

W. K. JENNE.
TYPE WRITING MACHINE.

No. 349,349.

Patented Sept. 21, 1886.

Fig. 1

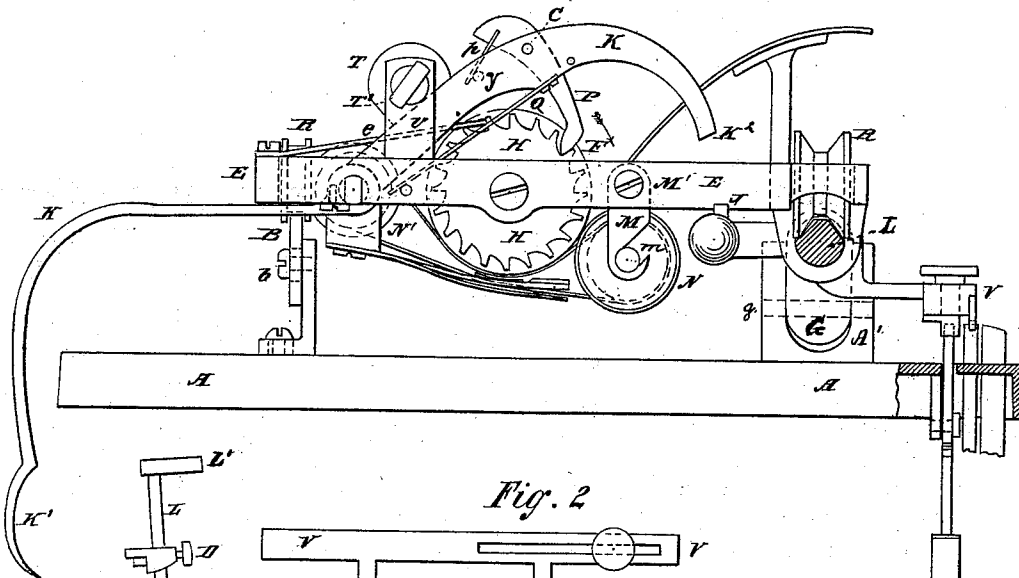


Fig. 2

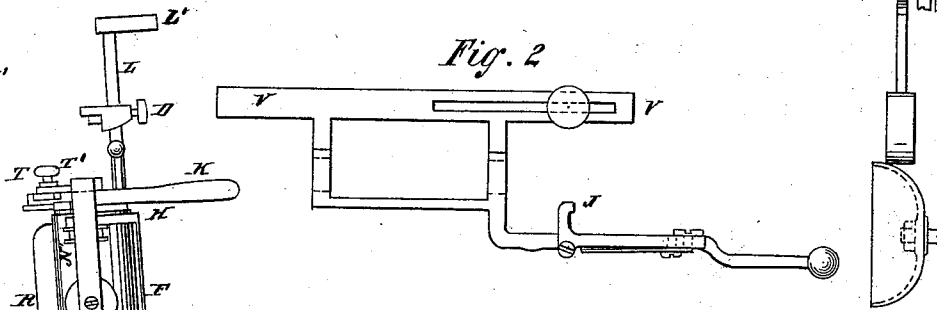


Fig. 3.

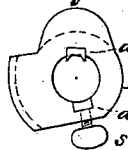


Fig. 4.

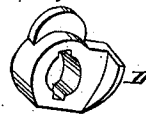
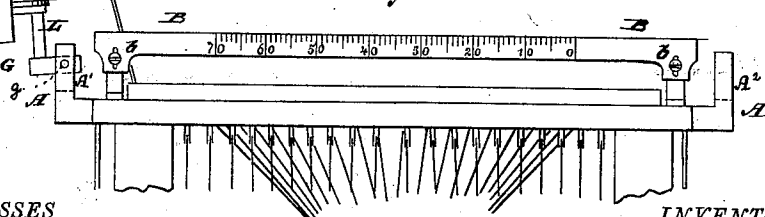


Fig. 5.



WITNESSES

L. J. Dubois
W. H. Fawcett.

INVENTOR

William K. Jenne.

By

Elmer P. Howe

Attorney

UNITED STATES PATENT OFFICE.

WILLIAM K. JENNE, OF ILION, NEW YORK, ASSIGNOR TO THE TYPE WRITER COMPANY.

TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 349,349, dated September 21, 1886.

Application filed August 12, 1879.

To all whom it may concern:

Be it known that I, WILLIAM K. JENNE, of Ilion, in the county of Herkimer and State of New York, have invented a new and useful
5 Improvement in Type-Writing Machines, of which the following is a specification.

The invention relates to that class of type-writing machines in which the successive depression and release of a series of keys one after another vibrate and throw a series of types
10 against an inking-substance and the substance to be written on, and after each depression and release of any key, and while the type and key are going back to place, move the latter substance a type-space distance, and thus make
15 impressions or write one letter or character at a time, and in which there is a platen for holding the paper to be printed on, rotating in bearings attached to a carriage, said platen and carriage moving horizontally over the types.
20

In the accompanying drawings, in which similar letters of reference indicate like parts, Figure 1 is an end view of the top plate of a type-writing machine, showing the guide-rails, paper-carriage platen, &c. A portion of the rear guide-rail and of the rear of the top plate is removed. Fig. 2 is a detail view of the ratchet-bar for letter-spacing, the lever for raising the same, and the bell-trip stop. Figs. 3 and
30 4 are respectively an elevation and perspective view of the margin-stop, which is shown in its position on the rear guide-rail at D, Fig. 5. Fig. 5 is a front view of the top plate, showing the adjustable way or guide-rail B, and showing the rear guide-rail and paper-carriage turned up into a plane perpendicular to their normal position, as indicated in Fig. 1.

The first part of this invention consists in an improved construction of a carriage lever and
40 pawl to impart motion to the platen ratchet-wheel. The carriage-lever K, Fig. 1, has its fulcrum upon the axle of the front band-wheel. One end is curved at K' in a shape to be easily caught by the finger of the operator, and is bent down in front of the top plate. Starting
45 at the fulcrum the other arm of this lever is curved, so that its highest point rises above the frame of the paper-carriage E and above the platen ratchet-wheel H sufficiently to allow the pawl P to be attached to it by the stud
50 C. The pawl P swings freely upon the stud

C and engages with the teeth in the platen ratchet-wheel H. It assumes this position by the action of gravitation, but its movement is made more prompt, and it is held in position
55 by the spring *p*, fastened at its other end, and pressing against a pin-stop, *y*, on the carriage-lever K. The spring Q, attached to the under side of the lever K, and bearing upon a pin on the carriage-frame E, raises the rear arm of
60 the lever K above the carriage until its movement in this direction is checked by the stop T. The platen ratchet-wheel H is screwed to the cylindrical platen F. The paper to be printed on is drawn between the pressure-roll N and
65 the platen F, and is guided by flexible bands running over pulleys N'. After a line has been written the paper-carriage is at the limit of its movement on the guide-rails, and must be moved back by hand for the commencement
70 of a new line, at the same time the paper-platen ratchet-wheel must be rotated one or more teeth in the direction of the arrow, Fig. 1. To accomplish this the operator pulls the front arm of the carriage-lever K, and thereby
75 depresses its rear arm, which causes the pawl P to rotate the platen ratchet-wheel. The movement of the carriage-lever continues until its end K' comes in contact with and depresses through a short space the ratchet-bar
80 lever J, which raises the ratchet-bar V above the letter-spacing ratchets, and permits the carriage to be freely returned for the commencement of a new line. The platen ratchet-wheel having reached the limit of its rotation
85 the spring-pawl *e* engages with one of its teeth and prevents any backward movement of the platen, and at the same time the pin-stop *y* on the inner side of the carriage-lever K is pressed down into the space between two teeth
90 of the platen ratchet-wheel, and effectually guards against any rotation of the platen while the carriage is being moved back for the commencement of a new line. When the operator releases the carriage-lever K, the spring Q
95 causes it to return to its original position, drawing with it the pawl P, which slips over the teeth of the platen ratchet-wheel without moving it. It will be seen, therefore, that the movement of the carriage-lever K is limited
100 by the stop T in one direction and by the lever J in the other, so that unless the relative

position of these confining-stops is changed it must move through a definite space, and consequently at each movement must turn the paper-platen a definite distance—viz., the proper line-space.

A similar combination of devices in which the ratchet or pawl is attached to the carriage-lever below the axis of the paper-platen has been heretofore used in this class of type-writing machines; but the construction herein described is more positive in its action and is less liable to derangement, owing to the position of the pawl P above the axis of the paper-platen, its own weight engaging it with the teeth of the platen ratchet-wheel. This arrangement of parts also permits the release of the pawl P by pressing upon its upper end, when the paper-platen can be moved backward, whereas where the carriage-lever and pawl are below the axis of the platen it is necessary to disengage two pawls to accomplish the same result.

The second part of this invention is an improved line-space regulator attached to the frame of the paper-carriage. It consists of a cam, T, fastened by a thumb-screw, T', supported in a bearing in an upright projection, U, of the paper-carriage. Two sides of the cam are made nearly straight, or of a curvature similar to the upper side of the arm of the carriage-lever K, and these straight sides are at different distances from the axis of the cam. As has been shown this cam determines the limit of the upward movement of the carriage-lever K. In the position of the cam shown in the drawings, the carriage-lever moves through its greatest arc, and the pawl P when depressed will rotate the platen the distance of two teeth. By turning the cam two widths of line spacing are attainable, which is found to be all that is desired in practice.

A line-space regulator having arms of different length has been heretofore attached to the axle of the paper-platen, and has accomplished the same result as the cam herein described; but it is hard of access for adjustment and being necessarily near the carriage-frame the distance from it to the ratchet-bar lever J is limited, and unless the carriage-lever is very narrow it must move through a small arc. The screw which held the prior regulator in position served at the same time as a shoulder at the end of the platen-axle, and every alteration of the line-spacings was liable to disarrange the platen. The construction herein described places the cam on the front of the machine and attaches it directly to the carriage-frame, thereby affording ample space for the movement of a wide carriage-lever and rendering it independent of other parts of the machine.

The third part of this invention consists of the swinging hangers, one of which is shown at M, Fig. 1, in the slotted bearings of which is hung the axle of a pressure-roller, N. The hanger at the other end of the pressure-roller is exactly similar to the one shown. Flexible

carrying-bands connect the pressure-roller N and the pulleys N', and press the paper to be written on against the platen F. The hanger is free to turn about a screw, M', so as to carry the surface of the pressure-roll in contact with or away from the platen F, according to the thickness and number of sheets of paper used.

The fourth part of this invention consists of an adjustable way for a front guide-rail for the paper-carriage, which at the same time serves as a graduated scale for indicating the progress of the writing. This adjustable way is shown at B, Figs. 1 and 5. The slots at b, Fig. 5, are of sufficient length to allow the way to be moved vertically into a position to serve as a guide-rail on which the rolls R R of the paper-carriage may run, and are of a width to permit of a slight lateral movement to adjust the scale graduated thereon, thereby simplifying and facilitating the construction and repair of the machine and dispensing with an independent graduated scale.

The fifth part of this invention consists in hinging the rear guide-rail at one end, so that, in addition to its function of guiding the paper-carriage and with it the platen and paper horizontally in line over the types, it may be swung out of the plane of its normal position into the position shown in Fig. 5, carrying with it the paper-carriage and all its appurtenances. Thus the work being done can at any time be seen, or the whole surface of the top plate is cleared and access is given to the inking-rib, bon, types, and letter-space ratchet. This movement of the guide-rail permits the paper-carriage to be turned up to a vertical position by rotating it about the guide-rail as an axle, as is described in Letters Patent No. 207,559, dated August 27, 1878, issued to C. L. Sholes.

In the drawings, L, Figs. 1 and 5, represents the rear guide-rail, one end of which is shouldered down and turns in a bearing in the hinge-block G. A screw running longitudinally into the end of the guide-rail forms an outside shoulder and prevents the rail from slipping out of the hinge-block, but allows it to turn therein. The hinge-block G fits in a slot in an upright projection, A', of the frame A, and is held in place by a pin, g, about which, however, it can be turned. At the other end of the guide-rail L is a block, L', similar in shape to the hinge-block G, and fitting into a slot in the upright projection A² of the frame A. The weight of the guide-rail and paper-carriage is sufficient to hold the hinge-block L' in position in the slot A². Upon the guide-rail L is mounted a collar or stop, D, to regulate the width of margin to be left in writing. Its internal surface is grooved at the top to receive a grooved feather, d, corresponding in shape with the upper face of the rail L, and at the bottom to receive a segmental feather, d', against the under side of which the thumb-screw s is made to bear.

What I claim is—

1. In a type-writing machine, in combination with a carriage-lever, pawl, and platen ratchet-

wheel, a pin-stop to hold the platen stationary while the paper-carriage is being returned for the commencement of a new line, substantially as shown and described.

5 2. In a type-writing machine, an adjustable way or guide-rail, in combination with a paper-carriage, substantially as shown and described.

10 3. In a type-writing machine, an adjustable way or guide-rail, which is at the same time a graduated scale for indicating the progress of the writing and is provided with slots *b* at each end, substantially as shown and described.

4. In a type-writing machine, a paper-carriage, in combination with a guide-rail hinged

at one end, so that both the paper-carriage and 15 guide-rail may be moved out of the plane of their normal position, substantially as shown and described.

5. In a type-writing machine, in combination with a guide-rail hinged at one end, whereby 20 it may be rotated so as to be perpendicular to the top plate of the machine, a paper-carriage rotating about said guide-rail as an axis, substantially as shown and described.

WILLIAM K. JENNE.

Witnesses:

LOUIS E. MOORE,
D. LEWIS.