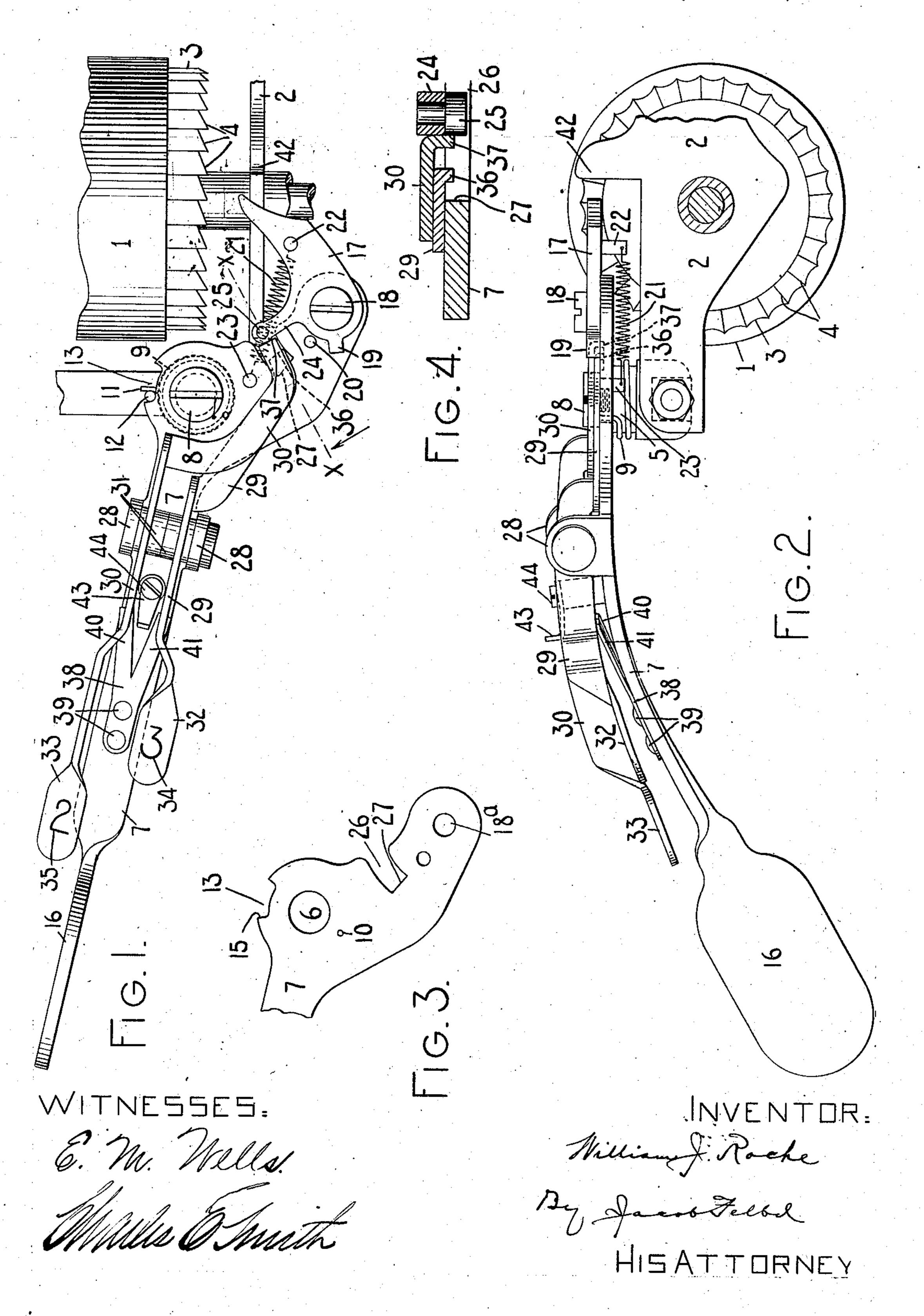
W. J. ROCHE. TYPE WRITING MACHINE. APPLICATION FILED SEPT. 15, 1908.

923,893.

Patented June 8, 1909.



UNITED STATES PATENT OFFICE.

WILLIAM JANSON ROCHE, OF NEW BETHLEHEM, PENNSYLVANIA, ASSIGNOR TO REMINGTON TYPEWRITER COMPANY, OF ILION, NEW YORK, A CORPORATION OF NEW YORK.

TYPE-WRITING MACHINE.

No. 923,893.

Specification of Letters Patent.

Patented June 8, 1909.

Application filed September 15, 1908. Serial No. 453,081.

To all whom it may concern:

ments in Type-Writing Machines, of which with the end wall 15 of said cut-out to limit the following is a specification.

My invention relates to typewriting ma-

mechanisms therefor.

One of the objects of my invention is to 15 degree or extent of line spacing.

A further object of my invention is to automatically effect a change in the char-

acter of line spacing.

To the above and other ends which will 20 hereinafter appear, my invention consists in of parts and combinations of devices to be rear end of a line spacing lever. hereinafter described and particularly point-

ed out in the appended claims.

25 In the accompanying drawings wherein like reference characters indicate corresponding parts in the various views, Figure 1 is an enlarged detail fragmentary plan view showing a portion of a typewriting machine 30 equipped with line spacing devices embodying my invention. Fig. 2 is a fragmentary end view of the same. Fig. 3 is an enlarged detail fragmentary plan view showing a portion of the line spacing lever. Fig. 4 is an 35 enlarged fragmentary detail sectional view taken on a line x—x of Fig. 1 and looking in the direction of the arrow at said line.

A cylindrical platen 1 is mounted in a platen frame or carriage 2 which is mounted in any suitable manner to travel from side to side of the machine. The platen is provided at the right-hand end with a line spacing wheel 3 having teeth 4 on the outer edge or end thereof. A supporting member 5 is se-45 cured to the front rail of the carriage or platen frame and extends upwardly therefrom. This supporting member has a con-the pawl relatively to the line spacing lever. tracted portion which enters an opening 6 in | From an inspection of Figs. 1 and 3 it will a line spacing lever 7 and constitutes a pivot | be seen that the cut-out or opening 26 is arctherefor. The pivotal portion of the sup- shaped, of which the pivot 18 for the pawl is 105 porting member 5 is internally threaded for the center. The line spacing lever is procooperation with a headed screw 8 by which vided with upwardly projecting ears 28 the line spacing lever is retained in place on which support a pivot for a plurality of levers its pivot. A coiled spring 9 surrounds the 29 and 30. Each of these levers (two being

seated in an opening 10 in the line spacing Be it known that I, William Janson lever and at its other end 11 bears against a ROCHE, citizen of the United States, and pin 12 which projects upwardly from the resident of New Bethlehem, in the county of front rail of the carriage or platen frame. Clarion and State of Pennsylvania, have in- This pin is arranged in a cut-out or opening 60 vented certain new and useful Improve- 13 in the line spacing lever and cooperates the movement of the line spacing lever in one direction under the tension of spring 9. The chines and more particularly to line spacing forward end of the line spacing lever is pro- 65 vided with a finger piece or handle 16, by which the line spacing lever may be given a provide simple and efficient mechanism horizontal swinging motion around its vertiwhich may readily be adjusted to vary the cal pivot. A swinging movement of the finger piece 16 toward the right is effective to 79 produce a line spacing movement of the platen and at the same time to effect a movement of the carriage from left to right as will hereinafter more clearly appear. A line spacing pawl 17 is pivoted on a shouldered 75 the features of construction, arrangements | screw 18 entered in a tapped hole 18a in the

A forwardly extending projection or stop 19 is formed on the line spacing pawl for cooperation with a stop pin 20, carried by the 80 line spacing lever, in order to limit the movement of the line spacing pawl relatively to the lever in one direction. A contractile spring 21 is connected at one end to a depending pin 22 on the line spacing pawl and 85 at its other end to a depending pin 23 on the line spacing lever so as to normally maintain the line spacing pawl in a fixed position relatively to the line spacing lever. This normal position of the pawl relatively to the line 90 spacing lever determines the extent of movement which is transmitted to the line spacing wheel and platen. The means for determining this extent of line spacing movement comprises an arm 24 projecting from the 95 pawl and having a depending pin 25 riveted thereto. This pin is adapted to play or work in a cut-out or opening 26 in the line spacing lever and to contact with the end wall 27 thereof, which wall constitutes one of the 100 stops that determines the normal position of

55 supporting member 5 and at one end is shown in the present instance) has a hub 31-110

which maintains the levers spaced apart on their pivot and properly spaced between the supporting ears 28. Each of the levers is bent or twisted at right angles to the plane 5 of the body portion so as to provide a finger piece 32 or 33 which preferably bears an indicating numeral. These numerals are marked 34 and 35. The rear ends of these levers are likewise bent at right angles to the body por-10 tions thereof and extend so that the rear portion of the lever 30 overlaps and normally rests upon the rear portion of the lever 29, and so that the rear portion of the lever 29 normally rests upon the lever 7. The extreme 15 rear ends of these levers 29 and 30 are bent down to form stops 36 and 37 respectively which lie one in front of the other. These stops are adapted to move at substantially right angles to the plane of movement of the 20 pawl and to project into the path of the arm 24 of the pawl and into the opening 26 in the line spacing lever. A leaf spring 38 is riveted at 39 to the line spacing lever and is bifurcated to form two spring terminal arms 40 25 and 41 respectively which bear against the undersides of the levers 30 and 29 respectively forward of the pivot thereof so as to normally maintain the levers in the position shown in the drawings where the stops there-30 on are interposed in the path of the line spacing pawl.

In the use of the device, if the operator should desire to effect a single line spacing movement of the platen, that is to say, a line 35 spacing movement of the platen at each actuation which corresponds to the distance between two adjacent teeth of the line spac-: ing wheel, then the operator will simply grasp the finger piece 16 and move it to the 40 right which will cause the point of the pawl to engage the ratchet wheel and turn the

platen one tooth space.

If the operator should desire to effect a double line spacing movement, then the fin-45 ger piece of the lever 30 carrying the index "2" should first be depressed to remove the stop 37 out of the path of the line spacing pawl (or the arm 24 carried thereby) so that the pawl will normally assume a different re-50 lation to the line spacing lever; that is to say, the pawl will be moved forwardly around its pivot 18 until the arm 24 contacts with the stops 36. As soon as the finger piece 33 of the lever 30 is depressed and its associated 55 stop 37 removed from the path of the arm 24 on the pawl, said arm will pass beneath the stop 37 and prevent its return to normal position; so that a mere depression of the finger piece 33 is sufficient to move the stop 37 to 60 inoperative position and to maintain it in such position. The operator may then grasp the finger piece 16 of the line spacing lever and move it to the right, which will effect the requisite double line spacing of the platen. The act of moving the lever 7 is effective first I path of the arm 24. The line spacing pawl

to turn the pawl and lever together as one part until the nose of the pawl engages one of the teeth of the line spacing ratchet wheel. A further movement of the lever effects an independent movement between the line 70 spacing pawl and lever and causes the line spacing wheel to be rotated. This movement continues until the pawl engages a fixed stop 42 on the carriage. The line spacing pawl always arrives at the same point at 75 the termination of the line spacing movement whether the parts be set for single, double or triple spacing, and the throw of the line spacing lever is always the same whether the parts be set for single, double 80 or triple spacing. The first portion of the independent movement between the line spacing pawl and lever is effective to remove the arm 24 from beneath the stop 37 and the spring 40 is then effective to turn the lever 85 30 on its pivot, thereby again interposing the stop 37 in the path of the arm 24 on the line spacing pawl. The act therefore of line spacing is effective to automatically restore the stop 37 to normal position, thus again 90 automatically setting the parts for single spacing. Should the operator desire to use double spacing continuously, this may be done by turning a pivoted catch or locking device 43 on its pivot 44 so that the catch 95 will overlie the forward end of the depressed stop lever 30, thus locking the forward end of it down against the tension of its spring 40, thereby permanently locking the stop 37 in the inoperative position.

Should the operator desire to provide triple spacing it is merely necessary to depress the finger piece of the stop lever 29 carrying the index mark "3." This movement of the stop lever 29 is effective to elevate the 105 stop 36 in order to carry it out of the path of the arm 24 on the line spacing pawl and also to carry the stop 37 with it to the inoperative position. The spring 37 immediately turns the pawl on its pivot 18 until it is ar- 110 rested by the contact of the pin 25 with the stop 27 formed by the end wall of the cutout 26 in the line spacing lever. The arrest of the pawl in this position brings the arm 24 beneath the stop 36 and temporarily pre-115 vents the stops 36 and 37 from resuming their normal positions. The first actuation of the line space lever 7 is effective to withdraw the arm 24 from beneath the stops 36 and 37 and they will be forced back to nor- 120 mal position by their springs 41 and 40 respectively. Should the operator desire to set the parts so as to continuously use triple spacing it is merely necessary to depress the finger piece 32 and turn the locking device 125 43 around its pivot so as to overlie the forward end of the lever 29, thereby locking the forward end depressed and permanently maintaining the stops 36 and 37 out of the

will, in this event, move after each line spacing operation to a position where the pin 25

will contact with the wall 27.

From the foregoing description it will be understood that the extent of independent movement between the line spacing pawl and its actuator or line spacing lever determines the extent of line spacing movement transmitted to the platen; and that this may be readily changed by an actuation of the stop levers or regulators whose finger pieces are associated with the finger piece 16 of the line spacing lever in such a manner that the hand of the operator applied to the finger piece 16 may also be used to actuate either of the stop levers.

It will be seen that by my invention I am enabled to readily change from one character of line spacing to another and to automatically restore the devices so as to change back to the original line spacing if desired or to effect any given character of line spacing.

The devices of my invention may be found to be particularly efficient where the work is of such a character that it is necessary to rapidly change from one character of line spacing to another.

Various changes may be made without departing from the spirit and scope of my in-

30 vention.

What I claim as new and desire to secure

by Letters Patent, is:--

1. In a typewriting machine, the combination of line spacing mechanism, of hand actuated means operable at will for changing from one extent of line spacing to another, and means for automatically resetting the parts for the original character of line spacing during a line spacing movement.

2. In a typewriting machine, the combination of line spacing mechanism, and means for varying the extent of line spacing movement, said varying means including a stop, and means by which said stop is automatically moved during a line spacing movement to determine the extent of the next line spac-

ing movement.

3. In a typewriting machine, the combination of line spacing mechanism, means for varying the extent of line spacing movement, said varying means including a plurality of stops each of which provides for a different extent of line spacing movement, and means by which said stops are automatically moved to determine the extent of the next line spacing movement.

4. In a typewriting machine, the combination of line spacing mechanism, means for varying the extent of line spacing movement, said varying means including a stop, means by which said stop is automatically moved to determine the extent of the next line spacing movement, and means for rendering said automatic means inoperative.

5. In a typewriting machine, the combina-

tion of line spacing mechanism, means for varying the extent of line spacing movement, said varying means including a plurality of stops each of which provides for a different extent of line spacing movement, means by 70 which said stops are automatically moved to determine the extent of the next line spacing movement, and means for rendering said automatic means inoperative.

6. In a typewriting machine, the combina- 75 tion of line spacing mechanism, and means for temporarily changing at will for single, double or triple line spacing and for automatically changing back to the previous line spacing after a variation in the line spacing 80

has been effected.

7. In a typewriting machine, the combination of line spacing mechanism, means for temporarily changing at will for single, double or triple line spacing and for auto-85 matically changing back to the previous line spacing after a variation in the line spacing has been effected, and means whereby anyone of said characters or extents of line spacing may be constantly effected as long as de-90 sired.

8. In a typewriting machine, the combination of line spacing mechanism including a line spacing pawl, means for determining the normal position of said pawl in order to destermine the extent of line spacing, said means including a stop, and means for temporarily varying the position of said stop and for automatically restoring it to normal position when the line spacing pawl is actuated.

9. In a typewriting machine, the combination of line spacing mechanism including a line spacing pawl, means for determining the normal position of said pawl in order to determine the extent of line spacing, said means including a plurality of stops, means for temporarily varying the positions of said stops and for automatically restoring any of them to normal position when the line spacing pawl is actuated.

10. In a typewriting machine, the combination of line spacing mechanism including a line spacing pawl, means for determining the normal position of said pawl in order to determine the extent of line spacing, said means 115 including a stop, means for varying the position of said stop and for automatically restoring it to normal position, and means for locking said stop against automatic return movement.

11. In a typewriting machine, the combination of line spacing mechanism including a line spacing pawl, means for determining the normal position of said pawl in order to determine the extent of line spacing, said means 125 including a plurality of stops, means for varying the positions of said stops and for automatically restoring any of them to normal position, and means for locking any of said stops against automatic return movement.

12. In a typewriting machine, the combination of a line spacing wheel, a line spacing lever, a line spacing pawl carried by said line spacing lever and movable relatively thereto, 5 the relative movement between said pawl and lever determining the extent of line spacing movement transmitted to the line spacing wheel by said pawl, a stop normally in the path of said pawl and determining the 10 extent of independent movement of the pawl, and means operative at will for moving said stop out of the path of the pawl and operative to automatically move said stop back into the path of said pawl after a line spacing 15 movement of the pawl has taken place.

13. In a typewriting machine, the combination of a line spacing wheel, a line spacing lever, a line spacing pawl carried by said line spacing lever and movable relatively thereto, 20 the relative movement between said pawl and lever determining the extent of line spacing movement transmitted to the line spacing wheel by said pawl, a stop normally in the path of said pawl and determining the 25 extent of independent movement of the pawl, means operative at will for moving said stop out of the path of the pawl and operative to automatically move said stop back into the path of said pawl after a line spacing 30 movement of the pawl has taken place, and means operable at will for locking said stop indefinitely out of the path of the pawl.

14. In a typewriting machine, the combination of a line spacing wheel, a line spacing 35 lever, a line spacing pawl carried by said line spacing lever and movable relatively thereto, the relative movement between said pawl and lever determining the extent of line spacing movement transmitted to the line spac-40 ing wheel by said pawl, a plurality of stops normally in the path of said pawl and determining the extent of independent movement of the pawl, and means operative at will for moving any of said stops out of the path of 45 the pawl and operative to automatically move said stops back into the path of said pawl after a line spacing movement of the pawl has taken place.

15. In a typewriting machine, the combi-50 nation of line spacing mechanism comprising a hand actuated line spacing lever and a line spacing pawl carried by and movable independently of said lever, the extent of inde-55 the extent of line spacing movement, a stop coöperating with said pawl, a hand lever for actuating said stop, said hand lever being carried by and movable on said line spacing lever, and means whereby said stop is auto-66 matically moved back to normal position after a line spacing movement of the pawl.

16. In a typewriting machine, the combination of line spacing mechanism including a line spacing pawl, and means operating au-

tomatically to change the extent of throw of 65 the line spacing pawl.

17. In a typewriting machine, the combination of line spacing mechanism including a line spacing pawl, means operating automatically to change the extent of throw of 75 the line spacing pawl, and means for rendering the automatic means inoperable.

18. In a typewriting machine, the combination of a line spacing lever, a line spacing pawl pivoted thereto, a stop carried by said 75 lever and normally in the path of said pawl, means for moving the stop out of the path of said pawl, the stop when moved out of the path of the pawl resting on top thereof, and a spring for moving the stop back into the 80 path of the pawl at the first line spacing operation.

19. In a typewriting machine, the combination of a line spacing lever, a line spacing pawl pivoted thereto, a stop carried by said 85 lever and normally in the path of said pawl, means for moving the stop out of the path of said pawl, the stop when moved out of the path of the pawl resting on top thereof, a spring for moving the stop back into the 90 path of the pawl at the first line spacing operation, and means operable at will for locking said stop indefinitely out of the path of said pawl.

20. In a typewriting machine, the combi- 95 nation of a line spacing wheel, a line spacing pawl, a hand actuated device for moving said pawl, and hand controlled automatically restored means for determining the extent of movement that may be transmitted 100 to the line spacing wheel by said pawl, said determining means being associated with said hand actuated device and operable by the hand of the operator which grasps and while grasping said hand actuated device 105 for moving the pawl.

21. In a typewriting machine, the combination of a line spacing wheel, a line spacing pawl, a hand actuated device for moving said pawl, hand controlled automatically re- 110 stored means for determining the extent of movement that may be transmitted to the line spacing wheel by said pawl, said determining means being associated with said hand actuated device and operable by the 115 hand of the operator which grasps and while grasping said hand actuated device for movpendent movement of said pawl determining ling the pawl, and hand actuated means for at will maintaining the determining means in set position.

22. In a typewriting machine, the combination of a line spacing wheel, a line spacing pawl, a hand actuated device for moving said pawl, and normally operative hand controlled spring restored means for determining 125 the extent of movement that may be transmitted to the line spacing wheel by said pawl, said determining means being operable by

the hand of the operator which grasps and while grasping said hand actuated device for

moving the pawl.

23. In a typewriting machine, the combi-5 nation of a line spacing wheel, a line spacing pawl, an actuator carrying said pawl, the pawl moving with and relatively to said actuator, means carried by said actuator for determining the extent of relative movement 10 of the pawl, said determining means including a stop movable into and out of coöperative relation with said pawl and under control of the operator while actuating said actuator and by the same hand which controls 15 the actuator.

24. In a typewriting machine, the combination of a line spacing wheel, a line spacing pawl, an actuator carrying said pawl, the pawl moving with and relatively to said actuator, and a normally operative stop carried by said actuator and with which said pawl is adapted to contact to determine the extent of relative movement between the pawl and actuator, and hand actuated ²⁵ means for throwing said stop out-of coöpera-

tion with said pawl.

25. In a typewriting machine, the combination of a line spacing wheel, a line spacing pawl, a line spacing lever, the pawl being 30 movable with and independently of said lever, a stop lever movable with and independently of said line spacing lever and normally cooperative with said pawl to determine the extent of independent movement 35 between the pawl and line spacing lever and movable out of cooperation with said pawl to afford a greater extent of independent movement between the pawl and line spacmg lever.

26. In a typewriting machine, the combination of a line spacing wheel, a line spacing pawl, an actuator therefor, said pawl being movable with and independently of said actuator, and a plurality of stops cooperative 45 with said pawl to determine the extent of independent movement of said pawl, and means for moving one of said stops to an inoperative position independently of another

stop and thereby render the other stop op-50 erative.

27. In a typewriting machine, the combination of a line spacing wheel, a line spacing pawl, a line spacing lever having a finger piece, said pawl being movable with and in-55 dependently of said line spacing lever, a plurality of stop levers movable with and independently of the line spacing lever and cooperative with said pawl to determine the extent of independent movement thereof, said stop levers having finger pieces associated with the finger piece of the line spacing lever in such a manner that the hand of the operator in controlling the line spacing lever also has control of the stop levers.

28. In a typewriting machine, the combi- 65 nation of a line spacing wheel, a line spacing pawl, an actuator therefor, said pawl being movable with and independently of said actuator, a plurality of stops movable into and out of operative position at substantially 70 right angles to the plane of movement of the line spacing pawl and coöperative with said pawl to determine the extent of independent movement thereof, one of said stops being movable independently of another, spring 75 pressed means for moving said stops to operative position, and finger pieces for moving the stops out of operative position.

29. În a typewriting machine, the combination of a line spacing wheel, a line spacing 80 pawl, a hand lever, said pawl having a movement with and independently of said hand lever, a plurality of stops arranged normally one in front of another and in the path of the pawl to determine the extent of independent 85 movement thereof, and independent hand actuated keys for moving said stops out of

the path of the pawl to vary the extent of independent movement that said pawl may

receive. 30. In a typewriting machine, the combination of a line spacing wheel, a line spacing pawl, a hand lever that has a limited extent of movement in both directions, said pawl having a movement with and independently 95 of said hand lever, a plurality of stops springpressed to normal position and one normally in front of the other and in the path of said pawl to determine the normal position of the pawl and thus determine the extent of line 100 spacing movement to be transmitted to the line spacing wheel, and keys connected with said stops for actuating one of them independently of another or for actuating them in unison against the pressure of their springs. 105

31. In a typewriting machine, the combination of a line spacing wheel, a line spacing pawl, a hand lever that has a limited extent of movement in both directions, said pawl having a movement with and independently 110 of said hand lever, a plurality of stops springpressed to normal position and one normally in front of the other and in the path of said pawl to determine the normal position of the pawl and thus determine the extent of line 115 spacing movement to be transmitted to the line spacing wheel, keys connected with said stops for actuating one of them independently of another or for actuating them in unison against the pressure of their springs, and 120 means operable at will for locking one or all of said stops in inoperative position.

32. In a typewriting machine, the combination of a line spacing wheel, a line spacing pawl, a hand lever, said pawl having a move- 125 ment with and independently of said hand lever, cooperative means carried by said pawl and lever for limiting the movement of the

pawl independently of the lever, a plurality of stops carried by said hand lever and springpressed into the path of said pawl to determine the normal position thereof with refer-5 ence to the hand lever, and keys whereby said stops may be moved to inoperative positions.

33. In a typewriting machine, the combination of a line spacing wheel, a line spacing 10 pawl, a hand lever, said pawl having a movement with and independently of said hand lever, coöperative means carried by said pawl and lever for limiting the movement of the pawl independently of the lever, a plurality 15 of stops carried by said hand lever and spring-pressed into the path of said pawl to determine the normal position thereof with reference to the hand lever, one of said stops being movable independently of another or 20 the stops being movable in unison to inoperative positions, and separate keys whereby said stops may be moved to inoperative positions.

34. In a typewriting machine, the combi-25 nation of a line spacing wheel, a line spacing pawl, a hand lever, said pawl-having a movement with and independently of said hand lever, a plurality of stops arranged normally path of the pawl to vary the extent of independent movement that said pawl may resaid keys is operative to move its individual stop out of the path of said pawl and whereby certain other of said keys is operative to move a plurality of said stops out of the path 40 of said pawl.

35. In a typewriting machine, the combination of a line spacing wheel, a line spacing pawl, a hand lever, said pawl having a movement with and independently of said hand 45 lever, a plurality of stops arranged normally one in front of another and in the path of the pawl to determine the extent of independent movement thereof, and hand levers for controlling said stops, portions of said stop le-50 vers overlapping so that the movement of one stop lever will effect a movement of another stop lever.

36. In a typewriting machine, the combination of a line spacing wheel, a line spacing 55 pawl, a hand lever, said pawl having a movement with and independently of said hand lever, a plurality of stops carried by said hand lever and movable with and independently thereof, said stops being arranged so normally one in front of another and spring pressed into the path of the pawl to determine the extent of independent movement thereof, and hand levers for controlling said stops, portions of said stop levers overlap-

ping so that the movement of one stop lever 65. will effect a movement of another stop lever.

37. In a typewriting machine, the combination of a line spacing wheel, a line spacing pawl, a line spacing lever, said pawl being pivoted to said lever and having a limited 70 movement relatively thereto in both directions, spring pressed individual stops normally in the path of said pawl for determining the normal position of the pawl relatively to said line spacing lever and for deter- 75 mining the extent of line spacing movement transmitted by the pawl to said line spacing wheel, and separate hand levers pivoted to said line spacing lever for moving said stops out of the path of said pawl.

38. In a typewriting machine, the combination of a line spacing wheel, a line spacing pawl, a line spacing lever, said pawl being pivoted to said lever and having a limited movement relatively thereto in both direc- 85 tions, individual stops normally in the pathof said pawl for determining the normal position of the pawl relatively to said line spacing lever and for determining the extent of line spacing movement transmitted by the 96 pawl to said line spacing wheel, separate spring restored hand levers pivoted to said one in front of another and in the path of the line spacing lever for moving said stops out 30 pawl to determine the extent of independent; of the path of said pawl, and means for lockmovement thereof, independent hand actu- ing one or both of said hand levers against 95 ated keys for moving said stops out of the their spring pressure to lock one or both of said stops out of the path of said pawl.

39. In a typewriting machine, the combi-35 ceive, and means whereby a certain one of nation of a line spacing wheel, a line spacing pawl, a line spacing lever, said pawl being 100 pivoted to said lever and having a limited movement relatively thereto in both directions, spring pressed individual stops normally in the path of said pawl for determining the normal position of the pawl relatively 105 to said line spacing lever and for determining the extent of line spacing movement transmitted by the pawl to said line spacing wheel, separate hand levers pivoted to said line spacing lever for moving said stops out 110 of the path of said pawl, and means whereby one hand lever may be moved individually and whereby the movement of another hand lever is operative to move both of said stops out of the path of said pawl.

40. In a typewriting machine, the combination of a line spacing wheel, a line spacing pawl, a line spacing lever, said pawl being pivoted to said lever and having a limited movement relatively thereto in both direc- 120 tions, individual stops normally in the path of said pawl for determining the normal position of the pawl relatively to said line spacing lever and for determining the extent of line spacing movement transmitted by the pawl to said 125 line spacing wheel, separate spring restored hand levers pivoted to said line spacing lever for moving said stops out of the path of said.

pawl, means for locking one of both of said hand levers against their spring pressure to lock one or both of said stops out of the path of said pawl, and means whereby one hand lever may be moved individually and whereby the movement of another hand lever is operative to move both of said stops out of the path of said pawl.

Signed at New Bethlehem in the county of Clarion and State of Pennsylvania, this 11th 10 day of September, A. D. 1908.

WILLIAM JANSON ROCHE.

Witnesses:

Mrs. A. Leach, Andrew Leach.