(No Model.) 2 Sheets—Sheet 1.

G. B. WEBB.

TYPE WRITING MACHINE.

No. 490,330. Patented Jan. 24, 1893.

Fig. 1.

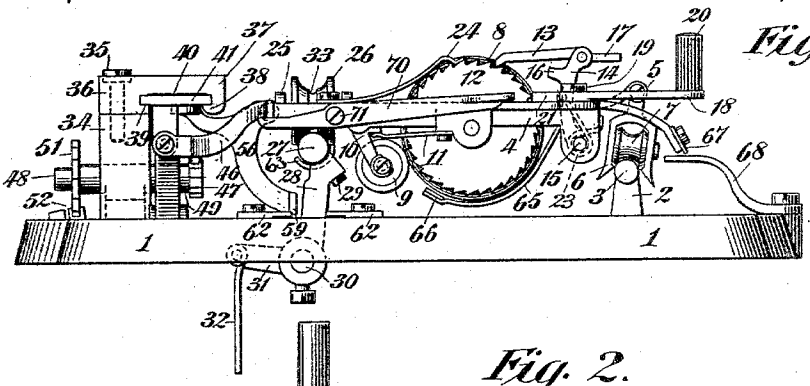
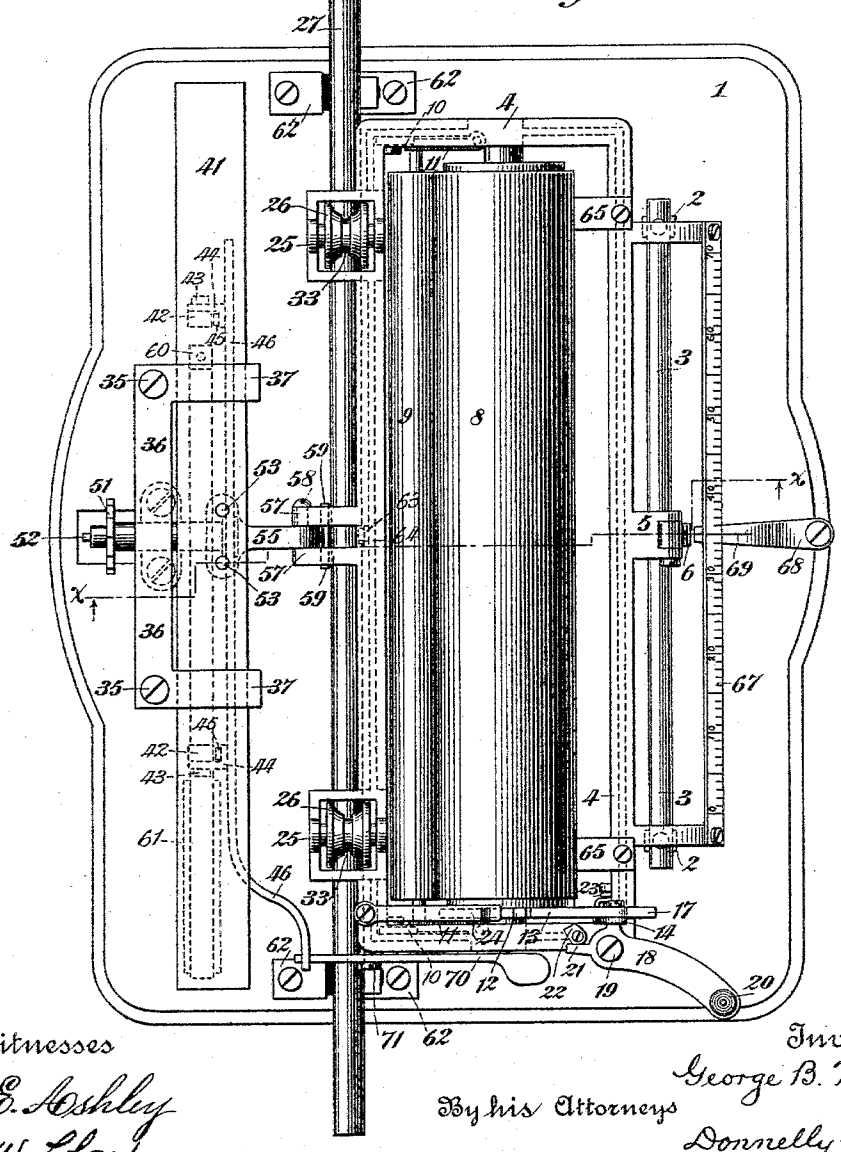


Fig. 2.



Witnesses
C. E. Ashley
H. W. Lloyd.

Inventor
George B. Webb
By his Attorneys
Donnelly & Felbel.

(No Model.) 2 Sheets—Sheet 2.

G. B. WEBB.

TYPE WRITING MACHINE.

No. 490,330. Patented Jan. 24, 1893

Fig. 3,

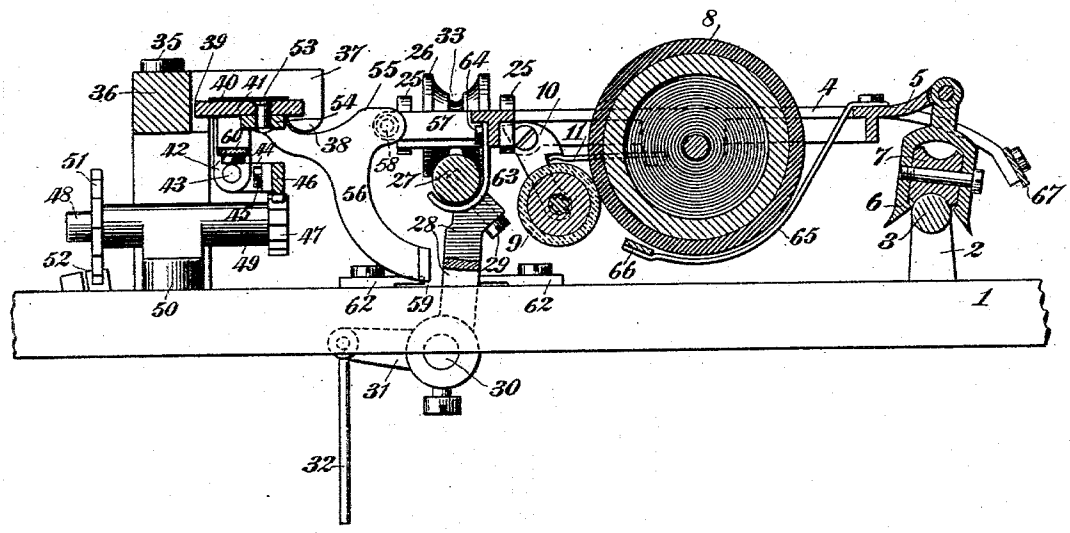
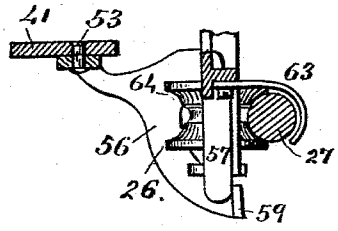


Fig. 4.



Witnesses
C. E. Ashley
H. W. Lloyd.

Inventor
George B. Webb
By his Attorneys
Donnelly & Felbel

UNITED STATES PATENT OFFICE.

GEORGE B. WEBB, OF NEW YORK, N. Y., ASSIGNOR TO THE WYCKOFF, SEAMANS & BENEDICT, OF SAME PLACE.

TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 490,330, dated January 24, 1893.

Application filed May 31, 1892. Serial No. 434,871. (No model.)

To all whom it may concern:

Be it known that I, GEORGE B. WEBB, a citizen of the United States, and a resident of New York city, in the county of New York and State of New York, have invented cetain new and useful Improvements in Type-Writing Machines, of which the following is a specification.

My invention relates to the paper-carriages of type writing machines, and has for its main objects simplicity and economy of construction; and consists in the various features of construction and combinations of devices, all as will be hereinafter more fully described and particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a side elevation of so much of a type writing machine as is necessary to illustrate my improvements. Fig. 2 is a top plan view thereof, Fig. 3 is a vertical section taken about centrally of the machine and on the line *x*, *x* of Fig. 2. and Fig. 4 is a detail view showing the carriage in its raised position.

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

1 designates the top-plate or type-ring of the machine, upon which, by upwardly-projecting arms 2, is fixedly-mounted a guide-rail 3.

4 designates the platen-carrier or frame, to an extension 5 from the front bar of which is pivoted a bracket 6, which carries an anti-friction roller 7 that rides upon said guide-rail 3 and supports the front end of the platen-carrier. Within the frame or carrier 4 is arranged a platen 8 and a pressure or feed roller 9; the latter being hung in pivoted arms 10 depending from the frame 4 at each end and provided each with a pressure spring 11. The platen is arranged to rotate in bearings in the side bars of the frame 4 and is provided at one end with a ratchet-wheel 12, with which co-operates a driving-pawl 13 pivotally-mounted upon an upwardly-extending arm 14, fulcrumed at 15 in lugs depending from the frame 4 and provided with an overthrow check or stop 16. The driving-pawl 13 is provided with a finger-piece 17, by which it may be disengaged from the ratchet-wheel. The lever 14 is actuated in one direction by a horizontally-arranged bent lever 18 pivoted at 19 and provided with a knob or hand-piece 20. The said bent lever is provided with an extension 21 which co-operates with a pivoted regulator 22, by which the movement of the lever 18 may be varied or controlled to effect the rotation of the platen the distance of either one or two notches of the ratchet-wheel. A coiled spring 23 may be employed to return the line-spacing devices to their normal positions when the hand is removed from the knob. A spring-detent 24 is employed to hold the platen in position against rotation during the time of writing.

The rear bar of the platen-carrier or frame 4 is formed near each end with a bracket or support 25, in which is mounted to rotate a grooved wheel or roller 26 adapted to travel upon a hinge-and-guide-rail 27, which in this machine is preferably made to constitute the shift-rail of the platen-carrier. The said rail is mounted upon upwardly-extending arms 28 and secured thereto by obliquely-arranged screws 29. The said arms are pivoted at 30 in the frame-work or top-plate and are provided with rearwardly-extending arms 31, the arms 28 and 31 forming together a bent lever or bell-crank. To the outer end of the arms 31 is connected the upper end of a rod 32, whose lower end is connected to a shift-key not shown, but the said connection may be made and is intended to be made after the manner of the well-known Remington No. 2 machine. When said shift-key is actuated and the rod 32 pulled down, the cranks 28 31 are rocked, the hinge and guide and shift-rail moved rearwardly and by reason of the engagement therewith of the grooved rollers 26, the platen-carrier and platen are forced rearwardly the required distance to bring the impression point to a position such that the upper case letter of the type-bar may be printed in the line of the impressions, it being understood of course that where the rail 27 is employed as a shift-rail the type-bars are provided with two or more type, according to the number of vibrations of the platen. The wheels or rollers are provided with curved sides to match the curvature of the hinge-guide-and-shift-rail and the said rollers at

their middle portions are provided each with a circular groove 33 extending nearer the pivot of the roller, in order that the wear of the working faces of the roller may be taken up or compensated for automatically.

The platen-carrier and its accessories are connected to a step-by-step feeding carriage, which will now be described.

Cast integral with or secured upon the top-plate is a bracket or support 34, to the upper portion of which is attached, by screws 35, a bar 36 having forwardly-extending arms 37, the front ends of which are bent downwardly and rearwardly to form lips 38, which together with a groove 39 in the bar 36 form a recess or guide-way 40 for a horizontally-arranged slide 41. On the under side of said slide are two depending arms 42, to which are connected, by pivots 43, two right angled brackets 44. To these brackets is attached, by screws 45, a toothed bar 46 which normally engages with a toothed pinion 47 on the inner end of a shaft 48 which rotates in a bearing 49 on a stand 50, and which near its outer end is provided with a ratchet-wheel 51 adapted to the letter-spacing or feeding dog 52 of the escapement mechanism. The platen-carrier is connected to the said slide or carriage to travel therewith and also in a manner such that it may be vibrated or shifted transversely for upper case work as well as lifted for examination and correction of the impressions. I shall now describe the means of connection between the slide and the platen-carrier. On the under side of the slide, about centrally of its length, is riveted or otherwise secured at 53 a bracket 54 provided with a forwardly-projecting arm 55, from which extends downwardly and forwardly a circular arm or member 56.

The rear bar of the platen-carrier is formed or provided with a yoke or fork 57, which embraces the arm 55 in such a manner that as the slide is moved in one direction or the other, it carries therewith the platen frame. In order to prevent shake or rattle between the arm 55 and the fork 57 there is provided a screw 58, which may be turned from time to time, if necessary, to take up any lost motion due to the wear of the members.

When it may be desired to inspect or correct the work on the underside of the platen the platen-carrier may be swung up about the rail 27 as a center of motion, and during this movement the fork 57 will slide down along the curved arm or member 56, which will prevent any accidental lateral movement of the carriage. In order that the platen-carrier may not be swung upwardly and rearwardly to an extent such that it would become wholly disconnected from the step-by-step carriage or slide, the lowermost free end of the arm or member 56 is provided with laterally-extending lugs 59, against which the fork 57 strikes when the platen-carrier has been turned the required distance. On the underside of the slide is a depending lug 60, to which is attached one end of a belt or band, the other end of which is connected to a spring driving-drum 61. The vibrations of the bell-cranks and the hinge, guide-and-shift-rail are limited by adjustable stops 62 on the top-plate.

The platen-carrier is prevented from being lifted bodily and disconnected from the slide or carriage by means of a hooked-shaped arm 63, which is attached, by a screw 64, to the back bar of the platen-frame, and which at its curved end partially surrounds the underside of the hinge-guide-and-shift-rail.

To the front bar of the platen-frame, near each end is attached a paper-guide 65, and the inner free ends of these guides may be utilized to support an auxiliary scale-bar 66 in proximity to the surface of the platen. A similar scale-bar 67 is attached to arms projecting forwardly from the platen-frame and may be used in conjunction with the scale-bar 66, and a stationary index 68, arranged centrally of the machine widthwise and provided preferably with a mark or line 69 to indicate the plane of the impression point.

One end of the toothed bar 46 is extended and bent forwardly to overlie the rearmost end of a release-key lever 70 which is pivoted at 71 on the platen-carrier.

From the foregoing the operation of the machine will be readily understood by those skilled in the art, and need not therefore be described now at great length.

The tendency of the spring-drum is to pull the slide and the platen-carrier toward the left, and this tendency is restrained by the escapement devices hereinbefore alluded to, so that the said slide and the platen-carrier can move only a letter-space distance at each movement of a key-lever or spacing-lever. When, however, it may be desired to release the carriages from the escapement mechanism, in order that the spring-drum may propel the same rapidly toward the left, the lever 70 may be depressed at its outer end and caused to lift the pivoted toothed bar from engagement with its pinion. The rail 27 operates to guide the platen-carrier in its movements across the machine, and also serves as a hinge rail or pivot for the platen-carrier when it may be desired to examine the work on the underside of the platen. This rail also serves to shift the platen for upper case work and when actuated the fork of the platen-carrier slides rearwardly and is guided by the arm 55 projecting from the carriage 41. During this shifting movement of the platen-carrier, the yoke 6 is vibrated and the grooved roller 7 rocks rearwardly upon the guide-rod 3. As customary, the shift-key is provided with a spring (not shown) to return the platen-carrier to its normal position after release-ment of the shift-key.

As far as one part of my invention is concerned the rail 27 may be fixed or immovable. It will have a transverse movement only in

machines having a shifting platen and type-bars provided with a plurality of types. Therefore, I do not wish to be considered as limiting myself to a rail 27 having the shifting capacity described. As far as another part of my invention is concerned the pinion 47, the shaft 48 and the ratchet-wheel 51 may be dispensed with and the feed-dog arranged to co-operate directly with the toothed bar or rack 46, as in prior machines.

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

1. In a type writing machine, the combination of a platen-carrier, a hinge-and-guide-rail therefor, and a step-by-step carriage arranged in rear of and detached from said hinge-and-guide-rail and connected to the platen-carrier back of said rail in a manner such as to carry said platen-carrier and also permit the platen-carrier to have an independent vibratory movement about said hinge-and-guide-rail.

2. In a type writing machine, the combination of a hinged platen-carrier, a hinge-and-guide-rail therefor, and a carriage having a sliding movement only, the said platen-carrier and the said carriage being loosely connected in rear of said hinge-and-guide-rail to enable the said platen-carrier to be turned up and down upon said rail as a center of motion independently of said carriage and to also move longitudinally upon said rail.

3. In a type writing machine, the combination of a carriage having a sliding movement only, a platen-carrier loosely-connected thereto, and a hinge-guide-and-shift-rail for said platen-carrier.

4. In a type writing machine, the combination of a sliding carriage, a platen-carrier loosely-connected thereto, and a hinge-guide-and-shift-rail for said platen-carrier arranged in front of the carriage and the point of connection between the carriage and the platen-carrier.

5. In a type writing machine, the combination of a carriage provided with a forwardly-extending arm, a hinged platen-carrier provided with a rearwardly-extending fork, and a hinge-and-guide-rail arranged forward of the fork, upon which said platen-carrier both swings and moves longitudinally.

6. In a type writing machine, the combination of a carriage having a forwardly-extending arm and a downwardly-curved arm, a platen-carrier having a rearwardly-extending fork, and a hinge-and-guide-rail arranged forward of the fork, upon which the platen-carrier both swings and moves longitudinally.

7. In a type writing machine, the combination of a carriage having a forwardly-extending arm and a downwardly-curved arm provided with a stop, a platen-carrier having a rearwardly-extending fork, and a hinge-and-guide-rail.

8. In a type writing machine, the combination of a carriage having a forwardly-extending arm and a downwardly-curved arm, a platen-carrier having a rearwardly-extending fork, and a hinge-guide-and-shift-rail.

9. In a type writing machine, the combination of a carriage, a platen-carrier loosely-connected thereto, a hinge-and-guide-rail, and a catch for preventing the platen-carrier from being lifted bodily from said rail and accidentally disconnected from the carriage.

10. In a type writing machine, the combination of a carriage, a platen-carrier loosely connected thereto, a hinge-and-guide-rail, and a hook attached to the platen-carrier and surrounding the underside of the hinge-and-guide-rail.

11. In a type writing machine, the combination of a carriage having a forwardly-extending arm, a platen-carrier having a rearwardly-extending fork, and a pair of grooved rollers, a hinge-and-guide-rail, and a hook.

12. In a type writing machine, the combination of a carriage having a forwardly-extending arm and a downwardly-curved arm, a platen-carrier having a rearwardly-extending fork and a pair of grooved rollers, a hinge-guide-and-shift-rail, and means for actuating the same.

13. In a type writing machine, the combination of a bracket, a slide or carriage guided therein and provided with a forwardly-extending arm and a downwardly-curved arm, a platen-carrier provided with a rearwardly-extending fork, and a hinge-and-guide-rail forward of said fork, upon which the platen-carrier both swings and moves longitudinally.

14. In a type writing machine, the combination of a bracket, a slide or carriage guided therein, a pivoted rack-bar suspended from said slide, or carriage and connected with the escapement mechanism, a platen-carrier connected to said slide or carriage, a hinge-and-guide-rail therefor, and a release-key on the platen-carrier and connected to the said pivoted rack-bar.

15. In a type writing machine, the combination with a cylindrical guide-rail, of a platen-carrier provided with a grooved roller having faces to match the surface of said rail, and having also between said faces nearer the pivot of said roller, an annular depression.

Signed at New York city, in the county of New York and State of New York, this 28th day of May, A. D. 1892.

GEORGE B. WEBB.

Witnesses:
JACOB FELBEL,
IDA MACDONALD.