J. M. SHELTON.

TYPE WRITING MACHINE.

APPLICATION FILED OCT. 21, 1912.

1,067,764.

Patented July 15, 1913.

3 SHEETS—SHEET 1.

Fig. 1.

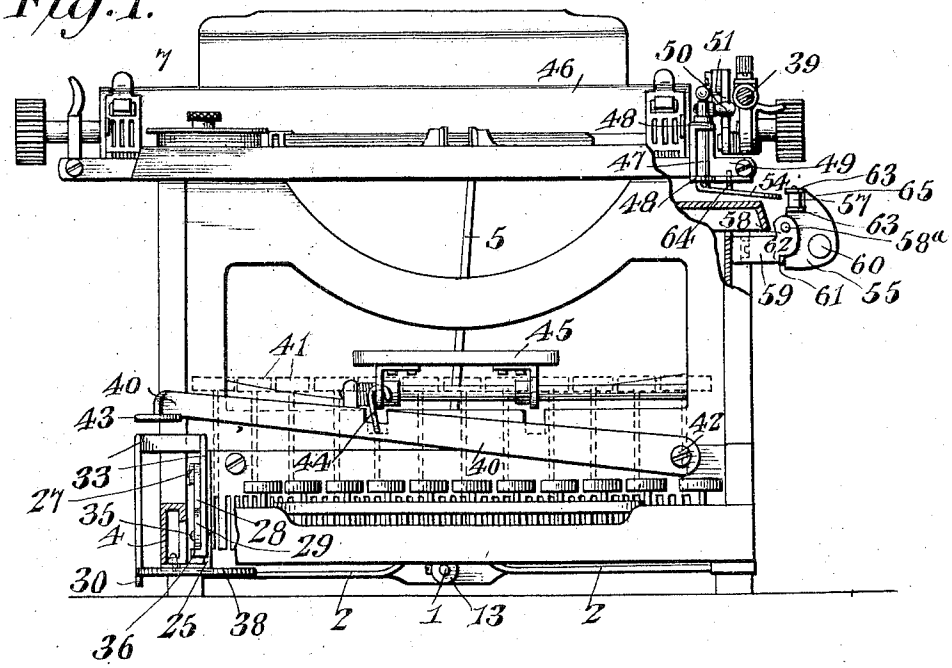


Fig. 6.

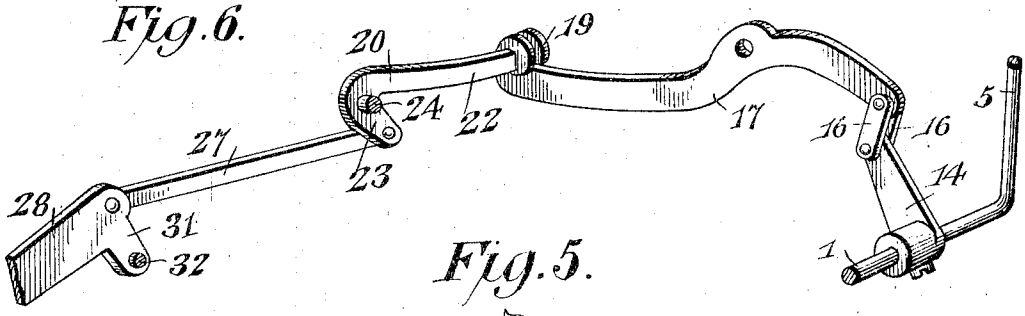
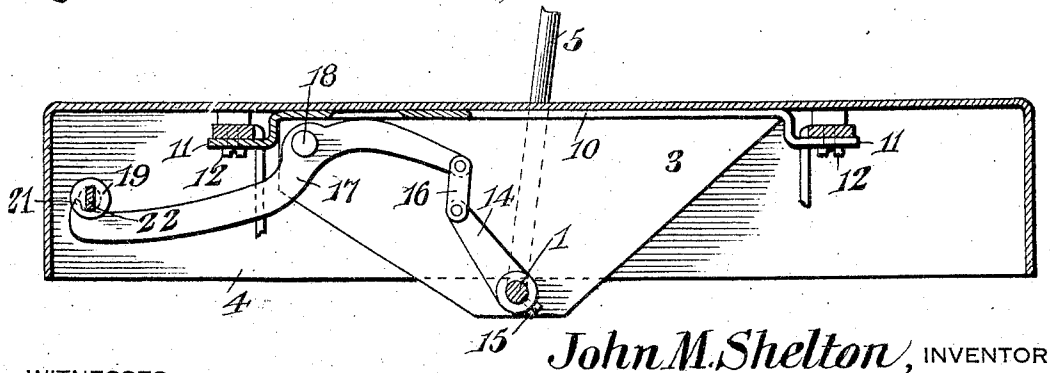


Fig. 5.



WITNESSES

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3 SHEETS—SHEET 2.

Fig. 2.

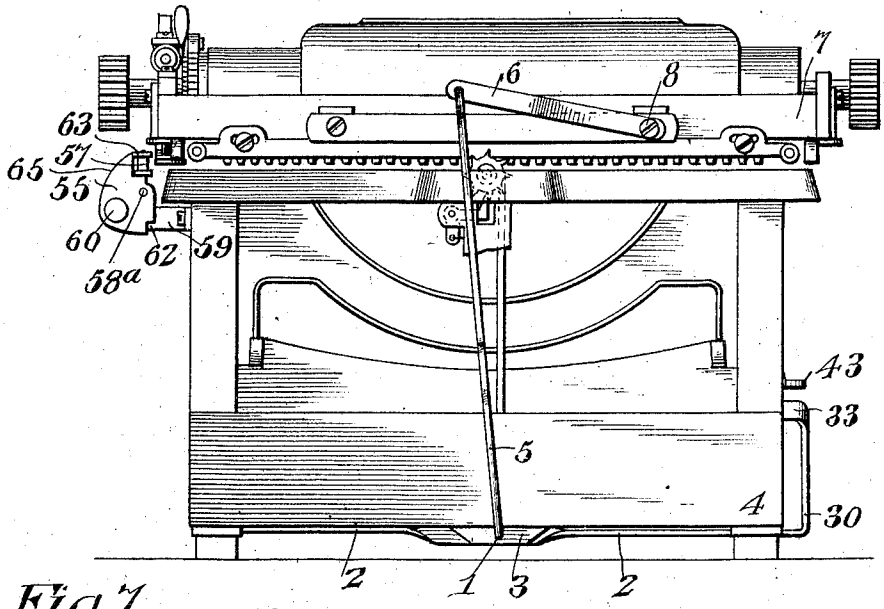


Fig. 7.

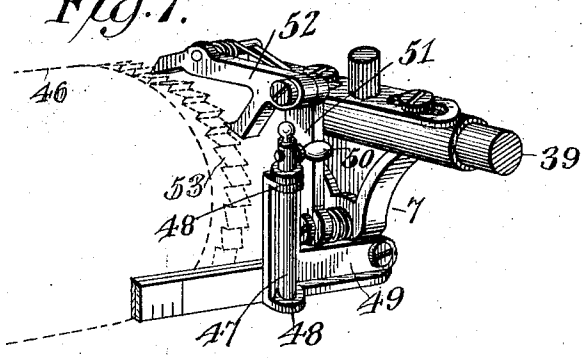


Fig. 9.

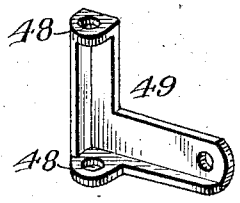


Fig. 8.

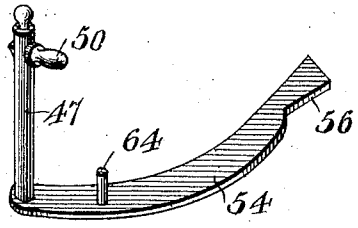
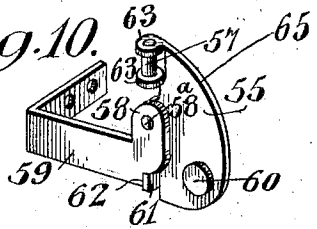


Fig. 10.



WITNESSES

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3 SHEETS—SHEET 3.

Fig. 3.

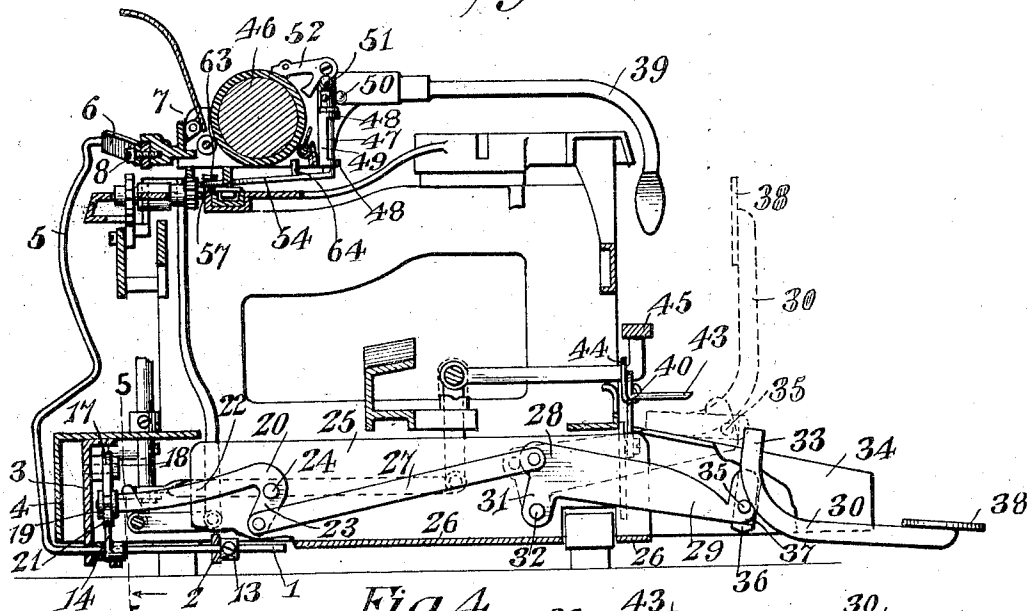
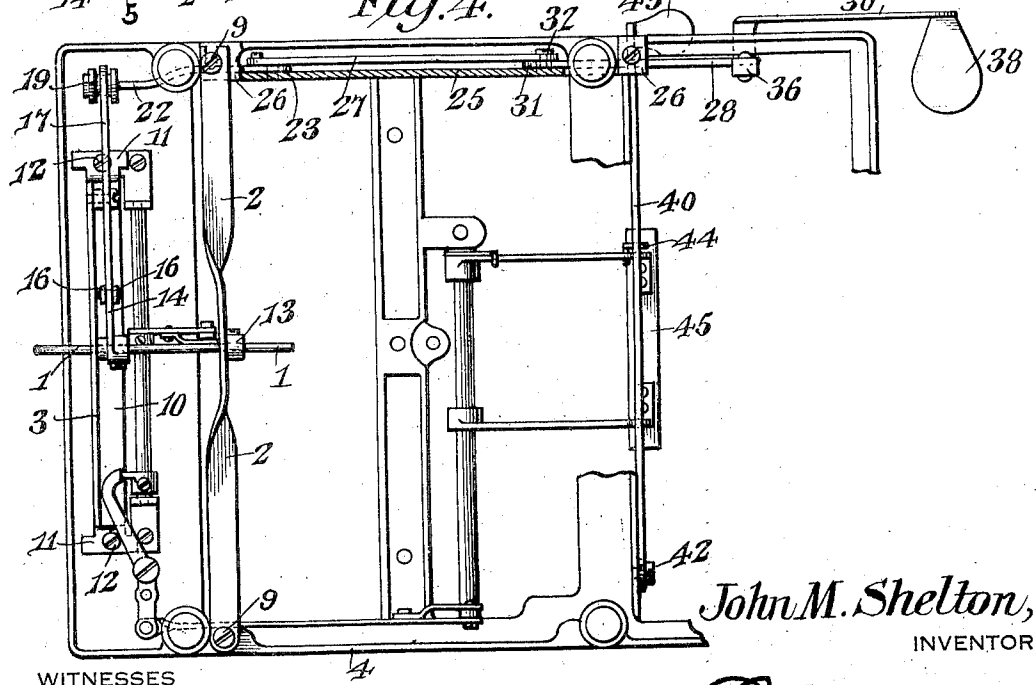


Fig. 4.



WITNESSES

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TYPE-WRITING MACHINE.

1,067,764. Specification of Letters Patent. Patented July 15, 1913.

Application filed October 21, 1912. Serial No. 727,036.

To all whom it may concern:

Be it known that I, JOHN M. SHELTON, a citizen of the United States, residing at Oklahoma city, in the county of Oklahoma and State of Oklahoma, have invented a new and useful Improvement in Type-Writing Machines, of which the following is a specification.

The invention relates to improvements in typewriting machines.

The object of the present invention is to improve the construction of typewriting machines, and to provide simple, inexpensive and efficient mechanism adapted to be readily applied to a typewriting machine, and equipped with an operating lever in the form of a supplemental key, adapted to be readily depressed by the hand for returning the carriage without removing the hand from its position at the keyboard, whereby speed in writing will be materially increased.

A further object of the invention is to provide an attachment in the form of a supplemental key for operating the tabulating bar and to arrange the supplemental keys at one end of the keyboard in convenient position to be operated with one hand, whereby the operator will be enabled to move the carriage quickly in either direction the desired distance and instantly lock the carriage at such point.

With these and other objects in view, the invention consists in the construction and novel combination of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended; it being understood that various changes in the form, proportion, size and minor details of construction, within the scope of the claims, may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings: Figure 1 is a front elevation partly in section of an L. C. Smith typewriting machine equipped with attachments, constructed in accordance with this invention. Fig. 2 is a rear elevation of the same. Fig. 3 is a vertical longitudinal sectional view. Fig. 4 is a reverse plan view partly in section. Fig. 5 is an enlarged detail sectional view on the line 5—5 of Fig. 3. Fig. 6 is a detail perspective view, illustrating the arrangement of the levers of the carriage returning mechanism. Fig. 7 is a detail perspective view, illustrating the construction of the automatic line spacing mechanism. Fig. 8 is a detail perspective view of the rock shaft of the automatic line spacing mechanism. Fig. 9 is a detail perspective view of the bearing bracket of the automatic line spacing mechanism. Fig. 10 is a detail perspective view of the pivoted stop or abutment of the automatic line spacing mechanism.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

In the accompanying drawings in which is illustrated the preferred embodiment of the invention, the carriage returning mechanism comprises in its construction a longitudinally disposed rock shaft 1 journaled in suitable bearings of a transverse bar 2 and a bracket plate 3, and located beneath the rear portion of the main frame 4 of an L. C. Smith typewriting machine and provided at its rear end with an oscillatory arm 5, extending upwardly to the upper portion of the typewriting machine and connected by a link 6 with the carriage 7 of the typewriting machine. The link 6 is pivoted at one end at the back of the carriage by a screw 8, and its other end is pivotally connected to the upper end of the rear arm 5 of the longitudinal rock shaft, whereby when the latter is partially rotated by the means hereinafter described, the arm 5 will be oscillated.

The transverse bar 2 extends entirely across the frame of the machine and is secured at its ends to the same by screws 9, or other fastening devices, and the bracket plate 3, which is preferably tapered downward as shown, is provided at the top with a horizontal flange 10 fitted against the underside of the rear portion of the main frame of the machine and having angularly bent terminal attaching portions 11, secured to the frame by screws 12, or other suitable fastening devices, as clearly illustrated in Fig. 5 of the drawings. The longitudinal rock shaft, which is held against outward movement by a set collar 13, is equipped at a point intermediate of its ends with a relatively short arm 14, adjustably secured to the shaft 1 by a set screw 15 and extending upwardly from the latter at an inclination and connected at its outer end by short links 16 with a transversely disposed lever 17.

The short inclined arm 14 of the rock shaft 1 is arranged at an acute angle to the rear upwardly extending arm 5, and the lever 17, which extends outwardly from a point above the short arm 14 of the rock shaft 1 to one side of the machine, is pivoted at a point between its center and inner end to the plate 3 by a pin 18, or other suitable fastening device. The inner portion of the transverse lever 17 is arched slightly, as clearly shown in Figs. 5 and 6 of the drawings, and the outer arm of the lever 17 receives a grooved anti-friction roller or wheel 19, straddling the upper edge of the transverse lever and carried by a rear longitudinally disposed lever 20 of bell crank form. The outer arm of the transverse lever is adapted to be depressed by the roller 19, and it is provided with a terminal upwardly projecting lug 21 forming a stop and adapted to prevent the roller 19 from sliding off the transverse lever. The inclined arm 14 moves downwardly as the carriage feeds forwardly, and when the carriage is at the limit of its forward movement, the arm 14 approaches a horizontal position and it is swung upward by the transverse lever when the outer arm thereof is depressed.

The lever 20, which consists of a relatively long approximately horizontal arm 22 and a relatively short arm 23, is pivoted at its angle by a pin 24, mounted on the rear portion of a support 25, preferably consisting of a plate or piece arranged in a vertical plane in spaced relation with one side of the main frame of the machine, and provided at the bottom with a horizontal attaching flange 26, secured by screws or other suitable fastening devices to the main frame at the bottom thereof. The long arm 22 extends rearwardly from the pivot pin 24, and the short arm 23 depends therefrom and is connected by an inclined longitudinally disposed link 27 with the inner section 28 of an operating lever 29, which is provided with a pivoted foldable outer section 30. The inner section of the operating lever 28 is of bell crank form being provided at the rear portion with a short downwardly extending arm 31, which is pivoted to the support 25 by a pin 32, or other suitable fastening device. The rear section 28 of the operating lever extends forwardly from the pivot 32, and the front section 30, which is in the form of a key, is provided at the rear portion with an arch 33 composed of inner and outer sides and a connecting top portion and extending over the adjacent side of the front projecting portion 34 of the main frame of the machine to arrange the front portion of the foldable section at the outer side of the main frame of the machine and to enable the operating lever to extend in advance of the same. The inner side of the arch is secured to the front end of the inner or rear section 28 of the operating lever by a rivet 35, or other suitable pivot, and it is provided at the bottom with a lug 36, arranged to engage the lower edge of the inner or rear section 28 to limit the relative downward swing of the front pivoted section. The lug is located adjacent to the front edge of the inner or rear lever section 28, which is rounded at the lower front corner 37 to permit the lug to swing upwardly from the position illustrated in full lines in Fig. 3 of the drawings. This will enable the pivoted front section of the operating lever to fold or swing upwardly to the dotted line position illustrated in the said figure to arrange it out of the way and to enable an ordinary cover to be placed over the typewriting machine. The outer or front end of the pivoted section 30 of the operating lever is provided with a head 38, extending inwardly at the left hand corner of the front of the machine and located in advance of the same in convenient position to be readily depressed by the hand or wrist of the operator without removing the hand from its position at that end of the keyboard. By this construction and arrangement, the carriage may be easily and quickly returned to its initial position without the loss of time which occurs when it is necessary to operate the forwardly extending line spacing handle 39 in the ordinary well known manner. The depressible operating lever by effecting a quick return of the carriage enables the speed of the operator to be materially increased.

In order to enable the position of the carriage to be controlled by the left hand of the operator without removing the same from the left hand end of the keyboard of the machine, the latter is equipped with a transversely disposed operating lever 40, constituting a supplemental key and located in rear of the bank of keys 41 and below the plane of the rear set, as clearly indicated in Fig. 1 of the drawings. The lever 40, which is arranged at a slight inclination, is pivoted to the machine adjacent to the right hand side thereof by a screw 42, and it extends to the left hand end of the machine and is provided with a forwardly extending head or finger piece 43 located slightly beyond the left hand end of the bank of keys at a point in rear of the arch 33 of the longitudinal operating lever 29 of the carriage returning mechanism. The transversely disposed operating lever 40 is connected at a point intermediate of its ends by a hook 44 or other suitable means, with the depressible release bar 45 of the tabulating and feeding mechanism. The release bar 45, which is located above and in rear of the bank of keys, when depressed disengages the controlling means of the feeding mechanism from the toothed bar of the carriage and

permits the latter to slide freely either under the influence of its actuating spring or the carriage returning mechanism.

When it is desired to adjust the carriage to any particular point, the hand is placed on the operating lever of the carriage returning mechanism and with one of the fingers of such hand, the transversely disposed carriage releasing lever 40 is depressed. The carriage may then be either moved to the right by depressing the operating lever of the carriage returning mechanism, or the carriage may be permitted to be moved to the left by the spring of the carriage feeding mechanism, the free movement of the carriage under the influence of the spring being controlled by the pressure of the hand upon the operating lever 29 of the carriage returning mechanism. When the carriage is brought to the desired position, the transversely disposed lever or key 40 is released to permit the controlling means of the carriage feeding mechanism to reëngage the toothed bar of the carriage and lock the same. The hand may then be removed from the operating lever of the carriage returning mechanism. By this construction, the carriage may be quickly shifted from one position to another with the left hand without removing the same from its normal position at the left hand end of the keyboard.

When the carriage is returned to its initial position at the right hand end of the machine, the rotary platen or paper roller 46 is automatically actuated to effect the spacing between the lines by mechanism comprising a vertical rock shaft 47, mounted in upper and lower bearings 48 of an approximately L-shaped bearing bracket 49, which is secured to the front of the carriage at the right hand end thereof. The vertical rock shaft 47 is provided at the top with a short horizontally projecting arm 50, located in advance of the pivoted oscillatory member 51, which carries the pawl or dog 52 for engaging the ratchet wheel 53 of the rotary platen or roller 46. The vertical rock shaft 47 is also provided at the lower end with a relatively long horizontal arm 54 located beneath the carriage and adapted through the movement of the carriage to engage a pivoted stop or abutment 55, whereby the vertical rock shaft 47 is partially rotated a sufficient distance to actuate the oscillatory member 51 of the line spacing mechanism to rotate the paper roller and advance the paper the distance of a line, the length of the spacing being controlled by the line spacing mechanism in the usual well known manner.

The lower arm 54, which is curved longitudinally, extends rearwardly from the front portion of the carriage and is provided at its free rear end with a straight edge 56, which engages a vertically disposed anti-friction roller 57 of the abutment 55. The stop or abutment 55 consists of a plate pivoted at a point intermediate of its top and bottom by a rivet 58^a or other suitable fastening device to an upwardly projecting ear 58 of an approximately L-shaped bracket 59. The bracket 59 consists of an outwardly extending arm or portion and an inner attaching arm or portion, which is secured to the right hand end of the main frame of the machine, as clearly illustrated in Figs. 1 and 2 of the drawings. The pivoted stop or abutment is provided at its lower portion with a weight 60, adapted to hold a laterally projecting lug 61 normally in engagement with a lower shoulder 62 of the outwardly extending arm of the supporting bracket 59. The stop or abutment is provided at the upper portion directly above the ear 58 with spaced vertically alined ears 63 between which the anti-friction roller 57 is mounted. When the free rear end of the horizontal arm 54 of the vertical shaft is carried into engagement with the anti-friction sleeve of the stop or abutment 55, the shaft 47 is rotated to feed the paper and in the return movement of the carriage is carried beyond the stop or abutment, the outward movement of the arm 54 being limited by a pin 64 projecting upwardly from the inner portion of the arm 54 and arranged to engage the carriage frame, as clearly shown in Fig. 3 of the drawings. The stop or abutment is tapered upwardly, and its rear or outer edge 65 is inclined upwardly and forwardly and is adapted to permit the arm 54 to pass readily over the stop or abutment in the forward or feeding movement of the carriage, the stop or abutment being adapted to swing on its pivot to facilitate the passage of the arm over it.

No claim is made in the present application to the automatic line spacing mechanism, which forms the subject-matter of a divisional application, filed June 12, 1913, Serial No. 773,294.

The improvements are in the form of attachments and are secured to the typewriting machine by the usual screws thereof, and they do not necessitate any alteration in the construction of the machine, and they are substantially concealed from view.

What is claimed is:—

1. In a typewriting machine, the combination with a main frame and a slidable carriage, of carriage return mechanism including an oscillatory arm mounted at the rear portion of the frame and arranged to oscillate in the direction of movement of the carriage and connected with the latter, an operating lever mounted at the front of the frame of the machine and having a foldable section extending to the front of the machine to a point in advance of the keyboard and

arranged in position to be depressed by the hand of the operator without removing the same from its position at the keyboard of the machine, said foldable section being adapted to be swung rearwardly out of the way, and means for transmitting motion from the operating lever to the oscillatory arm.

2. In a typewriting machine, the combination with a main frame and a slidable carriage, of carriage returning mechanism including an oscillatory arm mounted at the rear portion of the frame and arranged to oscillate in the direction of movement of the carriage and connected with the latter, a longitudinally disposed operating lever consisting of an inner or rear section mounted within the frame of the machine at one end of the keyboard, and a foldable front section connected with the rear section and extending to the front of the machine to a point in advance of the keyboard, and means for transmitting motion from the operating lever to the oscillatory arm.

3. In a typewriting machine, the combination with a main frame and a slidable carriage, of carriage returning mechanism including an oscillatory arm mounted at the rear portion of the frame and arranged to oscillate in the direction of movement of the carriage and connected with the latter, a longitudinally disposed operating lever composed of a rear section mounted within the frame at one end of the keyboard, and a front section pivoted to the rear section and having means for limiting its movement in one direction, said front section being extended exteriorly of the frame of the machine to a point adjacent to one of the front corners thereof and adapted to be folded backwardly out of the way, and means for transmitting motion from the operating lever to the oscillatory arm.

4. In a typewriting machine, the combination with a main frame and a slidable carriage, of carriage returning mechanism including a rear longitudinal rock shaft having a relatively long upwardly extending arm connected with the carriage, said rock shaft being also provided with a relatively short arm located within the frame of the machine, a transversely disposed lever pivoted at an intermediate point and connected at its inner ends with the relatively long arm of the rock shaft, an operating lever located at one side of the machine and extending to the front portion thereof, and means for transmitting motion from the operating lever to the transverse lever.

5. In a typewriting machine, the combination with a main frame and a slidable carriage, of carriage returning mechanism including a longitudinal rock shaft having an arm connected with the carriage, a transversely disposed lever pivoted at an intermediate point to form inner and outer arms, its inner arm being operatively connected with the rock shaft, a rear longitudinally disposed lever arranged to depress the outer arm of the transverse lever, and an operating lever located at one side of the machine and extending to the front portion thereof and connected with the rear longitudinal lever.

6. In a typewriting machine, the combination with a main frame and a slidable carriage, of carriage returning mechanism including an oscillatory arm connected with the carriage, a transverse lever fulcrumed at an intermediate point to form inner and outer arms and provided at its outer end with a stop lug, a rear longitudinally disposed lever having a grooved antifriction roller arranged to depress the outer arm of the transverse lever, means for transmitting motion from the inner arm of the said lever to the oscillatory arm, and an operating lever located at one side of the machine and extending to the front portion thereof and connected with the rear longitudinal lever.

7. In a typewriting machine, the combination with a main frame and a slidable carriage, of carriage returning mechanism including a rear oscillatory arm connected with the carriage, a transverse lever fulcrumed at an intermediate point to form inner and outer arms, means for transmitting motion from the inner arm of the lever to the rear oscillatory arm, a rear longitudinal lever located at one side of the machine and arranged to actuate the outer arm of the transverse lever, a longitudinally disposed operating lever located at one side of the machine and extending to the front thereof, and means for connecting the operating lever with the rear longitudinal lever.

8. The combination with a typewriting machine including a sliding carriage, and feeding mechanism therefor having a depressible release bar located at the back of the keyboard in rear of the bank of keys, and a transversely disposed operating lever fulcrumed at one end and connected at an intermediate point with the depressible release bar and extending to one end of the keyboard.

9. The combination with a typewriting machine comprising a sliding carriage, and feeding mechanism therefor having a depressible release bar located at the back of the keyboard in rear of the bank of keys, an operating lever connected with the release bar and having a finger piece located at one end of the keyboard, and carriage returning mechanism including an operating lever located at such end of the keyboard and having a head extending to a point in advance of the said finger piece,

said levers being adapted to be operated simultaneously with one hand.

10. The combination with a typewriting machine comprising a sliding carriage, and feeding mechanism therefor having a depressible release bar located at the back of the keyboard in rear of the bank of keys, a transverse operating lever connected with the release bar and extending to one end of the keyboard, and carriage returning mechanism including an operating lever located at the said end of the keyboard and extending to a point in advance of the transverse operating lever.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

JOHN M. SHELTON.

Witnesses:
A. E. DAVENPORT,
KIT SHELTON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."