

No. 752,868.

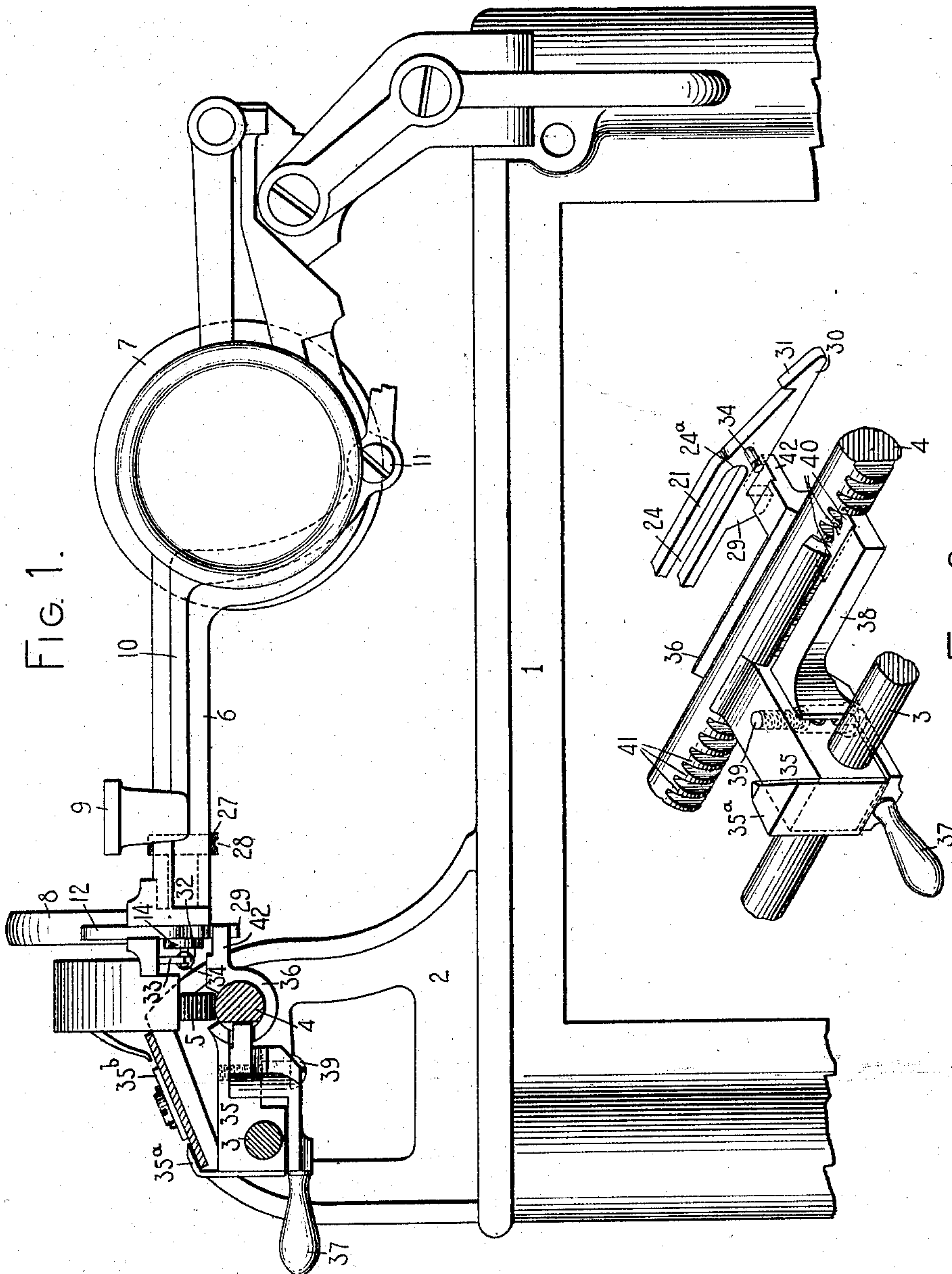
PATENTED FEB. 23, 1904.

C. E. SMITH.  
TYPE WRITING MACHINE.

APPLICATION FILED OCT. 17, 1903.

NO MODEL.

2 SHEETS--SHEET 1.



WITNESSES.

*E. M. Wells.*

*K. V. Donovan.*

INVENTOR.

*Charles E. Smith*

*By Jacob Felbel*

HIS ATTORNEY





# UNITED STATES PATENT OFFICE.

CHARLES E. SMITH, OF NEW YORK, N. Y., ASSIGNOR TO UNION TYPE-WRITER COMPANY, OF JERSEY CITY, NEW JERSEY, A CORPORATION OF NEW JERSEY.

## TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 752,868, dated February 23, 1904.

Application filed October 17, 1903. Serial No. 177,422. (No model.)

*To all whom it may concern:*

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

My invention relates to stop mechanism for type-writing machines; and the object of the invention is to provide simple and efficient stop mechanism which will afford a movement of the carriage when desired beyond the point where it is normally arrested.

To the above and other ends which will hereinafter appear my invention consists in the various features of construction, arrangements of parts, and combinations of devices to be hereinafter described, and particularly pointed out in the appended claims.

In the accompanying drawings, wherein like reference characters indicate corresponding parts in the various views, Figure 1 is a side elevation with parts broken away and parts omitted of an Underwood type-writing machine, sufficient of said machine being illustrated to show my invention in its application thereto. Fig. 2 is an enlarged detail perspective view of portions of the stop mechanism. Fig. 3 is a fragmentary front elevation of a portion of the machine with parts broken away. Fig. 4 is a detail transverse sectional view taken through the front cross-bar of the carriage, the section being taken on the line *xx* of Fig. 3. Fig. 5 is a detail front elevation of a portion of the stop mechanism, the view illustrating the disposition of the parts when the stop on the carriage is released and the carriage has traveled to the limit of its movement beyond the point where it is normally arrested. Fig. 6 is a like view of the same, showing the disposition of the parts when they are about to be automatically locked.

I have illustrated my invention in its application to an Underwood type-writing machine, though it should be understood that the

invention may be applied to various characters of writing-machines.

The frame 1 of the machine has upwardly-extending forward corner-brackets 2, that support rods 3 and 4, the latter constituting a traverse-rod on which a traction-roller 5 on the carriage 6 bears. The carriage 6 carries a platen 7 and has an upwardly-extending fixed carriage-restoring arm or finger-piece 8 at the right-hand end thereof. Adjacent to this restoring arm or finger-piece is a release-key 9, formed on the forward end of the usual release-lever 10, which is carried by and pivoted to the carriage at 11 and is operatively connected with the carriage-releasing mechanism (not shown) in order to release the carriage from its feed mechanism and afford a movement of the carriage in either direction. Adjacent to the restoring-arm 8 and release-key 9 is the usual finger-piece 12, formed on one end of a lever 13, which is pivoted at 14 to the front cross-bar 15 of the carriage. On that end of the lever opposite the finger-piece 12 is a hook or engaging or locking member 16, that is beveled on one face 17 thereof to form a cam. A leaf-spring 18 is connected to the lever at 19 and bears at its free end against the under side of a forwardly-extending flange 20 of the front carriage-bar 15, and the tension of this spring is exerted to normally maintain the lever depressed at the left-hand end thereof, so that engaging member 16 on the lever is maintained in a lowered position and the finger-piece 12 thereof is maintained elevated, as illustrated in Fig. 3. A slide 21 is connected to the carriage-bar 15 by headed screws 22 and 23, the screw or stop 22 being fixed and taking into a threaded opening in the bar 15, and the stem of the screw projects through a slot 24 in the slide in order to guide it and limit the extent of movement thereof in one direction. The stem of the screw 23 projects through the slot 24 in the slide and through a longitudinally-extending slot 25 in the bar 15 and is threaded at its rear end portion, as indicated at 26 in Fig. 4. That portion 23<sup>a</sup> of the screw which is seated in the



slot 25 is angular in cross-section, so as to prevent the screw from turning in the slot. A thumb-nut 27 is adapted to cooperate with the threaded portion of the screw 23 and to bear  
 5 at its forward end against the rear face of the carriage-bar 15 in order to secure the screw 23 in its adjusted position in the slot 25 and along the bar 15. If desired, the thumb-nut 27 may be provided with spanner-openings 28  
 10 in order to facilitate an adjustment by means of a spanner-wrench. Depending from the slide 21 is a margin-stop 29, and an engaging or locking member 30 is formed at the right-hand end portion of the slide, and this engaging member has a cam-face 31 for cooperation  
 15 with the cam-face 17 on the engaging member 16. A contractile spring 32 is connected at one end to a pin 33, which projects downwardly from the flange 20, and the opposite  
 20 end of this spring is connected to a pin 34, that extends laterally from the slide.

A slide 35 is apertured to receive the rod 3 and has a segmental bearing-sleeve 36, that partly surrounds the traverse-rod 4, so that  
 25 the slide is carried and guided by the rods 3 and 4 in its movement in the direction of the travel of the carriage. A finger-piece 37 is connected to a pawl 38, pivoted at 39 to the slide 35, so that the pawl may be turned on  
 30 its pivot to afford an engagement or disengagement between the teeth 40 on the pawl and the teeth 41, formed on the front face of the traverse-rod 4. A suitable spring (not shown) is employed to normally force the  
 35 pawl 38 into engagement with the fixed traverse-rod 4, and thus maintain the slide 35 in its adjusted position. Extending rearwardly from the segmental bearing is a margin-stop 42, that extends into and is maintained at all  
 40 times in the path of the cooperating margin-stop 29, which is carried by the carriage. A pointer 35<sup>a</sup> is carried by the slide 35 and cooperates with a scale 35<sup>b</sup>, supported on a cross-bar secured to the brackets 2 to facilitate a  
 45 proper positioning of the slide 35 and stop 42. The adjustable stop 42, its slide 35, and the means for supporting and affording an adjustment thereof are essentially the same as the corresponding stop employed in the Under-  
 50 wood machine.

In the operation of the stop mechanism the adjustable margin-stop 42 will be adjusted to the position where it is desired to arrest the carriage in the movement thereof from left to  
 55 right, thus determining the amount of margin at the left-hand side of the paper. The spring 32 normally maintains the engaging members 16 and 30 in the locked position, as illustrated in Fig. 3. Thus the tension of the spring 32  
 60 tends to draw the slide toward the right, and the cam-faces 31 and 17 coact during the relative movement between the slide and lever toward each other to elevate the engaging mem-

ber 16 against the tension of its spring 18 until the highest portions of the cam-faces have  
 65 been passed and the hook-like locking member 16 is forced into locking engagement, as shown in Fig. 3, by the pressure of the spring 18, which tends to depress that end of the lever which carries the engaging member 16.  
 70 At this time the slide has reached the limit of its movement in one direction and has attained its normal position on the bar 15 and bears against the screw or stop 22, and the movement of the slide in the opposite direction is  
 75 resisted through the lever 13, pulling against its pivot 14. It will therefore be understood that the stop 29, carried by the carriage, is locked against movement in either direction when the locking members 16 and 30 are in  
 80 engagement. If at this time the carriage is moved to the right, the stop 29 will be brought into engagement with the cooperating stop 42, carried by the frame of the machine, and the movement of the carriage toward the right  
 85 will be arrested. If, however, the operator desires to write within the margin, it is merely necessary to depress the finger-piece 12, which will result in elevating the member 16 out of  
 90 engagement with its cooperating member 30, and the effect of this is to free the slide 21 and the stop 29 carried thereby, so that when said stop 29 reaches contact with the cooperating stop 42 the stop 29 and slide 21 will be arrested;  
 95 but a further movement of the carriage independently of the stop 29 and slide is afforded until the screw 23 reaches the end 24<sup>a</sup> of the slot in the slide, as indicated in Fig. 5. When this occurs, further movement of the carriage to the right will be prevented. It  
 100 will thus be seen that the carriage may by merely depressing the finger-piece 12 be moved beyond the position where it is normally arrested by the cooperation of the stops 29 and 42 or the position where the carriage is arrested when the stop 29 is locked, and that the operator may write within the margin. When the carriage moves from right to left from the position to which it has been moved beyond the point where it is normally arrested, whether  
 105 by a feed movement of the carriage or otherwise, the spring 32 tends to hold the stop 29 against the stop 42 or to maintain the slide 21 against movement while the carriage moves to the left. The stop 29 remains in this position until the pin 22 reaches the left-hand end 24<sup>b</sup> of the slot 24, as indicated in Fig. 3, and during this movement of the carriage the members 16 and 30 will again be brought into locking engagement, and at the next movement of the carriage to the right it will be arrested at the normal position, which is determined by a positioning of the stop 42.  
 115  
 120

By making the screw 23 adjustable means are provided for determining the extent of  
 125 movement afforded the carriage beyond the



point where it is normally arrested. Thus if it be assumed that the position of the screw or stop 23 when positioned in the center of the slot 25 will afford five letter-space movements of the carriage beyond the point where it is normally arrested, then an adjustment of the screw or stop 23 so as to locate it in the left-hand end of the slot 25 will afford a movement of the carriage for, say, ten letter-space distances beyond the point where it is normally arrested, the screw or stop 23 determining the extent of independent movement between the stop 29 and the carriage, and this extent of movement determining how far the carriage may move beyond the point where it is normally arrested.

It will be seen that I have provided simple and efficient means for normally arresting the carriage at a predetermined point, which is determined by the adjustment of the margin-stop 42, and that a depression of the finger-piece 12 will automatically release the margin-stop 29 on the carriage, thus affording a movement of the carriage beyond the point where it is normally arrested; that at the return movement of the carriage from such position the stop 29 is automatically restored to its normal position on the carriage and is automatically locked in such position; that the stop 42 is at all times in the path of the stop 29, or, in other words, that said stops are at all times maintained in coöperative relation, and that it is unnecessary to move one of said stops out of the path of the other in order to afford a movement of the carriage beyond the point where it is normally arrested; that the stop 29 may be released from its locked position by the finger-piece 12 irrespective of the position of the carriage, and that the release of the stop does not depend on the movement of the carriage. Furthermore, it will be seen that the lever 13 has no movement on the carriage in the direction of the travel thereof, but that the slide 21 and stop 29 have such a movement and that it results in the movement of the slide and stop toward and away from the lever 13 and its engaging member 16.

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

1. In a type-writing machine, the combination of a carriage, a margin-stop carried by the carriage, means for locking said stop, a hand-actuated device at the front of the carriage for releasing said margin-stop from locking engagement, and a coöperating margin-stop on the frame of the machine, said last-mentioned stop being in the path of the stop on the carriage normally to arrest the carriage in its movement from left to right.

2. In a type-writing machine, the combination of a carriage, a stop carried by the carriage, means for locking said stop, a hand-actuated device for releasing said stop from locking engagement, a stop on the frame of

the machine, said stops coöperating normally to arrest the carriage at a predetermined point in its travel, means for affording a travel of the carriage beyond the point where it is normally arrested when the carriage-stop is released, and means for automatically restoring the carriage-stop to its normal position when the carriage is returned from beyond where it is normally arrested.

3. In a type-writing machine, the combination of a carriage, a stop carried by the carriage, means for locking said stop, a hand-actuated device for releasing said stop from locking engagement, a stop on the frame of the machine, said stops coöperating normally to arrest the carriage at a predetermined point in its travel, means for affording a travel of the carriage beyond the point where it is normally arrested when the carriage-stop is released, means for automatically restoring the carriage-stop to its normal position when the carriage is returned from beyond where it is normally arrested, and means for automatically locking the carriage-stop when it is in the normal position.

4. In a type-writing machine, the combination of a carriage, a stop carried by the carriage, means for normally preventing a relative movement between the stop and carriage, a stop on the frame of the machine, said stops normally coöperating to arrest the carriage at a predetermined point in the travel thereof, and means for affording a travel of the carriage independently of the stop thereon, so that the carriage may travel beyond the point where it is normally arrested.

5. In a type-writing machine, the combination of a carriage, a stop carried by the carriage, means for normally preventing a relative movement between the stop and carriage, a stop on the frame of the machine, said stops normally coöperating to arrest the carriage at a predetermined point in the travel thereof, means for affording a travel of the carriage independently of the stop thereon, so that the carriage may travel beyond the point where it is normally arrested, and means for automatically restoring the stop on the carriage to its normal position.

6. In a type-writing machine, the combination of a carriage, margin-stops that coöperate normally to arrest the carriage at a predetermined point, means for locking one of said stops in the normal position, means for releasing said locked stop irrespective of the position of the carriage to afford a movement thereof beyond the point where it is normally arrested, and means for automatically locking said released stop when the carriage is returned from beyond where it is normally arrested.

7. In a type-writing machine, the combination of a carriage, margin-stops that coöperate normally to arrest the carriage at a predeter-



mined point, means for locking one of said stops in the normal position, means for releasing said locked stop irrespective of the position of the carriage, means effecting a relative displacement between the released stop and the part which carries it to afford a movement of the carriage beyond the point where it is normally arrested, means for automatically effecting a restoration of the normal relation between the released stop and the part which carries it when the carriage is returned from beyond where it is normally arrested, and means for automatically bringing about an operation of said locking means to lock said released stop when the normal relation has been attained.

8. In a type-writing machine, the combination of a carriage, margin-stops that cooperate normally to arrest the carriage at a predetermined point, one of said stops being carried by the carriage and the other by the frame of the machine, means for locking the stop on the carriage in the normal position, hand-operated means for releasing said locked stop to afford a movement of the carriage beyond the point where it is normally arrested by the stops abutting one against the other, and the carriage-stop being arrested while the carriage is free to travel independently thereof, means for automatically restoring the stop to normal position on the carriage when the carriage is returned from beyond where it is normally arrested, and means for automatically bringing about an operation of said locking means to lock said released stop when the normal relation has been attained.

9. In a type-writing machine, the combination of a carriage, a slide that moves on the carriage and is adapted to afford a movement of the carriage beyond the point where it is normally arrested, a margin-stop carried by said slide, means for locking said slide in the normal position on the carriage, and a cooperating stop on the frame of the machine.

10. In a type-writing machine, the combination of a carriage, a slide that moves on the carriage and is adapted to afford a movement of the carriage beyond the point where it is normally arrested, a margin-stop carried by said slide, means for locking said slide in the normal position on the carriage, a cooperating stop on the frame of the machine, and means for effecting an adjustment of one of said stops so as to determine the point where the carriage will be normally arrested.

11. In a type-writing machine, the combination of a carriage, a spring-restored slide that moves on the carriage and is adapted to afford a movement of the carriage beyond the point where it is arrested, a margin-stop carried by said slide, means for automatically locking said slide when it is in the normal position on the carriage, and a cooperating stop on the frame of the machine.

12. In a type-writing machine, the combination of a carriage, a hand-operated device carrying a locking member, a slide that is adapted to move relatively to and independently of said hand-operated device and carries a cooperating locking member, a margin-stop on the slide and a second cooperating margin-stop.

13. In a type-writing machine, the combination of a carriage, a hand-operated device carrying a locking member, a spring-restored slide that is adapted to move relatively to and independently of said hand-operated device, and carries a cooperating locking member, a margin-stop on the slide, a second cooperating margin-stop, and means for automatically bringing about a locking engagement between said locking members when the slide is restored to its normal position.

14. In a type-writing machine, the combination of a carriage, a hand-operated device carried by the carriage and having a locking member, a slide carried by the carriage and adapted to move relatively to said hand-operated device, a locking member and a stop carried by said slide, said last-mentioned locking member cooperating with the locking member on the hand-actuated device to lock the slide against movement, and a second cooperating stop.

15. In a type-writing machine, the combination of a carriage, a hand-operated device carried by the carriage and having a locking member, an automatically-restored slide carried by the carriage and adapted to move relatively to said hand-operated device, a locking member and a stop carried by said slide, said last-mentioned locking member cooperating with the locking member on the hand-actuated device to lock the slide against movement, a second cooperating stop, and means for automatically bringing about a cooperation between said locking members when said slide is in its normal position on the carriage.

16. In a type-writing machine, the combination of a carriage, a hand-operated lever having a locking member thereon, a slide that moves relatively to said lever in the general direction of the travel of the carriage, a locking member and a stop on said slide, said locking members cooperating to lock the slide against movement on the part which carries it, and a cooperating stop.

17. In a type-writing machine, the combination of a carriage, a hand-operated spring-restored lever having a locking member thereon, a spring-restored slide that moves relatively to said lever in the general direction of the travel of the carriage, a locking member and a stop on said slide, said locking member cooperating to lock the slide against movement on the part which carries it when the slide is in the normal position, and a cooperating stop.



18. In a type-writing machine, the combination of a carriage, a hand-operated lever carried by the carriage and having a locking member thereon, means for restoring said lever to its normal position, a slide that is carried by the carriage and moves thereon relatively to said lever in the general direction of the travel of the carriage, means for restoring said slide to its normal position on the carriage, a locking member and a stop on said slide, said locking members cooperating to lock the slide against movement on the carriage when the slide is in the normal position, and a cooperating stop.

19. In a type-writing machine, the combination of a carriage, a hand-operated device, a locking member and a cam on said device, a slide that moves relatively to said device in the general direction of the travel of the carriage, a locking member, cam and stop on said slide, and a second cooperating stop.

20. In a type-writing machine, the combination of a carriage, a hand-operated spring-pressed lever, a locking member and a cam on said lever, a spring-pressed slide that moves relatively to said lever in the general direction of the travel of the carriage, a locking member, cam and stop on said slide, and a second cooperating stop.

21. In a type-writing machine, the combination of a carriage, a hand-actuated lever on said carriage, a locking member and cam on said lever, means for restoring the lever to normal position, a slide that moves on said carriage and relatively to said lever in the general direction of the travel of the carriage, a locking member, cam and stop on said slide, means for restoring the slide to normal position on the carriage, and a second cooperating stop.

22. In a type-writing machine, the combination of a carriage, a hand-actuated spring-pressed lever on said carriage, a locking member and cam on said lever, a spring-restored slide that moves on said carriage and relatively to said lever in the general direction of the travel of the carriage, a locking member, cam and stop on said slide, a second cooperating stop, and means for affording an adjustment of one of said stops in the general direction of the travel of the carriage.

23. In a type-writing machine, the combination of a carriage, a margin-stop that is adapted to move freely on the part that carries it, a stop to limit the free movement of the margin-stop in one direction, an adjustable stop to limit the movement of the margin-stop in an opposite direction, and a cooperating margin-stop.

24. In a type-writing machine, the combination of a carriage, a spring-pressed margin-stop that is adapted to move on the part that carries it, to afford a movement of the carriage beyond the point where it is normally arrested by the margin-stop, a stop to limit

the free movement of the margin-stop in one direction, an adjustable stop to limit the movement of the margin-stop in an opposite direction and to determine the extent of movement afforded the carriage beyond the point where it is normally arrested, and a cooperating margin-stop.

25. In a type-writing machine, the combination of a carriage, a slide carried by the front cross-bar of the carriage and movable in the direction of the length thereof, a margin-stop carried by said slide, a lock which locks the slide to the cross-bar, a finger-piece connected to said lock, and a margin-stop carried by the frame of the machine, whereby when the slide is locked the carriage will be arrested at a predetermined point and when the lock is released the slide will be arrested by the margin-stop on the frame and the carriage can move independently of the slide and beyond the point where it is normally arrested.

26. In a type-writing machine, the combination of a carriage, a slide carried by the front cross-bar of the carriage and movable in the direction of the length thereof, a spring for restoring the slide to normal position on the cross-bar, a margin-stop carried by said slide, a lock which locks the slide to the cross-bar, a finger-piece connected to said lock, and a margin-stop carried by the frame of the machine.

27. In a type-writing machine, the combination of a carriage, a slide carried by the front cross-bar of the carriage and movable in the direction of the length of said bar, a locking member and margin-stop carried by said slide, a spring for restoring the slide to normal position on the cross-bar, a hand-actuated lever having a locking member thereon which cooperates with the locking member on the slide, and a margin-stop carried by the frame of the machine.

28. In a type-writing machine, the combination of a carriage, a slide carried by the front cross-bar of the carriage and movable in the direction of the length of said bar, a locking member and margin-stop carried by said slide, a spring for restoring the slide to normal position on the cross-bar, a hand-actuated lever having a locking member thereon which cooperates with the locking member on the slide, means for automatically engaging said locking members by a movement of the slide to normal position, and a margin-stop carried by the frame of the machine.

29. In a type-writing machine, the combination of a carriage, a slide carried by the front cross-bar of the carriage and movable in the direction of the length of said bar, a locking member and margin-stop carried by said slide, a spring for restoring the slide to normal position on the cross-bar, a hand-actuated spring-restored lever pivoted to the front cross-bar of the carriage and having a locking member thereon which cooperates



with the locking member on the slide, means  
for automatically engaging said locking mem-  
bers by a movement of the slide to normal po-  
sition, and an adjustable margin-stop carried  
5 by the frame of the machine.

Signed at the borough of Manhattan, city of  
New York, in the county of New York and

State of New York, this 15th day of October,  
A. D. 1903.

CHARLES E. SMITH.

Witnesses:

K. V. DONOVAN,  
E. M. WELLS.