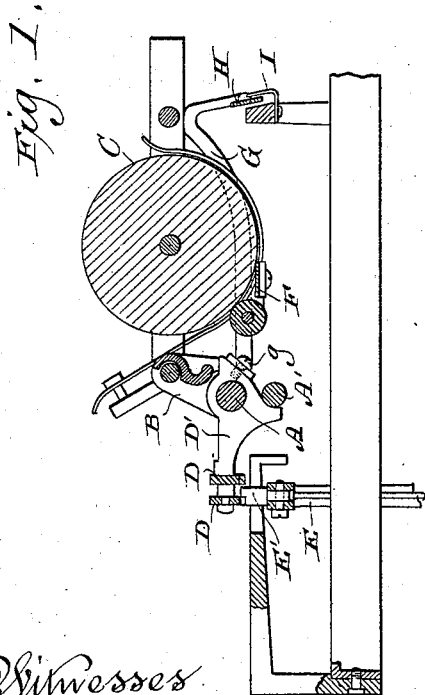
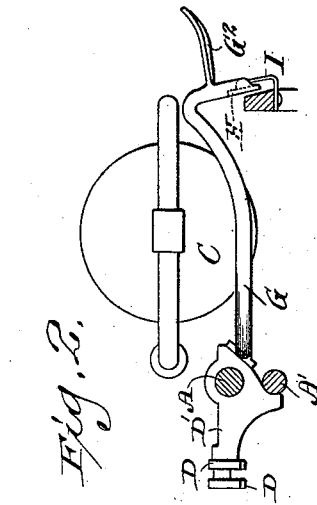


(No Model.)

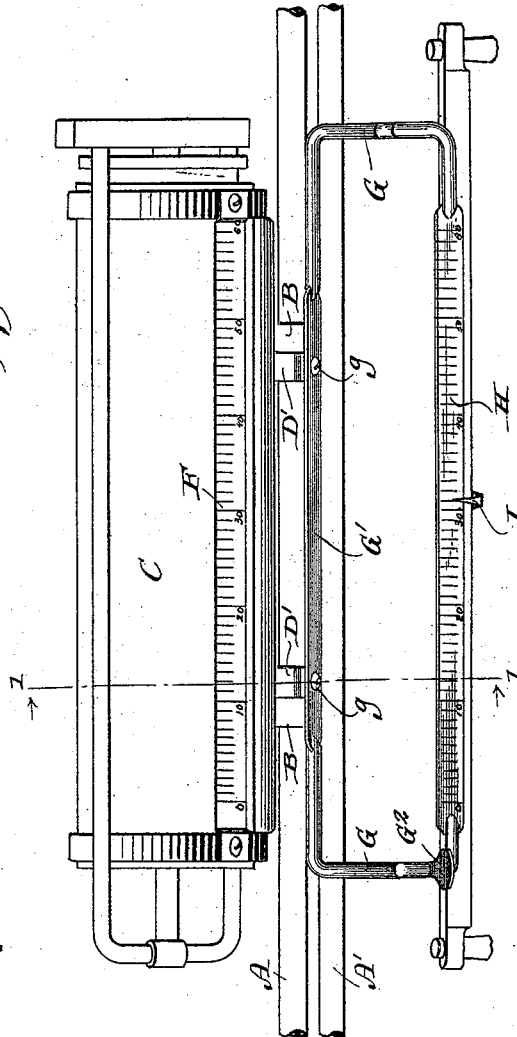
W. CLARK.  
TYPE WRITING MACHINE.

No. 493,015.

Patented Mar. 7, 1893.



*Fig. 3.*



Witnesses.  
Geo W. Young.  
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Attorney

# UNITED STATES PATENT OFFICE.

WILLIAM CLARK, OF NORTH GREENFIELD, WISCONSIN.

## TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 493,015, dated March 7, 1893.

Application filed September 12, 1892. Serial No. 445,659. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM CLARK, a subject of the Queen of Great Britain, and a resident of North Greenfield, in the county of Milwaukee, and in the State of Wisconsin, have invented certain new and useful Improvements in Type-Writing Machines; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to new and useful improvements in type writing machines, and relates more particularly to improvements in the construction and arrangement of the graduated scales for indicating the degree of movement of the type writer carriage upon the track.

In the accompanying drawings illustrating my invention: Figure 1 is a vertical transverse sectional view of a type writer carriage and track to which my improvement has been applied, said section being taken on line 1—1 of Fig. 3. Fig. 2 is an end elevation of the same. Fig. 3 is a front elevation of the same showing the carriage in its raised position.

In said drawings: A A' represent the guide rods which form the track for the carriage and upon which blocks B B which are connected with the carriage, are arranged to slide. C represents the carriage.

D D represent the usual rack bars carried by a frame D' slidingly engaged upon the rod A between the blocks B B.

E represents the usual vibrating arm carrying at its free end a pawl E' which is arranged to move alternately into engagement with the two rack bars D D. The frame D' is arranged to vibrate upon the rod A in the usual manner so as to raise the rack bars D D above the level of the pawl E' so as to permit the carriage to be moved freely lengthwise of the rods A A', but normally rest in the position shown in the drawings, with the said rack bars in engagement with said pawl.

F represents the usual graduated scale secured to the underside of the carriage for indicating the exact position of any letter or character upon a line of writing.

G G represent forwardly extending arms, conveniently connected together at their rear ends by means of a transverse bar G' which is secured by screws g g to the forward side

of the frame D', and said arms carry at their forward ends, a longitudinal bar H, which is marked with a suitable graduated scale, the divisions of which correspond with the divisions of the scale F. By this construction the scale bar H being carried by the arms G G, which are secured to the frame D', will obviously be carried with the carriage in its step by step movement, and in order to indicate the degree of such movement I provide an index finger I upon the machine frame, adjacent to the path of the bar H. A projecting thumb piece G<sup>2</sup> is provided upon the forward end of one of the arms G G, by means of which said arms, together with the connected frame D', may be readily vibrated so as to lift the rack bars D D out of engagement with the pawl E', and permit the carriage to be adjusted in either direction.

It will be seen, that by the described construction, both of the graduated scales are carried by the carriage and move together, so that, when a letter is printed upon a sheet of paper in the machine, its exact location upon the line will be indicated upon the scale H, by the index finger I, and when an error has been made, it is only necessary to note the mark upon the scale F opposite which the error occurs, and then to move the carriage back until the index finger I points to the corresponding mark upon the graduated scale H, when the carriage will be in position for another character to be printed in place of the one erroneously printed. By my improved construction, the carriage may be thrown back as in Fig. 3 so as to enable the operator to view the page of writing in the machine, and to simultaneously view both of the scales. When the carriage is in this position the operator may by depressing one of the arms G, elevate the racks D D out of engagement with the pawl E', and thus permit the carriage to be adjusted in either direction desired, and this operation may be performed by the same hand that is employed to throw back the carriage.

It has been customary heretofore, to provide type writing machines with two scales, one secured to the carriage in the same manner as the scale F, and the other secured rigidly to the front part of the machine frame,

an index finger or pointer being secured to the carriage and arranged to indicate upon the stationary scale, the degree of movement of the carriage. In this construction however, it has been necessary to number the scale upon the carriage to read progressively from left to right, and the stationary scale on the machine frame to read progressively from right to left. This reverse marking of the two scales is often the cause of mistakes and it is often difficult, especially to beginners, to ascertain by the scales, the precise location of a word letter or character, and it is furthermore impossible to adjust the carriage while it is raised, from the fact that the pointer is carried by the carriage and only indicates the position of the carriage when the carriage is down. By my improvement, however I am enabled to construct both scales so as to read from left to right, the marking being identical upon both, so as to entirely avoid the confusion arising from the reverse reading scales.

Another advantage gained by my improved construction is that, by the arrangement of the thumb piece  $G^2$  at the front of the carriage, the operator is enabled to more readily operate it to free the carriage than if it were located at the back of the machine as is usually the case in the construction of type writing machines.

My improvement may be very readily applied to the ordinary styles or forms of writing machines by simply securing the longitudinal bar or strip  $G'$  to the frame  $D'$  in the manner described, and securing the indicating finger  $I$  in position upon the machine frame.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. The combination with the frame, track

and carriage of a type writing machine, of a vibratory frame, carried by the carriage and provided with one or more rack bars, a pawl arranged to engage with the teeth of said bars, a graduated scale of measurements secured to the under side of the carriage, arms secured to said vibratory frame and extending forward beyond the carriage and carrying a second graduated scale having markings identical with those of the first mentioned scale, and an index finger or pointer secured to the machine frame adjacent to the line of movement of the latter scale, substantially as set forth.

2. The combination with the frame, track and carriage of a type writing machine, of a pawl, a vibratory frame carried by the carriage and provided with one or more rack bars adapted to normally rest in engagement with said pawl, a graduated scale of measurements secured to the underside of the carriage, arms secured to the vibratory frame and extending forwardly beyond the carriage and carrying at their forward ends a second graduated scale having markings identical with those of the first mentioned scale, an index finger or pointer upon the machine frame adjacent to the line of movement of the latter scale, and a thumb piece upon one of the arms for vibrating said arms so as to move the rack bars carried by the vibratory frame, out of operative engagement with the pawl, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand, at Milwaukee, in the county of Milwaukee and State of Wisconsin, in the presence of two witnesses.

WILLIAM CLARK.

Witnesses:

JOHN E. WILES,  
H. G. UNDERWOOD.