(No Model.)

H. E. PAYNE.

TYPE WRITING MACHINE.

No. 456,338. Patented July 21, 1891.

Fig. 1.

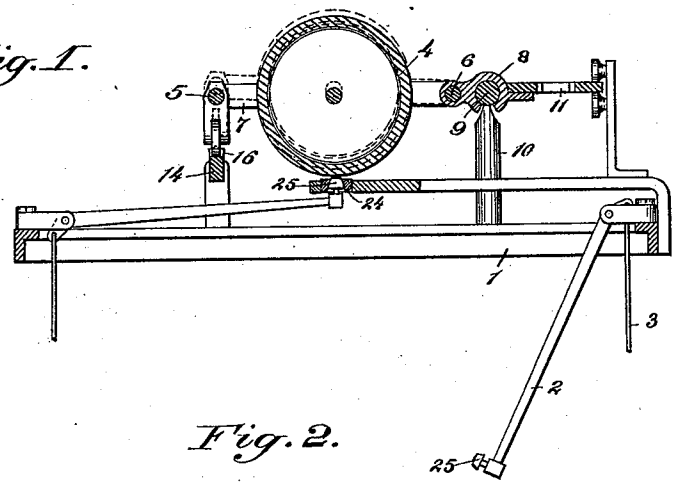


Fig. 2.

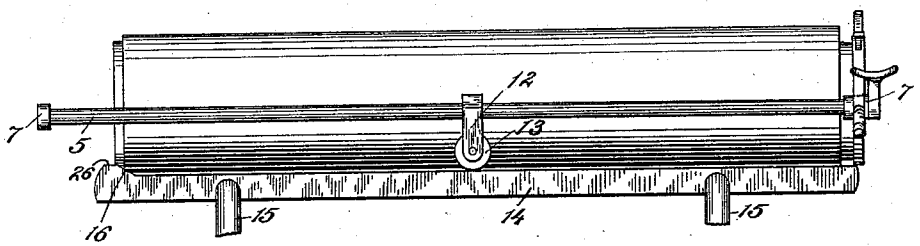


Fig. 3.

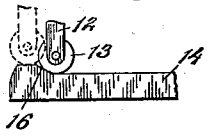


Fig. 4.

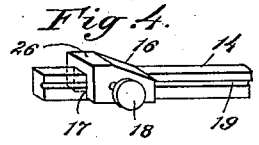


Fig. 5.

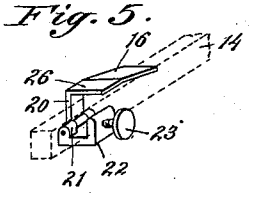
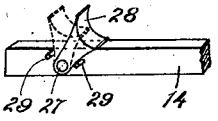


Fig. 6.



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HALBERT E. PAYNE, OF BRIDGEPORT, CONNECTICUT, ASSIGNOR TO THE DAVIDSON WRITING MACHINE COMPANY, OF NEW YORK, N. Y.

TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 456,338, dated July 21, 1891.

Application filed January 3, 1891. Serial No. 376,626. (No model.)

To all whom it may concern:

Be it known that I, HALBERT E. PAYNE, 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 means for preventing the printing of one character upon another whenever the platen has come to a stop or reached the end of a line; and it consists, primarily, in combining with the platen-carrier a means for automatically lifting the platen out of reach of the type-carriers or out of working position, and, secondarily, in various features of construction and combinations of devices, all as hereinafter more fully described, and particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a vertical section of the upper portion of a type-writing machine embodying my invention. Fig. 2 is a front elevation of the same, the type-ring and type action or movement being omitted. Fig. 3 is a detail view of the left-hand end of the front carriage track or way and the carriage-supporting roller, the latter being shown in two positions. Fig. 4 is a perspective view of a modification of my invention, the lifting means being made adjustable upon the track or way. Fig. 5 is a similar view of a further modification, wherein the lifting means is adapted to be removed after raising the carriage, for a purpose which will hereinafter appear; and Fig. 6 is a further modification.

In the several views the same part will be found designated by the same numeral of reference.

1 represents the top plate or type-ring of a type-writing machine, 2 the type bars or carriers, and 3 the connecting rods or wires, which, as usual, may extend down to the base of the machine and be coupled to key or operating levers.

4 designates a cylindrical paper-platen, journaled to rotate in a paper-carriage or platen-carrier, composed, preferably, of a front rod 5, a rear rod 6, and end bars 7. The rear rod 6 is hinged to a yoke 8, which slides upon a rail 9, supported by posts 10, one at each end of the machine. To the yoke 8 is attached an escapement feed-rack 11, all in substantially the manner of the "Yost" writing-machine, the feed-dogs and their operating mechanism being omitted in order to simplify the drawings. The front rod 5 is provided, as usual, with a bracket or hanger 12, in which is mounted an anti-friction roller 13, that rides or travels upon a fixed track or way 14, supported by uprights 15 at the front of the paper-carriage. At the left-hand end of the track 14 is provided the lifting device 16, which is in the form of an inclined plane.

At Figs. 1, 2, and 3 the lifter 16 is formed integral with the track or way and at the left-hand end thereof.

At Fig. 4 the lifter is made bifurcated at 17 to straddle the track, and is provided with a retaining-screw 18, which engages with a groove 19 in the track.

At Fig. 5 the lifter is provided with a depending shank 20, which is hinged at 21 to a plate or support 22, which is fitted to the track from below and held in position by a clamping-screw 23.

24 designates a center guide or directrix for the type 25. The shape of the type may be frusto-conical or frusto-pyramidal and the guide shaped to match, so that the type may be prevented from going too far through the guide, as shown; or the type and the guide may be of other conformation to limit the movement of the type, or the construction may be such that the type is arrested by its carrier coming in contact with the guide or its support or some other part of the machine, it being immaterial, so far as my invention is concerned, how the movement of the type is limited or restrained.

Referring to Figs. 1, 2, and 3, it will be seen that when the carriage has traveled to near the end of the line or to near the extreme end of the track 14 the roller 13 will ride up the inclined plane if the feed be continued and operate to vibrate the paper-carriage about its hinge-rail 6, as shown by the dotted lines at Fig. 1, thus lifting the platen above the plane of impression and out of reach of the type should one or more additional characters be actuated after the end of the line has

been reached, and consequently avoiding any liability or possibility of printing one character upon another, which frequently occurs in the previous machines when the person using the machine has failed to notice that the end of the line has been arrived at and the carriage has come to a halt.

Referring to Fig. 4, the lifter is made adjustable upon the track to automatically stop the writing at any desired point within the range of movement of the carriage, the lifting operation being the same as that above described.

Referring to Fig. 5, the lifter is adjustable lengthwise of the track, as in Fig. 4, and in addition is capable of being swung backward on its hinge 21, so that after the carriage has been lifted and the writing interrupted the operator may, if it be desired and there be room for it, add one or more characters to the line. I prefer to provide at the top of the incline a table or flat surface 26 for the roller to rest upon after having traveled up the incline.

At Fig. 6 the lifter is pivoted at 27 to the track and is segmental or curved at its upper end, as at 28. The roller 13 on the carriage turns the lifter on its pivot and as it vibrates the roller and the carriage are raised, as indicated by the dotted lines, there being a stop 29 to limit the movement of the lifter in either direction.

Different forms of type-carriers and paper-carriages may be used and many changes in details of construction may be made without departing from the spirit of my invention.

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

1. In a type-writing machine in which the type-carriers have a limited upward printing movement, the combination of a platen-carrier, a platen, and a lifter for automatically raising the platen to a height above that to which the type-carriers can ascend, substantially as and for the purpose set forth.

2. In a type-writing machine in which the type-carriers have a limited upward printing movement, the combination of a platen, a hinged platen-carrier having a roller, and means, substantially as described, adapted to co-operate with said roller to lift said platen, substantially as and for the purpose set forth.

3. In a type-writing machine in which the type-carriers have a limited upward printing movement, the combination of a platen, a hinged platen-carrier having a roller, a track or way, and an inclined device thereon for lifting said platen, substantially as and for the purpose set forth.

4. In a type-writing machine in which the type-carriers have a limited upward printing movement, the combination of a platen, a hinged platen-carrier having a roller, a track or way, and an adjustable platen-lifter, substantially as and for the purpose set forth.

5. In a type-writing machine in which the type-carriers have a limited upward printing movement, the combination of a platen, a hinged platen-carrier having a roller, a track or way, and a hinged platen-lifter, substantially as and for the purpose set forth.

6. In a type-writing machine in which the type-carriers have a limited upward printing movement, the combination of a platen, a hinged platen-carrier having a roller, a track or way, and an adjustable and hinged platen-lifter, substantially as and for the purpose set forth.

7. In a type-writing machine in which the type-carriers have a limited upward printing movement, the combination of a platen, a platen-carrier having a roller, a track or way having a longitudinal groove, and an adjustable platen-lifter fitted to said track or way and provided with means for entering said groove and retaining said lifter in place relatively to said track or way, substantially as and for the purpose set forth.

8. In a type-writing machine, the combination of a platen, a hinged platen-carrier, a type-carrier, a center-guide, and a platen-lifter, substantially as and for the purpose set forth.

9. In a type-writing machine in which the type-carriers have a limited upward printing movement, the combination of a platen, a platen carrier, and a platen-lifter having an inclined and a flat or table surface, as and for the purposes set forth.

Signed at New York city, in the county of New York and State of New York, this 31st day of December, A. D. 1890.

HALBERT E. PAYNE.

Witnesses:
JACOB FELBEL,
GEO. W. WEIFFENBACH.