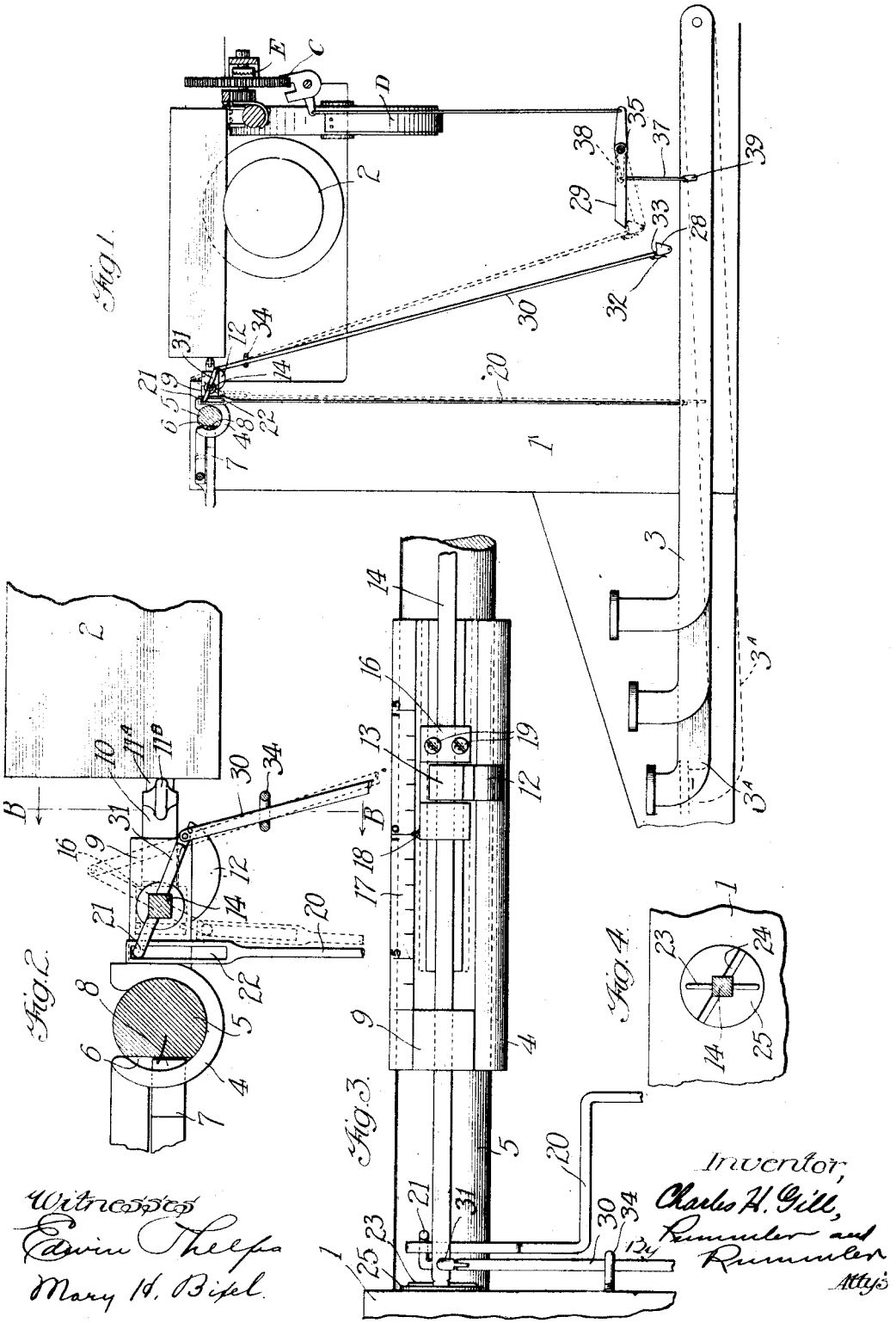
C. H. GILL.

STOP MECHANISM FOR TYPE WRITING MACHINES.

APPLICATION FILED APR. 8, 1910. RENEWED FEB. 3, 1911.

1,066,099. **Patented July 1, 1913.**

2 SHEETS—SHEET 1.



Witnesses
Edwin Thelps
Mary H. Bisel.

Inventor,
Charles H. Gill,
By Rummler and Rummler
Atty's

C. H. GILL.

STOP MECHANISM FOR TYPE WRITING MACHINES.

APPLICATION FILED APR. 8, 1910. RENEWED FEB. 3, 1911.

1,066,099. **Patented July 1, 1913.**

2 SHEETS—SHEET 2.

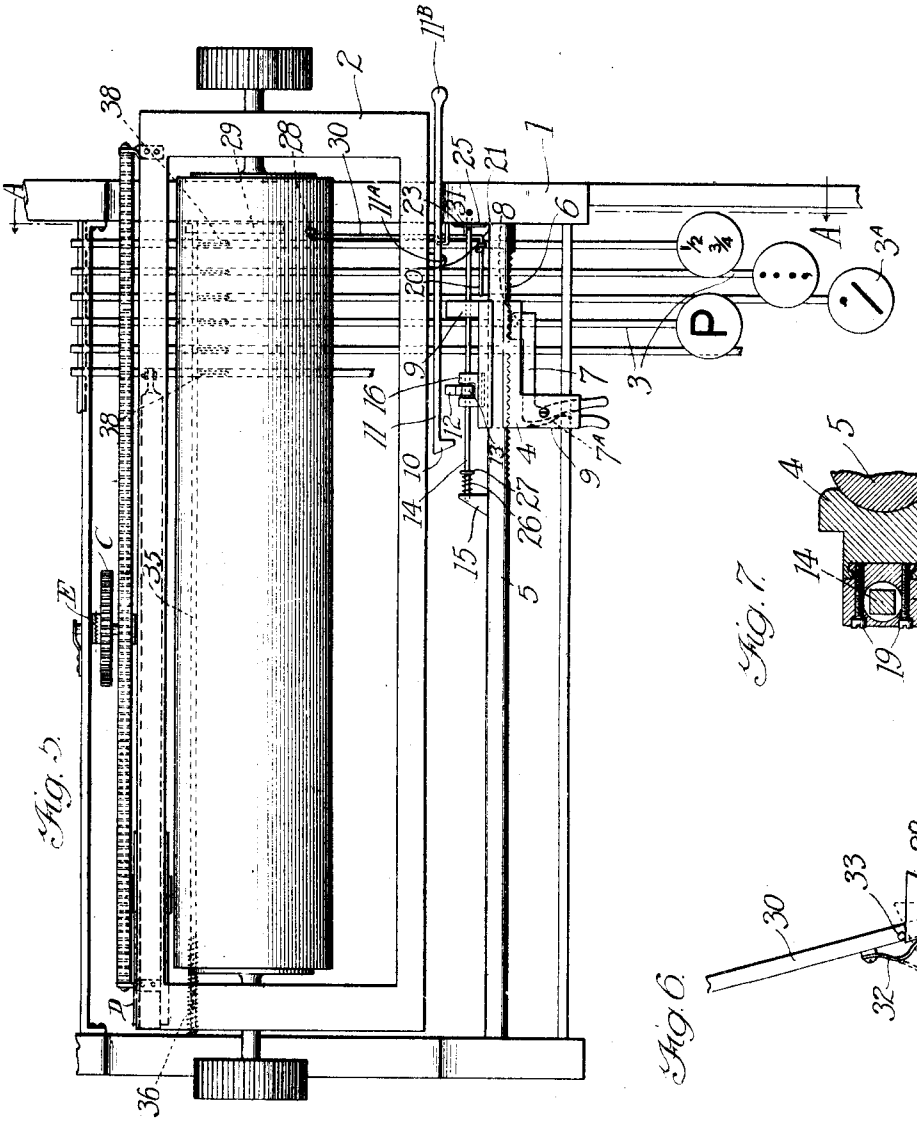


Fig. 2.

Fig. 7.

Fig. 6.

Witnesses:
Edwin Phelps
Mary H. Bisel.

Inventor;
Charles H. Gill
By Rummler & Rummler,
Attys

UNITED STATES PATENT OFFICE.

CHARLES H. GILL, OF CHICAGO, ILLINOIS, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO UNDERWOOD TYPEWRITER COMPANY, OF NEW YORK, N. Y., A CORPORATION OF DELAWARE.

STOP MECHANISM FOR TYPE-WRITING MACHINES.

1,066,099. Specification of Letters Patent. Patented July 1, 1913.

Application filed April 8, 1910, Serial No. 554,253. Renewed February 3, 1911. Serial No. 606,344.

To all whom it may concern:

Be it known that I, CHARLES H. GILL, a citizen of the United States of America, and a resident of Chicago, county of Cook, State of Illinois, have invented certain new and useful Improvements in Stop Mechanisms for Type-Writing Machines, of which the following is a specification.

The main objects of this invention are to provide certain improvements in typewriting machines whereby the indentation of the first line of a paragraph may be accomplished automatically; to provide an attachment of this kind adapted to be controlled through the usual operation of the type keys and without requiring special attention by the operator; to provide improved means adapted to arrest the return movement of the carriage at a point other than the usual marginal stopping point; to provide improved mechanism controlled by the operation of the "period" type key for actuating said means for arresting the carriage; and to provide improved mechanism adapted to be controlled by the operation of any other type key for retracting said arresting means. An illustrative embodiment of this invention is shown in the accompanying drawings, in which:—

Figure 1 is a sectional side elevation of a part of a typewriting machine equipped with a specific form of paragraph indenting attachment constructed according to this invention, the section being taken on the line *a*—*a* of Fig. 5. Fig. 2 is an enlarged detail of the carriage arresting means. Fig. 3 is a rear elevation of the same, the parts behind the line B—B of Fig. 2 being omitted. Fig. 4 is an enlarged detail of the holding mechanism for retaining the arresting means in its elevated position. Fig. 5 is a fragmentary plan view of the typewriting machine, showing the relative position of the paragraph indenting attachment. Fig. 6 is a detail of a part of the retracting mechanism. Fig. 7 is a sectional detail showing the method of adjusting the paragraph stop.

In the construction shown in the drawings, the typewriting machine comprises the usual frame 1 with the carriage 2 mounted to travel back and forth thereon, and a plurality of type keys 3 arranged to operate the usual escapement mechanism C for causing a step by step advancement of the carriage. These parts of the machine are shown in the drawings somewhat diagrammatically, as the construction of the machine itself forms no part of the present invention. The usual spring drum D and escapement wheel clutch E are also indicated diagrammatically.

The regular marginal stopping means for limiting the return movement of the carriage 2 to the right to determine the width of the left-hand margin on the paper, comprises the member 4 slidably mounted on a rod 5 supported in the frame 1 in parallel relation to the travel of the carriage 2. The rod 5 is shown in the drawings in front of the carriage and has a row of notches 6 extending throughout the range of movement of the member 4. A small bell crank lever 7 is pivotally carried by the member 4 and has a notched end 8 which the spring 7^A, shown by dotted lines in Fig. 5, forces into engagement with the notches 6 on the shaft 5 for locking said member in any desired position on the rod 5. A shoulder 9 carried by the member 4 protrudes into the path of the shoulder or stop 10 carried by the lever arm 11 pivotally supported at 11^A on the carriage 2. The shoulders 9 and 10 coact to limit the movement of the carriage 2 to the right for the purpose of locating a margin on the paper which is being written upon. By depressing the outer end 11^B of the lever arm 11, the carriage may be urged beyond its normal limiting position as determined by the engagement of the shoulders 9 and 10.

In the specific construction shown, the indentation of the first line of the paragraph is accomplished by the movement of a stop 12 into the path of the shoulder 10 by the depression of the period type key 3^A. The stop 12 is integral on a sleeve 13 slidably mounted on a square shaft 14, journaled between a lug 15 on the rod 5 and the frame 1. The sleeve 13 is guided along the shaft 14 and held in position thereon by a block 16 adjustably carried on the member 4 by a

headed tongue and T slot arrangement shown in detail in Fig. 7. A scale 17 on the member 4 and the pointer 18 on the block 16 (Fig. 3) serve to indicate the location of the stop 12 for obtaining the desired amount of indentation of the first line of the paragraph. The screws 19 bear against the member 4 and lock the block 16 in position.

The movement of the stop 12 into position for engaging the shoulder 10 is effected through the medium of the link 20 connected to the period type key 3^A and to the arm 21 rigid on the shaft 14. The slot 22 in the upper end of the link 20, in which the arm 21 travels, allows the type key 3^A to return to its normal position without necessarily causing the return of the arm 21.

The stop 12 is held in its elevated position for engagement with the shoulder 10 by means of a detent or pin 23 (Fig. 4) becoming seated in a slot 24 in a disk 25 secured to the frame 1 concentric with the axis of the shaft 14. The pin 23 is forced to bear against the disk 25 and retained in the slot 24 by a spring 26 located at the opposite end of the shaft 14 and arranged to bear between the shoulder 27 and the lug 15. The spring 26 is fastened to the shoulder 27 and lug 15 so as to normally urge the shaft 14 to rotate so as to retract the stop 12.

The release of the holding means, and consequent retraction of the stop 12, is accomplished by the depression of any type key, following the engagement of a dog 28 with a pawl 29. The dog 28 is pivotally mounted at the end of a rod 30 pivotally carried by an arm 31 rigid on the shaft 14, and oppositely disposed relatively of the arm 21. A spring 32 fixed on the rod 30 bears against the dog 28 and urges it rearwardly against a pin 33. An eye 34 fixed on the frame 1 engages the rod 30 adjacent to its upper end and serves as a fulcrum for the rod. This eye is so located that as the arm 31 swings upward the upper end of the rod 30 moves upward and forward and thus causes the lower end of the rod to be moved rearwardly. This brings the dog 28 into position to coact with the pawl 29.

The pawl 29 is shown in the drawings connected to a shaft 35 which is rocked by the movement of each type key. This, as shown, may be the same rock shaft which in many of the usual typewriters operates the carriage escapement indicated diagrammatically at C. A torsion spring 36 envelops the shaft 35 at one end and normally urges the pawl to the position shown in full lines in Fig. 1. Each type key lever 3 is connected to the shaft 35 by means of a link 37, which has one end connected to an inwardly disposed arm 38, rigid on the shaft 35, and the other end operating in a slot 39 in the lever 3. The slot 39 is provided so that depression of one type key will not affect the other type keys.

The operation of the attachment is as follows:—The block 16 is locked on the member 4 at a point which will give the desired indentation of the first line of the paragraph when the stop 12 is brought into position to coact with the shoulder 10. Upon the completion of each sentence a period is, of course, always placed after the last word. The depression of the period type key 3^A causes the link 20 to draw the arm 21 downwardly, thereby turning shaft 14 and elevating the stop 12 into the path of the shoulder 10. The pin 23 enters the slot 24 in the disk 25 and is held there by the spring 26. Simultaneously with this movement, the arm 31 travels upwardly, and the upper end of the rod 30 moves upward and forwardly relatively of the machine, causing the rod 30 to swing on its fulcrum 34 and to move the lower end rearwardly to the position indicated in dotted outline in Fig. 1. The shaft 35, through its connection with the period type key 3^A, is rocked as the key is depressed and the pawl 29 is urged downwardly below the advancing edge of the dog 28. Upon the release of the type key the spring 36 urges the pawl 29 to its elevated position, the dog 28 being allowed by the spring 32 to retract to permit the pawl 29 to pass to its position for engaging the upper face of the dog. If the end of the sentence is the end of the paragraph, the operator pushes the carriage 2 to the right. The stop 12 being in the path of the shoulder 10 abuts against it and arrests the return movement of the carriage at the point previously determined by the setting of the block 16. The operator then continues to write and the depression of type key, or the space bar, forces the pawl 29 downwardly, through the medium of the link 37, arm 38 and shaft 35. The pawl gives the dog 28 a downward thrust. This thrust is transmitted through the rod 30 and arm 31 to turn the shaft 14 to release the pin 23 from the notch 24, whereupon the spring 26 urges the stop to its normally retracted position. If, however, the end of the sentence is not the end of the paragraph, the operator instinctively strikes the space bar, after having depressed the period type key, which causes the retraction of the stop 12 in the manner just described.

It may sometimes happen that the end of a sentence which is not the end of a paragraph comes at the end of the line. The stop 12 would, of course, be elevated, and upon returning the carriage 2 for writing a new line, the operator knowing that the next line was not to be the beginning of a new paragraph, would notice that the carriage had stopped short of its normal stopping position. Under this circumstance, the

operator would depress the outer end 11B of the lever arm 11, thereby lifting the shoulder 10 out of its normal path and allow the carriage to be pushed back to its regular starting point as determined by engagement of the shoulders 9 and 10; or the operator could depress the space bar which would retract the stop 12 and then the carriage could be pushed to its regular starting point.

Although but one specific embodiment of this invention is herein shown and described, it will be understood that numerous details of the construction shown may be altered or omitted, within the scope of the following claims, without departing from the spirit of this invention.

I claim:—

1. The combination of a typewriting machine, having a traveling carriage and type keys, with a paragraph indentation stop movable into and out of position to limit the travel of the carriage, mechanism actuated by the normal operation of one of the type keys for moving said stop into position to stop the carriage, and mechanism actuated by another of said type keys for shifting said stop out of such position.

2. A typewriting machine, comprising a frame, a carriage mounted to travel back and forth thereon, a plurality of type keys, mechanism for advancing said carriage in one direction by the operation of said type keys and adapted to permit the carriage to be pushed in the opposite direction, and mechanism controlled by the normal operation of said type keys and adapted to limit the travel of said carriage in said opposite direction.

3. A typewriting machine, comprising a frame, a carriage mounted to travel back and forth thereon, a plurality of type keys, mechanism for advancing said carriage in one direction by the operation of said type keys and adapted to permit the carriage to be pushed in the opposite direction, stops on said carriage and on said frame adapted to coact for limiting the movement of said carriage in said opposite direction, and mechanism controlled by the normal writing operation of said type keys independently of the movement of said carriage for shifting one of said stops into and out of coacting relationship with the other.

4. A typewriting machine, comprising a frame, a carriage mounted to travel back and forth thereon, a plurality of type keys, mechanism for advancing said carriage in one direction by the operation of said type keys and adapted to permit the carriage to be pushed in the opposite direction, stops on said carriage and on said frame adapted to coact for limiting the movement of said carriage in said opposite direction, one of said stops being normally retracted from position for engaging the other, and mechanism controlled by the normal writing operation of one of said type keys independently of the movement of said carriage for shifting said normally retracted stop into position to coact with the other.

5. A typewriting machine, comprising a frame, a carriage mounted to travel back and forth thereon, a plurality of type keys, said carriage being adapted to be moved in one direction by the operation of said type keys and being free to be moved back in the opposite direction, margin regulating mechanism adapted to limit the movement of said carriage in said opposite direction, and means controlled by the normal operation of said type keys for varying the width of the margin.

6. A typewriting machine, comprising a frame, a carriage mounted to travel back and forth thereon, a plurality of type keys, said carriage being adapted to be moved in one direction by the operation of said type keys, and being free to be moved back in the opposite direction, a stop on said carriage, a second stop on said frame adapted to be shifted into position to coact with said first stop for limiting the movement of said carriage in one direction, said second stop being normally retracted, and mechanism controlled by the depression of one of said type keys for shifting said second stop into position to coact with the first.

7. A typewriting machine, comprising a frame, a carriage mounted to travel back and forth thereon, a plurality of type keys, said carriage being adapted to be moved in one direction by the operation of said type keys and being free to be moved back in the opposite direction, a stop on said carriage, a second stop on said frame adapted to be shifted into position to coact with said first stop for limiting the movement of said carriage in one direction, said second stop being normally retracted, mechanism controlled by the depression of one of said type keys for shifting said second stop into position to coact with the first, and mechanism controlled by the depression of another type key for retracting said second stop.

8. A typewriting machine, comprising a frame, a carriage mounted to travel back and forth thereon, a plurality of type keys, said carriage being adapted to be moved in one direction by the operation of said type keys and being free to be moved back in the opposite direction, a stop on said carriage, a second stop on said frame adapted to be shifted into position to coact with said first stop for limiting the movement of said carriage in one direction, said second stop being normally retracted, mechanism controlled by the depression of one of said type keys for shifting said second stop into position to coact with the first, means for holding said second stop in said coacting posi-

tion, and mechanism controlled by the depression of one of said type keys for releasing said holding means.

9. A typewriting machine, comprising a frame, a carriage, a plurality of type keys, a shoulder on said frame and a shoulder on said carriage located to abut against each other for limiting the movement of said carriage in one direction, a stop located inwardly of said first shoulder, mechanism controlled by the depression of one of said type keys for shifting said stop into position to abut against said second shoulder, and mechanism controlled by the depression of another type key for retracting said stop.

10. A typewriting machine, comprising a frame, a carriage mounted to travel back and forth thereon, a plurality of type keys, said carriage being adapted to be moved in one direction by the operation of said type keys and being free to be moved in the opposite direction, a shoulder on said frame and a shoulder on said carriage located to abut against each other for limiting the movement of said carriage in one direction, a shaft journaled in said frame, a stop carried by said shaft and located in advance of said first shoulder, mechanism connecting said shaft with one of said type keys whereby the depression of said other type key will retract said stop.

11. A typewriting machine, comprising a frame, a carriage mounted to travel back and forth thereon, a plurality of type keys, said carriage being adapted to be moved in one direction by the operation of said type keys and being free to be moved in the opposite direction, a shoulder on said frame and a shoulder on said carriage located to abut against each other for limiting the movement of said carriage in one direction, a shaft journaled in said frame, a stop adjustably mounted on said shaft and located in advance of said first shoulder, mechanism connecting said shaft with the period type key whereby the depression of said type key will cause said shaft to rock and bring said stop into the path of said second shoulder, mechanism connecting said shaft with another of said type keys whereby the depression of said other type key will retract said stop.

12. A typewriting machine, comprising a frame, a carriage mounted to travel back and forth thereon, a plurality of type keys, said carriage being adapted to be moved in one direction by the operation of said type keys and being free to be moved in the opposite direction, a shoulder on said frame and a shoulder on said carriage located to abut against each other for limiting the movement of said carriage in one direction, a shaft journaled in said frame, a stop carried by said shaft and located in advance of said first shoulder, mechanism connecting said shaft with one of said type keys whereby the depression of said type key will cause said shaft to rock and bring said stop into the path of said second shoulder, a second shaft journaled in said frame and connected with said type keys whereby the operation of said type keys will give said second shaft a rocking motion, a pawl mounted on said second shaft, a rod connected with said first shaft and adapted to be moved by the turning of said first shaft, and a dog on said rod adapted to be brought into position to coact with said pawl for retracting said stop by the depression of another of said type keys.

13. A typewriting machine, comprising a frame, a carriage mounted to travel back and forth thereon, said carriage being adapted to be moved in one direction by the operation of said type keys and being free to be moved in the opposite direction, means for normally arresting the return movement of said carriage at a predetermined point, and mechanism controlled by the operation of said type keys for arresting the return movement of said carriage inward of said normal point.

14. A typewriting machine, comprising a frame, a carriage, a plurality of type keys, a shoulder on said frame and a shoulder on said carriage located to abut against each other for limiting the movement of said carriage in one direction, a stop located inwardly of said first shoulder, mechanism controlled by the depression of one of said type keys for shifting said stop into position to abut against said second shoulder, and mechanism controlled by the depression of another type key for retracting said stop, said stop and first shoulder being relatively adjustable in the direction of travel of the carriage.

15. A typewriting machine, comprising a frame, a carriage mounted to travel back and forth thereon, a plurality of type keys, and means adapted to be moved into position to limit the travel of said carriage in one direction, and mechanism adapted to move said means into said position through the normal operation of one of said type keys.

16. In a typewriting machine, the combination with a carriage, of adjustable means comprising a stop governing the carriage for paragraphing automatically, type keys, and means controlled by the type keys for disabling said paragraphing stop.

17. In a typewriting machine, the combination with a carriage, of adjustable means connected to the carriage for paragraphing automatically; said paragraphing means controlled through the usual operation of the type keys, substantially as set forth.

18. In a typewriting machine, the combination with a carriage, of a stop to deter-

mine the point of beginning a new line, type-operating keys, a stop controlled by one of said keys for arresting the return movement of the carriage at a different point, and means for holding said second stop set.

19. In a typewriting machine, the combination with a carriage and a carriage stop to determine the point of beginning a new line of writing, of type keys including a period key, and means connected to said period key for causing said carriage to begin a new paragraph.

20. In a typewriting machine, the combination with a carriage and a carriage stop to determine the point of beginning a new line of writing, of type keys including a period key, means connected to said period key for causing said carriage to begin a new paragraph, and means controlled by the other keys for restoring the mechanism to normal position.

21. In a typewriting machine, the combination with a carriage and type keys, of means controlled by said keys for letter-feeding the carriage, a stop to limit the return of the carriage to begin a new line, and means for arresting said carriage before reaching said stop controlled by the keys, whenever a period key is operated at the end of a line.

22. In a typewriting machine, the combination with a carriage and type keys, of means controlled by said keys for letter-feeding the carriage, a stop to limit the return of the carriage to begin a new line, means for arresting said carriage before reaching said stop controlled by the keys, whenever a period key is operated at the end of a line, and means controlled by the remaining keys for returning the parts to normal positions.

23. In a typewriter, a carriage, a group of type keys, a stop for said carriage set by one of said keys, and means holding said stop set till released by the operation of one of said keys.

24. In a typewriter, a carriage, a type key, a stop for said carriage set by said key, a second stop for the carriage, said first stop being normally inoperative, and said second stop normally operative, a group of keys and means holding said first stop set till released by the operation of a key of said group.

25. In a typewriter, the combination with a traveling carriage, of a stop on the carriage, a coöperating stop held against sliding on the main frame, a slidable rock shaft carrying and rocking said coöperating stop, a detent fixed on said shaft, and a spring moving said shaft to cause said detent to lock said shaft.

26. In a typewriter, the combination with a traveling carriage, of an adjustable stop on the frame, an auxiliary stop on said adjustable stop, a carriage stop whose path intercepts said adjustable stop, said auxiliary stop being movable into position to be intercepted by the path of the carriage stop, for disabling said auxiliary stop.

27. In a typewriter, the combination with a traveling carriage, of a stop on the carriage, an adjustable stop on the frame, an auxiliary stop pivoted on said adjustable stop, a detent holding it swung on its pivot, and a key for releasing it from its detent.

28. In a typewriter, the combination with a traveling carriage, of a stop on the carriage, an adjustable stop on the frame, an auxiliary stop pivoted on said adjustable stop and normally out of the path of said carriage stop, a key setting said auxiliary stop, a detent holding it set, and a key releasing said detent.

29. In a typewriter, the combination with a traveling carriage, of an adjustable stop on the frame, an auxiliary stop pivoted on said adjustable stop, a stop on the carriage arranged to strike said stops, a pivoted member arranged to swing said carriage stop out of the range of said auxiliary stop and leave it within the range of said adjustable stop, a key setting said auxiliary stop, and a key disabling said auxiliary stop.

30. In a typewriter, the combination with a carriage stop, of a frame stop, an auxiliary frame stop, means to set the auxiliary stop, means mounted on said carriage, and separate means mounted on said frame, each causing said carriage stop to pass said auxiliary stop, but to always be arrested by said frame stop.

31. In a typewriter, the combination with a carriage stop, of a frame stop, an auxiliary stop mounted on said frame stop, a key setting said auxiliary stop, a key releasing said auxiliary stop, and means on the carriage enabling said carriage stop to pass said auxiliary stop when set.

32. In a typewriting machine, the combination with a letter feeding carriage, of keys operating said letter feed in one direction, said letter feed permitting the unobstructed return of said carriage, a stop for arresting said return, means to hold the stop in operative position, and means operated by a letter feeding key for disabling said stop.

33. In a typewriting machine, the combination with a letter feeding carriage and keys controlling said letter feed, of a stop set by one of said keys to arrest said carriage, means for holding said stop set, and means for disabling said stop by the operation of one of said keys.

34. In a typewriting machine, the combination with a carriage, of a stop thereon, a coöperating stop on the frame, a rack bar on the frame along which said stop is adjustable, an auxiliary stop moving with said

coöperating stop, and a rock shaft turning said auxiliary stop into and out of the path of said carriage stop.

35. In a typewriting machine, the combination with a carriage, of a stop thereon, a coöperating stop on the frame, a rack bar on the frame along which said stop is adjustable, a pair of abutments on said coöperating stop, means for adjusting them on said coöperating stop, an auxiliary stop engaged by said abutments, and a rock shaft along which said auxiliary stop slides arranged to turn it into and out of the path of said carriage stop.

36. In a typewriting machine, the combination with a carriage, of a stop thereon, a coöperating stop on the frame, a rack bar on the frame along which said stop is adjustable, a pair of abutments on said coöperating stop, means for adjusting them on said coöperating stop, an auxiliary stop engaged by said abutments, a rock shaft along which said auxiliary stop slides arranged to turn it into and out of the path of said carriage stop, and a detent holding said shaft releasably against rotation.

37. In a typewriting machine, the combination with a stop, of a rock shaft swinging it into and out of operative position, means for setting said stop, a detent holding it set, a rock arm on said shaft, a bar pivoted on said rock arm and having a fixed guide, and a second bar to strike said first bar to release said stop from said detent.

38. In a typewriting machine, the combination with a stop, of a rock shaft with which it swings, a link comprising a lost motion member for rocking said shaft, a detent holding said stop set, a bar swung by said rock shaft, and a second bar arranged to strike said first bar to release said detent.

39. In a typewriting machine, the combination with a stop, of a rock shaft with which it swings, a detent holding said stop set, a rock arm fast on said shaft, a bar set by said rock arm, a pawl on said bar, and a second bar arranged to pass said pawl idly in one direction and to operate said first bar in the opposite direction to release said stop.

40. In a typewriting machine, the combination with a rock shaft carrying a stop, of a link for setting said stop, a rock arm extending from said shaft having a pin passing through a slot in said link, a detent holding said stop set, and a bar for releasing said detent.

41. In a typewriting machine, the combination with a carriage stop, of a coöperating stop, a rack bar on which said coöperating stop is supported and is adjustable, an auxiliary stop adjustable on said coöperating stop, means for setting and means for disabling said auxiliary stop.

42. In a typewriter, a stop, a rock shaft operating it, a rock arm for setting it, and a rock arm for releasing it.

43. In a typewriting machine, the combination of a carriage having a feeding mechanism, a stop for the carriage, a type key operative to set the stop and print a character by the same operation, and means to retract the stop.

44. In a typewriting machine, the combination of a carriage having a feeding mechanism, a stop for the carriage, and a type key acting to print and at the same time to set the stop independently of the movement of the carriage.

45. In a typewriting machine, the combination of a carriage having a feeding mechanism, a stop for the carriage, and a type key acting to print a character and simultaneously to set the stop.

46. In a typewriting machine, the combination of a carriage having a feeding mechanism, a carriage stop, and a type key operable to set the stop without interfering with the normal feed of the carriage.

47. In a typewriting machine, the combination of a carriage having a feeding mechanism, a carriage stop movable into and out of operative position, and a type key operable to print a character and simultaneously move the stop to operative position.

48. In a typewriting machine, the combination of a carriage having a feeding mechanism, a stop for the carriage, a type key, and means operable by the depression of said key to print a character, permit the carriage to feed forward a letter space and set the stop.

49. In a typewriting machine, the combination of a carriage having a feeding mechanism, a set of type keys, a stop for the carriage, means operated by one of the type keys for setting the stop without interfering with the normal feed of the carriage, and means operated by the other of said keys to render the stop inoperative.

50. In a typewriting machine, the combination of a carriage having a feeding mechanism, a stop for the carriage movable into position to limit the return movement of the carriage, and type keys controlling said stop.

51. In a typewriting machine, the combination of a carriage having a feeding mechanism, a stop to arrest the carriage in its return movement in position for a paragraph indenture, a finger key operative to set the stop, and a finger key operative to render the stop ineffective.

52. In a typewriting machine, the combination of a carriage having a feeding mechanism, a set of type keys, and a paragraph stop automatically controlled by the printing operations of said keys.

53. In a typewriting machine, the combi-

nation of a carriage having a feeding mechanism, a stop for the carriage, a set of type keys comprising a period key, means operated by the normal actuation of the period key to set the stop in operative position, a letter space key, and means operated thereby to render the stop ineffective.

54. In a typewriting machine, the combination of a carriage having a feeding mechanism, a stop for the carriage, a set of type keys comprising a period key, a letter space bar, means operated by the depression of the period key to set the stop to operative position, and means actuated by the depression of any of the other keys or the space bar to retract the stop to an inoperative position.

55. In a typewriting machine, the combination of a carriage having a feeding mechanism, a stop for the carriage, a type key, means operated by said key to set the stop, additional type keys, and means whereby the depression of said additional keys is effective to remove the stop from operative position before printing and feeding may be effected.

56. In a typewriting machine, the combination of a carriage having a feeding mechanism, a stop for the carriage, a set of type keys, a universal rock bar, connections between said bar and the type keys to rock the bar whenever one of the keys is operated, means operated by one of the keys to set said stop, and means operated by the rock bar to disable the stop when another of the said keys is operated.

57. In a typewriting machine, the combination of a rock shaft, a stop carried thereby and movable to operative and inoperative positions by the rotation of the shaft, and a spring exerting a torsional or rotary tension on the rock shaft to move the stop to one of said positions and also applying a longitudinal pressure to the rock shaft to hold the stop in the other of said positions.

58. In a typewriting machine, the combination of a rock shaft, a stop carried thereby, means to rock the shaft and move the stop to an operative position, a coil spring mounted on the rock shaft and operable to return the shaft and move the stop to an inoperative position, said spring also exerting a longitudinal tension on the rock shaft, holding means controlled by said longitudinal tension to yieldingly hold the rock shaft in said operative position, and means to release the rock shaft from said holding means.

Signed at Chicago this 6th day of April 1910.

CHARLES H. GILL.

Witnesses:
EUGENE E. RUMMLER,
MARY M. GILLMAN.