

(No Model.)

A. W. STEIGER.
TYPE WRITING MACHINE.

No. 454,668.

Patented June 23, 1891.

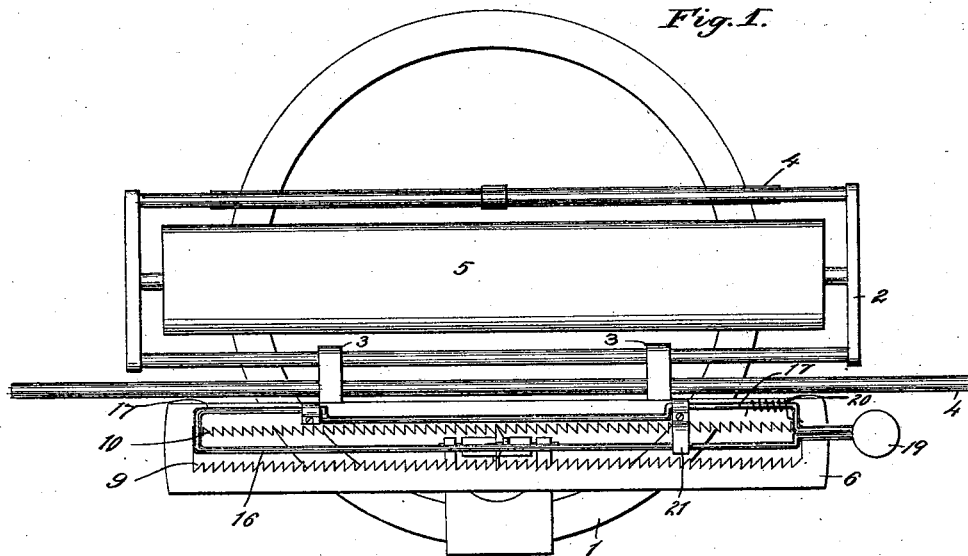


Fig. 2.

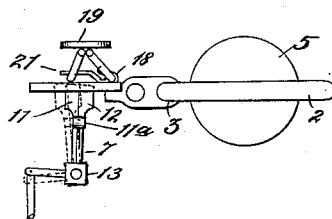
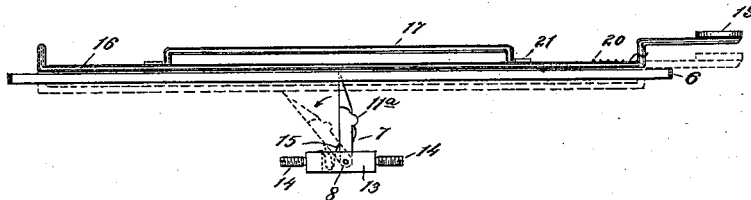


Fig. 3.

Attest

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By Jacob Felbel
Att'y:

UNITED STATES PATENT OFFICE.

ANDREW W. STEIGER, OF BRIDGEPORT, CONNECTICUT, ASSIGNOR TO
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TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 454,668, dated June 23, 1891.

Application filed September 5, 1890. Serial No. 364,012. (No model.)

To all whom it may concern:

Be it known that I, ANDREW W. STEIGER, a citizen of the United States, and a resident of Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a specification.

My invention has for its main object to provide a simple and effective release-key for type-writing machines; and it consists in the features of construction and arrangement and combinations of devices hereinafter more fully described, and particularly set forth in the appended claims.

I have illustrated my invention more particularly and fully in connection with the letter-space mechanism of the "Yost" writing-machine, wherein a duplex rack is mounted upon the moving paper-carriage and so arranged as to present two rows of teeth facing the one toward the other, and wherein a duplex or two-part pawl is caused to vibrate back and forth and engage said rack to permit a step-by-step motion of the carriage under the influence of the usually employed driving mechanism. (Not shown.)

Figure 1 is a plan view of the top portion of a Yost writing-machine, showing the letter-space rack and pawl and my improved release-key. Fig. 2 is a back view of the letter-space rack and pawl detached from the machine with my improved release-key applied thereto. Fig. 3 is a side view.

The same part will be found designated by the same numeral of reference.

1 is the top plate or ring of a writing-machine.

2 is a sliding paper-carriage hinged or pivoted at 3 to turn up and mounted on ways 4 to carry the paper-platen 5 over the printing-point, and whose movement is for the purpose of causing the requisite letter-spacing governed by a duplex rack designated as an entirety by the numeral 6 and a duplex vibrating pawl designated as an entirety by the numeral 7, the latter being operated by the finger-keys and key-levers, so as to vibrate at each depression of a finger-key to produce the necessary spacing. Any of the well-known systems of key-levers may be used. The rack

6 is made with two parallel sets of notches or teeth 9 and 10, oppositely arranged and a short distance apart, and, the pawl 7 is made of two parts 11 and 12 pivoted at 8 in a holder 13, mounted on trunnions 14, to allow a vibrating motion of the pawl back and forth between and into the teeth 9 and 10 of the rack 6. The parts 11 and 12 of the pawl 7 are pivoted in the holder 13, so as to have a slight movement independent of each other, and the part 12 is provided with a spring to keep it, when not engaged by the rack, slightly in advance of the part 11. The two parts 11 and 12 are capable of being turned or moved together laterally in the direction of the arrow about their pivotal bearing 8 in the holder 13 until their upper ends are entirely clear of or removed from the path or plane of the rack, as shown in dotted lines at Fig. 2, but are normally kept in their upright positions and in the path of the rack by a spring 15. The part 11 is provided at its rear side with a lug or abutment 11^a, which extends across behind the part 12 and limits its return movement when the carriage is feeding, and which also carries down or vibrates the part 12 when it is desired to have the two parts turn or move together laterally about their common pivot 8. It will be readily understood that as the holder 13 is vibrated or worked on its trunnions by the finger-keys and the connecting levers and rods the parts 11 and 12 of the pawl will alternately enter and be withdrawn from the notches 9 and 10 of the rack and permit a step-by-step movement of the paper-carriage.

In order to depress the duplex pawl 7 and release the rack when it is desired to move the sliding carriage backward or forward on its ways without resorting to a step-by-step motion, I provide a wire rod or bar 16, extending practically the full length of the rack and presenting a straight surface or edge parallel thereto and immediately over the pawl 7, so that when the rod or bar is lowered it will bear down upon the pawl and force it down and out of the path of the rack, and as the sliding carriage is moved back and forth the rod or bar 16 will slide back and forth on top of the pawl, thus retaining it in its depressed position disengaged from the rack. To provide for this depression or lowering of

the bar 16, I preferably form it integral with a wire rod 17, which is pivoted or hinged to some part of the rack or of the moving carriage, as at 18, and affix or form at one end, in line with the rack and where the ends of the rods 16 and 17 are bent and raised to lie parallel and close together, a finger piece or key 19, by which the release-rod may be conveniently vibrated or pressed down.

20 is a spiral spring wound around the rod 17, with one end bearing against the rack and the other against the under side of the rod 17 in such a manner as to retain the bar 16 in its upward or raised position. A stop 21 secured to the rack overlies the rod 16, so as to limit this upward movement to a position just above the pawl 7 when the latter is in engagement with the rack.

It will be understood that the release-rod 16 is arranged to travel with the carriage, and is of a length substantially or exactly equaling that of the carriage-rack or the amount of travel or movement of the carriage, so that no matter where the carriage may be at the time it may be desired to effect its release, the rod or bar 16 will be in a position to operate on the pawl or that part of the escapement mechanism which is secured to or mounted in the frame-work or body of the machine and which does not travel with the carriage.

When it is desired to release the carriage from the pawl, the finger-key 19 is pressed down, causing the rod 16 to descend upon the top of the part 11 and to vibrate it laterally or at right angles to its path of vibration when the carriage is being fed by a step-by-step motion. When the part 11 is vibrated laterally, the part 12 is caused to move down with it by reason of the presence of the lug 11^a. As soon as the two parts of the pawl have been freed from the rack the carriage may be run back or forth at will, provided, of course, the pressure be maintained upon the finger-piece 19. Upon releasing the finger-key the spring 20 will raise the release-rod against the stop 21, and the spring 15 will return the pawl to its normal position. The lateral depression of the pawl is facilitated some by moving the carriage slightly in the direction of vibration of the pawl simultaneously with the depression of the release-rod.

It will be observed that the release-rod operates to free the two parts of the escapement mechanism by moving the pawl laterally and downwardly in the direction of travel of the rack and at right angles to its path of motion when co-operating with said rack to effect the step-by-step feeding of the carriage.

Furthermore, it will be seen that as no part of the release-key extends forward beyond the hinge-joint or pivots of the paper-carriage the latter may be turned up, as usual, and may be conveniently released from the escapement mechanism and moved back or forth while in such upturned condition, which is a great desideratum.

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

1. In a type-writing machine, the combination, with a movable paper-carriage having a horizontally - arranged rack with teeth disposed in two rows facing each other, and a pawl capable of two motions, one at right angles to the other, of a release rod or bar pivoted to said rack and extending the length of the same and arranged over said pawl and between the two rows of teeth of the rack, and bent to terminate at one end in a raised finger-piece, as set forth.

2. In a type-writing machine, the combination, with a hinged paper-carriage having a horizontally - arranged rack with teeth disposed in two rows facing each other, and a pawl mounted in a stationary part of the machine and capable of two motions, one at right angles to the other, of a release rod or bar pivoted to said rack and extending lengthwise of the same and arranged over said pawl between the two rows of teeth of the rack and terminating in a raised key or finger-piece in rear of the hinge-joint of the paper-carriage, as set forth.

3. In a type-writing machine, the combination, with a hinged paper-carriage having a horizontally - arranged rack with teeth disposed in two rows facing each other, and a pawl mounted in a stationary part of the machine and capable of two motions, one at right angles to the other, of a release rod or bar and the parallel hinge-rod made integral with said release-rod and mounted on said rack and terminating in a finger-piece at one end of said rack and in rear of the pivots of the paper-carriage, as set forth.

4. In a type-writing machine, the combination, with a hinged paper-carriage having a horizontally - arranged rack with teeth disposed in two rows facing each other, and a pawl to engage therewith capable of vibrating in two directions, one at right angles to the other, of a release rod or bar arranged between said rows of teeth, a hinge-rod made integral with said release-rod and mounted on said rack, a finger-piece or key, a returning-spring, and a stop or abutment, as set forth.

5. In a type-writing machine, the combination, with a hinged paper-carriage having a rack 6 with teeth arranged in two rows facing each other, a duplex pawl arranged to engage with said teeth and to have a forward and backward and also a lateral vibratory motion, of a release-rod 16, arranged over said pawl and between the two rows of teeth of the rack, the hinge-rod 17, made integral therewith and mounted on the rack, the hinge-rod and the release-rod being bent and raised at one end of the rack and provided with a finger-piece, a spring 20 for returning the release rod or bar, and a stop, as 21, for limiting the return movement of said bar, as set forth.

6. In a type-writing machine, the combination, with a hinged paper-carriage having a horizontally - arranged rack with teeth dis-

posed in two rows facing each other, and a
pawl mounted in a stationary part of the ma-
chine and capable of two motions, one at right
angles to the other, of a release rod or bar
5 pivoted to said rack and extending lengthwise
of the same and arranged over said pawl and
between the two rows of teeth of the rack and
terminating in rear of the hinge joint of the
paper-carriage, whereby when the carriage
10 has been turned up for inspection or correc-
tion of the work the release-key may be op-

erated to disengage the carriage from the es-
capement mechanism and enable any portion
of the line being written to be brought to the
printing-point of the machine, as set forth. 15

Signed at New York city, in the county of
New York and State of New York, this 29th
day of August, A. D. 1890.

ANDREW W. STEIGER.

Witnesses:

MARTIN LAYDEN,
MARCIA E. LEES.