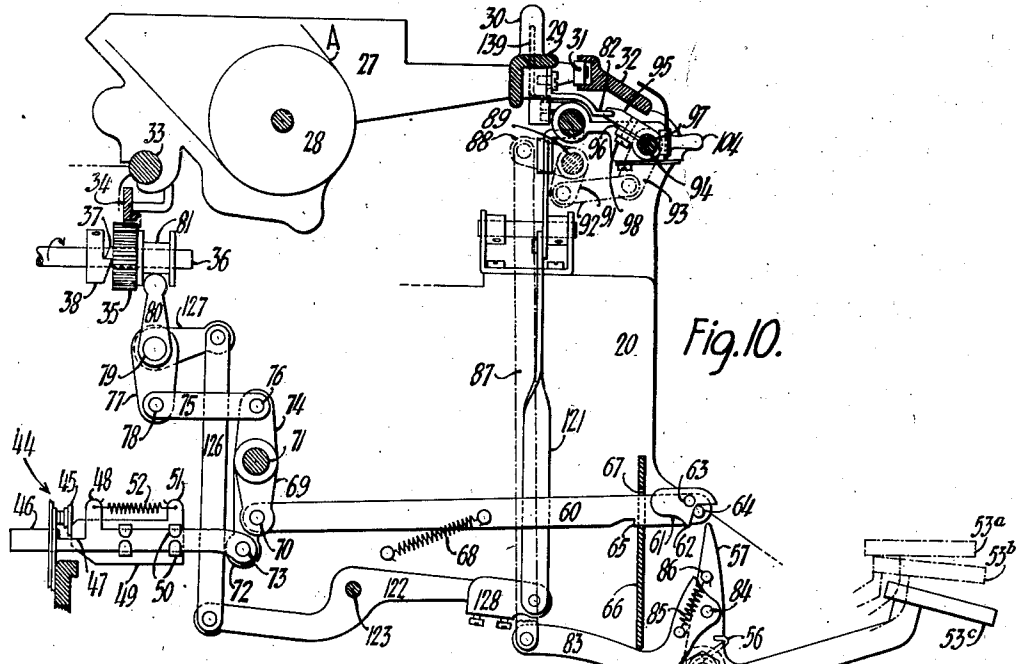
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TYPEWRITING MACHINE

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4 Sheets-Sheet 4



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# UNITED STATES PATENT OFFICE

2,164,422

## TYPEWRITING MACHINE

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Application January 2, 1936, Serial No. 57,205

24 Claims. (Cl. 197-63)

This invention relates to power-operated carriage-return mechanism in typewriters, and more particularly to devices co-operative therewith for returning the carriage at will and selectively to different line-starting positions.

A counter-stop device on the carriage may cooperate with one or another of a plurality of line-start-defining margin-stops to gage the carriage-return to different line-start positions. An object of the invention is to provide means cooperative with any one of said margin-stops and counter-stop device to disconnect the carriage from the power-operated mechanism relatively to any line-start position.

To this end the engagement, in the carriage-return run, of the counter-stop device with any margin-stop results in displacing a universal element, the latter thereby actuating means to disconnect the carriage from the power drive. Said universal element may be a shaft or banking rod mounted on the frame of the machine for endwise displacement paralleling the carriage-movement. The several margin-stops may be disposed along and interlocked with the banking rod, and the counter-stop device may be on the carriage. The endwise displacement of said banking rod by means of one or another margin-stop may operate to open a clutch to disconnect the carriage from the power-drive.

Another feature of the invention is to provide for lateral adjustment of the line-start-defining margin-stops individually.

Another feature of the invention resides in means by which the operator of the machine determines engagement of one or another margin-stop with the counter-stop device by manipulation of the carriage-return key. A margin-release device may also be manipulated to permit return of the carriage to an extreme line-start position.

Return of the carriage to the shortest-line start or first margin-position is determined by pressing down the carriage-return key and holding it down until the carriage is stopped, the depression of the carriage-return key interposing a banking dog, associated with the first margin-stop, into the path of the counter-stop device on the carriage. At the encounter of the carriage with said banking dog the carriage-banking rod is displaced sufficiently to cause the carriage-return trip or clutch mechanism to be restored to open condition, thereby stopping the carriage-return.

Return of the carriage to the second margin-positioned may be determined by depressing the

carriage-return key momentarily. The returning key retracts the banking dog for the first margin-stop to permit the carriage to pass to the second margin-stop which, upon engagement with a normally effective counter-stop mounted on the carriage, moves with the banking rod to the right for resetting the trip or clutch mechanism to open condition to stop the carriage-return.

Return of the carriage to a third margin or line-start position is determined by tripping the margin-release device and the carriage-return key, thereby permitting the carriage to pass the first two margin-stops to a third or final margin-stop arranged to co-operate with a counter-stop on the carriage, and with the banking rod to reset the carriage-return trip or clutch mechanism to open condition. The stop-jug for the final margin may alternatively be fixed on the right side of the frame.

Another feature of the invention is the provision of a plurality of counter-stops on the carriage and a plurality of margin-stops, one of the margin-stops being engageable with one of the counter-stops, for gaging return of the carriage to one line-start position; another of the counter-stops being engageable with another of the margin-stops for gaging return of the carriage to another line-start position; and still another or final margin-stop being engageable with one of said counter-stops to gage return of the carriage to still another line-start position.

Another feature of the invention is the provision of one counter-stop on the carriage co-operable with a plurality of margin-stops on the frame, said margin-stops normally permitting the carriage-stop to return past or over them, but being provided with movable dogs that may be moved by a key on the typewriter into and out of the path of the counter-stop on the carriage. Said key may trip the carriage-return mechanism to initiate the carriage-return to one or another line-start position. The construction of the actuating mechanism connected with the key may be such that after tripping the key and releasing it, the carriage-return mechanism proceeds to return the carriage until a further depression of the key moves or projects the dogs, whereby the counter-stop engages the proximate dog to coact with the banking rod to stop the carriage-return run; it being noted that, after the carriage-return is initiated, the operator may time said further depression of the key to thereby select a particular margin-stop and its dog to stop the carriage-return run.

Other features and advantages will hereinafter appear.

In the accompanying drawings,

5 Figure 1 is a perspective view showing the improved carriage-return mechanism applied to the frame of an Underwood typewriter, designed for work-sheets of great width, with parts of the typewriter broken away, and the return mechanism in the inoperative position.

10 Figure 2 shows the upper part of a work sheet with three margin-stop positions indicated.

Figure 3 is a side elevation in part of the structure shown in Figure 1, with the improved carriage-return mechanism similarly in the inoperative position.

15 Figure 4 is a perspective view of a small section taken out of Figure 1, showing a modification in which, in lieu of the second margin-stop shown in Figure 1, is inserted a second united 20 movable dog and margin-stop similar to the first, permitting, upon the tripping of the carriage-return key-lever and its timely re-depression subsequently, the carriage-return mechanism to actuate the carriage, and the stop-mechanism automatically to stop the carriage at the second-margin position.

Figure 5 is a perspective view showing the carriage-lug, the actuating dog that is combined with the first margin-stop, and the banking rod in normal or left position, the carriage-return mechanism being tripped, as in Figure 11.

30 Figure 6 is a side elevation in part showing the margin-stop dog moved up into operative position in the path of the carriage-lug by partial depression of the carriage-return key, the key-operable carriage-return trip still being in untripped position.

Figure 7 is a perspective view similar to that shown in Figure 5, but with the carriage-lug in engagement with the actuating dog and the banking rod moved against spring tension to the extreme right position in which the carriage-return mechanism has been stopped.

Figure 8 is a perspective view with central 45 parts and the right end broken away showing a part of the carriage-return mechanism applied to an Underwood standard typewriter having an 11" carriage with the carriage-return key-lever in the upper or inoperative position.

50 Figure 9 is a view similar to Figure 8, but showing only the right side of the 11" carriage, and the right end of the carriage-banking rod, which has affixed thereto a modified form of bracket adapted for engagement with the bell-crank which has a link-connection (not shown) with the rock-shaft that opens the switch and releases the motor-clutch.

Figure 10 is a side elevation in part showing 60 the carriage-return key-lever fully depressed, the carriage-return mechanism in operation, and the dog, which actuates the mechanism that releases the motor-clutch and "breaks" the electrical circuit, in the operative position in the path of the lug on the carriage, as it travels toward 65 the first margin-stop, and with the trip-link which initiates the carriage return, in tripped position.

Figure 11 is a view similar to Figure 10, but showing the carriage-return key-lever in the upper 70 position, but after tripping the carriage-return trip-link out of its lock or keeper.

In Figure 2, a work-sheet "A" has typed lines starting at three different margin-positions for which the carriage is positionable by means of 75 the power-operated carriage-return mechanism.

This mechanism is shown in the present embodiment of the invention attached to a frame 20 of an Underwood typewriter, which has the usual parts as follows: Rubber feet 21, secured to the bottom of the frame 20 by screws 22, the frame being wide and having a left horn 23 and a right horn 24. Type-bar keys 25 operate type-bars 26 to print against platen 28 mounted in a carriage 27 having an inverted-L front side 29 and a finger-piece 30 for hand return of the carriage. 10 Front carriage-rollers 31 ride in the recessed track in the rear of a scale-plate 32, and there is also a rear carriage-rail 33. On the rear of the carriage 27 is a carriage-rack 34 which engages a pinion 35 rotatable on and slidable along 15 a shaft 36, which rotates in the direction of the arrows, and is journaled in the back of the typewriter-frame 20. Of the two clutch-jaws 37 and 38, the former is tied to and mounted to rotate with the pinion 35, and the latter is fixed to the shaft 36 to rotate therewith. The shaft 36 is 20 connected with a wheel 39 and in turn is driven by a shaft 41 which also carries a governor 40, of any desired construction, and is actuated by an electrical motor 42, to which is attached 25 electric plug 43.

A switch 44 comprises a movable member 45, a switch-slide arm 46 sliding in a vertical slot and having a notch 47, and a post 48 and carrying a slide 49 secured by overlapping tabs 50. 30 A post 51 on the slide 49 supports one end of a coil-spring 52, which is tied at the other end to the post 48.

It is obvious that the switch is closed by the movement of the arm 46 toward the motor 42, the nose of the slide 49 engaging the movable member 45 and pushing it into contact with a stationary contact point on the switch 44. The spring mounting of the slide 49 assures an early and a continuous spring contact, and similarly on withdrawal of the arm 46 to "break" the switch, 40 this construction assures a late "breaking" of the switch, so that the motor is started before the engagement of the clutch and is stopped after the disengagement of the clutch.

A carriage-return key 53 is mounted in the normal position 53<sup>a</sup> so that it may be depressed to the positions shown 53<sup>b</sup> and 53<sup>c</sup>. A pivot-bolt 54 secures the key to a vertical bracket 55 mounted under the frame 20 of the machine, and 50 secured thereto by the left front foot 21. A coil-spring 56 is mounted about the bolt 54 and tends to keep the key 53 in the normal, upright, or inoperative position. The key 53 has an inner upwardly-extending tripping finger 57 which is 55 mounted to move forwardly and rearwardly, the key stopping in normal position, Figure 4, by means of a slot 58 in the bracket 55 and a downward extension 59 of the key slidable therein.

A carriage-return key-link 60 carries at its 60 front end a curved lifting cam 61 having a cam-point 62 and pivoted on a pin 63. The cam 61 is cut out on the front in such a relationship to a pin 64 that it may rock slightly.

In its normal position the link 60 lies with a 65 notch 65 thereof in engagement with a stop or keeper 66, which has a vertical slot 67 in which the link slides. It is now obvious that in the inoperative position of the carriage-return key, as shown in Figures 1 and 3, the finger-piece 57 is at the rear of the cam-point 62. The depression of the key 53 brings the top of the finger 57 into engagement with the cam-surface 61, and at the point 62 lifts the slide-arm 60 and its notch 65 75 out of engagement with the keeper 66. A coil-

spring 68 draws the link 60 rearwardly when lifted by means of the finger-piece 57 and the cam-point 62. An arm 69 is connected at 70 to the link 60 and is on a rock-shaft 71, which is journaled in the frame 20 of the machine. A second arm 72 is fixed on the shaft 71 and is pivotally connected at 73 with the switch-slide arm 46. It is now obvious that when the key-lever 53 is depressed, the slide 46 travels rearwardly to "make" the switch 44. An upright arm 74 is fixed on the rock-shaft 71 and connected with an arm 77 by a link 75 and pins 76 and 78. The arm 77 is fixed to a rock-shaft 79, journaled in the frame of the machine and carrying an oscillating cam-arm 80, which is in continuous engagement with a circular slot-member 81 secured to the side of the pinion 35, and therefore rotatably mounted therewith on the shaft 36. It is now obvious that as the link 60 is pulled to the rear by the coil-spring 68, it causes simultaneously the engagement of the clutch-jaws 37 and 38, and therefore initiates the carriage-return movement.

Mounted at a suitable point under the front 29 of the carriage-frame is a forwardly-extending stop arm or lug 82. An actuating arm 83 is pivotally connected to the side of the carriage-return key-finger 57 at 84, and a coil-spring 85 holds the arm 83 in engagement with a stop-pin 86 on the side of the finger-piece 57. An arm 88 is connected with the arm 83 by a link 87, and is fast on a supplemental rock-shaft 89 mounted on the left horn 23 of the frame of the machine and in a bracket 90, and having a depending arm 91 pivotally connected with an arm 93 by a link 92, the arm 93 being locked on a rock-shaft 94, which is journaled in the sides of the frame-horns 23 and 24. The rock-shaft 94 has a longitudinal groove 97, and a banking dog 95 carries a plate 96 slidable in the groove 97 and secured therein by a locking screw 98. It is now obvious that the depression of the key-lever 53 lifts the arm 83 and simultaneously rocks the banking dog 95 into operative position, as a stop, in the path of the stop-arm 82 projecting from the front 29 of the carriage-frame.

In the modification shown in Figure 8, in lieu of the link 87, there is substituted, for a shorter-carriage machine, a link 99 having an arm 100 extending outwardly and upwardly for engagement directly with the rock-shaft arm 93. A usual adjustable left or line-end margin-stop 101 carries at its rear an extension 102 formed with the usual camming projections for actuating the bell, locking the carriage, and stopping the carriage, and overlies a notched rail 103 with which it is depressible. The usual carriage-stop-lug which engages the cam-surfaces of the extension 102 is not herein shown. An adjustable line-start-defining margin-stop 104 is provided with a casing 105 connects it with the dog 95, so that the dog is positioned wherever the margin-stop 104 is set, the dog abutting the margin-stop laterally for support as shown in Figure 1. A movable jaw 106 lockingly engages the margin-stop with stop-locating notches 108 in a banking rod 107. The banking rod 107 is mounted for reciprocatory endwise movement, of an extent of say one and one-half letter-spaces, in the ends of the horns 23 and 24 of the machine. A screw 109 fastened in the left end of the rod stops its movement to the right, and a collar 111 adjustably secured on the banking rod by a set-screw 112 stops the movement of the banking rod to the left. The banking rod rides freely in bearings 110 at ends of

the frame of the typewriter. The collar 111 has a depending arm 145 having a bottom groove 146, to embrace the rod 89 to hold the banking rod 107 against rotation. In the modification shown in Figure 8 in the absence of the rock-shaft 89, the depending arm 145 straddles a pin 113 extending inwardly from and mounted on the left side of the frame of the machine.

A bracket 114 is pinned on the under side of the right end of the banking rod 107 and supports a leftward extending arm 115, which has a lengthwise slot 116 which receives a pin 117 which connects the arm 115 with the upright arm of a bell-crank 118, which is mounted on a bracket 131, which in turn is mounted on the horn 24 of the frame of the machine. The slot 116 provides for the letter-space drop-back of the carriage.

In the modification shown in Figure 9, a bracket 119 is similarly mounted on the bottom of the banking rod 107 for engagement at its right end directly with an edge 120 of the bell-crank 118. A link 121 connects the bell-crank 118 and a rock-arm 122 mounted on a rod 123, the ends of which are in grooves 124 in supporting members 125 attached to the frame 20 of the machine as shown in Figure 1. A link 126 pivotally connected to the opposite end of the rock-arm 122 is also pivotally connected with the end of a rock-arm 127 which is fixed on the rock-shaft 79. A set-screw adjustment 128 in the arm 122 permits the precise adjustment of the pin 117 with reference to the ends of the slot 116, and, in the modification shown in Figure 9, the precise adjustment of the edge 120 with reference to the end of the bracket 119.

It is now obvious that when the banking dog 95 is elevated into the path of the carriage-stop 82, as the stop engages the side of the banking dog 95, the latter is displaced rightwardly, along with the margin-stop 104, by the returning carriage, and the banking rod 107 is thereby moved to the right, one and one-half letter-spaces, simultaneously rocking the bell-crank 118, and through the interconnected mechanism above described rocking the cam-arm 80, and so "breaking" the jaws 37, 38 of the clutch apart and so stopping the carriage return, and it is also obvious that through the interconnecting train of mechanism the depending arms 72 and 69 simultaneously "break" the switch and push the link-arm 60 forward against the tension of the spring 68 to re-engage the notch 65 with the latch or stop 66.

A second adjustable margin-stop 129 is mounted on the banking rod 107 and rock-shaft 94, but does not co-operate with the carriage-lug 82 in that it is provided with a rear lug or stop 130 for co-operation with a counter-stop or lug 138 on the carriage.

A spring 132 is fastened to a post 133 depending from the banking rod 107 and also to an arm of the bracket 90, and tends to secure the banking rod in the left position illustrated in Figure 1.

A third margin-stop 134 is provided with a rearward lug or stop 136, which is higher than the stop 130 extending from the margin-stop 129, and acts as a final stop for the carriage. A margin-release lever 137 carries the lug or stop 138 at its left end and an upwardly-extending finger-piece 139 at its right, and a spring 140 reacting against the under side of the front projection 29 of the carriage yieldably keeps the margin-release lever in normal position, the release lever being rockable on a pivot-screw 141.

The first margin-position or line-start 142, shown on the work-sheet "A" of Figure 2, cor-

responds with the first margin-stop 104, 95, the second margin-position 143 with a second margin-stop, and the third margin-position 144 with the third margin-stop of the mechanism.

5 *Operation.*—When the carriage-return key 53 is depressed, as after typing a line, from the normal position 53<sup>a</sup> to the position 53<sup>b</sup> (Figure 11), the movable banking dog 95 is raised into the path of the carriage lug or counter-stop 82, and  
10 when the key 53 is further depressed to the position 53<sup>c</sup>, the forward end of the key-link 60 has been elevated to lift the notch 65 over the stop or keeper 66, thereupon permitting the spring 68 to move said link rearwardly to close the switch  
15 44 to start the motor 42, and the rotatable clutch-jaw 38 is forthwith engaged by the clutch-jaw 37 on the pinion 35, the latter, being in engagement with the carriage-rack 34, then returning the carriage from left to right in the direction  
20 of the arrow shown in Figure 5, and against the tension of the carriage-feed spring (not shown). By holding the carriage-return finger-key 53 depressed, as in the 53<sup>c</sup> position, while the carriage in its return reaches the first margin-position  
25 142, indicated in Figure 2 on the work-sheet "A", the carriage-lug 82 is intercepted by the raised banking dog 95, supported laterally by the first margin-stop 104 and rigidly held therefore by the jaw-teeth of arm 106 in the notches 108 on  
30 the front of the banking rod 107, so that further right or return motion of the carriage results in rightward endwise displacement of the banking rod 107, of, say one and one-half letter-spaces. This rightward endwise displacement of the banking  
35 rod 107 rocks the bell-crank 118 which concomitantly through the described connecting mechanical controlling train opens the motor-clutch 37, 38 and the switch 44, and thrusts the link 60 into the locked position with the notch 65  
40 over the keeper 66. It is obvious then that, following its arrest by means of the banking dog 95, the carriage settles in the position where imprinting on the work-sheet "A" will commence at the first margin-line 142 (Figure 2).

45 On the other hand, should the operator choose to return the carriage to the second margin-line 143, instead of to the first margin-line 142, the operator "trips" the key 53, or, in other words, the key 53 is depressed to the position 53<sup>c</sup> and  
50 immediately released. This operation releases the notch 65 from the stop 66 and permits the link 60 to travel back under the tension of the spring 68 to close the switch and simultaneously engage the motor-clutch 37, 38 to start the auto-  
55 matic return of the carriage. By removing the finger from the key and permitting the tension of coil-spring 56 to lift the key to the upright position 53<sup>a</sup>, a downward thrust is imparted to the arm 83 and the banking dog 95 is moved down  
60 out of the path of the lug 82, so that the lug passes over the first margin-stop 104 and the carriage returns "right" until the depending lug 138 of the margin-stop-release lever 137 intercepts the rear lug 130 on the second margin-stop 129,  
65 the latter then coacting with the banking rod 107 to open the clutch 37, 38, and switch 44, and to reattach the trip-link 60.

70 If, however, the second margin-stop be replaced with the banking-dog margin-stop and the coacting connecting mechanism as shown in Figure 4, and if, after tripping the key 53 to initiate the power return of the carriage, the operator then again depresses the key to either the position 53<sup>b</sup> or 53<sup>c</sup> to put the banking dog 95 on  
75 the second margin-stop up into the path of the

carriage-lug 82, the carriage is automatically brought to a stop for the second margin-position, as for the first margin-position.

It is now obvious that any number of margin-stops, each having a movable banking dog 95, 5 may be used with the same method of operation as in the case of two, so creating a machine that may be designated as an automatic carriage-return tabulator, which would be entirely and completely controlled by the carriage-return key 53. 10

Referring back now to the structure shown in Figure 1, to move the carriage automatically from the first margin 142 to the second margin 143, it is necessary only to "trip" the key-lever 53, which idly raises and immediately lowers 15 the banking dog 95, starts the motor and meshes the clutch 37, 38, and permits the carriage-lug 82 to ride over the first margin-stop 104 and the carriage to travel to the right until the depending lug or stop 138 of the lever 137 in its normal 20 position intercepts the rearwardly extending lug 130 of the second margin-stop 129, and causes the longitudinal movement of the banking rod 107 to the right with the simultaneous and concomitant actuation of the clutch-releasing mechanism and 25 the "breaking" of the electrical switch.

The third margin 144 of the carriage is reached by depressing the finger-piece 139 to lift the stop 138 out of its normal path of interception with the margin-stop lug 130 and simultaneously depressing the key 53 whereupon the carriage will 30 be returned by power and will be arrested through the engagement of said stop 138 with the stop-lug 136. Inasmuch as the finger-piece 30 is in proximate relationship with the operator's thumb 35 when the forefinger is on the finger-piece 139, the operator may, without depressing the key 53, pull the carriage along to the right and up to the third or final margin-stop 134 and its stop-lug 136. Said stop-lug 136 is high enough to intercept 40 or to be in the path of the stop 138 whether the latter is in its normal or its elevated position, so that it is immaterial whether the finger of the operator remains in contact with the finger-piece 139 or not. 45

In case the first two margin-stops have elevatable banking dogs 95, as shown in Figure 4, the carriage-position for the third margin or line-start 144 is automatically reached upon "tripping" the key-lever 53 when the carriage is at the 50 second margin 143. The operation would obviously be the same for another or third margin-stop having a banking dog 95.

Referring back now to the structure shown in Figure 1, if the key-lever 53 be "tripped" 55 the carriage is automatically returned past the first margin-stop and automatically stopped when the stop 138 intercepts the lug 130 on the second margin-stop. Similarly in the modification shown in Figure 4, the "tripping" of the key-lever 60 53 automatically returns the carriage past both the first and the second margin-stops until lug 138 engages the elevated lug 136 on the third margin-stop 134.

In the Underwood typewriter, when the carriage is returned and released, it drops back due 65 to the back-lash or loose-dog movement in the usual escapement-mechanism, not shown. The drop-back of the carriage may be sufficiently in excess of the concomitant leftward or restoring 70 movement of the banking rod 107, so that, following co-operation of the counter-stop 82 on the carriage with the dog 95, the latter will be clear of said counter-stop 82 and may drop back to its normal position upon release of the car- 75



riage-return key 53. Similarly, the counter-stop 138 would be clear of the stop-lug 130 or 136. It will thus be seen that if the carriage has been positioned by means of the first margin-stop 104, and, if it is desired to pass on to a succeeding margin-stop 129 or 134, the carriage-return key 53 may be operated for this purpose, that is, it may be "tripped", and the banking dog 95 will be free for its idle movements before the carriage-return movement actually starts.

While the banking rod 107 is being driven to the right until checked by the stop-screw 109, it restores the bell-crank 118, clockwise of Figure 1, to restore the carriage-return control train to normal condition wherein the trip-link 60 is latched by the plate 66. At the ensuing drop-back of the released carriage, the banking rod 107 is concomitantly restored to normal position by means of its spring 132, and the arm 115 connected thereto is also restored, these restorations, independently of said restored bell-crank 118, being permitted by reason of the pin-and-slot connection 116, 117 of said arm 115 with said bell-crank 118.

Depression of the carriage-return key from the position 53<sup>a</sup> to 53<sup>b</sup>, Figure 6, lifts the margin-stop or banking dog 95 into line with the counter-stop 82 on the carriage. It further will be seen, Figure 6, that said dog or margin-stop lifting movement occurs before the trip-link 60 is released and that the release of said link 60 occurs through further depression of the key, from the position 53<sup>b</sup> to the position 53<sup>c</sup>. During said further depression of the key the lifted margin-stop dog 95 is stationary in that the dog-lifting arm 83, connected to the carriage-return-key finger 57, is stopped by the plate 66 as in Figure 10, it being noted that the spring-connection 85 between said arm 83 and said finger 57 is arranged to yield to permit said further depression of the carriage-return key.

Variations may be resorted to within the scope of the invention, and portions of the improvements may be used without others.

Having thus described my invention, I claim:

1. In a typewriter, in combination, a frame, a carriage mounted for reciprocatory movement on the frame, power-operated means normally in idle condition and conditionable for returning the carriage, a stop mounted on said carriage, a margin-stop normally out of the path of said carriage-stop, a banking rod mounted on said frame for limited endwise movement and arranged to locate said margin-stop laterally at different carriage-return-limiting stations, a carriage-return key for conditioning said power-operated means, means operable by said key to move said margin-stop into the path of said carriage-stop, and means operable by the endwise movement of said banking rod at engagement of said margin-stop by said carriage-stop to restore said power-operated means to idle condition.

2. In a typewriter, in combination, a frame, a reciprocatory typing carriage on said frame, power-operated means for returning the carriage, a stop on said carriage, a carriage-return-limiting margin-stop normally out of the path of said carriage-stop, a banking rod displaceable endwise by and with said margin-stop at engagement of the latter by said carriage-stop, a carriage-return key, means operable by said key to cause said power-operated means to return said carriage, means operable by said key to move said margin-stop into the path of said carriage-stop, and

means operated by the endwise displacement of said banking rod to stop said power-operated means.

3. In a typewriter, in combination, a frame, a margin-stop mounted on the frame, a carriage mounted for reciprocatory movement on the frame, power-operated means for returning the carriage, a stop mounted on said carriage, said margin-stop normally being out of the path of said carriage-stop, a carriage-return key, mechanism releasable by the depression of said key for starting said power-operated means, mechanism effective at the depression of said key for putting said margin-stop into the path of said carriage-stop, said margin-stop being arranged to be displaced by said carriage-stop at the conclusion of the carriage-return, and means operated by said margin-stop, as the latter is displaced, to restore said first mechanism and stop said power-operated means, said margin-stop being returned to its normal position, out of the path of said carriage-stop, by return of said key.

4. In a typewriter, in combination, a frame, a margin-stop mounted on the frame, a reciprocatory typing carriage on the frame, a stop mounted on the carriage for engaging said margin-stop, said margin-stop being movable, from a normal inoperative position, to engage said carriage-stop, power-operated means connectible to said carriage for returning the latter, a banking rod mounted on said frame for endwise displacement from a normal position, a spring for returning said banking rod to normal position, said margin-stop being connected to said banking rod, whereby the carriage, as it returns and its said stop encounters said margin-stop, effects said banking-rod displacement, a carriage-return key for connecting said power-operated means to return said carriage, mechanism controlled by said key for moving said margin-stop for engagement with said carriage-stop, and stopping mechanism actuated by said banking rod at said displacement thereof, to disconnect said carriage from said power-operated means.

5. The invention as set forth in claim 4, inclusive of means mounting said margin-stop on the frame to permit lateral adjustment of said margin-stop to different line-start-defining stations, and means for releasably coupling said margin-stop to said banking rod at any one of said stations, said key-controlled mechanism, for moving said margin-stop to engage said carriage-stop, being arranged to be operative at any of said stations.

6. In a typewriter, in combination, a frame, a margin-stop mounted on the frame, a reciprocatory typing carriage on the frame, a stop mounted on the carriage for engaging said margin-stop, said margin-stop being movable, from a normally inoperative position, to an operative position in which it may co-operate with said carriage-stop, power-operated means normally in idle condition, and conditionable for returning the carriage, a banking rod mounted on said frame for endwise displacement from normal position, said margin-stop being mounted for lateral displacement and being connected to said banking rod, whereby the carriage, as it returns and its said stop encounters said margin-stop effects said banking-rod displacement, a spring tending to restore the banking rod to normal position, a carriage-return key for conditioning said power-operated means to return said carriage, mechanism controlled by said key for moving said margin-stop to said operative position

for co-operation with said carriage stop, and means actuated by said banking rod at said displacement thereof to restore said power-operated means to idle condition, said margin-stop being

5 laterally adjustable to different line-start-defining stations and being connectible to said banking rod at each station, said margin-stop being laterally displaceable at each station to effect said endwise displacement of said banking rod.

10 7. In a typewriter, in combination, a frame, a reciprocatory typing carriage on said frame, power-operated mechanism for returning said carriage, a carriage-return key for connecting said carriage to said mechanism, a plurality of

15 stops on the carriage, a plurality of carriage-return-limiting margin-stops on the frame, the first margin-stop having an element movable, from a normal inoperative position, into the path

20 of one of said carriage-stops, means operated by said key, for so moving said element by depression of said key, and for returning said element to inoperative position by return of said key, the second margin-stop having a stop out of the path

25 of said one of said carriage-stops but in the path of the other carriage-stop, said other carriage-stop being movable by the operator out of the path of engagement with said second margin-stop, a third margin-stop to engage said other carriage-stop after the latter passes said second

30 margin-stop, said margin-stops being mounted so as to be laterally displaced by the carriage-return movement as the carriage-stops encounter said margin-stops, and means operatively connected to said margin-stops and actuated by said displacement thereof to disconnect said carriage

35 from said power-operated mechanism.

8. In a typewriter, in combination, a frame, a reciprocatory typing carriage on the frame, a power-operated-carriage-return mechanism, a

40 carriage-return key manually depressible for causing connection of said carriage to said mechanism, stop-means on the carriage, a plurality of carriage-return-limiting margin-stops on the

45 frame, the first margin-stop having a stop-element normally out of the path of said stop-means on the carriage, said stop-means being normally effective to engage the second margin-stop, a

50 rock-shaft mounting said element, said rock-shaft being mounted in the frame and being connected to said key so as to be rocked to and fro to rock said element into and out of said path as said key is depressed and released, and means connected to said margin-stops and acting, at the

55 carriage-return-run-concluding engagement of either margin-stop by said stop-means, to disconnect the carriage from said power-operated mechanism, said first margin-stop being laterally adjustable to different line-start-defining stations, and said element being splined to said rock-shaft

60 so as to be adjustable laterally with said first margin-stop and be rockable by said shaft at any station.

9. In a typewriter, in combination, a frame, a reciprocatory typing carriage on said frame,

65 power-operated means for returning the carriage, a carriage-return key depressible for causing connection of said carriage to said power-operated means, a banking rod mounted on the frame for endwise displacement from a normal position, a

70 rock-shaft journaled in said frame and parallel to said banking rod, a carriage-return-limiting margin-stop adjustable to different line-start-defining stations along said banking rod, said margin-stop being connected to said banking rod at each station, said margin-stop including a

banking dog splined to said rock-shaft to permit lateral adjustment of said dog with said margin-stop to said stations, a stop on said carriage, a connection from said key to said rock-shaft, whereby depression and return of said key rock

5 said banking dog into and out of the path of said carriage-stop, means connected to said banking rod and actuated by said displacement thereof to disconnect said carriage from said power-operated means, said displacement being effected by

10 said carriage-stop engaging said banking dog and displacing the latter and said margin-stop laterally, and a carriage-return-limiting-stop device operative, relatively to power-return of the carriage to a position beyond said margin-stop to

15 disconnect the carriage from said power-operated means.

10. In a typewriter, in combination, a frame, a reciprocatory typing carriage on said frame, power-operated means for returning the carriage,

20 a carriage-return key depressible for causing connection of said carriage to said power-operated means, a stop on said carriage, a carriage-return-limiting banking dog, means mounting said banking dog on said frame and arranged so that said

25 dog is movable into and out of the path of said carriage-stop, and so that said dog is adjustable along the path of the carriage-return to different line-start-defining stations, and, further, so that said dog is laterally displaceable by the returning

30 carriage when engaged by said carriage-stop, a connection from said key to said banking dog, whereby depression and return of said key move said dog into and out of said carriage-stop path, means responsive to said lateral displacement of

35 said dog to disconnect said carriage from said power-operated means, and a carriage-return-limiting stop-device operative, relatively to power-return of the carriage to a position beyond said banking dog, to disconnect the carriage from said

40 power-operated means.

11. In a typewriter, in combination, a frame, a reciprocatory typing carriage on said frame, power-operated means for returning the carriage,

45 a stop on the carriage, a carriage-return key depressible to cause connection of said carriage to said power-operated means, a margin-stop mounted on said frame for lateral adjustment to different line-start-defining stations and connected to said key, so that depression of the latter

50 moves said margin-stop, irrespective of its station, into the path of said stop on the carriage and return of said key withdraws said margin-stop from said path, said carriage remaining connected to said power-operated means after return

55 of said key, a second margin-stop mounted on the frame for lateral adjustment to different line-start positions, another stop on the carriage for coacting with said second margin-stop, and stopping means responsive to engagement of either

60 margin-stop by its carriage-stop for the conclusion of a carriage-return run, to disconnect said carriage from said power-operated means, said other carriage-stop being arranged so as to be movable out of the path of engagement

65 with said second margin-stop to permit return of the carriage beyond said second margin-stop.

12. The invention as set forth in claim 11, inclusive of a third margin-stop mounted on the frame for lateral adjustment to different line-

70 start positions and engageable by said other carriage-stop, said stopping means being responsive also to engagement of said third margin-stop with said other carriage-stop to disconnect the carriage from said power-operated means.

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13. In a typewriter, in combination, a frame, a reciprocatory typing carriage on the frame, a carriage-return key, a margin-stop on the frame for limiting return of the carriage to a prede-  
 5 terminated line-start position, a power-operated-carriage-return mechanism actuated by depression of said key to return said carriage, control-  
 10 mechanism actuated at engagement of said margin-stop by said carriage to stop the power-operated mechanism, an intermediate line-start  
 15 margin-stop on said frame, means mounting said intermediate margin-stop for movement into and out of the path of the carriage, said mounting  
 20 means being arranged to permit adjustment of said intermediate margin-stop to different line-start stations, said mounting means being further  
 25 arranged to permit lateral displacement of said intermediate margin-stop at any station, said lateral displacement being effected by the return-  
 30 ing carriage when the latter engages said intermediate margin-stop, a connection from said key to said intermediate margin-stop, whereby  
 35 depression of said key to actuate said carriage-return mechanism moves said intermediate margin-stop into said carriage-path, said key being  
 40 immediately returnable for withdrawing said intermediate margin-stop for determining return of the carriage to said first margin-stop, and means  
 45 operatively connecting said intermediate margin-stop with said control-mechanism, whereby said intermediate margin-stop when engaged by said  
 50 carriage and laterally displaced actuates said control-mechanism to stop said power-operated mechanism.

14. In a typewriter, in combination, a frame, a reciprocatory typing carriage on said frame, a power-operated carriage-return mechanism, a  
 40 key manually depressible for causing said carriage to be connected to said power-operated mechanism, a plurality of stops on the carriage,  
 45 a plurality of carriage-return-limiting margin-stops on the frame, the first margin-stop having an element normally positioned out of the  
 50 path of one of said carriage-stops and movable into said path, means operated by depression of said key for moving said element into said  
 55 path and by return of said key for returning said element to inoperative position, the second margin-stop having a stop-lug out of the path of  
 60 said one carriage-stop, but in the path of the other carriage-stop, each margin-stop being arranged so as to be displaced, by the returning  
 65 carriage, when engaged by its carriage-stop, and means connected to said margin-stops and acting through the displacement of either margin-  
 70 stop by the carriage, to disconnect said carriage from said power-operated mechanism, said other carriage-stop being arranged so as to be movable  
 at will out of the path of said second margin-stop for returning the carriage beyond the latter.

15. In a typewriter, in combination, a frame, a reciprocatory typing carriage on the frame, power-operated means for returning the carriage,  
 a stop on the carriage, a carriage-return key on the frame, depressible to cause the carriage to be connected to said power-operated  
 means, a carriage-return-limiting margin-stop and a mounting therefor, said mounting including a banking rod mounted on the frame for end-  
 wise displacement and parallel to the carriage-travel, and also including a rock-shaft on the frame parallel to said banking rod, said margin-  
 stop and banking rod being connected so that lateral displacement of said margin-stop effects said endwise displacement of said banking rod,

said margin-stop including a banking dog, rock-  
 able with said shaft and movable therealong for displacing said margin-stop laterally, means connecting said key with said rock-shaft, whereby  
 5 depression of said key rocks said banking dog into the path of said carriage-stop for enabling the latter to effect said margin-stop and banking-  
 10 rod displacement, and return of said key withdraws said dog from said path, and mechanism connected to said banking rod and acting, at the  
 15 displacement of the latter, to disconnect said carriage from said power-operated means.

16. The invention as set forth in claim 15, inclusive of a second margin-stop mounted on  
 15 said banking rod and said rock-shaft, and also having a banking dog rockable with said shaft and movable therealong, and means for releasably  
 20 connecting each margin-stop and dog to the banking rod at different carriage-return-limiting stations, said key being manipulatable at  
 25 will, as to depression and release thereof, for determining which banking dog intercepts the carriage-stop.

17. In a typewriter, in combination, a frame, a reciprocatory typing carriage thereon, a stop  
 25 on the carriage, power-operated carriage-return means, a carriage-return key depressible for causing said power-operated means to be con-  
 30 nected to said carriage, a carriage-return-limiting margin-stop, a rack mounting said margin-stop and mounted on said frame for endwise  
 35 displacement, said margin-stop being adjustable along said rack to different carriage-return-limiting stations, a rock-shaft mounted on said  
 40 frame parallel to said rack, said margin-stop having a banking dog splined to said rock-shaft, whereby said rock-shaft when rocked moves said  
 45 dog into the path of said carriage-stop, so that the carriage in its return encounters said dog and displaces the dog, the margin-stop and the  
 50 rack laterally, a connection enabling said key to rock said shaft, means connected to said rack and acting, at the lateral displacement thereof,  
 55 to disconnect said power-operated means from said carriage, said key being held in depressed position to thereby hold said dog in said path  
 60 to determine conclusion of the carriage-return by means of said margin-stop and being, alternatively, releasable to retract said dog to deter-  
 65 mine return of the carriage beyond said margin-stop, and means operative at a predetermined position beyond said margin-stop to disconnect  
 said carriage from said power-operated means.

18. In a typewriter, in combination, a frame, a reciprocatory typing carriage on said frame,  
 55 stop-means on the carriage, a plurality of carriage-return-limiting margin-stops, a banking rod mounted on the frame for endwise displace-  
 60 ment, a rock-shaft mounted on said frame parallel to said banking rod, each margin-stop being slidably mounted on said banking rod and rock-  
 65 shaft for adjustment therealong to different carriage-return-limiting stations and being interlockable with said banking rod at each station,  
 70 the first margin-stop including a banking dog splined to said rock-shaft, whereby the rocking of said shaft moves said dog into the path of  
 said stop-means on the carriage so that the returning carriage encounters said dog and there-  
 by displaces the dog, margin-stop and banking rod laterally, a carriage-return key, power-operated means responsive to a momentary de-  
 pression of said key, to drive said carriage in return direction, a connection from said key to said rock-shaft to rock the latter to move said

dog into and out of the path of said carriage-stop means at depression and return of said key, whereby said key is operable for determining whether the returning carriage encounters said dog or encounters the second margin-stop, the encounter with the second margin-stop also displacing the latter and the banking rod, and means connected to said banking rod and acting at the displacement thereof at the encounter of any margin-stop by said carriage to stop said power-operated means.

19. The invention as set forth in claim 18, said plurality of carriage-return-limiting margin-stops including a third margin-stop mounted on, and adjustable along, said banking rod and rock-shaft, said stop-means on the carriage including a stop normally in position to co-operate with the second margin-stop and displaceable, at will, to pass said second margin-stop for encountering the third margin-stop.

20. The invention as set forth in claim 18, said plurality of carriage-return-limiting margin-stops including a third margin-stop mounted on, and adjustable along, said banking rod and rock-shaft, the second margin-stop having a banking dog splined to said rock-shaft, said key being operable in respect of depression and return thereof for determining whether the returning carriage encounters the dog of the first margin-stop or encounters the dog of the second margin-stop, or encounters the third margin-stop, the encounter with the third margin-stop also displacing said banking rod for stopping said power-operated means.

21. In a typewriter, in combination, a frame, a reciprocatory typing carriage on the frame, power-operated carriage-return mechanism, a carriage-return key depressible to cause said mechanism to be connected to said carriage, said mechanism continuing to return the carriage irrespective of continued depression of said key or of return of said key, a plurality of carriage-return-limiting margin-stops, a margin-stop-mounting rack along which said margin-stops are individually adjustable to different line-start stations, said rack being mounted on said frame for endwise displacement, stop-means on the carriage to co-operate with said margin-stops, the first margin-stop having a banking dog normally out of the path of said stop-means, means operatively connecting said key to said banking dog at any station of said first margin-stop so that depression and return of said key cause said banking dog to move into and out of said path, whereby said key is operable to determine engagement of the returning carriage with said

banking dog or with said second margin-stop, said engagement operating to displace said rack endwise, and means operatively connected to said rack and acting at said endwise displacement thereof to disconnect said power-operated mechanism from said carriage.

22. In a typing machine; a frame, a carriage thereon having a counter-stop, power means for moving said carriage laterally in one direction, a key on the frame manually operable to cause a carriage moving operation of said power means, a stop, means, including an operative connection, enabling said key to project said stop from a normally retracted position into the path of the carriage counter-stop, said last-mentioned means constructed so that a displacement of the key-projected-stop, may be effected as the latter is engaged by the carriage counter-stop in the power movement of the carriage, and means responsive to said key-projected-stop displacement to terminate the power movement of said carriage.

23. In a typing machine; a frame, a carriage thereon having a counter-stop, a plurality of stops, means, including a rack, for placing said stops along the carriage path and also including an element movable to move all the stops from normally retracted positions into the path of the carriage counter-stop, power means for moving said carriage in one direction, a key, connections enabling said key to cause a carriage-moving operation of said power means and to move said stop-moving element, said rack being displaced endwise as any key-moved stop is engaged by the carriage counter-stop in the power movement of the carriage, and means responsive to the endwise displacement of said rack to terminate the power movement of said carriage.

24. In a typing machine; a frame, a carriage thereon, a carriage paralleling rack movable endwise in the frame, a rack-paralleling shaft rockably mounted in the frame, a stop shiftable along said shaft, and also rockable by said shaft from a normally retracted position to an effective carriage intercepting position, a locator for said stop adjustable to different stations along said rack, power means operable to move said carriage in one direction when said shaft has been rocked to bring said stop to effective position, and means responsive to endwise movement of said rack to terminate the power movement of the carriage, said stop when engaged by the carriage being displaced by the latter and concomitantly displacing said stop locator and rack.

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