

(No Model.)

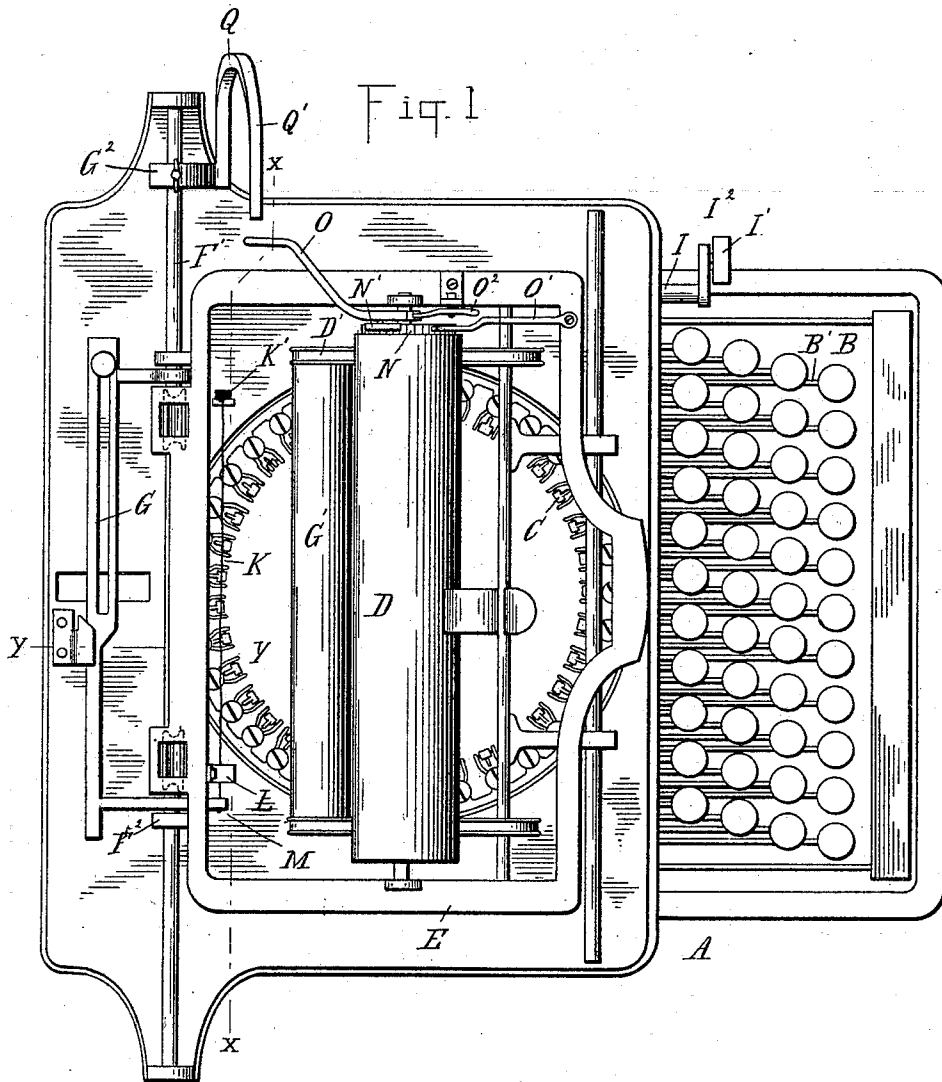
3 Sheets—Sheet 1.

W. M. REASON.

TYPE WRITING MACHINE.

No. 439,847.

Patented Nov. 4, 1890.



Witnesses:

P. M. Hulbert

Cambridge

Inventor

Walter M. Reason

BY Short Magic & Son
Atty

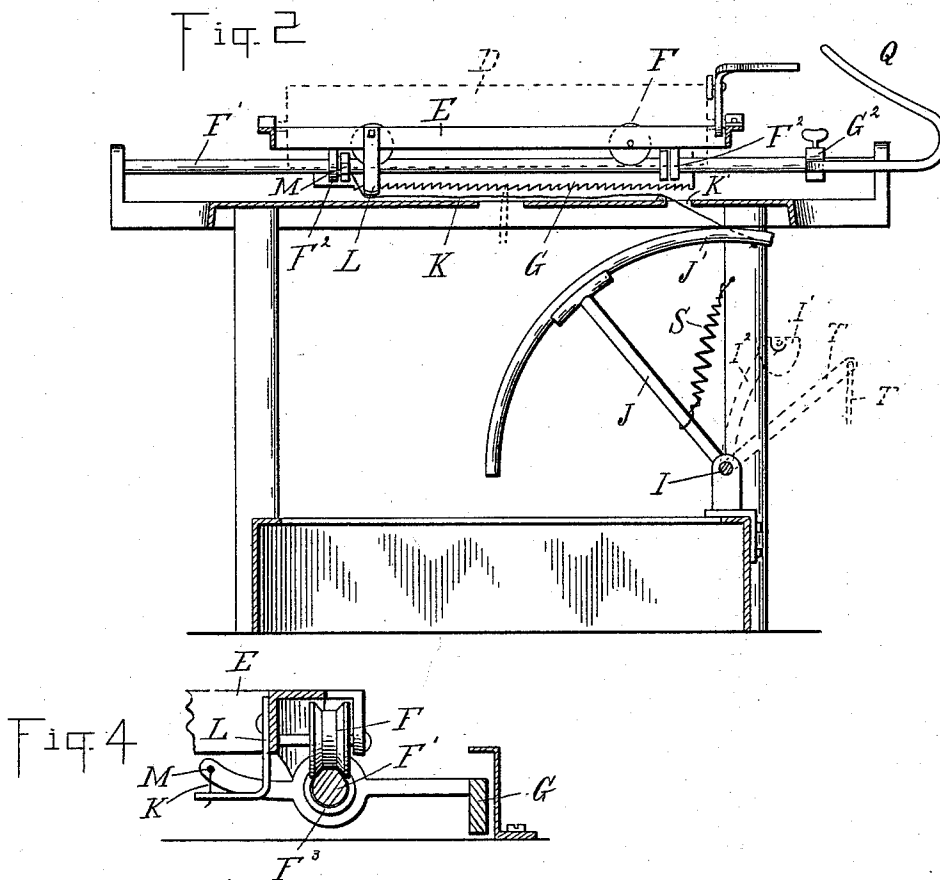
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3 Sheets—Sheet 2.

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Patented Nov. 4, 1890.



Witnesses:
H. M. Hulbert
E. McBeary

Inventor:
Walter M Reason
By *Wm. M. Maquet* Atty.

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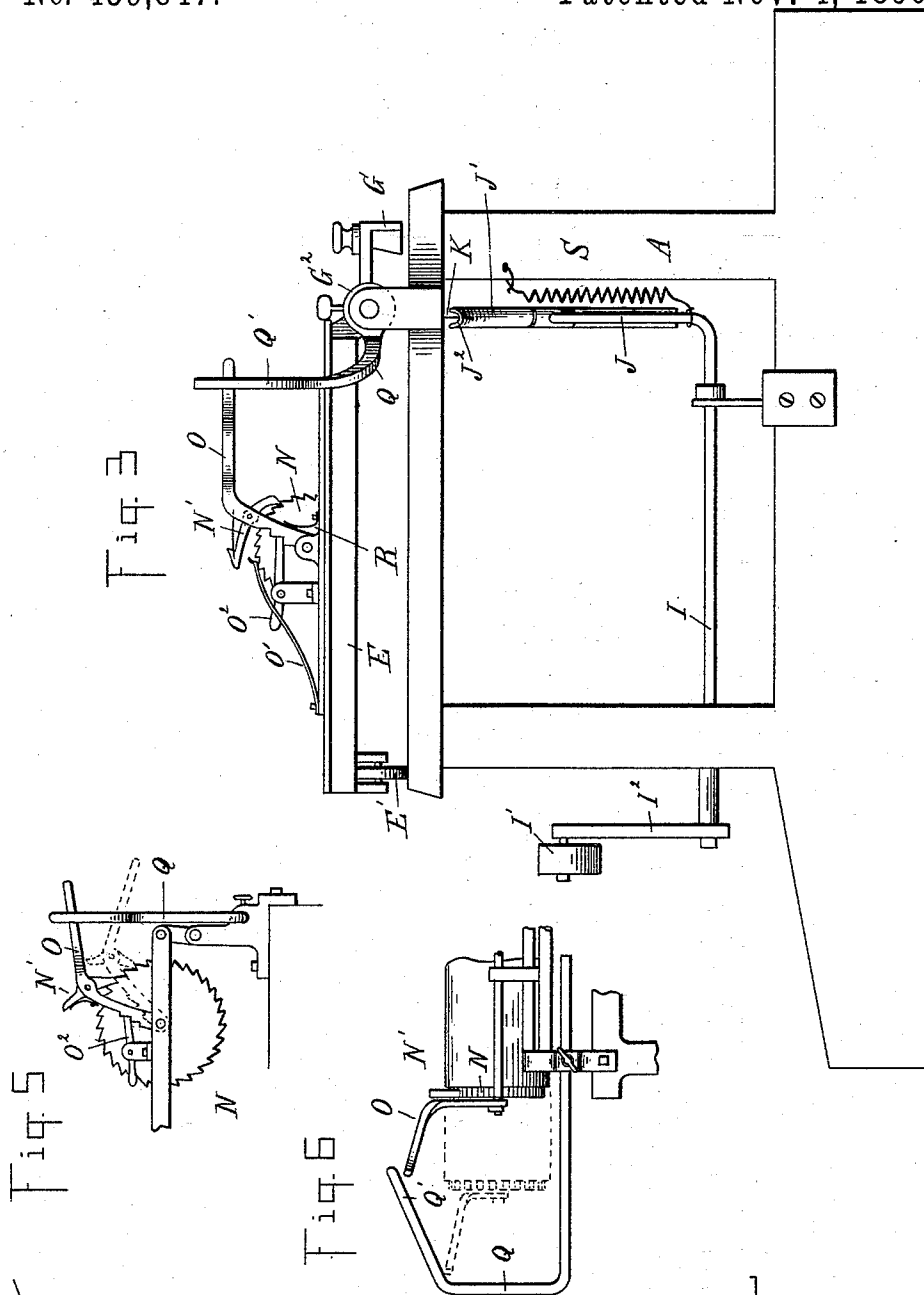
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Witnesses:

P. M. Hulbert
Camebearty

Came Party

Inventor:

Walter M Reason

By Mossmaquet for
Att'y.

Atty.

UNITED STATES PATENT OFFICE.

WALTER M. REASON, OF CARO, MICHIGAN, ASSIGNOR OF PART TO LUKE H. CORCORAN, TIMOTHY C. QUINN, AND ARTHUR T. SLAGHT, ALL OF SAME PLACE.

TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 439,847, dated November 4, 1890.

Application filed July 1, 1889. Serial No. 316,173. (No model.)

To all whom it may concern:

Be it known that I, WALTER M. REASON, a citizen of the United States, residing at Caro, in the county of Tuscola and State of Michigan, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to new and useful improvements in type-writing machines.

The invention relates to that class of type-writers wherein the type are attached to keys adapted to be struck by the operator, the paper being secured upon a roller attached to a carriage which moves across the type-receptacle a proper distance as each key is struck to bring the letters in proper relation to each other. The carriage is then withdrawn to commence a new line, and at the same time the roller carrying the paper is rotated to bring an unprinted portion of the paper into position for such new line.

25 The invention consists in the peculiar construction of the device for returning the carriage to its initial position and for rotating the roller automatically to feed the paper to a new space by the same operation, all as more fully hereinafter described.

30 In the drawings which accompany this specification, Figure 1 is a plan view of a type-writer embodying my invention. Fig. 2 is a section on line X X in Fig. 1. Fig. 3 is an end elevation. Fig. 4 is a cross-section through the carriage on line Y Y. Fig. 5 is an elevation of my line-spacing device as applied to a different style of machine, and Fig. 6 is an elevation at right angles to Fig. 5.

35 A is the frame of the machine. B are the keys supported upon the levers B', having suitable connection with the type-arms C, adapted to strike the lower side of the roller D, which is journaled in the carriage E. This carriage is provided at the front with the roller E', resting upon the frame of the machine, and at the rear with the grooved rollers F, which bear upon the rod F'. F'' are bearings formed in the rear of the carriage, through which the rod F' passes. In these bearings
40 is secured the sleeve F³, upon which is pivoted

the ratchet-bar G, the teeth of which engage with a suitable dog, having connections with the key-levers to allow the carriage to move the space of one of the teeth forward as each key is struck. A friction-roller G' is secured in the rear of the roller D, and suitable elastic straps D' are used to hold the paper firmly against the roller D. G'' is a stop adjustably secured upon the rod F', which arrests the backward movement of the carriage at any desired point to limit the length of the line. These parts are all of known construction and as now in use, except as hereinafter set forth.

My invention is shown attached to this machine, and consists of the shaft I, (having the crank I''), pivotally secured in the frame projecting with its forward end in proximity to the keys B, this forward end being provided with a finger-piece I', the rear end having the upwardly-projecting rocking lever J, on which is secured the segmental circular bearing J', provided upon its upper face with the groove J''. At one end of this circular bearing is secured a strap or string K, which passes through an aperture K' in the top of the machine, passes under friction-arm L, which is secured to the rear end of the carriage-frame, as shown in Fig. 4, and extends and engages into the forwardly-projecting arm M of the ratchet-bar G, all so arranged that when the operator presses down upon the finger-piece I' the shaft I will be rotated, thereby turning the rocker-arm J and the circular bearing J', which in turn will communicate motion to the string, the first action of which will bring downward the forward extension M of the ratchet-bar to throw it out of engagement with the dog and be held thereby in its adjusted position. It is evident that in this way the carriage may be withdrawn to any desired point by simply pressing down upon the finger-piece. The circular bearing gives the same direction to the pull upon the string at all points of its motion, thereby preventing any undue friction of the string on the sides of the aperture. The circular bearing also allows of a shorter movement of the crank to produce the necessary movement of the carriage than if the end of the cord were attached directly to the end of the rocker-arm J. The groove keeps
100

the cord in its position at all points of the movement.

The end of the roller D is provided with a ratchet-wheel N, with the teeth of which the spring-pawl N' engages. This pawl is pivotally secured upon the feed-lever O, which is pivoted to the carriage-frame and extends rearwardly some little distance.

O' is a spring to hold the ratchet-wheel from turning, and O'' is a lever engaging in suitable shoulders on the feed-lever to adjust the movement of the paper more or less.

Q is a curved arm, secured, preferably, upon the stop G², and preferably integral therewith. The lower part of the arm extends rearwardly parallel with the rod F'. The upper end extends upwardly, forming an incline Q' in the path of the feed-lever O, all so arranged that as the carriage is brought toward its initial position the lever O strikes the incline Q' and is depressed, thereby turning the roller D by means of the connections described. As soon as the carriage moves along, so that the lever O is out from under the incline Q', the spring R again raises the feed-lever ready for the next operation.

S is a spring, secured at one end to the frame and at the other end to the rocker-arm J, to hold the weight of the crank I² and rocker-arm J and prevent them from being borne by the cord or strap, thereby adding to the load of the carriage.

The rod F' is pivotally secured in its bearings and is provided with square shoulders, so that when the carriage is turned back it also turns the stop G², and arm Q, being secured thereto, turns also, so that the relation between the carriage and the arm Q is the same, at all times. In this way my attachment forms no obstacle to the use of the machine in the usual way.

T is a lever, (shown in dotted lines in Fig. 2,) attached to the shaft I, having a suitable wire or cord connection T', which may be attached to any form of treadle to withdraw the carriage by a motion of the foot.

In Figs. 5 and 6 is shown my improvement attached to what is known as the "Caligraph" type-writer, the arm Q being attached back of the carriage and made adjustable in the frame, so arranged that in tipping back the machine the lever O is lowered out of contact, and in this way does not interfere with the free turning back of the carriage and roller to examine the printing. By this arrangement it is evident that the operator may move the carriage backward toward its initial position any distance without turning the roller, except in the event that the carriage is brought back to commence a new line. This is frequently desired to correct

errors, to make interlineations, &c., and in the present state of the art the devices in use rotate the paper-roller first and then lift the rack-bar out of engagement with the dog to allow the operator to move the carriage.

In the machine of the type shown in Figs. 5 and 6 the rack-bar is not lifted out of engagement with the dog, and in that case the cord would need to be simply attached to the machine, not requiring the use of the friction-arm L.

What I claim as my invention is—

1. In a type-writer, a device for withdrawing the paper-carrying carriage, consisting of a shaft journaled in and extending across the frame having a crank for actuating the same, a rocker-arm on said shaft, a segmental circular bearing rigidly secured on said arm, and a cord or strap attached at one end to said rocker-arm and at the other end to the carriage, substantially as described.

2. In combination with a type-writer, a device for withdrawing the paper-carrying carriage, consisting of a shaft journaled in the frame of the machine having a crank for actuating said shaft, a rocker-arm on said shaft, a segmental circular bearing on said arm, and a cord attached at one end to said circular bearing and at the other end to the carriage, substantially as described.

3. In a type-writer, the combination of the following elements: a frame, a carriage adapted to move on a shaft upon said frame and carrying a paper-feed roll, means for withdrawing said carriage to its initial position, a movable stop upon said shaft, an upwardly and forwardly inclined arm attached to said stop, and a device for rotating said roll having a lever arranged to impinge against said incline when the carriage is withdrawn, whereby the feed-roll is rotated, substantially as described.

4. In a type-writer, the combination of the following elements: a frame, a carriage adapted to move on said frame, a ratchet-bar pivotally connected to said carriage and having the forward extension M, the friction-bar L, and a cord or strap passing under said friction-bar and secured to the extension M at one end and at the other end secured to a segmental circular bearing secured to a rocker-bar and shaft, having a crank by which to actuate the carriage, substantially as described.

In testimony whereof I affix my signature, in presence of two witnesses, this 31st day of May, 1889.

WALTER M. REASON.

Witnesses:

P. M. HULBERT,
GEO. A. GREGG.