

(No Model.)

E. J. BLACIO.

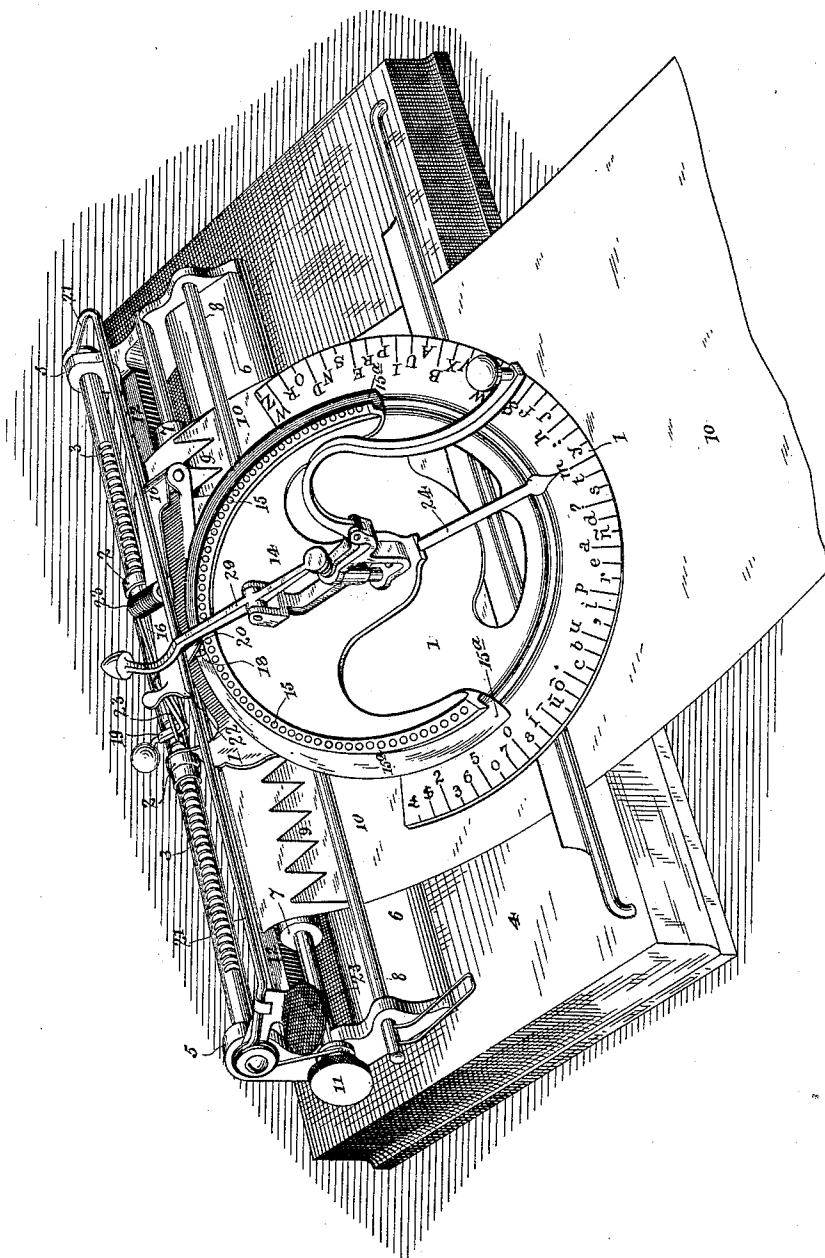
3 Sheets—Sheet 1.

TYPE WRITING MACHINE.

No. 465,589.

Patented Dec. 22, 1891.

Fig. 1



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(No Model.)

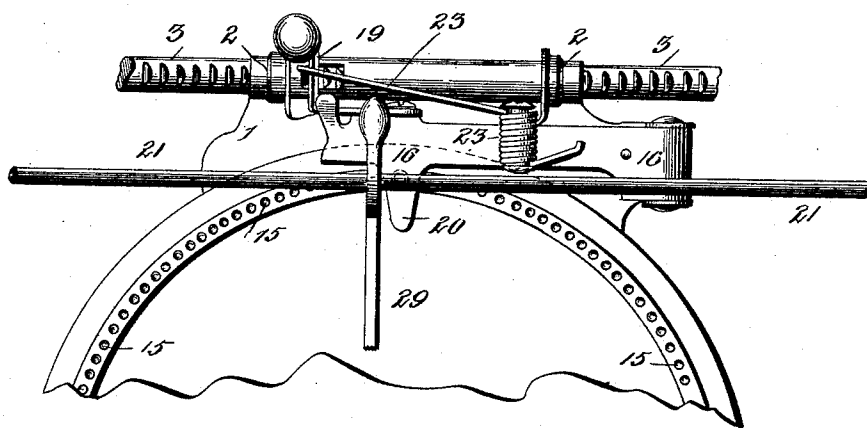
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TYPE WRITING MACHINE.

3 Sheets—Sheet 3.

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Fig. 4.



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UNITED STATES PATENT OFFICE.

ENRIQUE JOVAR BLACIO, OF CERRITOS, MEXICO.

TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 465,589, dated December 22, 1891.

Application filed December 24, 1890. Serial No. 375,677. (No model.)

To all whom it may concern:

Be it known that I, ENRIQUE JOVAR BLACIO, of Cerritos, in the State of San Luis Potosi, Mexico, a citizen of the Republic of Mexico, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a description, reference being had to the accompanying drawings.

The present invention relates to improvements upon and additions to the type-writing machines shown and described in United States Letters Patent No. 350,717, of October 12, 1886. The machine of this patent consists in part of an operating-lever actuating a segment carrying a flexible type-sheet, whereby the desired type is brought to the printing position, and of mechanism for moving the type-segment step by step across the paper being printed on, which mechanism also is arranged to force a single character of the type-sheet at the printing position into contact with the paper, and thereby imprint such character upon the paper. It is to be noted that with the mechanism of the said patent the operator must first select the desired character and bring the indicating-point to the same, and while holding the type-segment in this position operate with the other hand the mechanism to force the letter selected upon the paper. This calls for the alternate action of the operator's hands, which action has to be changed whenever a space is to be made on the paper, because yet another motion accomplishes the spacing. The result is that the motions of one hand of the operator are constantly changing in relative occurrence, and therefore there is a tendency to error as well as an undesirable limit to speed in operation.

The object of my invention is to connect the character-selecting devices and the character-imprinting devices of this form of type-writing machine in such manner that as the character-indicating arm is brought to the desired character or letter its depression will cause the impression of such letter upon the paper, thus leaving the other hand of the operator free to perform but one action, that of spacing.

In the drawings, Figure 1 is a general perspective view of the machine of the said patent provided with my improvements. Fig. 2 is a cross-section of the same through the cen-

ter of the type-carrying segment. Fig. 3 is a modification of the parts of Fig. 1. Fig. 4 is a top plan view of a portion of my improved apparatus, showing the coiled spring as applied.

Referring to the drawings in detail, 1 is the index-plate of the machine, which is provided with the requisite number of characters placed radially and at equal distances apart. This plate is hinged by an open cylinder-bearing 2 to the feed-bar 3, which is a toothed bar fixedly supported on the base 4 in up-rights 5 of the frame 6 of the machine. Beneath this feed-bar and in the frame of the machine are supported the paper-roller 7 and the paper finger-bar 8, the spring-fingers 9 of which bear upon the elastic surface of the paper-roll. Between the paper-roll and the pressure-fingers 9 the paper 10 to be printed upon is inserted and brought to any desired position by turning the thumb-nut 11 on said roller. Behind the paper-roller is a flat printing-bar 12, supported on the back part of the frame of the machine, upon which rests the portion of the paper being printed upon—that is, the face of this bar serves as an unyielding back to the paper just below the position of the type to be impressed upon the paper, so as to hold it firmly against the type when it is struck or forced upon the paper.

At 13 is a rod for supporting the front of the index-segment and upon which the segment slides as it passes over the paper from one side to the other side of the same during the printing of a line of matter thereon.

Upon the index-segment is pivoted the type-segment 14, this segment being composed of a metal plate perforated at its periphery with holes 15, and having secured on its under face a segmental type-plate 15^a, the type of which lie in the same radial lines as the holes 15. This type-plate and its type is made of soft or yielding rubber, and it projects beyond the type-segment 14, so that its type overlies the bar 12 when they are brought to printing position, which is on the line through the axis of the segment at right angles to the printing-bar 12.

At the rear side of the index-segment and pivotally supported thereon is the printing lever or bar 16, which carries the impression or printing hammer 17, located underneath the

lever and directly above the type of the type-plate, and also the registering-finger 18, adapted to enter one of the peripheral holes 15 in the type-segment, and thereby hold the same.

5 This printing-lever also carries pivoted to it the dog 19, which engages the teeth of the feed-bar 3, and it also has the arm 20 projecting forward from it and bearing under the rocking lever 21, hinged at each end of the frame around

10 the ends of the feed-bar and held to contact with arm 20 by lying under the end or overhanging point 22. Upon the printing-lever is a coiled spring 23, hung on a pivot, one end bearing on the lever and the other end bearing

15 on the pivoted dog 19, as seen in Fig. 4. The tendency of this spring is to uncoil, and this causes the printing-lever normally to rise until the lever-rod 21 arrests it and the dog 19 to be pressed to contact with the teeth of

20 the feed-bar. Fixed to the type-segment is a pointer 24, to which the type are so related that when such pointer is over or on the same radial line as a character on the index-segment the same type on the type-segment is

25 brought to the position of printing.

It will now be plain that with one of the type brought to the printing position, if the lever-bar be depressed the printing-lever will be forced down, its registering-finger will be

30 caused to enter one of the holes in the type-plate to thereby hold such plate from turning, will force the dog against a tooth of the feed-bar, thereby carrying the index-segment forward one space, and will force the hammer

35 to press upon the type to be printed. Upon releasing the lever-bar the spring on the type-lever lifts this lever and with it the lever-bar, and also causes the feed-dog to engage another tooth on the feed-bar. When

40 it is desired to space the type, the lever-bar is depressed as before, but not to so great an extent as to cause the hammer to strike the type-plate. To this end the lever-bar has

45 pivoted with it a thumb-piece 25, which hooks loosely over it and is arranged so as to strike the thumb-nut 11 before the lever-bar is pressed down so far as to make an impression on the paper. This thumb-piece is used when

50 it is desired to space; but when printing is to be done pressure is applied directly to the lever-bar, which thereby is forced out of engagement with the thumb-piece and descends far enough to cause the hammer to make an impression.

55 To the axis of the type-segment is secured the post 26, this post being fixed to the index-segment by screws 27, and upon this post is fixedly supported the bracket 28, in which is hung the secondary impression or printing

60 lever 29, which lever bears upon and is for depressing the lever-rod 21, along which it slides as the type and index segments travel from left to right over the paper. Attached to the type-segment and turning with it is the

bracket 30, in which is hung the index-lever 65 31, the short arm of which bears under the short arm of the secondary index-lever 29. This index-lever 31 is located directly over the index-pointer 24 and may itself serve as an index. Between these two levers is a ball- 70 joint 32, which may be of the form in Fig. 2 or Fig. 3, or of any other suitable form adapting these levers to work well upon each other. It will now be plain that the operator controls the type-plate through the index-lever 31, 75 that its outer end is directly over and may indicate the character to be impressed, and that its depression will operate the rocking-lever rod 21 to imprint a character, the spring 23 on the printing-lever serving to return the 80 parts and carry the index and type segments forward one step. By these means the operator has but to bring the index-lever to the desired character and depress it in order to print such character, while with the other 85 hand the spacing will be effected, as heretofore explained, or by operating the printing-lever through a distance less than that necessary to print a character.

With these improvements and additions 90 the machine of the said patent may be operated more rapidly than when constructed as therein shown, and with less liability to error in the work done.

What is claimed as new is—

95 1. In a type-writer, the combination of the movable index-plate, the notched feed-bar on which the plate moves, the pivoted type-segment, the printing-lever carrying a pivoted dog, which engages with the said feed-bar, the 100 spring which holds the said dog upon the feed-bar and at the same time elevates the printing-lever, and the impression-lever for depressing the printing-lever, substantially as set forth. 105

2. In a type-writer, the combination of the index-segment, the pivoted type-segment carrying a flexible type-plate, the notched feed-bar upon which the said segments move longitudinally, the rocking bar 21, parallel with 110 the feed-bar, the printing-lever connected with the bar 21, the pivoted feed-dog 19, carried by the feed-lever, the spring which holds the feed-dog down upon the feed-bar and at the same time tends to hold up the printing- 115 lever, the impression-lever 29, which is adapted when depressed to depress the printing-lever, and the index-lever connected with the type-segment so that they move axially together and arranged to be moved over the 120 index-segment and having a connection with the impression-lever 29, whereby the latter is operated upon the operation of the index-lever, substantially as set forth.

ENRIQUE JOVAR BLACIO.

Witnesses:

JOSÉ HERNANDEZ NORVA,
URBANO VARAMONTES.

Correction in Letters Patent No. 465,589.

It is hereby certified that the name of the patentee in Letters Patent No. 465,589, granted December 22, 1891, for an improvement in "Type-Writing Machines," was erroneously written and printed "Enrique Jovar Blacio," whereas said name should have been written and printed *Enrique Tovar Blacio*; and that said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed, countersigned, and sealed this 12th day of January, A. D. 1892.

[SEAL.]

CYRUS BUSSEY,
Assistant Secretary of the Interior.

Countersigned:

W. E. SIMONDS,
Commissioner of Patents.