W. J. ROCHE.

TYPE WRITING MACHINE.

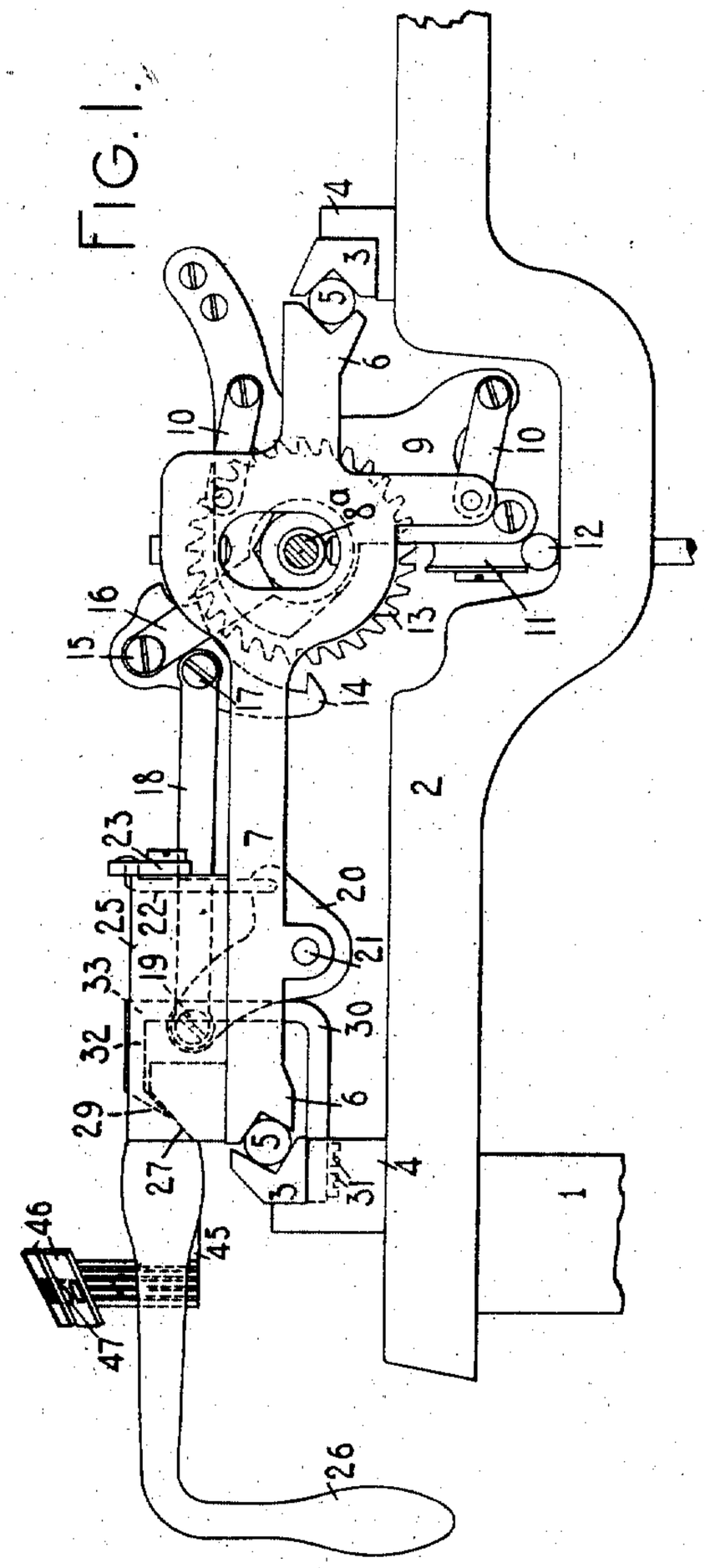
APPLICATION FILED APR. 13, 1910.

995,483.

Patented June 20, 1911.

2 SHEETS—SHEET 1.

FIG. 1.



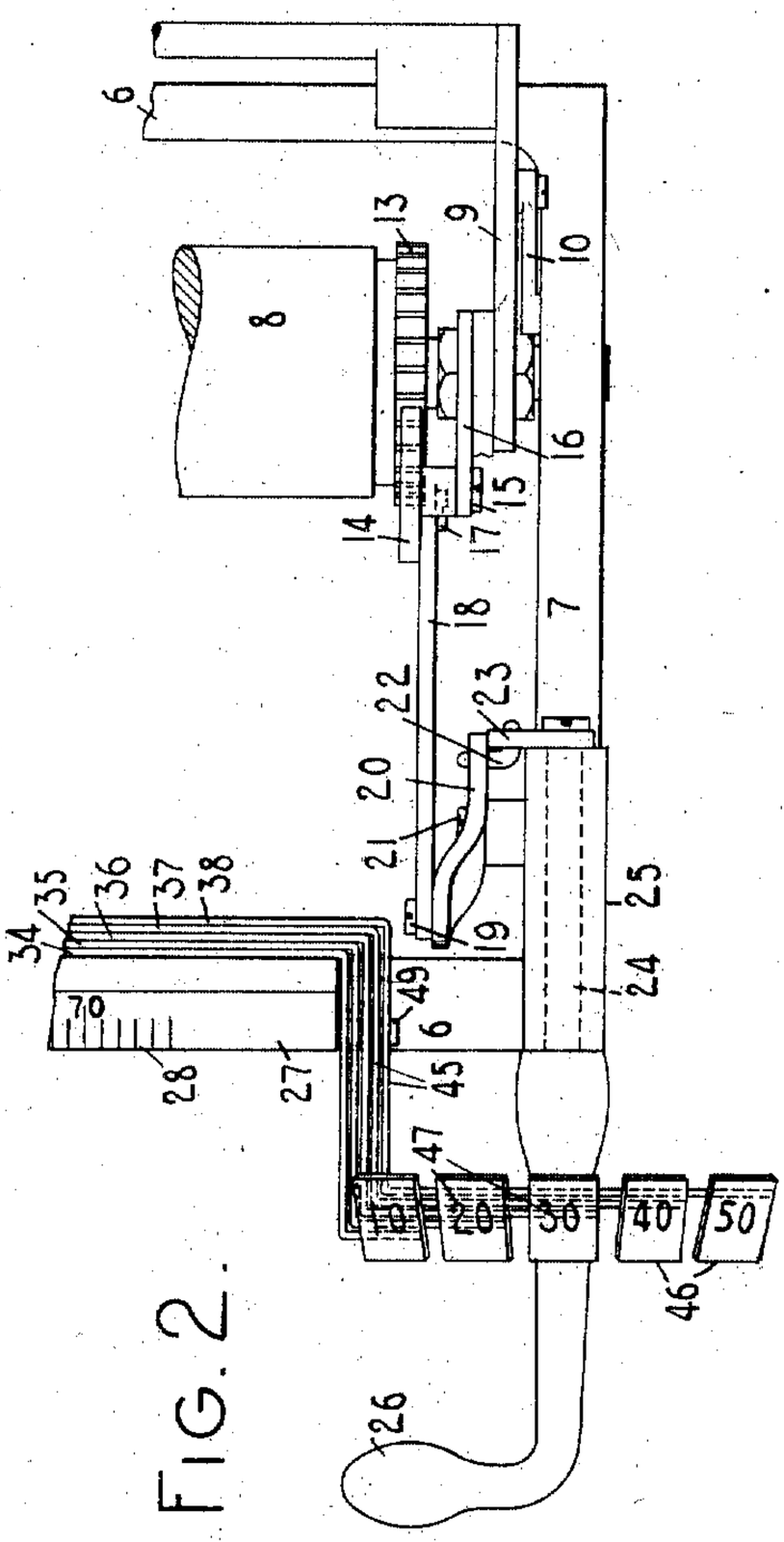


FIG. 2.

WITNESSES:

E. M. Wells.

Charles E. Smith

INVENTOR

William J. Roche

By Jacobs & Wells

HIS ATTORNEY

W. J. ROCHE.

TYPE WRITING MACHINE.

APPLICATION FILED APR. 13, 1910.

995,483.

Patented June 20, 1911.

2 SHEETS—SHEET 2.

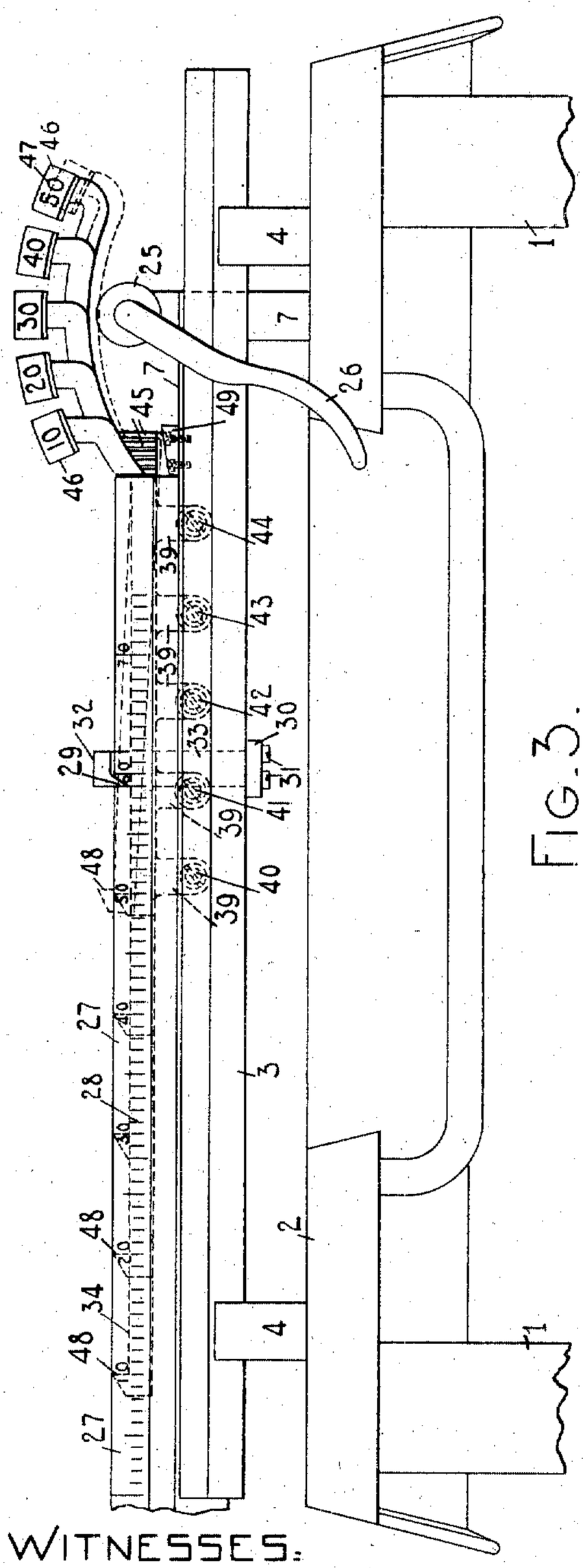


FIG. 3.

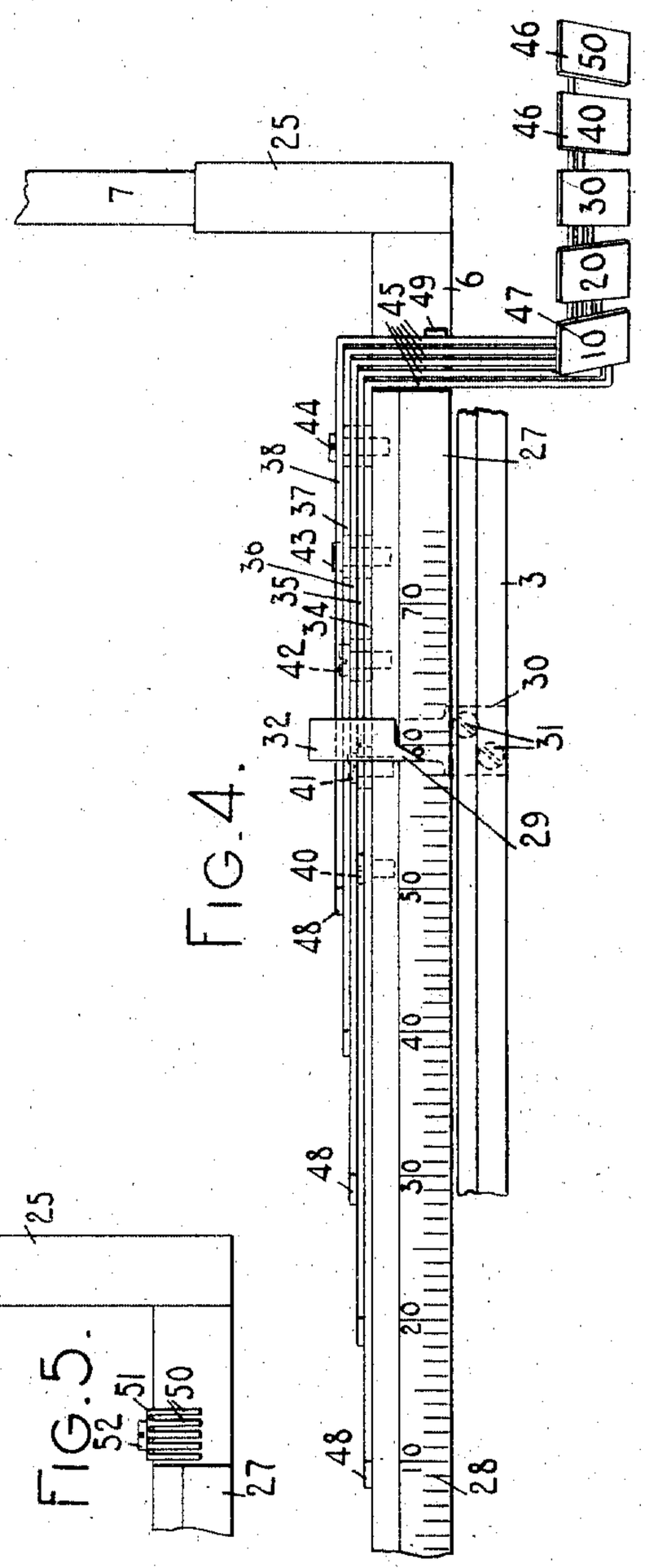


FIG. 4.

FIG. 5.

WITNESSES:

E. M. Wells

Charles E. Smith

INVENTOR:

William J. Roche

By Jacob Felbel

HIS ATTORNEY

UNITED STATES PATENT OFFICE.

WILLIAM J. ROCHE, OF COCHRANTON, PENNSYLVANIA, ASSIGNOR TO UNION TYPE-WRITER COMPANY, OF ILION, NEW YORK, A CORPORATION OF NEW YORK.

TYPE-WRITING MACHINE.

995,483. Specification of Letters Patent. Patented June 20, 1911.

Application filed April 13, 1910. Serial No. 555,237.

To all whom it may concern:

Be it known that I, WILLIAM J. ROCHE, a citizen of the United States, and resident of Cochranton, in the county of Crawford and State of Pennsylvania, 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 main object of the invention is to provide simple and efficient column selecting means.

A further object of the invention is to provide simple and efficient means by which the operator with one hand may actuate the column selecting means or other carriage stop mechanism and the line spacing mechanism during the return movement of the carriage.

To the above and other ends which will hereinafter appear, my invention consists in the 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 fragmentary side elevation showing the upper portion of a typewriting machine embodying my invention. Fig. 2 is a fragmentary detail plan view of the same. Fig. 3 is a fragmentary front elevation showing the upper portion of the machine. Fig. 4 is a fragmentary detail plan view showing the column selecting devices mounted on the carriage. Fig. 5 is a fragmentary top view showing a detail.

In the various views parts not necessary to an understanding of my invention have been omitted.

I have shown my invention embodied in a No. 10 Remington machine to which it is readily applicable without modifying or materially modifying the structural features of said machine as it now exists. It should be understood, however, that the invention may be embodied in various styles of typewriting machines.

The frame of the machine comprises corner posts 1 and a top plate 2. Guide rails 3 are fixed to upwardly extending lugs 4 secured to the top plate of the machine. These guide rails 3 are formed with oppositely disposed grooves for the reception of anti-friction balls or rollers 5 which are likewise received in grooved rails 6 of a carriage 7 to support the carriage in its movement from side to side of the machine over the top plate. A cylindrical platen 8 is mounted on a platen shaft 8^a to turn in a platen frame 9 which is connected to the carriage by parallel links 10 to afford a vertical case shifting movement of the platen. A roller 11 is carried by the platen frame and bears on a shift rail 12. The right-hand end of the platen is provided with a line spacing wheel 13 with which a line spacing pawl 14 is adapted to coöperate. The pawl 14 is pivoted at 15 on a rocking arm 16 mounted to turn on an axis concentric with the platen. The line spacing pawl is pivotally connected at 17 with a push link 18, the forward end of which is pivotally connected at 19 with one arm of an angular lever 20 pivoted to the carriage at 21. The other arm of the angular lever is connected to an upwardly extending link 22 which has its upper end pivotally connected with a crank arm 23. The crank arm is fixed to a rock shaft 24 which turns in a bearing 25 fixed to the right-hand end bar of the carriage. A suitable spring (not shown) is employed to restore the rock shaft to normal position.

The rock shaft is extended forwardly in front of the carriage and is provided with a depending finger piece or handle 26 by which the rock shaft may be turned. The handle 26 is adapted to swing to the right from the normal position shown in Fig. 3 to effect an actuation of the line spacing pawl. This finger piece therefore moves, in its line spacing movement, in the general direction of the return movement of the carriage so that pressure exerted on the finger piece to move it to the right is effective to operate the line spacing mechanism and at the same time to return the carriage to the right. The swinging movement of the finger piece or handle 26 to the right turns the rock shaft 24, thereby moving the link 22 down and transmitting motion to the angular lever 20 which is effective to move the push link 22 rearwardly, thus turning the pawl 14 on its pivot 15 until the pawl engages the

line spacing wheel. A further movement of the link 18 is effective to carry the line spacing pawl, the swinging arm 16, and the line spacing wheel and platen around together.

The forward cross-bar of the carriage is provided with an inclined face 27 having a scale 28 with which a fixed pointer 29 cooperates. The pointer 29 is formed as a part of a bracket 30, which as best shown in Fig. 1 extends downwardly and forwardly to a point beneath the forward fixed carriage rail 3 to which it is secured by screws 31. The upper horizontal portion 32 of the bracket constitutes a fixed tabulator or carriage stop, as will hereinafter more clearly appear, whereas the vertically disposed portion 33 of the bracket is spaced apart from the forward cross bar of the carriage a sufficient distance to receive a series of stop carrying levers 34, 35, 36, 37 and 38. There are five of these levers shown in the present instance but this number may be varied as conditions may require. Each of the levers 34 and 38 inclusive, is provided with a depending portion 39 (see Fig. 3), apertured to receive a headed pivot 40, 41, 42, 43 or 44. These pivots are threaded at their forward ends into tapped openings in the forward cross bar of the carriage and each of them, except the pivot 40, has a spacing washer between the rail 6 and the ear 39. The screw 44 constitutes a pivot for the lever 38, whereas the screws 43, 42, 41 and 40 constitute pivots for the levers 37, 36, 35 and 34 respectively, the pivots being situated at varying positions lengthwise of the carriage bar. The levers are provided with forwardly bent portions 45 and extend from said bends to the right where some of the levers are curved upwardly over the rock shaft 24 of the line spacing mechanism, as indicated in Figs. 2 and 3. The free end of each lever is provided with a finger piece or key 46 preferably set at an inclination thereon, as indicated in Fig. 1, the keys being preferably arranged in a curve as shown in Fig. 3. These keys are provided with indices 47 thereon to indicate the columnar position of arrest determined by an actuation of the particular key to which the indices are applied. Thus the five keys carried by the five column selecting levers 34 to 38, inclusive, are provided in the present instance with the indices "10," "20," "30," "40," and "50" which indicate that an actuation of one of these keys determines the arrest of the carriage at the position indicated at "10," "20," "30," "40" or "50," as the case may be, on the carriage scale. The column selecting levers 34 to 38 inclusive are each provided at the left-hand end thereof with an upwardly projecting stop 48 which, when a corresponding key 46 is depressed as indicated in Fig. 3, will be moved upwardly into coöperative relation with the portion 32 of the bracket 30 which, as hereinbefore pointed out, constitutes a tabulator stop fixed to the frame of the machine. The key-carrying ends of the levers 34 to 38 are limited in their downward movements by a stop 49 fixed to the bar 6 of the carriage. The key-carrying ends of the levers are normally maintained elevated by springs one for each lever. The springs may be formed by slitting a plate 51 secured by a screw 52 to the front carriage rail, the free end of each spring bearing upwardly against its cooperating lever.

It will be observed from an inspection of Figs. 2 and 3 that the column selecting levers 34 to 38, inclusive, are levers of the first order and that these levers vary in length so that the stops 48 carried thereby are situated at different points along the front cross bar of the carriage and at different points in the direction of the travel of the carriage. In the present instance these stops are situated ten letter space distances apart to accord with the marking on the column selecting keys 46, though it should be understood that the distance between the stops 48 may be varied as may be desired, the indices on the finger pieces being changed accordingly.

It will be observed that the position of the column selecting keys 46 at the front of the machine is such that these keys are arranged adjacent to the handle 26 by which the line spacing mechanism is actuated, so that a finger of the hand of the operator which grasps the handle 26 may be employed to depress one of the keys 46, depending on the column to be selected; and that this key may be maintained depressed while the finger piece or handle 26 is being actuated to operate the line spacing mechanism and the carriage is being returned to the right. If, for instance, the first key, counting from the left and which bears the index "10," is depressed against the pressure of its spring 50, this will elevate the corresponding column selecting stop 48 and will bring it into coöperative relation with the fixed tabulator stop 32 on the frame of the machine. The carriage may be moved to the right while pressure is maintained on the depressed finger key and when the carriage arrives at the point where "10" on the carriage scale registers with the pointer 29, an arrest of the carriage will be effected. It will be seen therefore that the tabulating operation is effected during the return movement of the carriage. In other words, the arrest of the carriage at the selected position is effected during the movement of the carriage from left to right.

The column selecting mechanism is available for general tabulator work, it being understood that in ordinary tabulation, where for instance an item is first written

and then the next column is selected for the entry of figures, the carriage will be moved to the left beyond the position of the column to be selected for the entry of the figures and the carriage will then be returned to the right to secure the proper columnar position determined by the depression of the requisite key 46. The mechanism, however, is particularly available for work in which lines are to be begun at different points as at "10," "20," "30," etc. In writing the headings and endings of letters, in addressing envelops, and in other classes of work, successive lines are usually begun at different points on the paper. In practice the stops 48 will be located at points suitable for the particular work for which the machine is intended to be used. In any such work the return movement of the carriage, while one of the selecting keys 46 is maintained depressed, determines the point of arrest of the carriage in its movement to the right and the point where a new line of writing may be begun. The selection of the column, the actuation of the line spacing mechanism, and the return of the carriage to the right, are, therefore, all accomplished virtually at a single operation.

It will be seen that the stop devices are in the nature of attachments which may be readily applied to existing forms of typewriting machines, such as the No. 10 Remington machine, without modifying or materially modifying the structural features of said machines as they now exist, and that the devices are simple in construction and efficient in use.

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 handle by which the carriage is returned to the right to begin a new line of writing, and column selecting mechanism including a series of keys carried by the carriage adjacent to said handle and so arranged with reference thereto that a single hand of the operator may grasp said handle and may also actuate any of said keys, the column selecting mechanism being operative to arrest the carriage at different columnar positions in its movement to the right as determined by the actuation of said keys.

2. In a typewriting machine, the combination of a carriage, a handle by which the carriage is returned to the right to begin a new line of writing, key controlled column selecting mechanism operative to arrest the carriage at different columnar positions in its movement to the right, said column selecting mechanism comprising a stop on the frame of the machine, and a plurality of key controlled stops on the carriage normally out of coöperative relation with the stop on the frame, the key or keys for said stops being arranged adjacent to said handle, whereby the handle may be grasped and a key for the stops may be actuated by a single hand of the operator.

3. In a typewriting machine, the combination of a carriage; line spacing mechanism including a handle which moves to the right in its line spacing movement and which is operative to move the carriage to the right to begin a new line of writing; and independent key controlled column selecting mechanism operative to arrest the carriage in its movement to the right, said column selecting mechanism being carried by the carriage and including a plurality of independently operable keys arranged adjacent to the line spacing handle where the operator with one hand may actuate the handle and any of the keys of the column selecting mechanism.

4. In a typewriting machine, the combination of a carriage; line spacing mechanism including a handle which moves to the right in its line spacing movement and which is operative to move the carriage to the right to begin a new line of writing; and key controlled column selecting mechanism operative to arrest the carriage in its movement to the right, said column selecting mechanism comprising a stop fixed to the frame of the machine, and a plurality of independently operable key controlled column selecting stops carried by the carriage and movable into coöperative relation with the stop on the frame, the keys for said column selecting stops being carried by the carriage at the front thereof and adjacent to said handle and in position where a single hand of the operator may grasp the handle and actuate a key of the selecting stops.

5. In a typewriting machine, the combination of a carriage; line spacing mechanism including a handle which moves to the right in its line spacing movement and which is operative to move the carriage to the right to begin a new line of writing; and key controlled column selecting mechanism operative to arrest the carriage in its movement to the right, said column selecting mechanism comprising a stop fixed to the frame of the machine, and a plurality of independently operable key controlled column selecting stops carried by the carriage and movable into coöperative relation with the stop on the frame, said selecting stops being situated at different points in the direction of the travel of the carriage and the keys for said column selecting stops being carried by the carriage at the front thereof and adjacent to said handle and in position where a single hand of the operator may grasp the handle and actuate a key of the selecting

stops, the particular key actuated determining the columnar position of arrest of the carriage.

6. In a typewriting machine, the combination of a carriage; and column selecting mechanism therefor operable to arrest the carriage at any selected columnar position in the movement of the carriage to the right, said selecting mechanism comprising a single column stop carried by the frame of the machine, and a series of key controlled levers carried by the carriage and carrying column selecting and determining stops located at different points in the direction of the travel of the carriage.

7. In a typewriting machine, the combination of a carriage; and column selecting mechanism therefor, comprising a single column stop carried by the frame of the machine, and a series of key controlled parallel levers carried by the carriage at the front thereof and extending longitudinally in the direction of the travel of the carriage and carrying column selecting and determining stops located at different points in the direction of the travel of the carriage.

8. In a typewriting machine, the combination of a carriage; line spacing mechanism therefor comprising a handle which moves from left to right in the line spacing movement thereof; a stop on the frame of the machine; a series of key controlled stop carrying levers pivoted to the front cross-bar of the carriage and extending longitudinally in the general direction of travel of the carriage; and column selecting stops carried by said levers, the keys for said levers being adjacent to said handle and so arranged that the same hand of the operator which grasps said handle may at the same time actuate said keys.

Signed at Cochranton in the county of Crawford and State of Pennsylvania this 11th day of April A. D. 1910.

WILLIAM J. ROCHE.

Witnesses:

F. A. CURTIS,

FLOSSIE CHISHOLM.