

J. WALDHEIM.  
TYPE WRITING MACHINE.  
APPLICATION FILED JULY 16, 1910.

971,944.

Patented Oct. 4, 1910.

3 SHEETS-SHEET 1.

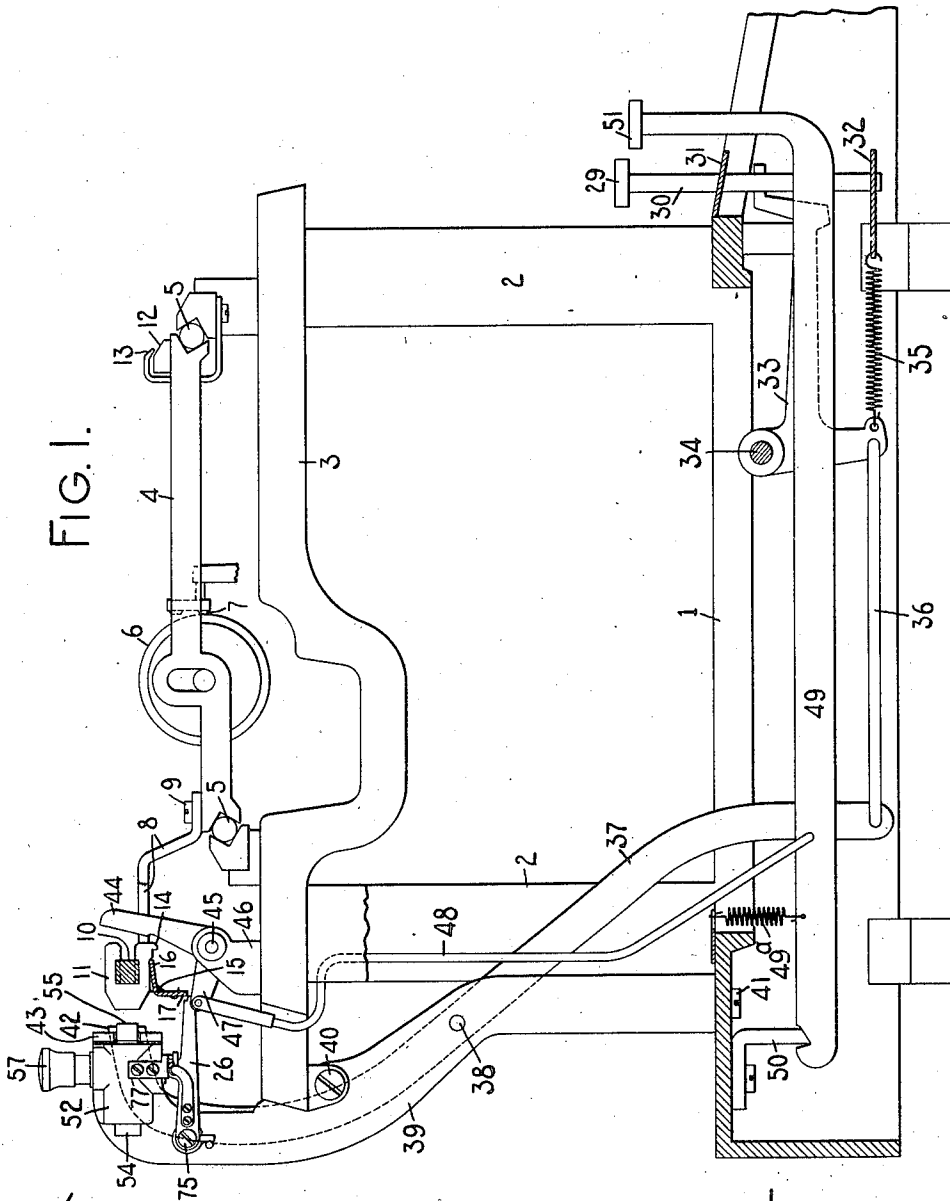


FIG. 1.

WITNESSES:

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*Walter Smith*

INVENTOR:

*John Waldheim*  
*By Joseph F. Felt*

HIS ATTORNEY

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3 SHEETS—SHEET 2.

FIG. 2.

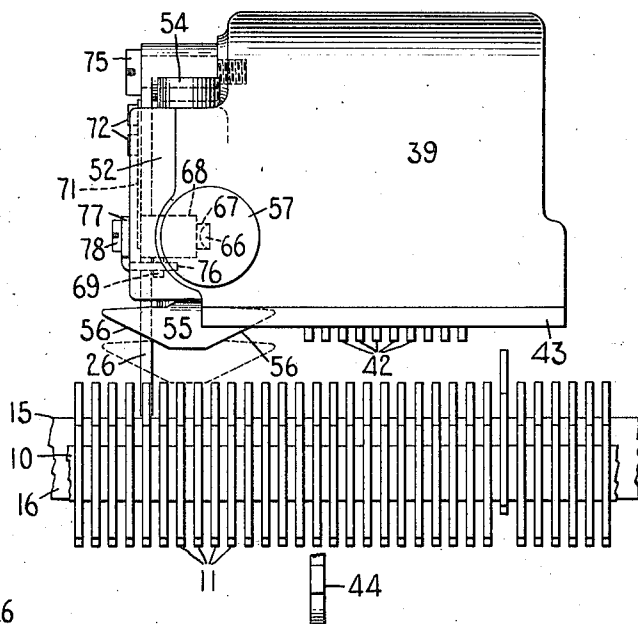


FIG. 4.

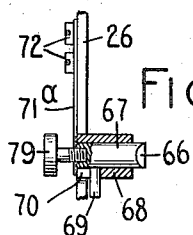
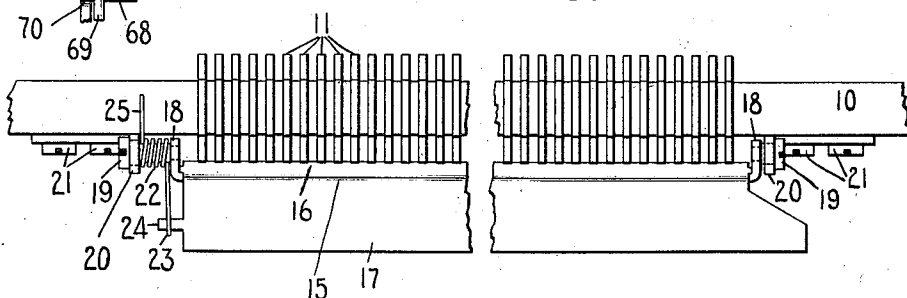


FIG. 3.



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INVENTOR:

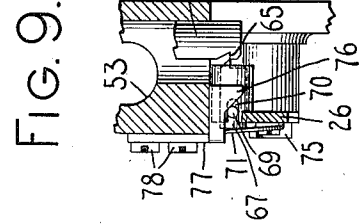
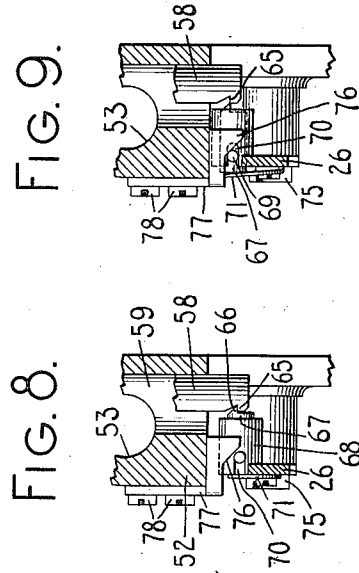
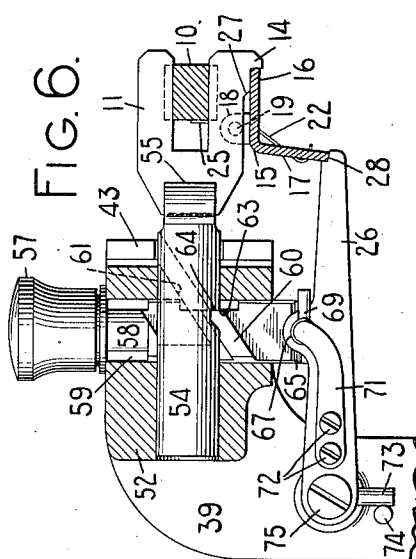
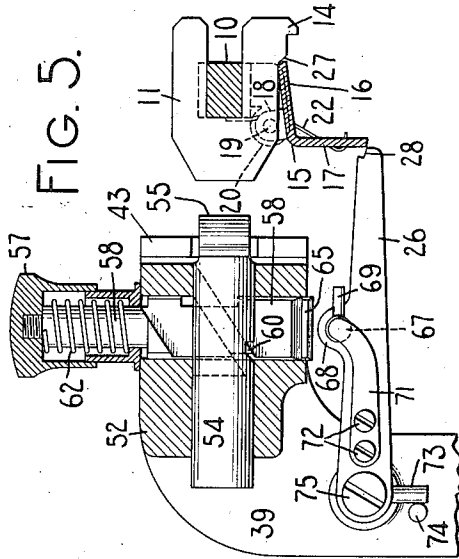
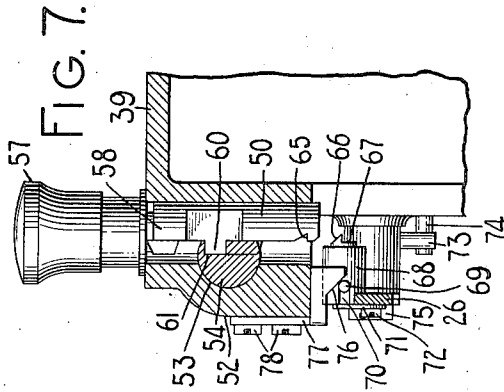
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971,944.

Patented Oct. 4, 1910.

3 SHEETS—SHEET 3.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

JOHN WALDHEIM, OF NEWARK, NEW JERSEY, ASSIGNOR TO UNION TYPEWRITER COMPANY, OF ILION, NEW YORK, A CORPORATION OF NEW YORK.

## TYPE-WRITING MACHINE.

971,944.

Specification of Letters Patent.

Patented Oct. 4, 1910.

Application filed July 15, 1910. Serial No. 572,149.

*To all whom it may concern:*

Be it known that I, JOHN WALDHEIM, citizen of the United States, and resident of Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a specification.

My invention relates to typewriting machines and more particularly to tabulating mechanism.

The object of my invention, generally stated, is to provide means for readily selecting different column stops for use, and for "clearing" the column stops which are in the operative position when the character of the work is such as to require the use of another and different set of column stops.

The present invention is directed more particularly to the "clearing" mechanism by which the operative column stops may be cleared or moved to inoperative position.

To the above and other ends, my invention consists in the features of construction, combinations of devices and arrangements of parts 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 fragmentary side elevation with parts in section of a No. 11 Remington machine embodying my invention, only sufficient number of parts of the mechanism being shown to illustrate my invention in its embodiment therein and some of the parts being represented in a conventional manner. Fig. 2 is an enlarged detail fragmentary plan view showing a portion of the tabulating mechanism and the means for resetting or clearing the operative column stops. Fig. 3 is a fragmentary rear elevation showing the column stops and the movable bar which is controlled by and coöperates therewith. Fig. 4 is a fragmentary detail view partly in section showing hand actuated means for releasing the locking mechanism. Fig. 5 is a fragmentary side view, partly in section, showing a portion of the tabulator mechanism and means by which the column stops are restored to normal position, the view illustrating the parts disposed as they appear when they are in the normal or inoperative position. Fig. 6 is a view corresponding to Fig. 5 but showing the parts in the

projected or operative position. Fig. 7 is a transverse sectional view showing a portion of the resetting means, the view being taken at right angles to the position of the parts as they appear in Fig. 5. Fig. 8 is a fragmentary sectional view of the locking and releasing mechanism for the resetting means, the parts being shown in the locked position. Fig. 9 is a like view of the same, showing the parts in position at the instant that the latch is released.

My invention is in the nature of an improvement on the constructions shown in the applications of Sivertsen & Nielsen, Serial No. 488,675; George H. Smith Serial No. 533,717; George F. Ballou, Serial No. 541,995; Clio B. Yaw, Serial No. 564,227; and Oscar Woodward, Serial No. 565,846.

I have shown my invention in the present instance applied to a No. 11 Remington machine, though it should be understood that the invention may be embodied in various styles of typewriting machines.

The frame of the machine comprises a base 1, corner posts 2 and top plate 3. A carriage 4 is supported on anti-friction rollers 5 for movement from side to side of the machine over the top plate. The carriage supports the usual cylindrical platen 6 against the front face of which types 7 are adapted to strike. Extending rearwardly from the carriage are supporting arms 8 secured to the carriage near the ends thereof by screws 9. The rear ends of the supporting arms 8 are connected to a column stop bar 10 and support the same for movement with the carriage. The column stop bar is provided with teeth on the upper and lower sides thereof, and bifurcated column stops 11 are received in interdental spaces between the teeth on the column stop bar. These stops are adapted to move transversely of the column stop bar, in the interdental spaces thereof, from the inoperative position shown in Fig. 1 to the operative position shown in Fig. 6, and to remain indefinitely in either of such positions by the frictional engagement between the column stops and the walls of the interdental spaces in which the column stops are received. There are preferably as many interdental spaces in the column stop bar as there are letter space positions of the carriage in the travel thereof from side to side of the machine; or as many interdental spaces are preferably provided

as there are letter space indices on the carriage scale 12 with which the pointer 13 co-operates. There are, or may be, provided, therefore, as many column stops as there are letter space positions of the carriage in its travel from side to side of the machine. Each column stop is provided with a depending finger or abutment 14 with which a pivoted controlling device, plate or bar, designated as a whole by the reference numeral 15, is adapted to coöperate, to prevent the stops from being accidentally displaced from the column stop bar, and to limit the movement of the column stops toward the rear of the machine. The plate 15 preferably extends throughout the length of the series of column stops and beneath the same and is preferably angular in cross section so as to provide a member 16 which coöperates with the abutment 14 and a locking portion 17, for purposes which will hereinafter more clearly appear. The bar 15 is formed with ears 18 at the ends thereof for the reception of pivot screws 19 which are threaded into brackets 20 secured by screws 21 to the column stop bar. A coiled spring 22 surrounds one of the pivot screws and bears at one end 23 against a projection 24 formed on one end of the plate 15, the other end 25 of the spring bearing against a column stop bar. Pressure of this spring is exerted to normally maintain the plate or bar 15 in the position represented in Fig. 5 where the depending portion 17 thereof is clear of a pivoted locking arm 26. A cam 27 is formed on the lower edge of each of the column stops for coöperation with the forward edge of the member 16 of the bar 15. It will therefore be understood that a rearward movement of any of the column stops from the normal or inoperative position shown in Fig. 5 to the operative position shown in Fig. 6 will cause the cam 27 on the column stop, which has thus been moved, to turn the bar 15 around its pivots 19 from the position shown in Fig. 5 to that indicated in Fig. 6, where it engages in the notch 28 in the end of the locking bar 26. The purpose of this movement of the bar 15 will hereinafter more clearly appear. It will be understood that notwithstanding the fact that the bar 15 is movable in the manner hereinbefore set forth, it nevertheless cannot be moved out of the path of the abutments 14 on the column stops, and thus a removal of the column stops from the bar 10 is prevented unless the bar 15 be removed from the machine by withdrawing the pivot screws 19.

For the purpose of the present invention any suitable tabulating mechanism may be employed in combination with the column stops 11. In the present instance I have shown the tabulating mechanism employed in the No. 11 Remington machine. In this

construction tabulator keys 29 are provided with stems 30 which are guided in openings in guide plates 31 and 32 secured to the frame of the machine. These key stems are operatively connected to angular levers 33 pivoted on a pivot rod 34 secured to the base of the machine. Each angular lever 33 and the parts connected therewith are restored to normal position by a spring 35 connected at one end to an angular lever and at its opposite end to the plate 32. Links 36 extend from the depending arms of the angular levers to denominational stop levers 37 pivoted at 38 to a tabulator frame 39. This tabulator frame is secured to the frame of the machine by screws 40 and 41. The upper forwardly projecting ends 42 of the denominational stop levers constitute denominational stops which extend through slots in a guide plate 43 secured to the tabulator frame 39. On the actuation of a tabulator key 29 the corresponding denominational stop 42 will be projected forwardly into the path of the operative column stops, or those column stops which have been moved to the operative position represented in Fig. 6.

In order to select the particular column stops which are to be used, I have provided a selecting device in the nature of a projecting device or finger 44 fixed on a rock shaft 45 which turns in bearings in a bracket 46 secured to the top plate of the machine. This rock shaft 45 is provided with a rearwardly extending arm 47 to which the upper end of a link 48 is connected. The lower end of this link is connected to a key lever 49 fulcrumed on a fulcrum plate 50. The key lever 49 extends forward to the keyboard of the machine and is provided with a selecting key 51 and a restoring spring 49<sup>a</sup>. The selecting finger or device 44 is arranged forwardly of the column stop bar and forwardly of the column stops, and as will appear from an inspection of Fig. 2, is of a width sufficient to coöperate with but one column stop at a time. The contact portion of the selecting device 44 is preferably situated in substantial alinement fore and aft of the machine with the left-hand or decimal stop of the series of denominational stops 42. It will be understood that a depression of the selecting key 51 is operative to move the arm 44 rearwardly, thus moving the column stop which is in register with the arm 44 rearwardly from the position shown in Fig. 5 to the operative position indicated in Fig. 6. When pressure is released on the selecting key the spring 49<sup>a</sup> is operative to restore the key lever 49 and the parts connected therewith to normal position. It will be understood that the selecting device 44 in the present instance is carried on the frame of the machine, whereas the column stops are carried by the carriage and that the movement of the carriage in its travel is effective to pro-

duce a relative movement between the column stops and the selecting device 44, thus bringing different column stops successively into register with the selecting device. It will therefore be understood that the particular column stop which is selected, depends upon the position of the carriage in its travel.

In order to reset the various column stops to inoperative position when the character of the work is such as to require the use of a different set of column stops, I have provided so-called resetting mechanism or restoring mechanism which will now be described.

The tabulator frame 39 preferably has cast integral therewith an offset bearing portion 52 on the left-hand side thereof. This casting 52 has a cylindrical opening 53 bored therethrough fore and aft of the machine, to receive a substantially cylindrical stem 54 of a resetting, restoring or clearing device 55 which is in the nature of a cam or wiper provided with oppositely inclined faces 56. The opening 53 provides a bearing for the cam or wiper 55 to afford a movement thereof fore and aft of the machine or in the same direction that the column stops move in as they slide to and from operative position. It will be understood that when the cam is moved to the dotted line position it is projected into the path of the operative column stops so that a movement of the carriage at this time in either direction is effective to cam the operative column stops forward to the inoperative position. Thus a single movement of the carriage across the machine, when the device 55 is in the dotted line position, is effective to reset, restore or clear all of the operative column stops. The movement of the device 55 to and from the operative position is controlled in part by a finger piece 57 which is connected to an actuating or controlling member 58. This actuating member is substantially cylindrical in form and is received in a cylindrical opening 59 in the casting 52 and works at right angles to the stems 54 of the resetting device 55. The controlling member 58 has an inclined projection or controlling cam 60 formed on one side thereof for cooperation with an inclined cam groove 61 formed in the stem 54 of the resetting device. A depression of the finger piece 57, against the pressure of its restoring spring 62, is therefore effective to cam the restoring device 54—55 forwardly from the position shown in Fig. 5 to that represented in Fig. 6, where the cam 55 is operative to move the column stops forwardly to the inoperative position on the movement of the carriage. From an inspection of Fig. 6 it will be seen that at the limit of the downward movement of the finger piece 57 a vertical stop face 63 at the

end of the cam 60 is brought into cooperation with a corresponding contact or stop face 64 on the stem 54, to resist a rearward movement of the device 54—55 as the column stops are brought successively into engagement therewith and are cammed forwardly to inoperative position. When pressure is released from the finger-piece 57 the contact faces 63 and 64 are first disengaged and then the cam 60 is received in the cam slot 61 to positively withdraw the member 54—55 to the inoperative position shown in Fig. 5.

The lower end of the actuating device 58 has a notch or recess 65 therein for cooperation with the tooth 66 on a spring pressed latch or locking device 67. This device is adapted to slide in a bearing 68 formed in the pivoted arm 26 and is guided in its movement in said bearing by a pin 69 which projects from one side of the locking device and is received in a slot 70 in the bearing. A leaf spring 71 bears at its free end against the outer end of the locking device 67 and is secured by screws 72 at its opposite end to the arm 26. The arm 26 carries a depending pin 73 which cooperates with a stop pin 74 to limit the downward movement of the arm 26. The arm 26 is pivotally supported on a shouldered pivot screw 75 received at its threaded end in a side of the tabulator frame 39. It will thus be understood that the locking device 67 is carried by the swinging arm 26 and is adapted to move therewith but is free to receive an independent movement into and out of locking engagement with the notch 65 in the end of the actuating device 58 which controls the resetting cam 55. A cam 76 is formed on a bracket 77 secured to the casting 52 by screws 78. As will be understood from a comparison of Figs. 8 and 9, an upward movement of the arm 26 is effective to carry the pin 69 on the locking device 67 into engagement with the cam 76 and to effect a movement of the locking device to the position indicated in Fig. 9, in order to release the engaging portion thereof from the notch 65 in the actuating member 58. When, however, the free end of the arm 26 is maintained in the lowermost position by the locking member 15, as represented in Fig. 6, the pin 69 will be held out of cooperative engagement with the cam 76 and the locking device 67 will remain in engagement with the controlling member 58, thus locking the cam 55 in its operative position. The construction is such that the movement of any column stop to the operative position is effective to move the locking bar from the position shown in Fig. 5 to that represented in Fig. 6. In this position of the locking bar it engages the notch 28 of the arm 26 and prevents upward movement of the arm. The parts remain in this position until all of the column stops are again restored to the

inoperative position. Thus, a depression of the finger piece 57 is effective to force the cam 55 forwardly to the operative position. The same movement is effective to bring the engaging notch 65 into coöperation with the locking member 67 to lock the controlling member 58 in the depressed position, and to lock the cam 55 in the operative position. The cam 55 will remain in this position until all the column stops have been cleared. As the last of the column stops is moved forward to the inoperative position, the locking bar 15 is allowed to move, under the pressure of its spring 22, to the unlocking position shown in Fig. 5. This is effective to release it from the arm 26 and the spring 62 then becomes effective to elevate the controlling member 58 and to carry the arm 26, which is engaged therewith, up with it. The first part of the upward movement of the controlling member 58 is in the nature of a lost motion which is effective to carry the contact face 63 out of engagement with the contact face 64. The extent of this lost motion is sufficient to bring the pin 69 into engagement with the cam 76 and effect a releasing movement of the latch 67, withdrawing it from engagement with the controlling member 58. When the latch is thus released from the controlling member 58, the arm 26 drops by gravity to the normal position, where it is arrested by the coöperation of the pins or stops 73 and 74. A continued upward movement of the controlling member 58 to the normal position takes place, under the pressure of the spring 62, and this movement is effective to withdraw the cam 55 to the normal, or inoperative, position shown in Fig. 5.

It will thus be understood that a depression of the finger piece 57 is effective to automatically lock the cam 55 in its operative position, and that the movement of the last column stop forward to inoperative position is effective to automatically release the cam 55 and enable it to be restored to normal or inoperative position. It is therefore merely necessary for the operator to depress the finger piece 57 and both hands are then free to move the carriage in order to clear the column stops, and when the last column stop has been cleared the controlling member 58 will be automatically released and the cam 55 will be withdrawn to the inoperative position. The selector 44 may then be manipulated to select the new set of stops.

The construction operates in a sense as an indicator to inform the operator as to the condition of the mechanism. Thus, if the tabulator has not been used for some time and the operator is in doubt whether or not the stops have been cleared, it is merely necessary to depress the finger piece 57. If the finger piece is immediately restored to normal position after it is released by the oper-

ator, this is an indication that the column stops are all cleared. If, on the other hand, the finger piece remains in the depressed position, this indicates to the operator that the stops have not been cleared and sets the cam 70 to clear the stops.

In Fig. 4 I have shown a construction in which the latch 67 is provided with a finger piece 79 by which it may be withdrawn to the released position at any time against the pressure of the spring 71<sup>a</sup> by which the latch is moved to the locking position. It should be understood that the locking latch in the construction shown in the remaining figures may be provided with this finger piece 79 by which the locking latch may be released at any time. The provision of this hand actuated release enables the operator to release the locking or controlling member 58 at any time, and it is unnecessary in such a construction to clear all of the column stops before the cam 55 may be released. In most instances, however, it is advisable, if not necessary, to clear all of the column stops before setting up a new set of stops which may be required for a different character of work.

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

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

1. In a typewriting machine, the combination of a carriage, a series of stops movable into and out of operative position, a wiper for moving said stops into inoperative position, hand actuated means for moving said wiper into coöperative relation with said stops, and means for locking said wiper against return movement.

2. In a typewriting machine, the combination of a carriage, a series of stops movable into and out of operative position, a wiper for moving said stops into inoperative position, hand actuated means for moving said wiper into coöperative relation with said stops, means for locking said wiper against return movement, and automatically operating means for releasing said locking means.

3. In a typewriting machine, the combination of a carriage, a series of stops movable into and out of operative position, a wiper for moving said stops into inoperative position, hand actuated means for moving said wiper into coöperative relation with said stops, means for locking said wiper against return movement, and automatically operating means for releasing said locking means, said releasing means being under control of said stops and being released when all of said stops have been cammed back by the wiper to inoperative position.

4. In a typewriting machine, the combination of a carriage, a series of stops movable into and out of operative position, a wiper for moving said stops into inoperative position

tion, hand actuated means for moving said wiper into coöperative relation with said stops, and means for locking said wiper against return movement, said locking means comprising a device with which all of said stops coöperate and which is held in its locking position when any one of said stops is in the operative position.

5. In a typewriting machine, the combination of a series of stops movable into and out of operative position, means for moving said stops to inoperative position, and automatically operating locking means for locking said moving means in coöperative relation with said stops and when the moving means is effective to move the stops back to inoperative position.

6. In a typewriting machine, the combination of a series of stops movable into and out of operative position, means for moving said stops to inoperative position, automatically operating locking means for locking said moving means in coöperative relation with said stops and when the moving means is effective to move the stops back to inoperative position, and releasing means coöperative with said stops and with said locking means to automatically release the locking means when all of the projected stops have been moved back to inoperative position.

7. In a typewriting machine, the combination of a carriage, a machine frame, a series of stops carried by one of said parts and movable thereon into and out of operative position, means carried by the other of said parts for moving said stops to inoperative position, locking means for locking said stop moving means in the operative position, and automatically actuated releasing means controlled by said stops and operative to release the locking means when all of said stops have been moved back to inoperative position.

8. In a typewriting machine, the combination of a carriage, a machine frame, a series of stops carried by one of said parts and movable thereon into and out of operative position, means carried by the other of said parts for moving said stops to inoperative position, locking means for locking said stop moving means in the operative position, and automatically actuated releasing means controlled by said stops and operative to release the locking means when all of said stops have been moved back to inoperative position, said releasing means comprising a locking bar coöperative with all of said stops and held thereby in the locking position when any of the stops is in the operative position and movable to a releasing position when all of said stops have been moved to inoperative position.

9. In a typewriting machine, the combination of a series of stops movable into and out of operative position, a locking bar co-

operative therewith, the movement of the locking bar into and out of operative position depending on whether said stops are in or out of operative position, restoring means for moving the stops to inoperative position, and locking means for said restoring means, said locking means being coöperative with said locking bar.

10. In a typewriting machine and tabulating mechanism, the combination of a carriage; a series of column stops; means for projecting said stops individually to operative position, said means including means whereby the column stop which may be projected depends on the position of the carriage in its travel; a key controlled coöperative stop; means carried by the frame of the machine for moving the projected column stops to inoperative position, and means for locking said last mentioned means in the operative position.

11. In a typewriting machine and tabulating mechanism, the combination of a carriage; a series of column stops; means for projecting said stops individually to operative position, said means including means whereby the column stop which may be projected depends on the position of the carriage in its travel; a key controlled coöperative stop; means carried by the frame of the machine for moving the projected column stops to inoperative position; means for locking said last mentioned means in the operative position; and automatically operating means for releasing said locking means when all of the column stops have been restored to inoperative position.

12. In a typewriting machine and tabulating mechanism, the combination of a carriage; a series of column stops carried by the carriage; means carried by the frame of the machine for projecting said column stops separately to operative position; a coöperative stop carried by the frame of the machine; key controlled means for projecting said coöperative stop into the path of the projected column stop or stops; means carried by the frame of the machine for moving the projected column stops back to inoperative position; and means for locking said last mentioned means in the operative position.

13. In a typewriting machine and tabulating mechanism, the combination of a carriage; a series of column stops carried by the carriage; means carried by the frame of the machine for projecting said column stops separately to operative position; a coöperative stop carried by the frame of the machine; key controlled means for projecting said coöperative stop into the path of the projected column stop or stops; means carried by the frame of the machine for moving the projected column stops back to inoperative position; means for locking said last

mentioned means in the operative position; and automatically operating means for releasing said locking means when all of the column stops have been restored to inoperative position.

14. In a typewriting machine and tabulating mechanism, the combination of a carriage; a series of column stops situated a letter space distance apart and mounted for individual movement into and out of operative position and for maintenance indefinitely in either of such positions; key actuated means for moving any desired individual column stop to operative position; a cooperative stop; key controlled means for moving said cooperative stop to a position where it will cooperate only with the column stop or stops which are in the operative position; means carried by the frame of the machine for moving the projected column stops back to inoperative position; and means for locking said last mentioned means in the operative position.

15. In a typewriting machine and tabulating mechanism, the combination of a carriage; a series of column stops situated a letter space distance apart and mounted for individual movement into and out of operative position and for maintenance indefinitely in either of such positions; key actuated means for moving any desired individual column stop to operative position; a cooperative stop; key controlled means for moving said cooperative stop to a position where it will cooperate only with the column stop or stops which are in the operative position; means carried by the frame of the machine for moving the projected column stops back to inoperative position; means for locking said last mentioned means in the operative position; and automatically operating means for releasing said locking means when all of the column stops have been restored to inoperative position.

16. In a typewriting machine and tabulating mechanism, the combination of a carriage; a series of stops; means for projecting said stops to operative position, said means including means whereby the stop which may be projected depends on the position of the carriage in its travel; a cooperative stop; means independent of said projecting means for re-setting said first mentioned stops to inoperative position, said re-setting means comprising a wiper, and means for moving said wiper into and out of the path of said first mentioned stops so that when the wiper is in operative position it will co-act successively with said first mentioned stops to move them back to inoperative position; and automatically operating means for locking said wiper in the path of said stops when the wiper is once moved to such position and for maintaining it in such position after the hand of the operator has

been removed from the moving means for the wiper.

17. In a typewriting machine and tabulating mechanism, the combination of a carriage; a series of column stops; means for projecting said stops to operative position, said means including means whereby the stop which may be projected depends on the position of the carriage in its travel; a cooperative stop; means independent of said projecting means for re-setting said column stops to inoperative position, said re-setting means comprising a wiper, and means for moving said wiper into and out of the path of said column stops, so that when the wiper is in operative position it will co-act successively with said column stops to move them back to inoperative position; automatically operating means for locking said wiper in the path of said column stops when the wiper is once moved to such position; and automatically operating means for releasing said wiper after all of the operative column stops have been moved to inoperative position.

18. In a typewriting machine and tabulating mechanism, the combination of a carriage; a series of column stops carried by the carriage; means carried by the frame of the machine for projecting said column stops separately to operative position; a cooperative stop carried by the frame of the machine; key controlled means for projecting said cooperative stop into the path of the projected column stop or stops; means independent of the column stop projecting means for re-setting all of the projected column stops to inoperative position, said re-setting means comprising a cam carried by the frame of the machine, and means for projecting said cam into the path of the projected column stops; and automatically operating means for locking said cam in the path of said column stops when the cam is once moved to such position and for maintaining it in such position after the hand of the operator has been removed from the moving means for the cam.

19. In a typewriting machine and tabulating mechanism, the combination of a carriage; a series of column stops carried by the carriage; means carried by the frame of the machine for projecting said column stops separately to operative position; a cooperative stop carried by the frame of the machine; key controlled means for projecting said cooperative stop into the path of the projected column stop or stops; means independent of the column stop projecting means for re-setting all of the projected column stops to inoperative position, said re-setting means comprising a cam carried by the frame of the machine, and means for projecting said cam into the path of the projected column stops; automatically oper-

ating means for locking said cam in the path of said column stops when the cam is once moved to such position and for maintaining it in such position after the hand of the operator has been removed from the moving means for the cam; and automatically operating means for releasing the locking means after all of the operative column stops have been moved to inoperative position.

20. In a typewriting machine and tabulating mechanism, the combination of a carriage; a series of column stops carried by the carriage; means for projecting said stops individually to operative position, said means including means whereby the column stop which may be projected depends on the position of the carriage in its travel; a key controlled cooperative stop; restoring means carried by the frame of the machine for moving the projected column stops to inoperative position, said restoring means including a wiper and hand operated means for moving the wiper to operative position; means for locking said wiper in the operative position and for maintaining it in such position after the hand of the operator has been removed from the moving means for the wiper; and automatically operating means for releasing the locking means after all of the operative column stops have been moved to inoperative position.

21. In a typewriting machine and tabulating mechanism, the combination of a carriage; a plurality of tabulator stops carried by the carriage and movable into and out of operative position and adapted to remain in either of said positions; a cooperative key actuated tabulating stop carried by the frame of the machine; re-setting means carried by the frame of the machine for moving said first mentioned stops to inoperative position, said re-setting means comprising a cam movable into and out of the path of said first mentioned stops which have been moved to operative position; and means for locking said cam in the operative position and for maintaining it in such position after the hand of the operator has been removed from the moving means for the cam.

22. In a typewriting machine and tabulating mechanism, the combination of a carriage; a series of column stops; means for projecting said stops individually to operative position, said means including means whereby the column stop which may be projected depends on the position of the carriage in its travel; a key controlled cooperative stop; re-setting means carried by the frame of the machine for moving the projected column stops to inoperative position, the movement of said re-setting means being toward and away from said column stops in the same general direction that the said stops move in as they are projected to and moved from operative position; and means

for locking the re-setting means in inoperative position.

23. In a typewriting machine and tabulating mechanism, the combination of a carriage; a series of column stops; means for projecting said stops individually to operative position, said means including means whereby the column stop which may be projected depends on the position of the carriage in its travel; a key controlled cooperative stop; resetting means carried by the frame of the machine for moving the projected column stops to inoperative position, the movement of said resetting means being toward and away from said column stops in the same general direction that the said stops move in as they are projected to and moved from operative position; automatically acting means for locking said resetting means in operative position; and automatically operating means for resetting the locking means when all of the operative stops of the series have been moved back to inoperative position.

24. In a typewriting machine and tabulating mechanism, the combination of a carriage; a series of stops; means for projecting said stops to operative position, said means including means whereby the stop which may be projected depends on the position of the carriage in its travel; a cooperative stop; resetting means independent of said projecting means for resetting said first mentioned stops to inoperative position, said resetting means comprising a cam, means for moving said cam into and out of cooperative relation with said first mentioned stops, the movement of said cam into and out of cooperative relation being in the same general direction as the stops of said series in their movements into and out of operative position, and automatically acting means for locking said cam against return movement under the action of the series of stops when the cam is in cooperative relation therewith; and means for locking said cam moving means in the operative position.

25. In a typewriting machine and tabulating mechanism, the combination of a carriage; a series of stops; means for projecting said stops to operative position, said means including means whereby the stop which may be projected depends on the position of the carriage in its travel; a cooperative stop; resetting means independent of said projecting means for resetting said first mentioned stops to inoperative position, said resetting means comprising a cam, means for moving said cam into and out of cooperative relation with said first mentioned stops, the movement of said cam into and out of cooperative relation being in the same general direction as the stops of said series in their movements into and out of operative position, and automatically acting means for

locking said cam against the action of the series of stops when the cam is in coöperative relation therewith; automatically acting means for locking said cam moving means in operative position; and automatically acting means for releasing said last mentioned locking means when the last of the operative stops of the series has been moved to inoperative position.

26. In a typewriting machine and tabulating mechanism, the combination of a carriage; a series of tabulator stops movable into and out of operative position; means for resetting said stops, said resetting means comprising a resetting cam coöperative with said stops to move them to inoperative position by a relative movement between said stops and carriage effected by the travel of the carriage, and means for moving said cam to operative position, said moving means comprising a finger piece and a controlling cam between said finger piece and said resetting cam; and means for locking said moving means in the operative position.

27. In a typewriting machine and tabulating mechanism, the combination of a carriage; a series of tabulator stops movable into and out of operative position; and means for resetting said stops, said resetting means comprising a resetting cam coöperative with said stops to move them to inoperative position by a relative movement between said stops and carriage effected by the travel of the carriage, and means for moving said cam to operative position, said moving means comprising a finger piece and a controlling cam between said finger piece and said resetting cam; automatically acting means for locking said moving means in operative position; and automatically acting means for releasing said locking means when all of the operative tabulator stops have been moved back to inoperative position.

28. In a typewriting machine and tabulating mechanism, the combination of a carriage; a series of tabulator stops movable into and out of operative position; means for resetting said stops, said resetting means comprising a resetting cam coöperative with said stops to move them to inoperative position by a relative movement between said stops and carriage effected by the travel of the carriage; means for moving said cam to operative position, said moving means comprising a spring restored finger piece movable at substantially right angles to the direction of movement of said cam, and a controlling cam intermediate said finger piece and resetting cam; and locking means coöperative with said controlling cam to lock it in the operative position.

29. In a typewriting machine and tabulating mechanism, the combination of a carriage; a series of tabulator stops movable into and out of operative position; means

for resetting said stops, said resetting means comprising a resetting cam coöperative with said stops to move them to inoperative position by a relative movement between said stops and carriage effected by the travel of the carriage, and means for moving said cam to operative position, said moving means comprising a spring restored finger piece movable at substantially right angles to the direction of movement of said cam, and a controlling cam intermediate said finger piece and resetting cam; automatically acting locking means coöperative with said controlling cam to lock it in the operative position; and automatically acting means for releasing said locking means.

30. In a typewriting machine and tabulating mechanism, the combination of a carriage; a series of tabulator stops movable into and out of operative position; means for resetting said stops, said resetting means comprising a resetting cam coöperative with said stops to move them to inoperative position by a relative movement between said stops and carriage effected by the travel of the carriage, and means for moving said cam to operative position, said moving means comprising a spring restored finger piece movable at substantially right angles to the direction of movement of said cam, and a controlling cam intermediate said finger piece and resetting cam; automatically acting locking means coöperative with said controlling cam to lock it in the operative position; and automatically acting means controlled by said tabulator stops for releasing said locking means.

31. In a typewriting machine, the combination of a carriage; a series of column stops movable individually into and out of operative position and each adapted to remain in either of the said positions to which it may be moved; means for resetting all of said stops to the inoperative position, said resetting means comprising a resetting device; automatically operating means for locking said resetting device in the operative position; and means controlled by the movement of any one of said tabulator stops to operative position for rendering said locking means operative.

32. In a typewriting machine, the combination of a carriage; a series of column stops movable individually into and out of operative position and each adapted to remain in either of the said positions to which it may be moved; means for resetting all of said stops to the inoperative position, said resetting means comprising a resetting device; automatically operating means for locking said resetting device in the operative position; and controlling means controlled by the movement of any one of said tabulator stops to operative position for rendering said locking means operative, said controlling

means comprising a movable bar which co-operates with the locking means and with said stops and which is moved to operative position by a movement of any of said stops to operative position and which is held in operative position by any of the stops which is in operative position.

33. In a typewriting machine, the combination of a carriage; a series of column stops movable individually into and out of operative position and each adapted to remain in either of the said positions to which it may be moved; means for resetting all of said stops to the inoperative position, said resetting means comprising a resetting device; automatically operating means for locking said resetting device in the operative position; and hand actuated means operable at will for releasing said locking means.

34. In a typewriting machine, the combination of a carriage; a series of column stops movable individually into and out of operative position and each adapted to remain in either of the said positions to which it may be moved; and means for resetting all of said stops to the inoperative position, said resetting means comprising a resetting device; automatically operating means for locking said resetting device in the operative

position; means for automatically releasing said locking means when all of said stops have been moved back to inoperative position; and hand actuated means operable at will for releasing said locking means.

35. In a typewriting machine, the combination of a carriage; a series of column stops movable individually into and out of operative position and each adapted to remain in either of the said positions to which it may be moved; means for resetting all of said stops to the inoperative position, said resetting means comprising a resetting cam movable into and out of operative position and operative to move the stops to inoperative position by a movement of the carriage; means for automatically locking said cam in the operative position; and hand actuated means operable at will for releasing said cam.

Signed at the borough of Manhattan, city of New York, in the county of New York, and State of New York, this 14th day of July, A. D. 1910.

JOHN WALDHEIM.

Witnesses:

CHARLES E. SMITH,  
E. M. WELLS.