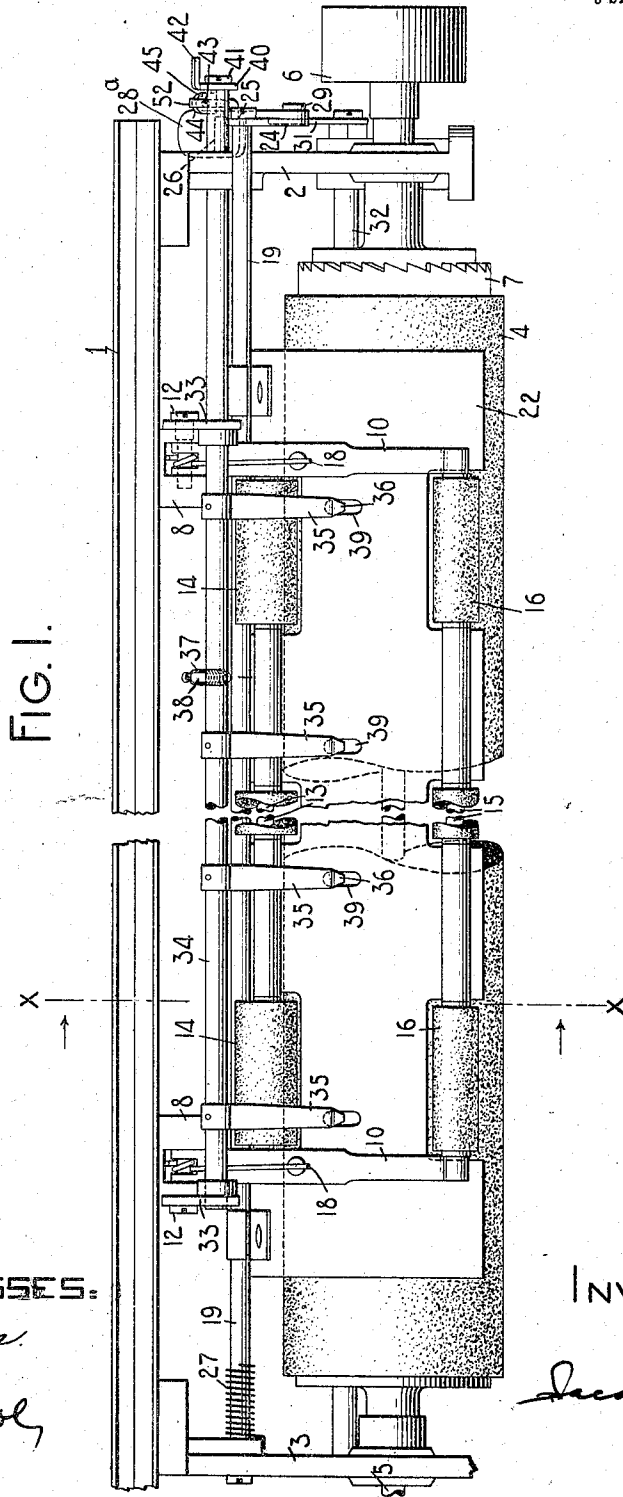


936,617.



WITNESSES:

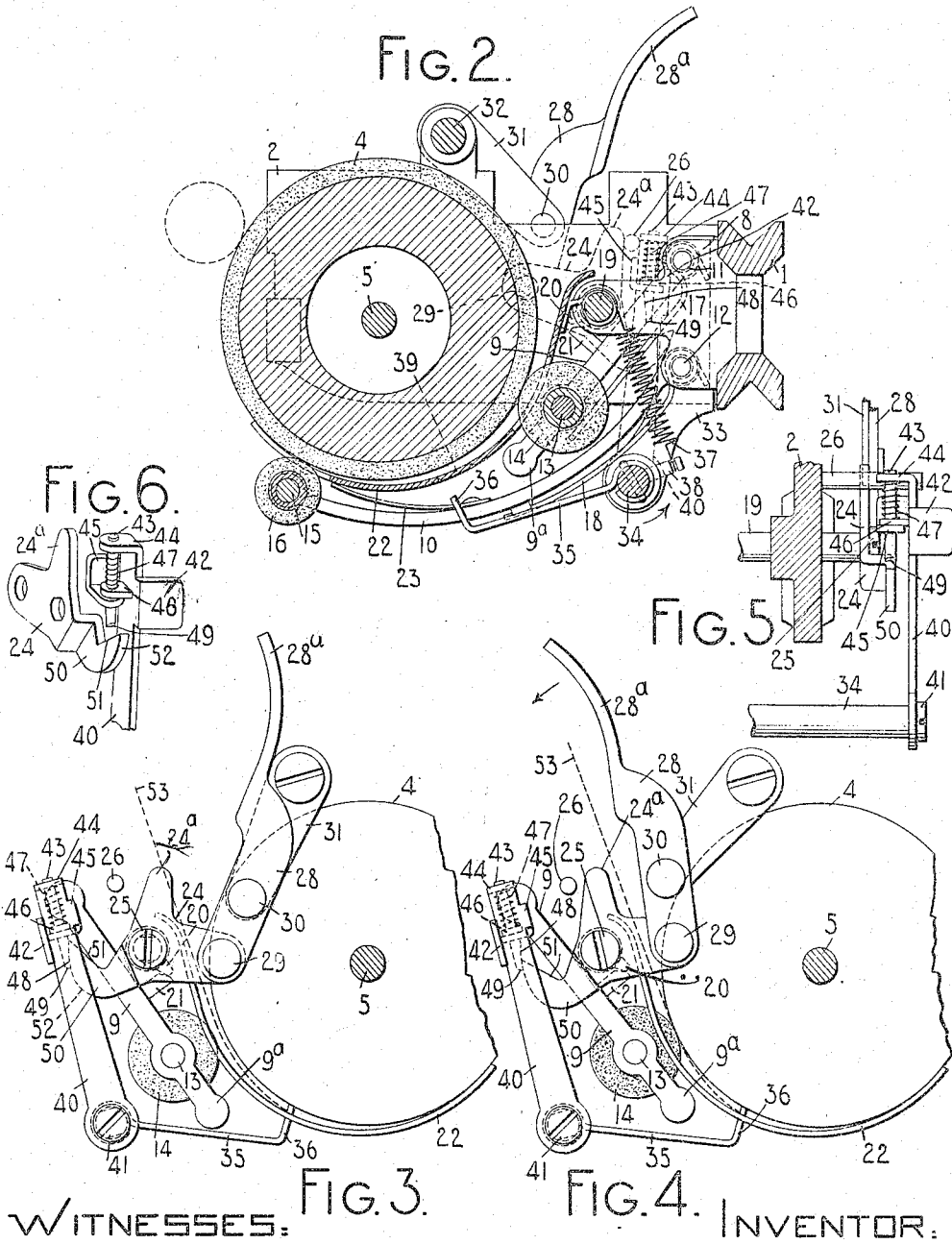
J. B. Devoe.
Wm. Pool

INVENTOR:

Jacob Felbel

936,617.

Patented Oct. 12, 1909.
3 SHEETS—SHEET 2.



WITNESSES:

J. B. Reeves
m. w. Pool

FIG. 3. FIG. 4. INVENTOR:

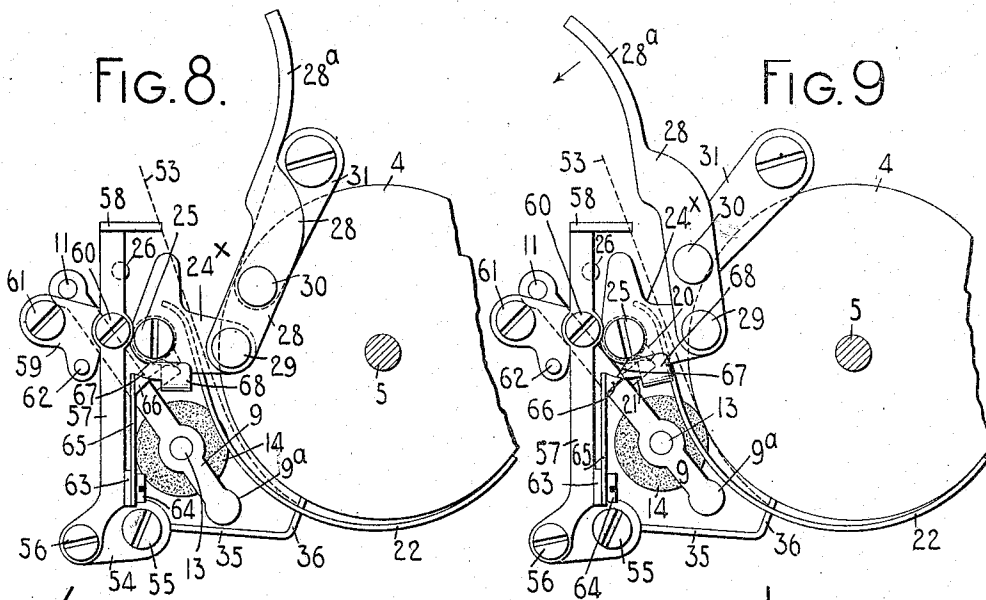
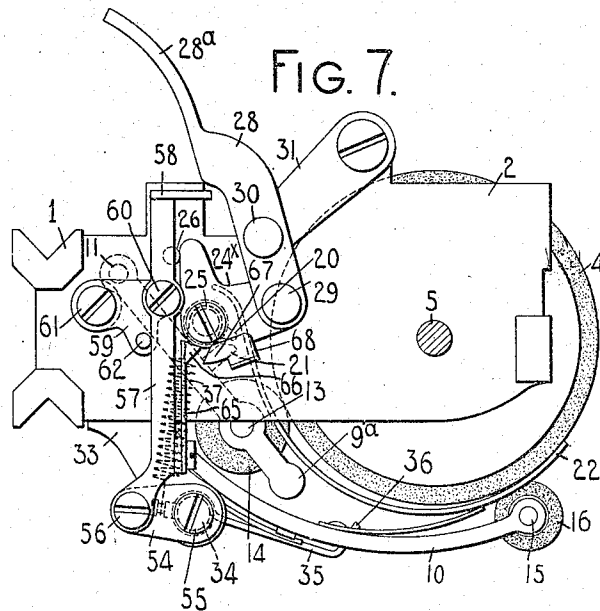
Jacob Felbel

J. FELBEL.
TYPE WRITING MACHINE.
APPLICATION FILED MAR. 27, 1909.

936.617.

Patented Oct. 12, 1909.

3 SHEETS—SHEET 3.



WITNESSES:

J. B. Reeves
New York

INVENTOR:

Jacob Felbel

UNITED STATES PATENT OFFICE.

JACOB FELBEL, OF NEW YORK, N. Y., ASSIGNOR TO UNION TYPEWRITER COMPANY, OF JERSEY CITY, NEW JERSEY, A CORPORATION OF NEW JERSEY.

TYPE-WRITING MACHINE.

936,617.

Specification of Letters Patent.

Patented Oct. 12, 1909.

Application filed March 27, 1909. Serial No. 486,210.

To all whom it may concern:

Be it known that I, JACOB FELBEL, citizen of the United States, and resident of the borough of Manhattan, city of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a specification.

My invention relates to paper feeding mechanisms for typewriting machines and more especially to what are commonly termed leading edge stop devices.

One of the main objects of my invention is to provide in conjunction with the paper feed mechanism at the rear of the platen a leading end or edge stop mechanism not wholly under control of the paper feed release mechanism, but adapted to cooperate therewith so that the paper feeding devices may be released from operative position and restored to operative position without bringing into action the leading end stop devices, and also to provide a construction such that when the paper feeding mechanism has been moved out of operative position or cast off the leading end stop members may be independently brought into operative position and held there and then automatically released by the operation of the means employed for restoring the paper feeding devices to their normal positions.

Other objects will appear hereinafter.

To the above and other ends the invention consists in the features of construction, combinations of devices and arrangements of parts, hereinafter described and particularly pointed out in the claims.

In leading edge stop devices as heretofore constructed it has been customary to connect the leading edge stops with the feed roll releasing mechanism so that said stops will be brought into operation by the release key. My improvements contemplate the provision of a key separate from the usual release key and operative independently of said release key whereby the leading edge stops are caused to be moved from a normal inoperative position into operative position against the platen. Preferably this special key is operated after the release key has been operated and locked to retain in inoperative position the paper feeding devices controlled by said release key and which are normally operative. When so operated this special

key will itself be held by a lock so as to maintain the leading edge stops in operative position against the platen. When the release key is unlocked and returned to normal position, together with the paper feeding devices which it controls, the special key and the leading edge stops will at the same time be automatically unlocked from operative position and will be restored to the normal inoperative position. If the special key be operated at times when the release key is in normal position, then the lock or latch for said special key will not be brought into action, and consequently at such times the leading edge stops will not be locked against the platen but will only be retained there-against as long as the special key is pressed by the operator.

My invention is shown applied to a Monarch typewriting machine but may be adapted to other styles of writing machines.

In the accompanying drawings, Figure 1 is a fragmentary bottom plan view of the platen carrier and platen of a Monarch typewriting machine embodying one form of my invention. Fig. 2 is a vertical sectional view taken on a plane represented by the dotted line *x-x* in Fig. 1 and looking in the direction of the arrows at said line, Fig. 2, however, showing the platen carrier turned over in its normal position. Fig. 3 is a fragmentary end view of the platen and parts of the paper feeding mechanism and leading edge stop devices, said parts being shown in abnormal position. Fig. 4 is a view corresponding with Fig. 3 but showing some of the parts in different relations from those in which they appear in said Fig. 3. Fig. 5 is a fragmentary rear elevation showing parts of the paper feeding mechanism and leading edge stop devices, the left-hand end bar of the platen carrier being shown in section. Fig. 6 is a fragmentary perspective view of the special key for the leading edge stop devices and of the parts which cooperate to provide a lock for said key. Fig. 7 is an end view of the platen and platen carrier of a Monarch typewriting machine embodying a modified construction of my invention, the left-hand platen finger wheel being sectioned away. Figs. 8 and 9 are views corresponding to Fig. 7 but omitting some of the parts shown in said Fig. 7 and showing other parts in different relations.

The form of the invention illustrated in

Figs. 1 to 6 inclusive will first be described. The platen carrier or carriage comprises a back bar 1 and side or end bars 2 and 3, said back bar being grooved at its top and bottom to cooperate with the usual anti-friction balls (not shown). The platen 4 is mounted on an axle 5 which bears in the end bars and is provided at its ends with finger wheels 6, one of which is shown. A line spacing wheel 7, operatively connected with the platen, is adapted to cooperate with other line spacing devices (not shown) to turn the platen step-by-step for line spacing. Lugs 8 project forward from the back bar 1 and are slotted to receive pairs of arms 9 and 10 which are pivotally mounted on shouldered screws 11 and 12, said screws being supported on said lugs. The arms 9 carry a rod 13 on which are mounted sections 14 composing the main feed roller. The arms 10 carry a rod 15 which in turn carries the sections 16 of the secondary feed roller. Normally the main and secondary feed rollers are respectively maintained in contact with the platen or the paper thereon by springs 17 and 18. The main feed roller cooperates with the platen at the rear of the under side thereof, the secondary feed roller cooperates with the platen at its under side forward of the main feed roller, while both feed rollers are between the point at the rear where the work sheet is introduced and the printing point on the front face of the platen. A rock shaft 19 bearing in the ends of the platen carrier is provided with lugs 20 which engage with the beveled ends of pins 21 on the arms 9 (when the rock shaft 19 is turned forward) and overcome the springs 17 and 18, swinging the arms 9 and 10 downward and rearward and releasing the main and secondary feed rollers. The release of the secondary feed roller is accomplished by extensions 22 on the arms 9, said extensions engaging with the arms 10 to move said arms. A paper apron or deflector 22 is pivotally supported on the rock shaft 19 and its forward end portion is normally pressed against the platen by springs 23 secured to the arms 10. The sections of the main and secondary feed rollers protrude through openings in said paper apron to contact with the platen or the paper thereon. When the rock shaft 19 is turned forward to release the feed rollers the downward movement of the arms 10 causes the pressure of the springs 23 on the paper apron to relax. The parts thus far described are common to the Monarch machine.

The release rock shaft 19 may be turned or operated by any desired means, that shown in the drawing being the invention of Edwin E. Barney and comprising devices for locking the feed rollers when released. Said means comprise a crank arm 24 secured to the end of the rock shaft outside the end bar 2 by a screw 25. Normally a nose 24^a on said crank arm is maintained against a laterally projecting stop pin 26 on the end bar 2 by a spring 27 coiled around the opposite end of the rock shaft 19 and having one end secured thereto and the other end secured to the end bar 3. The normal positions of the rock shaft, feed rollers and paper apron are shown in Fig. 2. A releasing lever 28 is pivotally connected at 29 to the crank arm 24 and at 30 to a guide arm 31 which in turn is pivoted on the usual paper finger rod 32. The upper or free end of the release lever 28 terminates in a finger piece 28^a which is turned or twisted at right angles to the body of the lever and which is adapted to contact with the rear or upper edge of the guide arm 31 to limit the forward movement of the lever 28. The levers 28 and 31 are toggle elements which normally are angularly disposed as in Fig. 2; but when the finger piece 28^a is pulled forward the toggle elements are straightened, as shown in Fig. 3, so that the crank arm 24 and rock shaft 19 which have been turned forward by said finger piece will be maintained in the abnormal positions shown in Fig. 3, thus locking the two sets of feed rollers in released or inoperative positions.

The leading edge stop devices shown in the present case comprise supporting arms or brackets 33 which are secured by the screws 11 and 12 to the outer faces of the lugs 8 and extend downward below said lugs, inclining forward somewhat also. A rock shaft 34 extends from one arm 33 to the other below the arms 10 and is pivotally supported on said arms 33. Disposed at intervals lengthwise of said rock shaft and suitably secured thereto are leading edge stop members 35, four being shown. These stop members normally extend forward and slightly downward from the rock shaft and terminate in angularly disposed portions 36 which extend upward and slightly forward, being somewhat pointed at their ends. These angular portions 36 serve as leading edge stops proper. A coiled draw spring 37 is connected at its lower end to a pin 38 or other device secured to the rock shaft 34 and extending rearward therefrom. The upper end of the spring 37 is hooked around the rock shaft 19. As will be understood from Fig. 2 the spring 37 tends constantly to turn the rock shaft 34 in the direction of the arrow and to force the stops 36 away from the platen. The apron 22 is formed with slots 39 through which the stops 36 may move into contact with the platen and away therefrom.

Normally the action of the spring 37 is limited and the stops 36 are held away from the platen in the position shown in Fig. 2 by an arm 40 which is secured by a screw 41 to the left-hand end of the rock shaft 34

outside the end bar 2, said arm extending upward and being caused to contact with the rear side of the stop pin 26 by said spring 37. The arm 40 on the rock shaft 34 may be formed with a hole having a straight side or sides which fits over the end of the rock shaft 34, the latter being reduced for the purpose and the reduced portion having a corresponding straight side or sides, the construction being such that when the screw 41 is tightened the arm 40 is held from displacement and maintained at all times in a fixed relation with the rock shaft 34. As best shown in Figs. 5 and 6 the arm 40 is provided near its upper end with a laterally extending finger piece 42. When this finger piece is pushed rearward the spring 37 will be overcome and the leading edge stops 36 forced into contact with the platen or the paper thereon. It will be apparent that the operation of the release arm 28 to release the feed rolls is independent of and will not affect the leading edge stops; and that said stops may be moved into and out of operation by the finger piece 42 without affecting the feed rollers. It will also be understood that with the mechanism as thus far described the leading edge stops when forced toward the platen will recede therefrom as soon as pressure on the finger piece 42 is removed. In order to maintain the leading edge stops in operative position I provide locking devices which preferably cooperate with the feed roller releasing mechanism in such a way that said locking devices will be brought into action when the feed rollers are locked away from the platen as shown in Fig. 3 and when with the feed rollers so locked away the finger piece 42 is pushed rearward. The locking devices for the leading edge stops comprise a locking pin or detent 43 which as best shown in Figs. 5 and 6 is vertically disposed and supported in ears 44 and 45 extending laterally inward from the arm 40. The upper lug or ear 44 is or may be formed by simply bending over the upper end portion of the arm 40 until it is substantially horizontal. The lower lug or ear 45 is or may be provided by a lip formed at the front edge of the arm 40 and bent laterally inward. The lower end portion of this lip which is cut away or severed from the front edge of the arm 40 is then bent horizontally rearward so that it is at right angles to the upper portion of said lip and underlies the upper lug 44 with which it is substantially parallel. The upper and lower lugs are formed with bearing openings which receive the locking pin 43 and through which the locking pin may be slid up and down. A collar or flange 46, suitably secured to the locking pin between the lugs 44 and 45, limits the up and down movements of said pin. Said flange 46 has a straight face which contacts with and slides along the

inner face of the arm 40, the construction being such that the locking pin is prevented from rotating on its own axis. A wire spring 47 is coiled around the locking pin and confined between the flange 46 and the under face of the lug 44. Normally said spring maintains the flange in contact with the lower lug 45. The lower end portion of the locking pin 43 below the lug 45 is curved or beveled at its front face as indicated at 48 and a short oppositely inclined bevel 49 is formed at the lower tip of said locking pin, as is best shown in Figs. 2, 3 and 4. The lower end portion of the locking pin is adapted to cooperate with a nose or lug 50 which may be and preferably is made integral with the crank arm 24 and is offset laterally outward therefrom. The upper edge 51 of the nose 50 is straight and normally inclines rearward and slightly upward as shown in Fig. 2. The lower edge 52 of the nose 50 is or may be curved downward and forward from its junction with the upper edge 51.

Normally as shown in Fig. 2 the nose 50 and the locking pin 43 are separated by a considerable space. When the finger piece 28^a is pulled forward and the feed rollers are locked in released position, the nose 50 will be brought closer to the lower tip of the locking pin 43 but not quite into contact with it. If now the arm 40 be swung rearward, preferably by pressure on the finger piece 42, the beveled tip 49 of the locking pin will contact with the upper edge 51 of the nose 50 at an early stage in the rearward movement of the arm 40. As the rearward swing of the arm 40 is continued after such contact the edge 51 will cooperate with the beveled tip 49 to force or cam the locking pin 43 upward in its bearings against the pressure of the spring 47, compressing said spring until the rear end of the edge 51 is reached. Thereupon the spring 47 acting against the flange 46 will force the locking pin 43 downward behind the nose 50, the beveled or curved face 48 sliding down over the edge 52. It will be apparent that by this operation the arm 40 will be locked by the nose 50 in rearward position as shown in Fig. 3, which figure it will be noted is a view showing the parts at the side opposite from that in which they are shown in Fig. 2. The result will be that when pressure on the finger piece 42 is removed the arm 40 will be held from swinging back to normal position by reason of the engagement between the locking elements 43 and 50, and consequently the leading edge stops 36 will be held locked in operative position against the platen as shown in Fig. 3. Both hands of the operator are therefore free to insert the invoice or other work sheet (indicated by the dotted line 53 in Fig. 3) into the machine over the usual paper table (not shown)

and the paper apron 22, past the released main feed roller, bringing the leading edge of the work sheet into contact with the leading edge stops 36. Thereafter the finger piece 28^a may be pushed rearward in the direction of the arrow in Fig. 4, restoring the feed rollers to operative position, the main feed roller contacting with the work sheet 53 and pressing it against the platen as indicated in Fig. 4. During the return of the feed rollers to operative position the nose 50 will swing downward, the edge 52 sliding over the beveled edge 48 of the locking pin. At the time that the feed roller 14 clamps the work sheet the tip of the nose 50 will be near the lower tip of the locking pin 43 as shown in Fig. 4 but will still be in engagement with said locking pin sufficiently to hold the arm 40 in locking position and to maintain the stops 36 in the path of the leading edge of the work sheet. As a result of this construction the stops 36 will remain in control of the paper until it has been clamped against the platen by the feed roller 14. A slight additional movement of the finger piece in the direction of the arrow in Fig. 4 from the Fig. 4 position will swing the nose 50 downward out of engagement with the locking pin 43 and will thereupon permit the spring 37 to restore the leading edge stop devices to normal position as shown in Fig. 2. It will be apparent that by this construction the locking devices including the locking pin 43 and nose 50 will be brought into action only when the feed rollers have been previously released and that without such release of the feed rollers the arm 40 may be swung back and forth and the paper stops 36 moved against and away from the platen without locking said stops in operative position.

In the modification illustrated in Figs. 7, 8 and 9 the operating arm 40 and its cooperating latch are replaced by other devices. These other devices comprise a crank arm 54 which is secured to the left-hand end of the rock shaft 34 by a screw 55 and extends rearward therefrom. Pivotaly connected to the free end of said crank arm at 56 is a vertically disposed bar or arm 57 which terminates at the top in a horizontally disposed finger piece 58. The bar 57 is in part guided and controlled by a guide arm 59 with which the bar 57 is pivotaly connected at 60. The guide arm 59 is pivoted on a screw 61 which is supported on the end bar 2, the guide arm extending rearward from the bar 57. A stop pin 62, extending laterally from the guide arm 59, is adapted to co-act with the rear edge of the operating bar 57 as shown in Fig. 7. This figure illustrates the normal position of the parts. It will be apparent that the draw spring 37 tends constantly to turn the crank arm 54

and the guide arm 59 upward and to lift the operating bar 57. This tendency of the spring is limited by the pin 62 engaging with the bar 57 as shown in said Fig. 7. When the pin and bar are thus engaged, the paper stops or leading edge stops 36 are held in normal position separated from the platen. When pressure is applied to the finger piece 58 the operating bar or arm 57 will be bodily lowered and the guide arm 59 and crank arm 54 turned slightly downward, the movement of the crank arm causing the stops 36 to swing upward into contact with the platen or the paper thereon, as shown in Fig. 8. It will be understood from this figure that during the downward movement of the arm 57 and the guide arm 59 the stop pin 62 swings away from said arm 57. As in the former construction it will be seen that the leading edge stops may be operated independently of the feed roller controlling devices, and that in the absence of a lock or latch the operating arm 57 would move upward when pressure is removed and the stops 36 would swing down away from the platen. The lock in the present instance comprises cooperating parts, one on the bar 57 and one on the arm 24. The locking part on the bar 57 is attached to an outwardly extending ear 63 near the lower end of said bar by a screw 64. Said locking part comprises a flexible or a spring finger 65 extending upwardly and terminating in a forwardly projecting nose 66 beveled at both its top and bottom edges. This nose or detent coöperates with a corresponding nose 67 which extends rearward from a projection or ear 68 on the crank arm 24. This crank arm, it will be noted, corresponds with and is operated like the crank arm 24 of the first construction with the exception that the nose or projection 50 is replaced by the ear 68 and nose 67. Normally the nose 67 is forward of the path which the nose 66 takes when the operating bar 57 is moved downward and upward as will be understood from Fig. 7. When, however, the finger piece 28^a is pulled forward to release the feed rollers and lock them in the inoperative position, the nose 67 will be swung rearward into the path of the nose 66. Consequently if after the release and locking away of the feed rollers, the bar or arm 57 is pressed downward, the locking nose 66 will first ride over the locking nose 67 which latter will remain stationary during this movement, the spring finger 65 yielding sufficiently to permit the nose 66 to pass the nose 67. As soon as the nose 66 passes the nose 67 the spring of the finger 65 will cause it to move forward and bring the nose 66 under the nose 67 so as to lock the parts as shown in Fig. 8 and prevent the return to normal position of the operating bar or key 57 and the leading edge stops 36.

After the work sheet has been adjusted against the stops 36 the feed rollers and the stops 36 may be released and restored to normal position by pushing rearward the finger piece 28^a, the controlling devices for the feed rollers operating automatically to permit the return of the leading edge stop devices at this time. During the first part of the return movement or until the feed rollers return to clamping engagement with the platen or the paper thereon the leading edge stop devices will remain locked in operative or abnormal position. This will be understood from Fig. 9 wherein the parts are shown in the positions they will occupy just after the feed rollers have returned into cooperation with the platen. It will be noted that the locking nose 67 has moved forward over the nose 66 a considerable distance from the position shown in Fig. 8, but that said nose 67 still controls and holds locked the nose 66 and the parts connected therewith. Consequently the stops 36 will remain in operative position until after the feed roller 14 has clamped the invoice or work sheet 53. When, however, the finger piece 28^a is pushed rearward a short distance beyond the Fig. 9 position, the locking noses will disengage and the spring 37 will thereupon operate to restore the leading edge stop devices to the normal positions shown in Fig. 7.

Both described constructions provide means for accurately positioning and clamping work sheets as they are introduced into the machine and these means, as is well understood, may be advantageously employed in bill-and-charge, condensed record work and other styles of commercial typewriting or billing. In the present case in both forms of the invention a key is provided for controlling the paper stop devices, which key is separate from the release key or key for controlling the releasing and locking off of the feed roller or rollers. The stop controlling key is arranged in proximity to the release key and is operated by the same hand of the operator as is the release key and may be operated during the same or releasing operation which, of course, in many instances is a great convenience. It will be observed that the feed rollers and the paper stop or stops are movable relatively to the platen through openings in the curved paper deflector or apron, the feed rollers normally protruding through the deflector and cooperating or contacting with the platen or the paper thereon, while the paper stops are normally inoperative; that the deflector is spring pressed toward the platen and when the feed rollers are released pressure on the deflector is relaxed; that the main and secondary feed rollers are spaced apart circumferentially of the platen and the paper stops are arranged between said feed

rollers; that the main feed roller is arranged at the introductory side of the platen and in advance of the printing point, that is, the main feed roller is so situated with respect to the printing point that when paper is introduced into the machine it must pass the feed roller before reaching the printing point; that in this sense the secondary feed roller and the leading edge stops are also arranged in advance of the printing point, the printing point in the present instance, of course, being at the front face of the platen, the Monarch typewriter being as is well known, a front-strike machine; that with the platen, the paper controlling devices such as a feed or pressure roller or rollers and means for locking said devices in abnormal position, I combine a paper stop such as a leading edge stop, and separate means for locking said paper stop in abnormal position; that in the present instance such locking of said paper stop is dependent on the prior locking of said paper controlling devices; that the paper controlling devices are locked away from the platen or in inoperative position while the paper stop is locked in contact with the platen or in operative position; that the provision of separate means for moving the leading edge or paper stop or stops and locking it or them, which means is separate from and operative independently of the means for moving the feed roller or rollers and locking it or them, is a great convenience in many kinds of work; that in the present instance the paper stop and the feed roller or the paper controlling devices are releasable at a single operation, the feed roller preferably returning to operative position in advance of the release of the paper stop; that this single operation in the present instance is caused by actuating the release key of the machine; that the lock for the leading edge or paper stop comprises in the present instance two parts, one of said parts being controlled by the paper controlling devices or feed roller devices and being in the nature of an abutment which normally is in inoperative position but is automatically movable by the release key to a position where it will cooperate with the other part of the two-part lock; and that the other part of said two-part lock is a spring-pressed detent which may be a locking pin or nose or the like, said detent being connected with the key controlled paper stop devices and being automatically movable thereby into cooperation with said abutment.

The details of construction may be greatly varied without departing from the spirit of my invention, and it will be understood that any suitable form of paper feed mechanism and any suitable construction of releasing and locking mechanism may be used

in conjunction with the paper feeding mechanism, and the means for casting on and locking the leading edge stops may likewise be greatly varied without departing from the principles of my invention.

What I claim as new and desire to secure by Letters Patent, is:—

1. In a typewriting machine, the combination of a platen, a feed roller, key controlled releasing means for the feed roller, paper stop devices, and a key for controlling said devices, said key being arranged in proximity to the release key and being operative by the same hand that operates the release key and concurrently therewith.

2. In a typewriting machine, the combination of a platen, a curved paper deflector, a feed roller, means for moving said feed roller relatively to the platen through an opening in said deflector, a paper stop, and separate means for moving said paper stop at will relatively to the platen through an opening in said deflector.

3. In a typewriting machine, the combination of a platen, a curved paper deflector, a feed roller protrusive through an opening in said deflector and normally contacting with the platen or the paper thereon, a normally inoperative paper stop, means for releasing said feed roller, and separate means for moving said paper stop toward the platen through an opening in said deflector.

4. In a typewriting machine, the combination of a platen, a curved spring-pressed paper deflector, a spring pressed feed roller protrusive through an opening in said deflector and normally contacting with the platen or the paper thereon, a spring pressed paper stop normally inoperative, means for releasing said feed roller and for simultaneously relaxing the spring pressure on said deflector, and separate means for subsequently moving said paper stop toward the platen through an opening in said deflector.

5. In a typewriting machine, the combination of a platen, two feed rollers spaced apart circumferentially of the platen and normally in contact therewith or with the paper thereon, a paper stop arranged between said feed rollers, said paper stop being normally inoperative, means for releasing said feed rollers simultaneously, and separate means for rendering said paper stop operative.

6. In a typewriting machine, the combination of a platen, a feed roller arranged at the introductory side of the platen in advance of the printing point, a paper stop arranged between said feed roller and the printing point, means for moving said feed roller relatively to the platen, and separate key operated means for moving said paper stop relatively to the platen.

7. In a typewriting machine, the combination of a platen, a normally operative feed roller arranged at the introductory side of the platen and in advance of the printing point thereon, a normally inoperative leading edge stop arranged between said feed roller and the printing point, key controlled devices for releasing said feed roller, and separate key controlled devices for rendering said paper stop operative.

8. In a front-strike typewriting machine, the combination of a platen, a feed roller arranged at the introductory side of the platen and constantly spring pressed toward the platen, a second feed roller arranged at the lower front side of the platen and constantly spring pressed toward the platen, a leading edge stop arranged between said feed rollers, both said feed rollers and said stop being arranged in advance of the printing point on the platen, a curved spring pressed paper deflector provided with openings for the feed rollers and said stop, key operated means for simultaneously releasing the two feed rollers and relaxing the pressure on said deflector, and separate key operated means for moving said leading edge stop into contact with the platen through the opening in said deflector.

9. In a typewriting machine, the combination of a platen, a paper stop, paper controlling devices, means for locking said devices in abnormal position, and separate means for locking said paper stop in abnormal position.

10. In a typewriting machine, the combination of a platen, a paper stop, paper controlling devices, means for locking the latter in abnormal position, and separate means for locking said paper stop in abnormal position, the locking of said paper stop being dependent on the prior locking of said paper controlling devices.

11. In a typewriting machine, the combination of a platen, a normally operative feed roller, a normally inoperative paper stop, means for releasing said feed roller and locking it in released position, and separate means for moving said paper stop into operative position and locking it.

12. In a typewriting machine, the combination of a platen, a normally operative feed roller, a normally inoperative paper stop; means for releasing said feed roller and locking it in released position, and separate means for moving said paper stop into operative position and locking it, the locking of said paper stop being dependent on the prior locking of said feed roller.

13. In a typewriting machine, the combination of a platen, a paper stop, paper controlling devices, means for locking the latter in abnormal position and separate means for locking said paper stop in abnormal position.

tion, said paper stop and said paper controlling devices being releasable at a single operation.

14. In a typewriting machine, the combination of a platen, a normally operative feed roller, a normally inoperative paper stop, means for releasing said feed roller and locking it in released position, and separate means for moving said paper stop into operative position and locking it, said feed roller and said paper stop being releasable at a single operation.

15. In a typewriting machine, the combination of a platen, a normally operative feed roller, a normally inoperative paper stop, means for releasing said feed roller and locking it in released position, and separate means for moving said paper stop into operative position and locking it, said feed roller and said paper stop being releasable at a single operation, the paper stop remaining locked until after the feed roller has returned to operative position.

16. In a typewriting machine, the combination of a platen, a feed roller, a paper stop, means including a release key for releasing said feed roller and locking it, and means for moving said paper stop to abnormal position and locking it, said release key being operative to restore both said feed roller and said paper stop to their normal positions.

17. In a typewriting machine, the combination of a platen, a feed roller, a normally inoperative paper stop, means including a release key for releasing said feed roller and locking it, and means for moving said paper stop to abnormal position and locking it, the return movement of said release key to normal position operating to restore both said feed roller and said paper stop to normal position.

18. In a typewriting machine, the combination of a platen, a feed roller, hand actuated devices for controlling said feed roller, a paper stop, and a lock for said paper stop, said lock comprising two parts, one of said parts being controlled by said devices and the other of said parts being controllable independently of said devices.

19. In a typewriting machine, the combination of a platen, a feed roller, hand actuated devices for controlling said feed roller, a paper stop normally inoperative, means for rendering said paper stop operative, and means for locking said paper stop in operative position, said locking means compris-

ing two parts, one of said parts being controlled by said hand actuated devices and the other of said parts being controlled by the means for rendering said stop operative.

20. In a typewriting machine, the combination of a platen, a feed roller, hand operated devices for controlling said feed roller, a paper stop, key controlled devices for controlling said paper stop, a locking part connected with said key controlled devices, and a second locking part connected with said hand operated devices.

21. In a typewriting machine, the combination of a platen, a feed roller, hand operated devices for controlling said feed roller, a paper stop, key controlled devices for controlling said paper stop, a spring pressed detent connected with said key controlled devices, and a cooperating abutment connected with said hand operated devices.

22. In a typewriting machine, the combination of a platen, a feed roller, hand operated devices for controlling said feed roller, a rock shaft, a paper stop thereon, an arm on said rock shaft provided with a finger piece, a spring pressed detent on said arm, and a cooperating abutment connected with said hand operated devices.

23. In a typewriting machine, the combination of a platen, a feed roller, hand operated devices for controlling said feed roller, a rock shaft, a plurality of leading edge stops secured at intervals along said rock shaft, devices for turning said rock shaft including an arm or lever, a detent on said arm, and a cooperative abutment connected with said hand operated devices, said abutment being normally in inoperative position.

24. In a typewriting machine, the combination of a platen, a feed roller, means for casting off the same and locking it, a leading edge stop, separate means for bringing it into engagement with the platen after the feed roller has been cast off and for locking said leading edge stop to the feed roller mechanism so that the unlocking of one unlocks both.

Signed at the borough of Manhattan, city of New York, in the county of New York and State of New York, this 26th day of March A. D. 1909.

JACOB FELBEL.

Witnesses:

CHARLES E. SMITH,
E. M. WELLS.