

(No Model.)

G. B. WEBB.
TYPE WRITING MACHINE.

No. 551,842.

Patented Dec. 24, 1895.

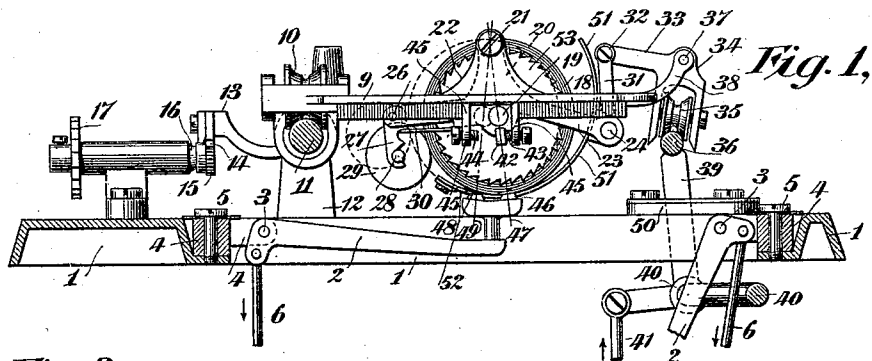


Fig. 1,

Fig. 3,

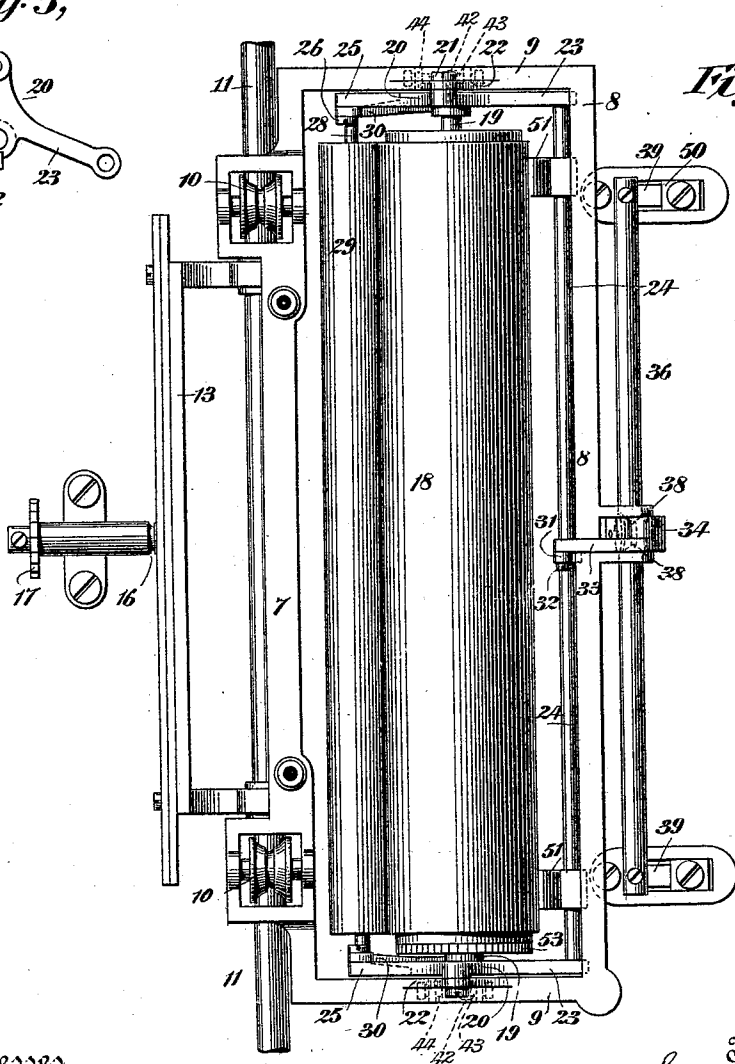
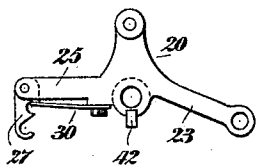


Fig. 2,

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UNITED STATES PATENT OFFICE.

GEORGE B. WEBB, OF NEW YORK, N. Y., ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE WYCKOFF, SEAMANS & BENEDICT, OF NEW YORK.

TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 551,842, dated December 24, 1895.

Application filed February 1, 1892. Serial No. 419,866. (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 certain new and useful Improvements in Type-Writing Machines, of which the following is a specification.

My invention relates to that class of type-writing machines in which the type-bars, levers or carriers are each provided with two or more type, and in which the platen is capable of being shifted to enable the paper thereon to be printed in a continuous line by either or any of said type on said bars, levers or carriers, and has for its main object to provide a construction whereby the paper-carriage and the platen-carrier are greatly simplified and reduced in dimensions and weight, and by which the shifting, by the operator, of the platen from one printing position to another, may be accomplished with less exertion than heretofore.

To these ends my invention consists in the features of construction and the combinations of devices hereinafter more fully described, and particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 shows in end elevation a type-writing machine embodying my improvements, said view showing in vertical central section the top plate or type-ring, with type bars or carriers, and the upper portion of the usually employed platen-carriershifting means. Fig. 2 is a plan view of the same, omitting the top plate, but showing the shift-rail, its bell-cranks and the stops therefor; and Fig. 3 is an elevation of one of the vibratory plates, brackets or supports in which the platen is mounted with the feed-roller hanger and spring added.

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 around which, in a circle as heretofore, are arranged a series of type-bars, levers or carriers 2, each said type-bar being preferably pivoted at 3 in a hanger 4 secured by a screw

5 to the top plate. The type-bars may be actuated as customary by a key-lever (not shown) through an intermediate connecting-rod 6.

The main carriage is a non-shiftable or non-vibratory one and is preferably composed of a back bar 7, a front bar 8, and side bars 9, and it is provided at its rear side with grooved rollers 10, which travel upon a hinge and guide-rail 11 supported at each end by a standard 12 rising from the top plate. The paper-carriage and its appendages may be moved or fed laterally by any known means. I have shown, connected to the carriage, a hinged frame 13 provided with a feed-rack 14, which engages a pinion 15 on the inner end of a shaft 16, which is provided at its outer end with a ratchet-wheel 17 adapted to co-operate with spacing-dogs (not shown) in a manner well known, to effect a step-by-step feed of the carriage under the influence of a spring-drum or like driving power. (Likewise not shown, but which may be of any known construction and arrangement.)

18 designates a platen whose shaft or axle 19 is connected at each end to a plate or support 20, which at each side of the machine is pivoted at 21 in an upright or stand 22, preferably formed integral with the side or end bar 9 of the main carriage. The axis of motion 21 of the plates or supports 20, and hence of the platen, is arranged eccentrically of the axis of the platen.

Each plate or support 20 is preferably provided with a forwardly-extending arm 23, and these arms are connected together rigidly by a cross-bar 24. The said plates or supports 20 are also preferably provided with rearwardly-extending arms 25, to the extremity of each of which is pivoted at 26 a hanger 27, adapted to receive and support one end of a shaft or axis 28 of a pressure or feed roller 29, which is maintained in contact with the platen or with the paper thereon by springs 30, which are connected at their forward ends to the supports or plates 20 or to their rearwardly-extending arms 25, and which at their free ends press against offsets or projections on the pivoted hangers 27 and below and in front of the pivots of said hangers, so that

by their tension they may operate to swing the lower ends of the hangers and hence the feed or pressure roller 29 toward the platen.

Preferably about centrally of the cross-bar 24 is pivoted the lower end of a link 31, to which at its upper end is pivoted, as at 32, the rearwardly-extending arm 33 of a yoke block or bracket 34, provided, preferably, with an antifriction-roller 35, adapted to ride upon a shift-rail 36 and support the front side of the main carriage. The yoke block or bracket 34 is pivoted at 37 in lugs or ears 38, extending outwardly and upwardly from the front bar 8 of the main carriage. The shift-rail 36, as heretofore, is mounted near each end upon a bell-crank 39 on a rock-shaft 40, which is bent to pass around the front series of connecting-rods 6. The bell-cranks are actuated and the shift-rail moved in one direction by means of a connecting-rod 41, which at its lower end may be connected to a key-lever of the first order, and the bell-cranks and shift-rail may be actuated in the opposite direction by a returning-spring, (not shown,) all as is very common in the Remington machine.

Preferably on each plate or support 20 is formed or provided a projection 42, adapted to contact with either a stop 43 or a stop 44 on opposite sides of said projection. The stops 43 and 44 are preferably made in the form of screws, (to obtain the desired adjustment,) which extend horizontally in opposite directions through depending lugs or supports 45 on the carriage end bars 9. The projection 42 and stops 43 and 44 constitute means for limiting the vibration of the plates 20 and the platen carried thereby. In the normal positions of the parts shown in full lines at Fig. 1, the projection 42 stands against the stop 43. In this position the shaft 19 or axis of the platen, the pivot 21, and one of the type 46 are all in the same plane, as indicated by the dotted line 47. The type 46 is preferably a small or lower-case type. When the projection 42 is moved to contact with the stop 44, the center of the pivot 21 and the centers of the platen and type 48 all align, as indicated by the dotted line 49. The type 48 is preferably a capital or upper-case type. Thus normally all of the lower-case type 46 are adapted to impress the paper in the plane or at the angle represented by the line 47. In order that the capitals or upper-case characters, numerals and punctuation-marks, &c., may print upon the same line with the lower-case letters, the platen is shifted to an extent such that its center or axle is moved from a position coincident with the line 47 to one which is coincident with the line 49, as indicated by the dotted lines at Fig. 1. Of course the type are so formed or arranged relatively to the platen that when the latter is in its normal position only the lower-case letters or characters 46 will be able to make their impressions, while when the platen is in its rearward or shifted position only the upper-case or analogous

type 48 can impress the paper. As will be observed, the type are arranged at an angle toward each other and are set radially of the axis of vibration of the platen, so that in the normal position the type 46, and in the shifted position the type 48, will strike in line with said axis of vibration and the axis of the platen.

When it may be desired to shift the platen from lower to upper case position, the shift-key lever may be actuated to raise the connecting-rod 41 and through it vibrate the bell-cranks and cause the shift-rail 36 to swing outwardly. In moving in this direction said rail operates to vibrate the yoke block or bracket 34 about its pivot 37, thus causing the arm 33 to descend and with it the link 31, which in moving down operates to rock or oscillate the plates or supports 20 about their pivots 21 and cause the platen to vibrate or swing so that its lower portion where the line of impressions is being made will be moved back from the plane represented by the line 47 to that represented by the line 49. The extent of this movement corresponds to the distance from center to center of the upper and lower case type. When thus shifted, if any of the type-levers be actuated their upper-case characters will print upon the paper alongside of or in line with any lower-case characters which may have previously been printed. Upon releasing the shift-key lever the usually-employed spring heretofore al- luded to may operate to return the bell-cranks to their normal positions and thus cause the platen and its connecting devices to all return to their initial positions. (Represented by the full lines at Fig. 1.)

It will of course be understood that if the horizontal arms of the bell-cranks were set to project forwardly instead of rearwardly the shift-rail would be adapted to move forwardly by a downward pull upon the connecting-rod 41 instead of by an upward thrust or push, in which case the ordinary Remington shift-key lever of the second order would be employed.

The backward and forward movements of the vertical members of the bell-cranks may be limited by stops 50, as usual in the Remington machine.

Paper-guides 51 may be attached to the cross-bar 24 and extend under the platen, as shown, and these paper-guides, preferably one at each end of the platen, may be connected at their rear ends by a paper-blade or scale-bar 52. I have shown the platen provided with a ratchet-wheel 53, which is adapted to be actuated by any suitable line-spacing devices to effect a step-by-step rotation of the platen. The pivoted or vibratory plates or supports 20 in which the platen is mounted constitute what I call the "platen-carrier."

Numerous changes in form and detail construction and arrangement may be made without departing from the gist of my invention. The means for rocking or oscillating the platen-carrier may be widely different from

those shown, but I prefer the construction and arrangement herein set forth.

Of course where more than two type on a bar are used the platen must be arranged to have a greater number of vibrations than shown and described herein, and instead of printing on the under side of the platen, the parts may be inverted so that the type may print on top.

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

1. In a type writing machine, the combination with type bars provided each with a plurality of type, of a non-shifting paper-carriage, a platen pivotally mounted in said paper-carriage to vibrate about an axis of motion eccentric of its axis or center of rotation and carry the printing point or line in an arc from a position where the type of one series strike to a position where the type of another series strike.

2. In a type writing machine, the combination with a non-shifting paper-carriage, of a platen carrier pivotally hung in said paper-carriage, a platen axially mounted in said platen carrier beneath its pivots, and a series of type bars provided each with a plurality of type which are arranged radially of the axis of motion about which said platen and platen-carrier are arranged to vibrate.

3. In a type writing machine, the combination with a non-shifting paper-carriage, of a platen-carrier pivoted to said paper-carriage, a platen mounted to rotate in said carrier, and also to swing therewith independently of said paper-carriage, means for limiting the swing of said platen carrier, and a series of type bars provided each with a plurality of type.

4. In a type writing machine, the combination of a paper-carriage, a rotatory platen, a platen-carrier pivoted eccentrically of the axis of rotation of said platen to carry the printing point or line in an arc from one printing position to another printing position, means for vibrating said platen-carrier, means for limiting the extent of vibration of said carrier, and a series of type-bars provided each with a plurality of type which are arranged radially of the axis of vibration of the platen-carrier.

5. In a type writing machine, the combination of a paper-carriage provided with uprights or standards, a pair of plates or supports pivoted to said uprights or standards, a platen journaled at its ends in said plates or supports and adapted to be swung about said pivots to carry the printing point or line from one printing position to another printing position and a series of type-bars provided each with a plurality of type which are arranged radially of the pivots of the plates or supports.

6. In a type writing machine, the combination with a paper-carriage having uprights or standards, of a pair of plates or supports pivoted thereto and provided each with a forwardly-extending arm, which arms are connected by a cross-bar, a platen mounted to rotate in said pivoted plates, means for vibrating said plates or supports about their pivots to carry the printing point or line from one printing position to another printing position, and a series of type-bars provided each with a plurality of type which are arranged radially of the pivots of the plates or supports.

7. In a type writing machine, the combination with a paper-carriage provided with uprights or standards, of a pair of plates or supports pivoted thereto and provided each with a forwardly and a rearwardly extending arm, a cross-bar connecting the forward arms, a pivoted spring-pressed hanger depending from each rearward arm, a pressure-roller mounted at its ends in said hangers, a platen mounted to rotate in said pivoted plates or supports, means for vibrating the latter, and a series of type-bars provided each with a plurality of type.

8. In a type writing machine, the combination with a non-shifting paper-carriage provided with stops, of a platen, a platen-carrier provided with a projection, means for vibrating said platen-carrier independently of said paper-carriage, and a series of type-bars provided each with a plurality of type.

9. In a type writing machine, the combination with a paper-carriage, of a platen, a platen-carrier pivoted eccentrically of the axis of rotation of said platen, a series of type-bars provided each with a plurality of type, a vibratory shift-rail, and a pivoted yoke-block or bracket connected to said platen-carrier.

10. In a type writing machine, the combination with a paper-carriage, of a pair of pivoted plates or supports connected together by a cross-bar, a platen, a vibratory shift-rail, a pivoted yoke-block or bracket provided with an anti-friction roller and with a rearwardly-extending arm, a link connected at one end to said arm and at the other end to said cross-bar, means for limiting the vibration of said pivoted plates or supports, and a series of type-bars provided each with a plurality of type.

11. In a type writing machine, the combination of a guide-rail or track, a paper-carriage, a platen-carrier pivotally hung therein, a platen mounted to rotate in said platen carrier, a shift-rail adapted to swing said platen-carrier, and also to support one side of the paper-carriage, and a series of type bars provided each with a plurality of type.

12. In a type writing machine, the combination of a non-shifting paper-carriage composed of side and end bars, a platen carrier pivotally hung in said paper-carriage, a platen rotatably mounted in said platen-carrier and adapted to be swung from one printing position to another printing position, a shift rail adapted to support one side of the paper-carriage, and means attached to said paper-car-

riage and connected to said shift-rail, and
also to said platen-carrier, for swinging said
platen-carrier independently of the paper-
carriage when the shift-rail is actuated and
5 without at the same time disturbing the sup-
port afforded by said shift-rail to the paper-
carriage.

Signed at New York city, in the county of
New York and State of New York, this 29th
day of January, A. D. 1892.

GEORGE B. WEBB.

Witnesses:

JACOB FELBEL,
IDA MACDONALD.