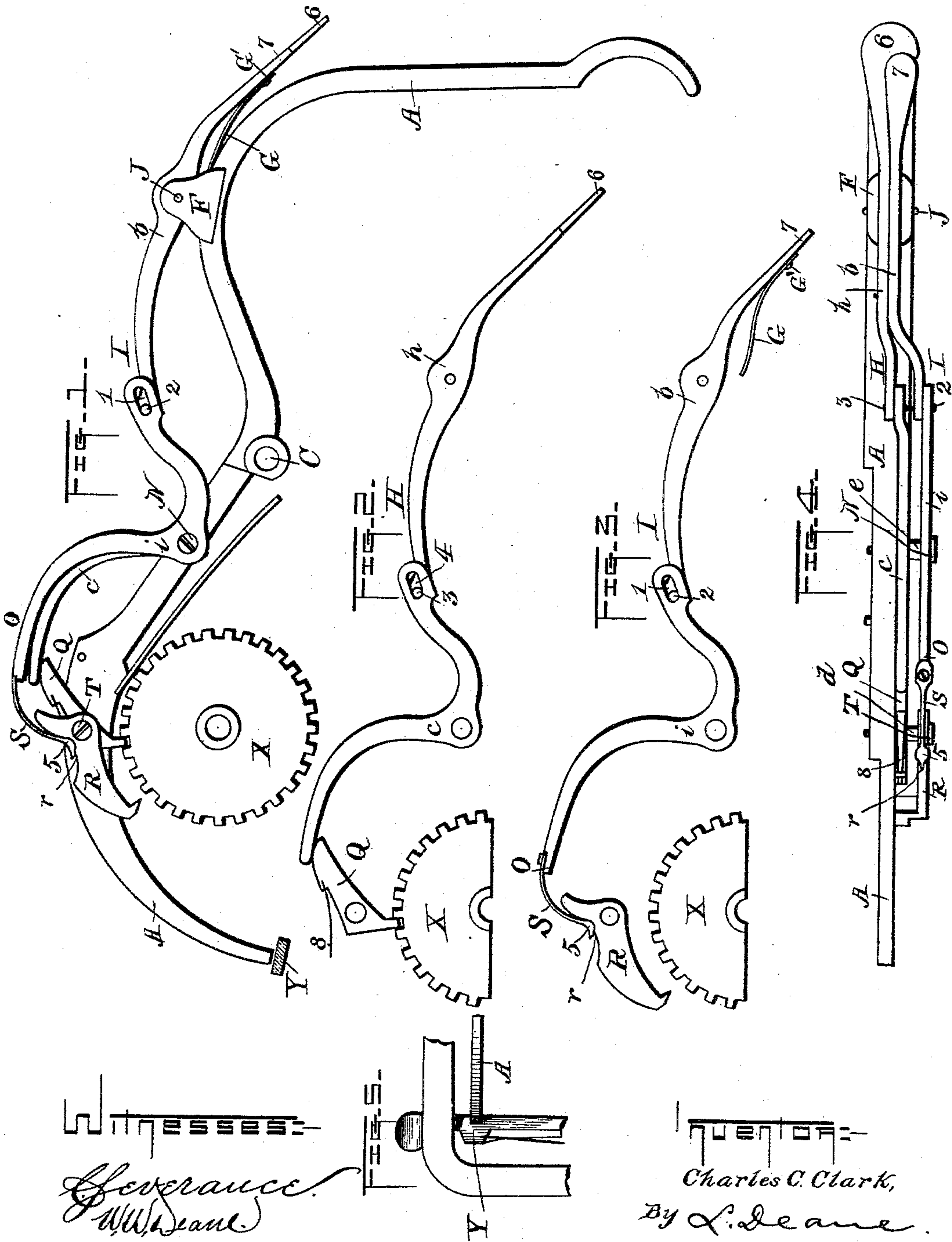


(No Model.)

C. C. CLARK.
TYPE WRITING MACHINE.

No. 414,494.

Patented Nov. 5, 1889.



UNITED STATES PATENT OFFICE.

CHARLES C. CLARK, OF BURLINGTON, IOWA.

TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 414,494, dated November 5, 1889.

Application filed March 19, 1888. Serial No. 267,770. (No model.)

To all whom it may concern:

Be it known that I, CHARLES CLAPP CLARK, a citizen of the United States, residing at Burlington, in the county of Des Moines and State of Iowa, have invented a new and useful Improvement in Type-Writing Machines, of which the following is a specification.

My invention relates to improvements upon the Remington type-writer and all other type-writers in which the movement of the paper-carriage and of the paper-cylinder is originated and accomplished in substantially the same manner as in the same above-mentioned Remington type-writer; and the objects of my invention are two—first, to furnish an improved method of moving the paper-carriage of said type-writer to and fro without previous movement of the paper-cylinder and without direct pressure of the hand upon the thumb-piece, and, secondly, to provide an improved means of reversing the motion of the paper-cylinder other than by direct pressure of the hand upon the said paper-cylinder. I attain these objects by means of the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a side view of the entire invention as applied to the Remington type-writer. Figs. 2 and 3 are side views of the parts. Fig. 4 is a top view of and a projection of Fig. 1. Fig. 5 is a detail plan showing a corner of the frame and end of the thumb-piece, also an end of the carriage-lever as in their positions in the machine.

Similar letters refer to similar parts throughout the several views.

The position of the parts shown is the position which they usually occupy, except thumb-piece Y, which should be separated an eighth of an inch or more from the end of A.

In Fig. 1, A represents the carriage-lever of the original type-writer and is not a part of my invention. Y, same figure, is a cross-section of the thumb-piece, and Q the line-space pawl of said original machine, and *per se* are not parts of my invention.

My invention consists of the two sets of curved and combined levers I, composed of parts *b i*, and H, composed of the parts *h c*; second, of a reverse spacing-pawl R; third,

of a cylinder-head X to replace the right cylinder-head of the present type-writer, of a diameter to correspond with the style and size of machine and furnished with regular cogs on the circumference, the number of cogs to be determined by the size of the cylinder-head and the width or space desired between the printed lines; fourth, of a slotted shoulder F, placed on the carriage-lever A and used for the bearing of the two levers I and H, pivoted through J, all as will now be more fully described, as well as pointed out in the claims.

The lever I is provided with the spring G, fastened to the lever I at one end G', with the other end resting within the slotted shoulder F. The portion *c* of the lever I is provided with a curved spring S, fastened to the lever at the point O and bearing upon the reverse spacing-pawl R through the upper curved space on the face of the top end. The parts *i* and *c* of the combined levers H and I are pivoted by or work upon the screw N, fastened to the carriage-lever A, and the pawls Q and R are pivoted by and work upon the screw T, fastened to the carriage-lever A. That portion of lever H marked *c* and that portion of lever I marked *i*, which are pivoted on the screw N, are separated by the washer *e*, (shown in Fig. 4,) and the pawls Q and R are separated by the washer *d*, (also shown in Fig. 4.) The right-hand portion of lever I (marked *b*) is connected by the pin 2, working in slot 1, with portion *i*. That part of lever H marked *h* is connected by pin 3, working in slot 4, with the portion *c*.

The object of the spring G is to counter-balance the weight of the reverse spacing-pawl R and to keep it off the cogs of the cylinder-head X when not in actual use, which is its normal position. The part S being a spring rather than a rigid bar, its object is to allow the reverse spacing-pawl to move upward and backward when sliding over the cogs. The object of the shoe at 5 is to keep the said spring on the pawl, and the shoe, being adapted to fit and act upon the curved portion *r* of the pawl R, will accomplish this purpose. The said spring S must be so adjusted that when the spring G is free to act

the spring S will raise the reverse spacing-pawl off the cogs.

To attain the first object of my invention—viz., the movement of the paper-carriage to and fro without previous movement of the paper-cylinder and without direct pressure of the hand upon the thumb-piece Y of the original machine—all the parts composing lever H are used, and the method of using them is as follows: The fingers grasp the carriage-lever A, the thumb being placed on the lever H at its right-hand end 6. A pressure of the thumb causes, through the action of the pin 3 in slot 4, the portion c of the compound lever H to press down upon the line-spacing pawl Q at its upper end, which pressure will disengage the said line-spacing pawl from the cogs of the cylinder-head X, whereupon the carriage-lever A is free to move without rotating the paper-cylinder, and upon a pulling pressure of the fingers the said carriage-lever rotates upon the axis C, and, the end of the said lever pressing upon the thumb-piece Y, releases the rack (not shown) from the dogs, (not shown,) thus permitting the free movement of the carriage at the will of the operator.

To attain the second object of my invention—viz., a reverse movement of the paper-cylinder other than by direct pressure of the hand—the fingers are placed in a similar position as last above, the thumb now pressing both levers H and I at the space between the shoulder F and the extremities 7 and 6. The pressure on the end 6 of the compound lever H moves the part h of said lever, and through the pin 3 and slot 4, by which said part is connected to the part c, operates to release the line-spacing pawl Q from the cogs of the cylinder X. The pressure at the end 7 of the compound lever I causes the reverse spacing-pawl R to be thrown upon the cogs of the cylinder-head X, whereupon, the carriage-lever A being rotated by the pulling pressure of the fingers, the reverse spacing-pawl slides over the cogs, and when the carriage-lever A is rotated to its full extent engages the cogs of the cylinder-head, whereupon by virtue of reverse pressure of the fingers and thumb upon the carriage-lever A, the motion of the paper-cylinder is reversed at the pleasure of the operator. Upon removing the thumb and fingers from their position, as aforesaid, upon the levers H and I, the pressure of the spring G operates upon all the parts of the compound lever I, so as to lift the reverse spacing-pawl R off the cogs of the cylinder-head X, and at the

same time the pressure of the spring 8 of the line-spacing pawl throws the said line-spacing pawl upon the cogs of the said cylinder-head X, thus bringing all the parts to their ordinary position, as shown in Fig. 1 of the drawings, a part of this specification.

What I claim as my invention, and desire to secure by Letters Patent of the United States, is—

1. The combination of the carriage-lever A and the compound lever I, consisting of the parts b and i, connected by pin and slot, as described, and having the spring S at its end, with the pawl R and cogged head X, substantially as and for the purposes set forth.

2. The combination of the compound lever H, composed of the parts h and c, connected at 3 and 4 with the carriage-lever A, the pawl Q, and cogged head X, in the manner and for the purposes set forth.

3. In combination with the lever A, pawls Q and R, and cogged head X, the compound levers H and I, substantially as and for the purposes set forth.

4. In combination with the lever I, having spring S at one end, provided with shoe 5, the reverse spacing-pawl R, curved at r, and the cogged head X, whereby, when said lever I is operated, the said pawl can at will be thrown in or out of engagement with said head, substantially as set forth.

5. In combination with the carriage-lever A, the slotted shoulder F and compound levers H and I, pivoted therein at J, and the cogged head and pawls Q and R, substantially as and for the purposes set forth.

6. The combination of the compound levers H and I with the lever A, to which they are pivoted by screw N, and with the pawls Q and R and washers d and e and the cogged head, substantially as and for the purposes set forth.

7. The pawls Q and R, combined with and pivoted to lever A by screw T, and with the levers H and I and the cogged head, substantially as described.

8. The combination of the cogged head, carriage-lever, and spring-actuated pawls with the compound levers H and I, pivoted together and to the carriage-lever, as set forth, whereby a reverse movement of the paper-cylinder is obtained other than by direct pressure of the hand.

CHARLES C. CLARK.

Witnesses:

F. MANSFIELD,
JNO. J. SEERLEY.