No. 619,777. Patented Feb. 21, 1899.

J. H. McELROY.

TYPE WRITING MACHINE.

(Application filed Sept. 10, 1897.)

(No Model.) 2 Sheets—Sheet 1.

FIG. 1.

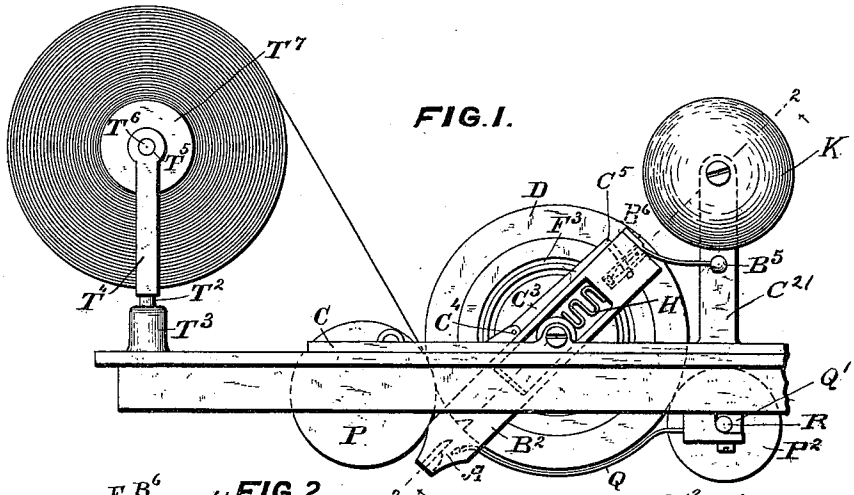


FIG. 2.

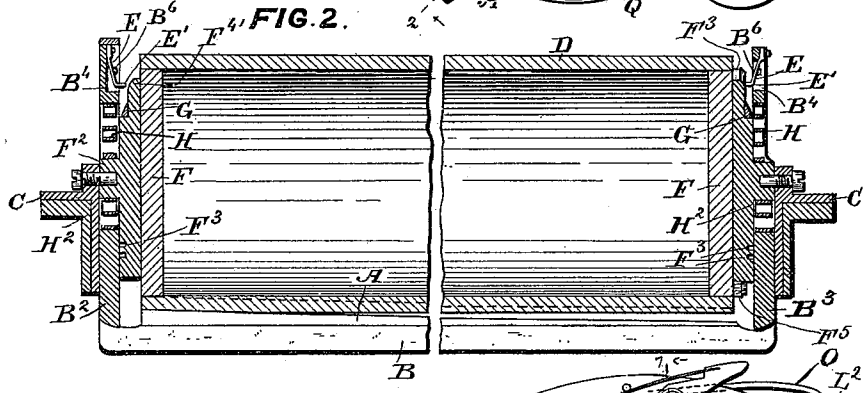


FIG. 3.

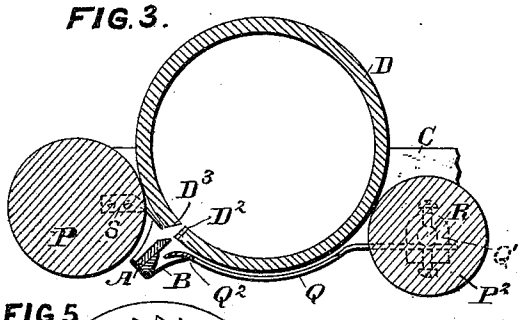


FIG. 4.

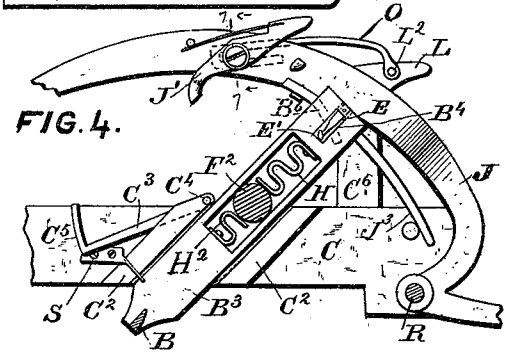


FIG. 5.

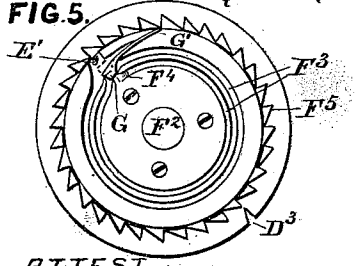


FIG. 6.

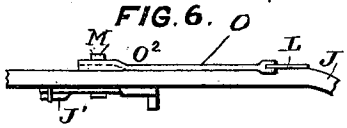
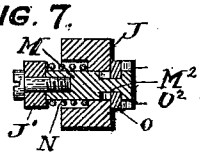


FIG. 7.



ATTEST.

J. Henry Kaiser

Chas. F. Consaul

INVENTOR.

John H. McElroy.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 619,777. Patented Feb. 21, 1899.

J. H. McELROY.

TYPE WRITING MACHINE.

(Application filed Sept. 10, 1897.)

(No Model.) 2 Sheets—Sheet 2.

Fig. 8.

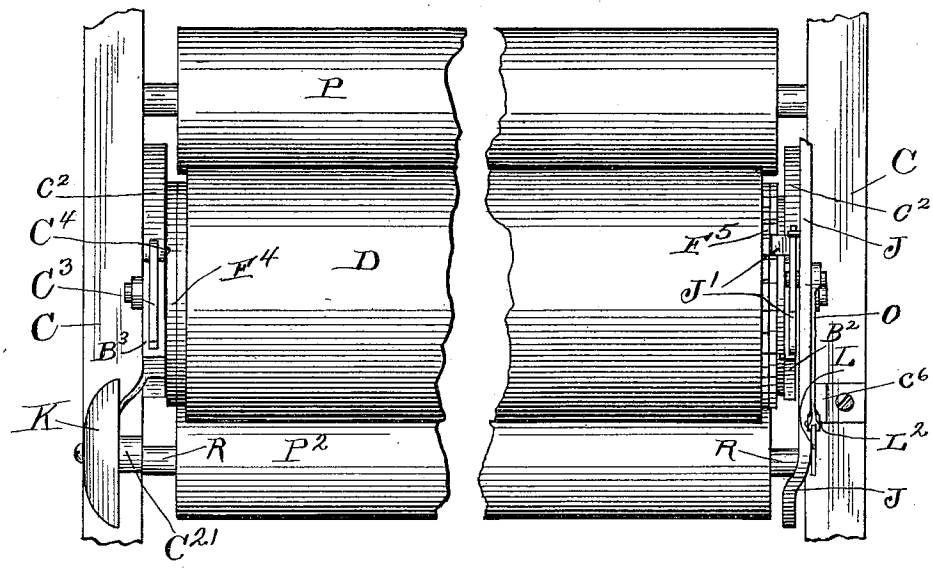


Fig. 11.

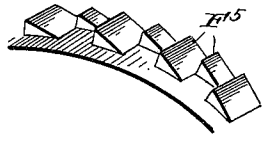


Fig. 10.

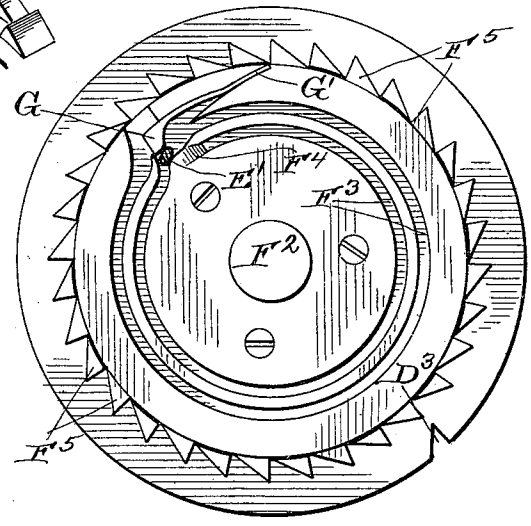
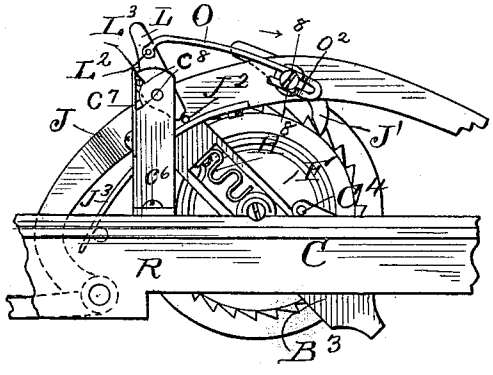


Fig. 9.



Witnesses:

R. J. Jacker.

E. M. Cook.

Inventor:

John H. McElroy.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JOHN HOWARD McELROY, OF ROSSVILLE, ILLINOIS.

TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 619,777, dated February 21, 1899.

Application filed September 10, 1897. Serial No. 651,187. (No model.)

To all whom it may concern:

Be it known that I, JOHN HOWARD McELROY, a citizen of the United States, residing at Rossville, in the county of Vermilion and State of Illinois, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a specification.

My invention relates to type-writing machines, and has for one of its objects to produce a machine capable of greater speed in operation. As they are at present constructed the sheet of paper for each page is inserted in the machine separately, and when one sheet is finished the writing must cease entirely until another sheet of paper can be inserted, thus taking some time and being very annoying when one is attempting to write out a report of any continuous performance, such as proceedings in court, &c. In my invention I mount a continuous roll of paper upon the carriage or on some convenient portion of the machine, feeding it forward in the customary manner, and arrange a cutter at some convenient place, which severs the strip automatically as soon as a length equal to a sheet of the desired size has been fed forward in the ordinary operation of the machine. I also arrange a bell to be sounded simultaneously with the severing stroke of the cutter to warn the operator of the termination of the sheet, so that he may number the sheet, if he desires, and operate his feeding-lever three or four times in succession to allow for the heading of a fresh sheet. By this construction I practically do away with the time required to adjust a fresh sheet, and thus produce a machine capable of much speedier work.

Another object of my invention is the production of step-by-step feeding mechanism which shall be capable of feeding a unit distance or a multiple thereof at will and which shall be so organized that the completion of a given feed (which is a multiple of said multiple) must always occur at the end of a step whether it be a unit distance or a multiple thereof and irrespective of whether the feed has been changed to or from said multiple distance.

My invention has for its object other improvements, which will appear from the following description and drawings, in which I have shown my improvements applied to a machine of the well-known Remington type, but which can be readily arranged for other machines, and in which the same reference-letters are used to designate the same parts in all the figures, of which—

Figure 1 is an elevation of a portion of the paper-carriage, showing the paper-roll mounted thereon and the cutting-knife drawn back and held out of operative position. Fig. 2 is a cross-section through the cylindrical platen on the line 2 2 of Fig. 1, showing the position of the knife just after the severing of a sheet, the line-space lever not being shown. Fig. 3 is a cross-section through the cylindrical platen near the left-hand end of Fig. 2 and in the same position. Fig. 4 is an elevation of a portion of the right-hand side of the paper-carriage seen from the left with the cylindrical platen removed and showing the relation of the feeding-lever to the right-hand slide supporting the knife. Fig. 5 is an elevation of the right-hand end of the cylindrical platen, showing the grooves for controlling the knife and the construction of the ratchet-teeth. Fig. 6 is plan view of a portion of the feeding-lever, showing the connections between the dog for controlling the length of its stroke and the pawl coöperating with the ratchet-teeth on the platen, the supporting-post for the dog not being shown. Fig. 7 is a section, on an enlarged scale, through the feeding-lever and its operating-pawl on the line 7 7 of Fig. 4. Fig. 8 is a top plan view of a portion of the platen and feed-rollers and associated mechanisms. Fig. 9 is an elevation of a portion of the right-hand end of the machine. Fig. 10 is a view similar to Fig. 5, but on a larger scale, and showing the parts in the position assumed at the end of a single rotation of the platen; and Fig. 11 is a perspective view of a small portion of the right-hand end plate of the platen, showing the construction of the broad and narrow teeth.

Broadly speaking, my invention contemplates the use of a reciprocating cutter advanced to operative position by the movement of the paper-feeding mechanism and operated at the completion of the desired feed to sever the paper automatically. For the sake of compactness I fasten the severing-knife A, which in order to get a shearing motion I

adjust by screws or otherwise at a very slight angle to its coöperating edge, as shown in Fig. 2, to a sliding frame B, consisting of the central portion, parallel to the platen D, and two side pieces B^2 and B^3, which are rectangular in cross-section and reciprocate in the ways C^2, formed upon the inner sides of the sliding carriage C at an angle, as shown in Fig. 4. This knife coöperates with the shearing edge, which consists of a thin metal strip D^2, fastened to one side of a slot D^3 in the periphery of the platen, just wide enough to accommodate the knife A during its severing stroke. These side pieces have rectangular slots embracing the trunnions F^2 and carry small spring-tongues E, fastened at the upper ends thereof in recesses B^4. These spring-tongues terminate in small lugs E′, the bodies of which are substantially at right angles to the tongue and normally project beyond the inner surface of the sliding pieces B^2 and B^3 and into the grooves F^3, formed in the surface of the end plates F of the platen. The function of these grooves, coöperating with the spring-tongues E, is to draw the knife A away from the platen D, where it rests at the completion of the severing stroke, as shown by the section of the lug E′ in Fig. 5, and in this operation they have a camming action and are virtually cams. The curve of the groove is quite abrupt at this spot, so that at the first feed after the severing stroke the knife will be forced away from the platen immediately, so as not to interfere with the feed of the paper strip advancing to form a new sheet. During the first rotation of the platen the lugs E′ remain in the outer groove, but at the end thereof are forced into the inner groove by contacting with the switch-pieces G, consisting of a main body and a spring extension G′, which is rigidly fastened in the plate F, as is clearly shown in Figs. 5 and 10, and so shaped as to contact with the lugs E′ as the platen begins its second rotation and be forced into the position shown in dotted lines in Fig. 5 and in full lines in Fig. 10, preventing the lugs E′ from continuing the outer groove and forcing them downward to be in the inner groove during the second rotation. Just at the end of the second rotation the incline F^4, with which the inner groove terminates, forces the lugs E′ outward and releases them from the grooves, and the frame B, which has been drawn downward, is returned by the resilience of the springs H, which have been put under tension by the downward movement. These springs H are stiff flat springs bent into the curve shown in Fig. 4 and placed in the rectangular slots in the sliding pieces B^2 and B^3, being fastened thereto at their upper ends and with their lower ends resting against the trunnions F^2, they at their normal positions being under little, if any, tension. When it is released, the frame B is not only returned to its normal position, but is thrown by its momentum beyond it, the knife reaching the position shown by the dotted line in Fig. 2. In order to break the force of this blow and to assist gravity in returning the frame and the knife to their normal position, I interpose cushioning-springs H^2 and the sliding pieces B^2 and B^3, fastening them to the lower ends of the rectangular slots therein. To prevent the lug E′ catching on the edges of the plates F when they pass down in the setting stroke, I bevel the edges of said plates, as shown in Fig. 2 at F^{41}. The object of placing the switch-pieces G in the grooves instead of making the grooves continuous will now be seen, as were the grooves continuous the lugs E′ during the upward stroke might spring inward and catch in the grooves in crossing them. To prevent the lugs E′ catching the switch-pieces G during the upward severing stroke and misplacing them, as they might if they were flush with the plates F, I make the switch-piece G a little thinner than the depth of the grooves, so that the lugs E′ drop onto them, and to further prevent the displacement thereof I facilitate the return of the lugs E′ by beveling off the pieces G, as is clearly shown in the section thereof in Fig. 2. It will be seen that the structure would be simpler if the grooves were made with a single spire, thus doing away with the necessity for the switch-pieces; but this would necessitate the use of an incoveniently large platen for the cutting of the ordinary square or legal-cap sheets. The slides B^2 and B^3 and their coöperating parts are the same except that the upper portion of the right-hand one B^2 is made somewhat thinner to prevent the necessity of placing the feeding-lever so far from the ratchet-teeth F^5, with which it cooperates. I take advantage of this thinness to make the spring of that side weaker than that of the other side to increase the shear of the blade, as the weaker spring will not return its end so rapidly.

In order to give an audible notice of the severing of the sheet, I mount a bell K upon a standard C^{21} of the sliding carriage and attach a hammer B^5 by a spring-tongue to the upper end of said sliding piece B^2.

The dog L, as is customary in this class of machines, is pivoted to a post C^6 on the right side of the frame C and is held in either of two positions by a leaf-spring C^7 on the post C^6 and what are substantially two notches C^8 in the post C^6, coöperating with a pin L^3 on the dog L, as clearly shown in Fig. 9. When the dog L is in the vertical position of that figure, its end intercepts a pin J^2 on the line-space lever J and prevents the lever J from rising under the impulse of the spring J^3. When the lever J is operated in this position, it has only sufficient play to advance the ratchet-plate F one tooth. When the dog L is in its horizontal position, (shown in Fig. 4,) the pin J^2 takes against the under side of the dog L near its center and at a less distance from its pivot-point, and consequently the lever J has more play, sufficient to advance the ratchet-plate F two teeth each time it is operated.

As the platen, and thereby the paper, is adapted to be fed at each operation of the feeding-lever the distance of a line or half a line, depending upon how the customary dog L is adjusted, it is necessary to provide some means to prevent, by reason of a change from the short to the long feed at any point in the sheet, the completion of a sheet during the middle of a long throw, as would occur if there had been an uneven number of short throws before changing to the long throw. This I accomplish by making connections between the adjusting-dog L and the pawl J′ on the feeding-lever J, so that if there has been an uneven number of short feeds before changing to the long feed the first feed after the change will necessarily be a short feed. To this end I make every alternate ratchet-tooth F^5 broader than the others and make the pawl J′ laterally adjustable, so that during the long stroke it will be so far to the right as to engage only the broad teeth. It will thus be seen that if the last short feed has completed an uneven number of such feeds the plates F will be in such a position that during the first half of the ensuing long stroke the pawl J′ not engaging with the narrow teeth will move idly over the interval, but during the second half of its stroke will carry forward the broad tooth that it struck at the beginning of said second half of its stroke. To make this pawl laterally adjustable, I pivot it upon a bolt M, which is held in its innermost position during the adjustment for short feeds by the helical spring N surrounding it, but which is drawn to the right against the resistance of this spring N during the shifting of this dog L by the incline O^2 on the slotted link O. This link is pivoted to the dog L at L^2, and its slotted portion, as shown in the dotted lines in Fig. 4 and in section in Fig. 7, embraces the reduced portion M^2 of the bolt M, and as the dog L is drawn down to position to permit the long feed the link O is drawn forward, and the incline O^2, passing by the bolt M, forces it to the right, so that the pawl J′ is out of engagement with the narrow teeth F^5 until the dog L is reversed. It is believed that this construction of an automatic controlling device to insure the completion of a given feed at the end of a feeding operation by a feeding mechanism having a variable feed is broadly new, and I do not desire to be limited to the precise structure shown or to the class of machines in which I have shown it.

In order to admit of a severing-knife extending the length of the platen, it is necessary to substitute for the rubber bands ordinarily employed in this type of machines to hold the paper against the platen between the rear roller P and the front roller P^2 the spring-bands Q, which are adjustably fastened at one end in blocks Q′, which are in turn fast upon the rod R, as shown in dotted lines in Fig. 3. These bands conform closely to the platen D, there being just sufficient room between the platen and bands to permit the passage of the paper and carry the scale-bar Q^2, which is adjusted close enough to the knife A to guide the severed end of the advancing sheet between the bands Q and the platen. To aid in holding the end of the new sheet close to the platen to avoid contacting with the knife just after severing, I employ the wing-pieces S, consisting of flat strips fastened at one end to the sliding frame C and having the other free ends twisted, so as to bring them close to the platen, as shown in Figs. 3 and 4.

As a convenient means of holding the paper-roll I employ a frame consisting of a base-strip having two depending lugs T^2, which fit in sockets T^3 on the main carriage-frame T. This base-plate terminates in two upwardly-extending spring-arms T^4, which have sockets T^5 for the reception of the trunnions T^6 of the ordinary paper-roll holder T^7. The paper, which is put up in rolls, is easily adjusted by springing apart the arms T^4, taking out the empty roll-holder, and inserting a full one. It will be understood that I may employ two or more strips of paper, interposing carbon-slips, as is done when more than one copy is desired.

If it is desired to employ the ordinary sheets of paper for a time, the slides B^2 and B^3 can be drawn down so as to bring the knife A out of the way, and the hooks C^3, pivoted at C^4 in the rear way C^2, can be adjusted in the depressions B^6. (Shown in Fig. 2 and in dotted lines in Figs. 1 and 4.) The spurs C^5, terminating the hooks C^3, are preferably circular in cross-section, fitting snugly in the depressions B^6, and have their ends beveled on the outside, so that when pushed into the depressions B^6 they will take over the spring-tongues E and cam them outwardly, thus withdrawing the lugs E′ from the grooves F^3 and leaving the machine capable of being operated without the cutting device. When the cutting device is in operation, the hooks C^3 are dropped back to the position shown in Fig. 4, the way C^2 being recessed to permit of their assuming the position there shown.

It will be obvious that there might be many modifications within the scope of my invention, and I do not desire to be limited to the form shown and described; but

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

1. In a type-writing machine, the combination of the frame, the carriage reciprocating thereon, the platen, the mechanism for feeding a paper strip over said platen step by step, with a cutter, and means for moving said cutter automatically at the end of a given feed to sever the paper, substantially as described.

2. In a type-writing machine, the combination of the frame, the carriage reciprocating thereon, the platen, the mechanism for feeding a paper strip over said platen step by step, with a cutter, and means for moving

said cutter automatically at the end of a determined feed, to sever the paper and sound an alarm, substantially as described.

3. In a type-writing machine, the combination of the frame, the carriage reciprocating thereon, the platen, mechanism for feeding a paper strip over said platen at intervals of a line, with a cutter, and means of actuating said cutter to sever the strip automatically at the end of a determined number of lines, substantially as described.

4. The combination of a frame, the carriage reciprocating thereon, a platen mounted thereon having a shearing edge, mechanism for feeding a paper strip over said platen step by step, with a cutter, and means for moving said cutter automatically along said shearing edge to sever the strip at the end of a determined feed.

5. In a type-writing machine, the combination of the carriage, the platen mounted thereon, means for rotating said platen step by step, with a cutter, and mechanism actuated by the rotation of said platen to operate said cutter automatically at the end of a given movement thereof, substantially as described.

6. In a type-writing machine, the combination of the carriage, the platen having a shearing edge mounted thereon, means for rotating said platen step by step, with a cutter cooperating with said edge, and a spring put under tension by the rotation of said platen and released at the end of a given movement to operate said cutter, substantially as described.

7. In a type-writing machine, the combination of the carriage, the platen mounted thereon, mechanism for feeding a paper strip over said platen step by step, with a cutter, and a spring put under tension by said mechanism, and released at the end of a determined feed to operate said cutter and sever the paper, substantially as described.

8. In a type-writing machine, the combination of the platen having a shearing edge, mechanism for feeding a paper strip over said platen step by step, with a cutter coöperating with said platen and moved away from said platen by the operation of said mechanism, a spring placed under tension by the movement of said cutter and released at the end of a determined feed to return said cutter, substantially as described.

9. In a type-writing machine, the combination of the frame, the platen therein, the mechanism for feeding a paper strip over said platen step by step, with a reciprocating cutter sliding in ways in said frame and moved in one direction by said mechanism, and means for returning said cutter automatically at the end of a given feed, substantially as described.

10. In a type-writing machine, the combination of the frame, the platen therein, mechanism for feeding a paper strip over said platen, with a reciprocating cutter sliding in ways in said frame and moved in one direction by said mechanism, means for returning said cutter automatically at the end of a given feed, and an alarm sounded by said return, substantially as described.

11. In a type-writing machine, the combination of the frame, the reciprocating cutter sliding in ways therein, with mechanism for moving said cutter in one direction, a spring put under tension by said movement, and released at the end of a definite movement, and a cushioning-spring to break the impact of said cutter on its return stroke, substantially as described.

12. In a type-writing machine, the combination of the frame, the reciprocating cutter mounted therein, the spring-pressed lug moving with said cutter, with the paper-feeding mechanism, a cam-groove on said feeding mechanism in which said lug takes, and means for returning said cutter to its normal position when the lug is released from said groove, substantially as described.

13. In a type-writing machine, the combination of the frame, the reciprocating cutter mounted therein, the spring-pressed lug moving with said cutter, with the paper-feeding mechanism, a cam-groove thereon in which said lug takes, a spring put under tension by the movement of said cutter, and serving to return it when said lug is released from said groove, substantially as described.

14. The combination of the reciprocating member, the spring-pressed lug attached to said member, a spring put under tension by the movement of said member, with a rotating member, the cam-groove on said member in which said lug takes, means for raising said lug out of said groove at a given point, and a switch-piece in said groove between said point and the beginning of said groove, substantially as described.

15. The combination of the reciprocating member, the spring-pressed lug attached to said member, a spring put under tension by the movement of said member, with a rotating member, a cam-groove in said rotating member in which said lug takes, said groove having two or more spires, and terminated by an incline, and a switch-piece in said groove on a line between the termini of said groove.

16. The combination of the member having the shearing edge, with a reciprocating cutter coöperating therewith, and springs at both ends of said cutter put under tension by the movement thereof, the spring at one end of said cutter being weaker than the other spring.

17. The combination of the member having the shearing edge, with a reciprocating cutter coöperating therewith having its edge oblique to said edge, and springs at both ends of said cutter put under tension by the movement thereof, the spring at the more distant end of said cutter having less strength than the other spring.

18. The combination of a member having a shearing edge, with a reciprocating cutter co-

operating therewith, and motors at both ends of said cutter energized by the movement thereof, the motor at one end of said cutter being weaker than the other motor.

19. The combination of a motor having a shearing edge, with a reciprocating cutter cooperating therewith having its edge oblique to said shearing edge, and motors at both ends of said cutter energized by the movement thereof, the motor at the more distant end of said cutter being weaker than the other motor.

20. In a type-writing machine, the combination of the carriage with the roller journaled therein and rotated to feed a paper strip, a reciprocating cutter having an arm at substantially right angles to its blade and moving in ways in said carriage, said arm embracing by a slot therein the trunnion of said roller, and a cam on said roller coöperating with a lug on said arm, substantially as described.

21. In a type-writing machine, the combination of the carriage with the roller journaled therein and rotated to feed a paper strip, a reciprocating cutter having an arm at substantially right angles to its blade and moving in ways in said carriage, said arm embracing by a slot therein the trunnion of said roller, a cam on said roller coöperating with a lug on said arm, and a spring in the slot of said arm and compressed by the movement of said cutter, substantially as described.

22. In a type-writing machine, the combination of the carriage, the platen, the mechanism for feeding a paper strip over said platen step by step, with a cutter, means for moving said cutter automatically at the end of a determined feed, and a catch to hold said cuttter out of operative position, substantially as described.

23. In a type-writing machine, the combination of the frame, the carriage reciprocating thereon, the platen, mechanism for feeding a paper strip over said platen, with a cutter, means for moving said cutter automatically at the end of a determined feed, and a catch to disengage said means to prevent movement of said cutter, substantially as described.

24. In a type-writing machine, the combination with the frame, the platen, means for feeding a strip over said platen, of a reciprocating cutter, means for moving said cutter automatically at the end of a determined feed, and a catch for holding said cutter out of operative position and disengaging it from said means, substantially as described.

25. The combination of the movable member with means for advancing it a unit distance or a multiple of said distance at each operation, a device for changing said means from feeding said distance to said multiple thereof, and vice versa, and connections between said device and said means controlling the operation of said means so that when feeding the multiple of said distance the total distance from the starting position of said member at the end of any operation will be a multiple of said multiple of said distance.

26. The combination of the movable member with means for advancing it a unit distance or a multiple of said distance at each operation, a device for changing said means from feeding said distance to said multiple thereof and vice versa, and connections between said device and said means, controlling the operation of said means so that the first operation after changing said means from the unit-distance feed to the multiple-distance feed will carry said member only far enough to make the total distance from its starting position a multiple of said multiple distance, substantially as described.

27. In a type-writing machine, the combination of the paper-feeding member, with means for advancing said member a unit distance or a multiple thereof at each operation, an adjusting device changing the operative stroke of said means from the greater to the lesser distance, and vice versa, and connections between said adjusting device and said means so that when feeding the multiple of said distance the total distance from the starting-point position of said member at the end of any operation will be a multiple of said multiple of said distance, substantially as described.

28. In a type-writing machine, the combination of the paper-feeding member having a ratchet thereon, with a lever engaging said ratchet, an adjusting device by which the operating stroke of said lever may be limited to a single tooth or a fixed number of the teeth of said ratchet, and connections between said lever and said adjusting devices, controlling the action of said lever so that when feeding its greater stroke, the number of teeth of said ratchet passed over from the beginning of a series of strokes at the end of any stroke of said lever will be a multiple of said fixed number, substantially as described.

29. In a type-writing machine, the combination of the platen having a shearing edge thereon, with mechanism for feeding a paper strip thereover a unit distance or some multiple thereof at each operation, a reciprocating cutter coöperating with said edge at the end of a fixed feed, a device controlling the feed of said mechanism, and connections between said mechanism and said device whereby the completion of said fixed feed always occurs at the completion of an operation of said mechanism, substantially as described.

30. In a type-writing machine, the combination of the rotary platen having a shearing edge thereon, with a lever advancing said platen a unit distance or some multiple thereof at each operation, a reciprocating cutter coöperating with said shearing edge at the completion of a fixed number of rotations of said platen, a dog controlling the throw of said lever, and connections between said dog

and said lever whereby the completion of the necessary number of rotations of said platen always occurs at the completion of an operation of said lever, substantially as described.

31. In a type-writing machine, the combination of the paper-feeding member having a ratchet thereon, with a lever for advancing said member a unit distance represented by a tooth, or some multiple of said distance, a dog for limiting the throw of said lever, and connections between said dog and lever whereby on adjusting said dog to permit the greater throw of said lever, its first throw will engage only sufficient teeth of said ratchet to make the total distance from the starting-point some multiple of the greater distance, substantially as described.

32. In a type-writing machine, the combination of the paper-feeding mechanism having a ratchet thereon, with a lever carrying a pawl engaging said ratchet, a dog controlling the throw of said lever, and connections between said dog and said pawl whereby the completion of a predetermined feed shall always be upon the completion of a stroke of said lever, substantially as described.

33. In a type-writing machine, the combination of the paper-feeding mechanism having a ratchet thereon with a certain number of teeth at equal intervals of greater width than the others thereon, with a lever carrying a pawl engaging said ratchet, a dog controlling the throw of said lever, and connections between said dog and pawl which during the greater throw of said lever permits its pawl to engage only the teeth of greater width, substantially as described.

34. In a type-writing machine, the combination of the paper-feeding roll, the ratchet thereon having teeth of different widths, and the feeding-lever, the laterally-adjustable pawl carried thereby, the dog controlling the throw of said lever, and the link connecting said dog and said pawl, and controlling its position, substantially as described.

35. In a type-writing machine, the combination of the platen, the ratchet-teeth F^5 thereon of different widths, with the feeding-lever J, the laterally-adjustable bolt M, the pawl J′ thereon, the dog L, and the slotted link O embracing said bolt M, and having the thickened portion, and the incline O^2.

36. In a type-writing machine, the combination of the carriage, the platen, and mechanism for feeding a paper strip over said platen step by step, with a cutter and an alarm mechanism, and means for moving said cutter automatically to sever the paper and for operating the alarm mechanism at the end of a given feed.

37. In a type-writing machine, the combination of the platen D, with the rollers P and P^2, the wings S, and the guides Q, substantially as described.

38. In a type-writing machine, the combination of the carriage, the sliding piece B^2 thereon, the spring-pressed lug E′ within said sliding piece, and a hook C^5 for repressing said lug and holding said sliding piece, substantially as described.

39. In a type-writing machine, the combination of a carriage, the platen, and mechanism for feeding a paper strip over said platen step by step, with a cutter, and means for moving said cutter automatically at the end of a given feed to sever the paper, substantially as described.

40. In a type-writing machine, the combination of the carriage, the platen, and mechanism for feeding a paper strip over said platen at intervals of a line, with a cutter, and means for moving said cutter automatically at the end of a given number of lines to sever the paper, substantially as described.

In witness whereof I have set my hand this 2d day of July, 1894.

JOHN HOWARD McELROY.

Witnesses:
CHAS. F. CONSARD,
GEO. E. TERRY.