C. B. YAW.

TYPE WRITING MACHINE.

APPLICATION FILED MAY 17, 1909.

965,789. **Patented July 26, 1910.**

2 SHEETS—SHEET 1.

FIG. 1.

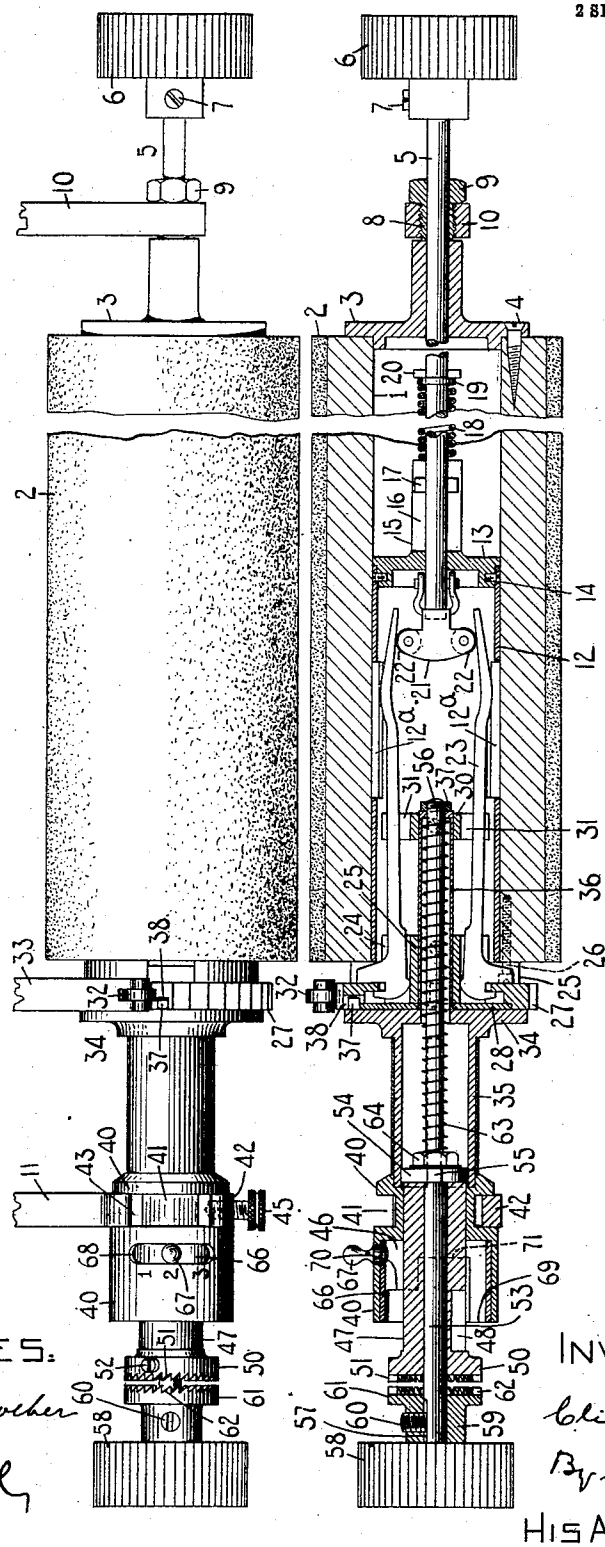

FIG. 2.

WITNESSES:

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INVENTOR:

Chas. B. Yaw

By Jacob Fehr

HIS ATTORNEY

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2 SHEETS—SHEET 2.

FIG. 9.

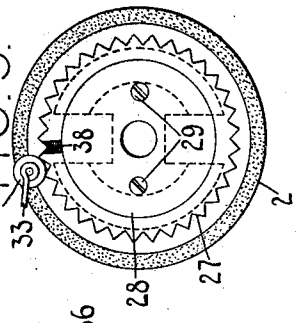


FIG. 8.

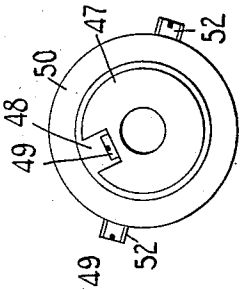


FIG. 6.

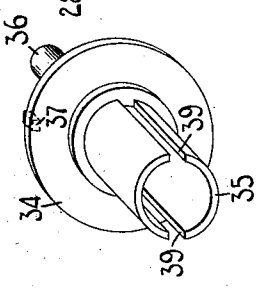


FIG. 7.

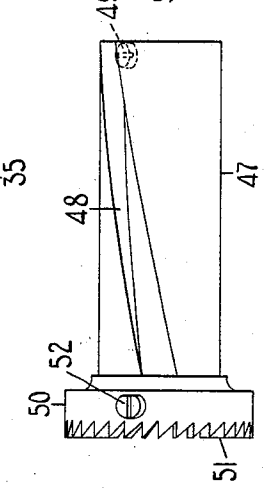


FIG. 5.

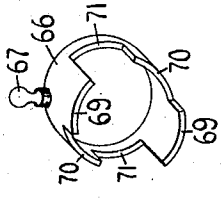


FIG. 4.

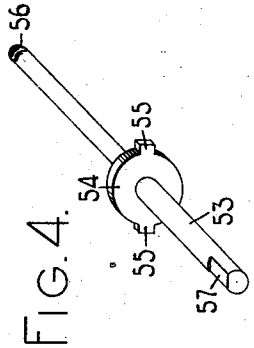
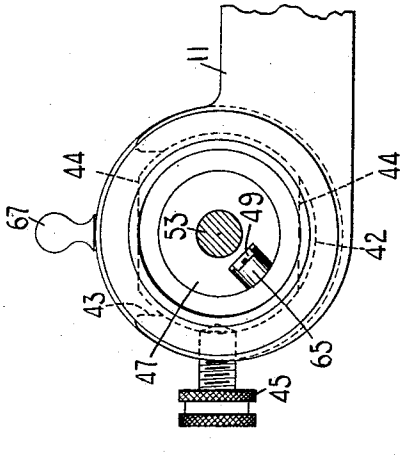


FIG. 3.



WITNESSES.

M. F. Hannweber

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INVENTOR

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HIS ATTORNEY

UNITED STATES PATENT OFFICE.

CLIO B. YAW, OF ARLINGTON, NEW JERSEY, ASSIGNOR TO REMINGTON TYPEWRITER COMPANY, OF ILION, NEW YORK, A CORPORATION OF NEW YORK.

TYPE-WRITING MACHINE.

965,789. Specification of Letters Patent. **Patented July 26, 1910.**

Application filed May 17, 1909. Serial No. 496,482.

To all whom it may concern:

Be it known that I, CLIO B. YAW, citizen of the United States, and resident of Arlington, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a specification.

My invention relates especially to the platen mechanism of typewriting machines and has for its main object to provide improved line spacing devices which prevent overthrow of the platen, which are neat and compact and which have other advantages over prior constructions as will hereinafter appear.

Another object of the invention is to provide an improved mounting of the platen which enables it to be readily and expeditiously removed and replaced.

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

In the accompanying drawings, Figure 1 is a fragmentary top plan view of a platen and platen carrier embodying my invention. Fig. 2 is a longitudinal vertical sectional view of the platen shown in Fig. 1. Fig. 3 is an end view from the inside of the parts supported on the left-hand end bar of the platen carrier, certain of the coöperating parts being removed and the actuating shaft being shown in section. Figs. 4, 5 and 6 are perspective views of different detached parts of the line spacing mechanism. Fig. 7 is a side elevation and Fig. 8 an end view of one of the elements of the line spacing mechanism. Fig. 9 is an end view of the platen as it appears when certain of the line spacing devices are removed.

The platen comprises a wooden core 1 and a sheath 2 of rubber or the like. A platen head 3 is secured by wood screws 4 to the right-hand end of the platen. Said platen head is bored to receive a shaft or spindle 5 to the outer end of which is fixed a finger wheel 6 as by a screw 7. The spindle 5 bears in a member or screw bushing which comprises a threaded stem 8 and a hexagonal head 9, the stem 8 screwing into a threaded opening in the right-hand end bar 10 of the platen frame or carrier. Said platen frame may further comprise a rear bar (not shown) and a left-hand end bar 11, the end bar and the rear bar together constituting a single U-shaped member. The hub of the platen head 3 abuts against the end of the screw bushing and thereby prevents endwise movement of the platen toward the right. The spindle 5 turns in the bushing when the platen is turned and said spindle is also adapted to be moved endwise in said bushing independently of the platen, in order to operate the platen releasing mechanism with which the platen is preferably provided. In the present instance I prefer to employ a releasing mechanism of the general character shown in the patent to Oscar Woodward No. 784,369, granted March 7th, 1905; and the drawings show mechanism corresponding with the patented construction except in so far as it was necessary to change such construction in order to arrange the releasing mechanism at the left-hand end of the platen while operating said mechanism by the right-hand finger wheel 6. The reason for such change is that I have found it preferable to arrange the line spacing ratchet wheel and the coöperating line spacing devices at the left-hand end of the platen and to operate the line spacing devices by the left-hand finger wheel.

Referring especially to Fig. 2, a tubular member 12 is driven or otherwise suitably secured within the bore of the platen at the left-hand end. At its inner end the tube 12 is provided with a head or end piece 13 secured in place by screws 14, said head having a hub 15 formed with a longitudinal slot 16. The shaft or spindle 5 passes through and bears in the hub 15 and head 13. Said spindle is provided with a cross-pin 17 which is adapted to engage the sides of the slot 16 and prevent independent turning movements of the spindle. A spring 18 is coiled around the spindle 5 and is confined between the end of the hub 15 at one end and a washer 19 at the other end, the washer being held in place by a cross-pin 20 on the spindle. The spring 18 operates to restore the spindle to normal position after it has been pushed inward and released. Normally the spring maintains the spindle as shown in Fig. 2, the position being in part determined by a carrier 21 fixed to the left-hand end of the spindle within the tube 12 and provided with rollers 22 which cooperate with the inner end portions of grip-

ping members 23. Said end portions are inclined toward each other so that rightward movement of the carrier 21 tends to separate or force apart the inner ends of the grippers, thereby increasing the effective action of the gripping jaws provided at the opposite ends of said grippers, in a manner well understood. Said gripping members at their outer ends are seated in slots 24 formed in a platen head 25, said platen head being secured by screws 26 to the left-hand end of the platen. The grippers are slotted to provide jaws which coöperate with the inner flange of a ratchet wheel 27 which is supported on a seat formed on the platen head 25. A plate 28 secured by screws 29 (Fig. 9) to the outer face of the platen head, prevents accidental displacement of the ratchet wheel 27. A disk 30, suitably secured within the tube 12, is formed with diametrically opposite slot-ways 31 through which the grippers 23 pass. The tube 12 is formed with longitudinal slots 12^a to permit wide separation of the inner end portions of the grippers and facilitate assembling and disassembling. A roller detent 32 is pivoted at the free end of a spring arm 33 suitably secured to the platen frame, said roller detent coöperating with the teeth of the ratchet wheel 28 to maintain the platen in adjusted positions. Normally it will be understood that when the platen is turned, the grippers 23 operate to maintain the ratchet wheel 27 in a fixed relationship with said platen so that at such times the ratchet wheel turns with the platen. When it is desired to disconnect the platen from the ratchet wheel in order to turn the platen through fractional line space distances, the finger wheel 6 is pushed in with the result that the rollers 22 tend to move away from the inner end portions of the grippers, thereby permitting the grippers to loosen their hold on the ratchet wheeel 28. If the finger wheel 6 be maintained pressed inward and at the same time be turned, the platen, the grippers 23 and the platen head 26 will turn together but the ratchet wheel 27 will be held motionless by the detent 32.

Referring now to my novel line spacing devices proper, these comprise a member which may be called a supplementary platen head and which is shown detached in Fig. 6. Said supplementary platen head, as will be understood best from Fig. 6 and Fig. 2, comprises a flanged portion or disk 34 from which extends leftward a tube-like portion 35. A tubular portion 36 of smaller diameter opens into the tube 35 and extends from the disk 34 rightward within the bore of the platen. The tube 36 passes through openings in the platen head 25 and in the disk 30 and is supported by said platen head and said disk. A pin or lug 37 is fixed to and projects inward from the inner face of the disk 34, said pin engaging in a notch or depression 38 in the ratchet wheel 27. Ordinarily the platen, the ratchet wheel and the supplementary platen head will turn together, but when the finger wheel 6 is pushed in to operate the platen releasing devices and the platen is thereafter turned, the ratchet wheel 27 will remain motionless and will because of the connection 37, 38 prevent the supplementary platen head from moving at such time. Relative turning movement between the platen head 25 and the disk 30 on one hand and the tube 36 on the other hand will consequently take place. The tube 35 is split longitudinally as indicated at 39 for purposes presently to be described. The left end portion of said tube bears in a counter-bore formed in the inner face of a sleeve 40. Said sleeve as shown in Figs. 1 and 2 is provided with a circumferential groove or depression 41 to enable it to fit into an eye 42 formed by the enlarged forward end portion of the left-hand end bar 11. The eye 42 is cut away at the top as indicated at 43 to provide an opening for the entrance and removal of the sleeve 40. The bottom of the groove 41 is flattened at diametrically opposite portions, as indicated at 44 (Fig. 3) and the distance between the flattened faces 44 is slightly less than the distance across the mouth or opening 43; so that when the sleeve 40 is turned to bring these flattened portions opposite the sides of the opening 43, the sleeve 40 may be readily moved in or out of the eye. After the sleeve has been moved in it is given a quarter turn, positioning the flattened portions 44 at the top and bottom and causing the rounded portions of the bottom of the groove 41 to engage with the sides of the eye and prevent removal of the sleeve, the distance between these rounded portions being greater than the distance across the opening 43.

In order to retain the sleeve 40 in proper position after it has been seated in the end bar 11 a thumb screw 45 is provided, said thumb screw screwing into a threaded hole in the front wall of the eye 42, the point of said screw engaging in a slight depression in the rounded bottom of the groove 41 in the sleeve 40. The sleeve 40, as will be understood from Fig. 2, is provided with a central bearing opening which is counter-bored at the left-hand end as indicated at 46 to provide a chamber at its left-hand portion. Bearing in the sleeve 40 is a rotary cam member 47 shown detached in Figs. 7 and 8. This member is in the form of a sleeve and is provided with a longitudinally extending curved slot-way or cam 48 at the right-hand end of which is a stop in the form of a screw 49. At its left-hand end the cam member 47 terminates in a head 50, the outer face of which is formed with a se-

ries of ratchet teeth 51 corresponding in number to the teeth of the ratchet wheel 27. The head 50 is provided with diametrically opposite screw stops 52 for purposes presently to be described. As has been stated, the outside surface of the sleeve 47 bears in the sleeve 40. Said sleeve 47 is further provided with a central opening through which passes a spindle or shaft 53, said spindle supporting said sleeve 47. The spindle 53 is shown detached in Fig. 4 from which it will be apparent that its left-hand end portion is somewhat larger in diameter than its right-hand end portion. At the junction of these two portions of different diameters the spindle is provided with a flange or disk 54 formed with diametrically opposite projections or lugs 55. The right-hand end portion of the spindle 53 is threaded as indicated at 56 and its left-hand end portion is flattened as indicated at 57.

Referring to Fig. 2 it will be noted that the spindle 53 extends through the sleeve or cam member 47, the tube 35 and the tube 36, its threaded end 56 projecting inward through and beyond the closed end of the tube 36 and receiving a nut 37 which limits the leftward movement of the spindle 53 relative to the tube 36. The left-hand end portion of the spindle 53 extends beyond the ratchet portion 51 of the sleeve 47 and carries the left-hand finger wheel 58. Integral with this finger wheel 58 is a hub portion 59 which receives a set screw 60, the latter engaging with the flattened portion 57 of the spindle and maintaining the finger wheel 58 and hub 59 in fixed relationship therewith. The inner end of the hub is provided with a flange 61, the inner face whereof is formed with ratchet teeth 62 adapted to coöperate with the ratchet teeth 51 but normally separated therefrom as indicated in Fig. 2. A wire spring 63 is coiled around the right-hand portion of the spindle 53, said spring being partly contained in the tube 36 and its right-hand end abutting against the bottom of said tube. As shown in Fig. 2 a nut 64 is provided for maintaining the disk 54 in proper position on the spindle against the shoulder formed between the greater and lesser portions of said spindle. The left-hand end of the spring 63 abuts against said nut 64. The tendency of the spring 63, it will be understood, is to push the spindle 53 leftward as viewed in Fig. 2. The leftward movement of the spindle will be limited by the engagement of the nut 37 with the bottom of the tube 36. During the leftward movement of the spindle to this position the flange or disk 54 will operate to push the sleeve 47 leftward. The leftward movement of the sleeve 47 is limited by the engagement of a stop 49 with a stop or stud 65 (Fig. 3) which projects radially inward from the bore of the sleeve 40, being of a diameter very slightly less than the width of the curved slot-way or cam-way 48 into which said stud 65 fits. Because of the coöperation between the stud 65 and the cam groove 48 it will be apparent that as the sleeve 47 moves endwise a rotary movement will also be communicated to it. The lugs or projections 55 on the flange 54 integral with the spindle 53 fit into the slits or cuts 39 in the tube 35 so that relative rotary movement between said spindle 53 on the one end and the tube 35, disk 34 and tube 36 on the other end is prevented. These parts, it will be recalled, are maintained in a fixed relationship with the ratchet wheel 27 and since ordinarily said ratchet wheel is connected with the platen, it follows that rotary movements communicated to the spindle 53 will ordinarily be transmitted to the platen through the devices above referred to.

Seated within the counter-bore 46 of the sleeve 40 and frictionally engaging the sides of said counter-bore is a line space regulating device or bushing 66 shown detached in Fig. 5. This bushing is tubular in form and is provided with a finger piece 67 which projects radially upward through a transverse slot 68 in the sleeve 40. The left end portion of the bushing or stop member 66 is cut away or stepped to provide pairs of diametrically opposite stops which are adapted to coöperate with the stops 52 on the sleeve 47. There are three pairs of stop faces on the bushing numbered respectively 69, 70 and 71. These pairs of stop faces are at different distances from the normal position of the stops 52 such that when the pair of stop faces 69 are in the path of the stops 52 the sleeve 47 will be arrested in its movement to the right after the platen has been turned through a single line space distance; while the stop faces 70 when operative will arrest said sleeve 47 after the platen has turned through two units of line space distance, and the faces 71 when operative will permit the turning of the platen through three units of line space distance before arresting it. By means of the finger piece 67 the bushing or stop member 66 may be turned within a counter-bore of the sleeve 40 so as to interpose any selected pair of stop faces in the path of the stops 52. The friction between the bushing and the surfaces of the counter-bore is sufficient to retain the bushing in adjusted position. As shown in Fig. 1, numerals or other indicating marks may be placed on the outside surface of the sleeve 40 at one side of the slot 68 to coöperate with the finger piece 67 to indicate for what extent of line spacing the device is set.

In operation when it is desired to line space, the finger wheel 58 is pushed inward or toward the right. The initial movement of the finger wheel moves the shaft or spindle 53 rightward, slightly compressing the

spring 63 and bringing the ratchet 62 into engagement with the ratchet 51. During this initial movement of the finger wheel the sleeve 47 remains motionless, permitting the ratchets 62 and 61 to engage as just described and allowing the disk 54 to separate from the inner end of said sleeve 47. After the engagement of the ratchets and during further rightward movement of the finger wheel 58, the sleeve 47 will be forced toward the right at the same time. As the sleeve 47 moves rightward the cam slot 48 coöperating with the stud 65 will cause the sleeve 47 to turn slightly on its longitudinal axis. At this time the finger wheel 58 and its hub will be connected to said sleeve 47 by the engaging ratchet teeth 51, 62 so that said wheel and hub will participate in the turning or rotary movement of the sleeve 47 and will in turn transmit this rotary movement to the shaft or spindle 53. From the spindle the rotary movement will be transmitted through the disk 54, lugs 55, cut-aways 39, disk 34 and pin 37 to the ratchet wheel 27, said ratchet wheel in turn transmitting the rotary movement to the platen. The pitch of the cam 48 is such that if the rightward movement of the sleeve be arrested by the engagement of the stops 52 with the stop faces 69, the platen will have been turned through a distance corresponding to that between two adjacent teeth of the ratchet wheel 27. If, on the other hand, the stop faces 70 are in operation the platen will have been turned two ratchet teeth and if the stop faces 71 are operative the turning will correspond to three teeth of the ratchet wheel 27. The rightward movement of the spindle 53 causes a compression of the spring 63 to a greater or less extent and when the finger wheel 58 is released the spring operates to restore the parts to normal position. On first releasing the finger wheel the spring will move the spindle 53 leftward until the disk 54 contacts with the right-hand face of the sleeve 47. This initial return movement of the spindle independently of said sleeve, effects the disengagement of the ratchet teeth 62 from the ratchet teeth 51 so that thereafter during the further return movement of the spindle it will force the sleeve 47 backward toward the left, said sleeve, by reason of its cam slot, turning or revolving backward as it moves longitudinally, but without transmitting any rotary movement to the spindle 53 or the connected parts.

It will be understood that rightward pressure against the finger wheel 58 will result in restoring the platen and platen carrier at the end of a line from left to right so as to position it for beginning a new line of writing. This return movement of the platen may take place either before or after the line spacing operation, depending on the resistance offered by the platen to rightward movement, but commonly will take place after the preliminary movement of the finger wheel to engage the ratchet teeth or clutch parts 51, 62, but prior to the line spacing operation proper. In any event it will be seen that the same direction and character of movement communicated to the finger wheel 58 effects both the line spacing and carriage restoring operations, so that these two operations are brought about by a single movement of the operator, namely, a rightward pressure exerted against the finger wheel 58. It will further be observed that by the present construction overthrow of the platen will be avoided, rotary motion being at all times under the control of the cam slot 48 and its comparatively closely fitting coöperating fixed stud or device 65 while the platen is clutched or connected to the member 47 in which this cam slot is cut, the connection of course taking place through the ratchet teeth or clutch devices 51, 62 and being maintained by the pressure of the operator's hand against the wheel 58. It will be apparent that when the finger wheel is pushed in until the parts are arrested by the engagement of the stops 52 with one of the pairs of stop faces on the bushing 66, then the platen will be held positively from turning either forward or backward by the engagement of the fixed member or stud 65 with the sides of the cam slot 48. It will further be noted that the usual line spacing levers, pawls, etc. are dispensed with; that most of the line spacing devices are covered from view and protected from derangement and that the construction is a particularly neat and compact one, the line spacing devices being arranged close to the center of motion so that vibration is greatly lessened and the stability of the platen for manifolding and like purposes is increased and improved.

Various changes may be made without departing from the spirit and scope of my invention.

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

1. In a typewriting machine, the combination with a platen, of line spacing devices comprising a hand controlled cam member rotatable relatively to the platen, means for at will connecting said platen and said cam member, the platen and said cam member being normally disconnected, and a device co-active with said cam member to turn it, said means operating to connect said platen and said cam member prior to the beginning of the co-active operation between said last named device and said cam member.

2. In a typewriting machine, the combination with a platen, of line spacing devices comprising a cam member movable in a straight line by hand and rotatable relatively to the platen, a normally inoperative

clutch between said cam member and said platen, and a relatively fixed device co-active with said cam member to turn it, said clutch operating to connect said cam member with said platen prior to the beginning of the co-action between said relatively fixed device and said cam member.

3. In a typewriting machine, the combination of a platen, a spindle movable longitudinally relatively to the platen and rotatable with the platen, a cam member rotatable relatively to said spindle, means for connecting said spindle and said cam member, and means for turning said cam member.

4. In a typewriting machine, the combination of a platen, a spindle movable lengthwise of said platen, a sleeve on said spindle, a normally inoperative clutch between said spindle and said sleeve, and fixed means operating to turn said sleeve when the spindle is moved lengthwise.

5. In a typewriting machine, the combination with a platen, of line spacing devices including an endwise movable shaft provided with a finger wheel and coaxial with the platen, and means normally disconnected from said platen for turning said platen when the finger wheel is pressed in by the operator, said means being inoperative during the return movement of said finger wheel.

6. In a typewriting machine, the combination with a platen, of line spacing devices comprising a shaft, a sleeve on said shaft controllable by hand, a two-part clutch for connecting said shaft with said sleeve, means assisting to turn said sleeve when the same is moved by hand, and means operating to restore said sleeve and said shaft to normal positions and to maintain the parts of said clutch normally inoperative one on the other.

7. In a typewriting machine, the combination with a platen, of line spacing devices comprising a shaft, a sleeve on said shaft controllable by hand, a two-part clutch for connecting said shaft with said sleeve, means assisting to turn said sleeve when the same is moved by hand, and a single spring for restoring said shaft and said sleeve to normal position and for maintaining the clutch parts normally separated.

8. In a typewriting machine, the combination with a platen, of line spacing devices including a hand controlled shaft, a sleeve loose on said shaft and provided with a cam slot, a relatively fixed stud coöperating with said cam slot, and normally separated clutch parts for connecting said sleeve with said shaft.

9. In a typewriting machine, the combination with a platen, of line spacing devices including a shaft, connections between said shaft and said platen causing the two to turn together and enabling the shaft to move endwise relatively to the platen, a sleeve on said shaft provided with a cam slot, a normally inoperative connection between said sleeve and said shaft, a relatively fixed stud co-operative with said cam slot, and a restoring spring for said shaft and said sleeve.

10. In a typewriting machine, the combination of a platen, a ratchet wheel connected to turn therewith, a detent coöperating with said ratchet wheel, a slotted tubular member connected with said ratchet wheel, a shaft provided with a device engaging the slotted part of said tubular member, a sleeve on said shaft, a normally inoperative connection between said sleeve and said shaft, and relatively fixed means for turning said sleeve when it is moved endwise.

11. In a typewriting machine, the combination of a platen, a ratchet wheel connected to turn therewith, a detent coöperating with said ratchet wheel, a tubular member connected with said ratchet wheel and bearing in the platen frame, a shaft within said tubular member and connected to turn therewith, said shaft being slidable back and forth in the platen, a sleeve on said shaft, means for connecting said sleeve and said shaft, and means assisting to turn said sleeve when it is moved endwise.

12. In a typewriting machine, the combination of a platen, a slotted platen head, a ratchet wheel supported on said platen head, gripping devices normally connecting said ratchet wheel with said platen, a tube within said platen and connected therewith, a slotted disk fixed to said tube and through which said gripping devices pass, a second disk or head fixed to said tube, releasing devices for said gripping devices, said releasing devices including a spindle supported in said second disk and connected to turn therewith, a tubular member connected with said ratchet wheel and partly supported by said first named disk, and line spacing devices including a shaft arranged within said tubular member.

13. In a typewriting machine, the combination of a platen frame, a platen, a ratchet wheel connected with said platen, a tubular member connected with said ratchet wheel, a sleeve detachably fixed to said platen frame, said tubular member bearing in said sleeve, a movable sleeve bearing in said first named sleeve, a shaft connected with said movable sleeve, connections between said sleeve and said shaft, and means for turning said movable sleeve when it is moved endwise.

14. In a typewriting machine, the combination of a platen frame, a platen, a ratchet wheel connected with said platen, a tubular member connected with said ratchet wheel, a sleeve detachably fixed to said platen frame, said tubular member bearing in said sleeve, a movable sleeve bearing in said fixed sleeve and provided with a curved slot, a stud

secured to said fixed sleeve and engaging in said curved slot, a shaft for moving said movable sleeve endwise, and means for connecting said shaft and said movable sleeve.

15. In a typewriting machine, the combination with a platen frame and a platen thereon, of line spacing devices including a shaft, a sleeve mounted thereon, normally inoperative connections between said shaft and said sleeve, a second sleeve detachably fixed to said platen frame and supporting said first named sleeve, and means on said second sleeve assisting to turn said first named sleeve when said first named sleeve is moved endwise.

16. In a typewriting machine, the combination with a platen frame and a platen thereon, of line spacing devices including an actuating member movable lengthwise of said platen, a sleeve detachably fixed to said platen frame and supporting said member, and a line space regulating device housed within said sleeve and coöperative with said member to variably limit the extent of the movements of said member.

17. In a typewriting machine, the combination with a platen frame and a platen thereon, of line spacing devices including an actuating member movable lengthwise of said platen, a sleeve detachably fixed to said platen frame and supporting said member, a stepped bushing housed within said sleeve and frictionally connected therewith, a finger piece for adjusting said bushing to bring predetermined stepped faces thereon into operative position, and devices on said actuating member coöperative with the stepped faces of said bushing.

18. In a typewriting machine, the combination with a platen, of line spacing devices including an endwise movable shaft connected to turn with the platen, a ratchet fixed to said shaft, a sleeve mounted on said shaft and provided with a coöperating ratchet, said ratchets being normally disconnected, said sleeve being provided with a curved slot, a relatively fixed stud engaging said slot, a spring for pressing said sleeve and said shaft in one direction, a regulating device comprising a frictionally held bushing formed with stepped faces, and projections on said sleeve coöperative with said stepped faces.

19. In a typewriting machine, the combination of a platen carrier comprising end bars, a platen, a bushing secured to one of said end bars and providing a bearing for said platen, and a sleeve detachably secured to the other of said end bars and formed with a depression which provides a bearing for supporting said platen.

20. In a typewriting machine, the combination of a platen carrier comprising end bars, a platen arranged between said end bars, one of said end bars being provided with a slotted eye, and a sleeve seated in said eye and detachably secured thereto, said sleeve being formed with a depression which provides a bearing for supporting the platen.

21. In a typewriting machine, the combination of a platen carrier comprising end bars, a platen arranged between said end bars, one of said end bars being formed with an eye having an entrance-way, and a grooved sleeve, the groove in said sleeve being flattened to permit of its being introduced through said entrance-way into said eye, the diameter of the grooved portion at other points being greater than the width of said entrance-way.

22. In a typewriting machine, the combination of a platen carrier comprising end bars, a platen arranged between said end bars, one of said end bars being formed with an eye having an entrance-way, a grooved sleeve, the groove in said sleeve being flattened to permit of its being introduced through said entrance-way into said eye, the diameter of the grooved portion at other points being greater than the width of said entrance-way, and means for securing said sleeve in adjusted position in said eye, said sleeve providing a bearing for said platen.

Signed at the borough of Manhattan, city of New York, in the county of New York and State of New York this 15th day of May A. D. 1909.

CLIO B. YAW.

Witnesses:
CHARLES E. SMITH,
J. B. DEEVES.