

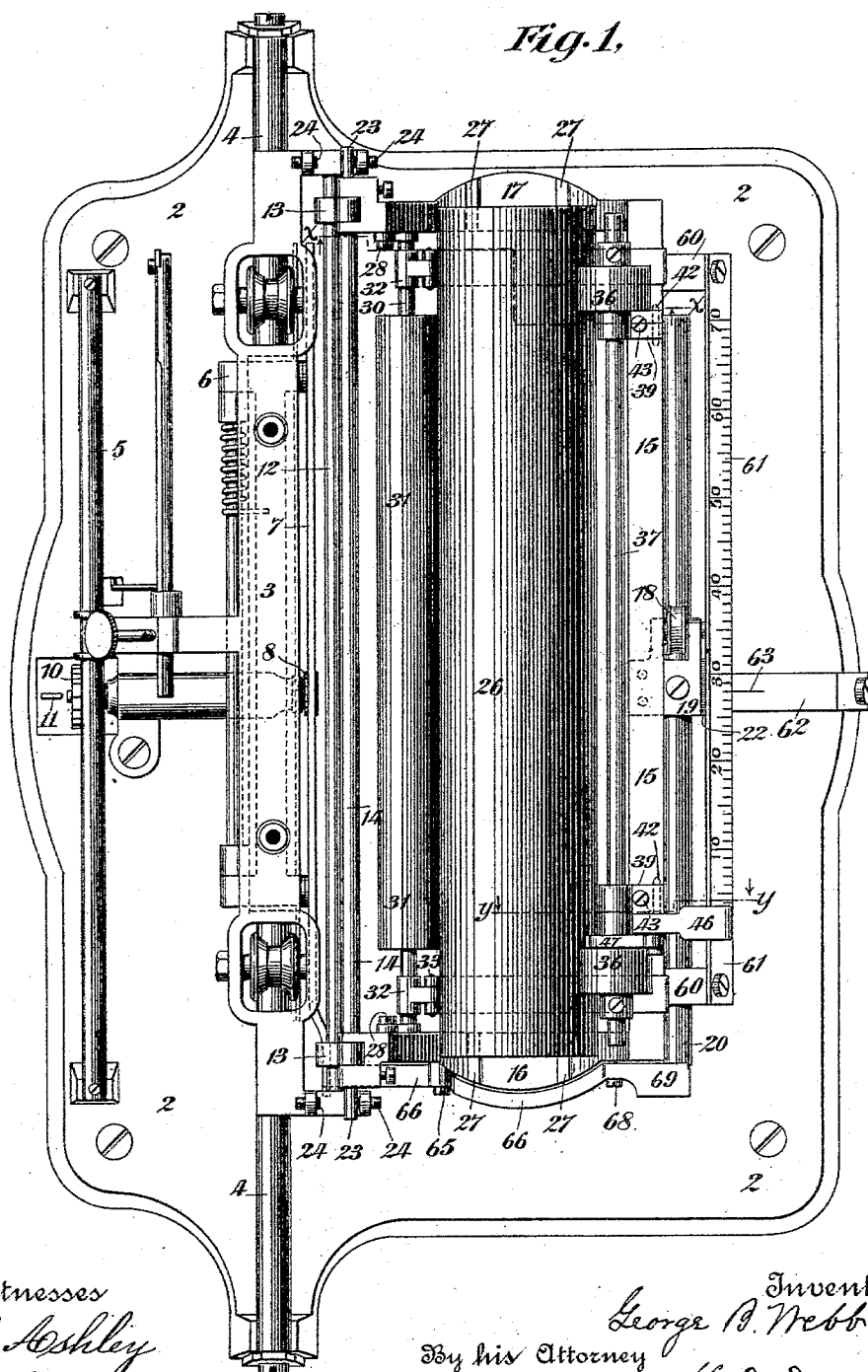
(No Model.)

2 Sheets—Sheet 1.

G. B. WEBB.
TYPE WRITING MACHINE.

No. 490,329.

Patented Jan. 24, 1893.



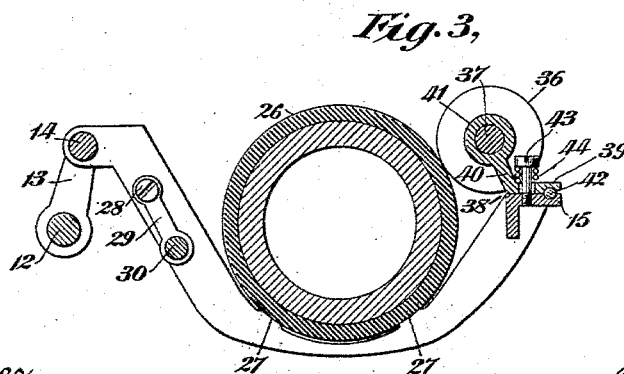
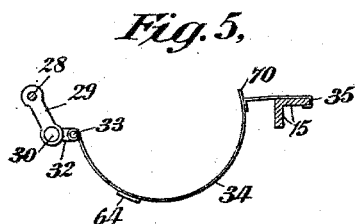
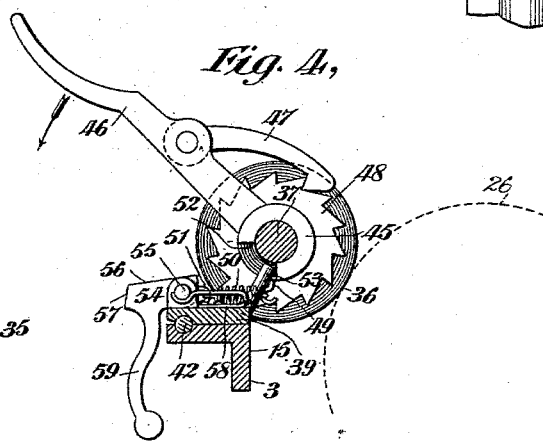
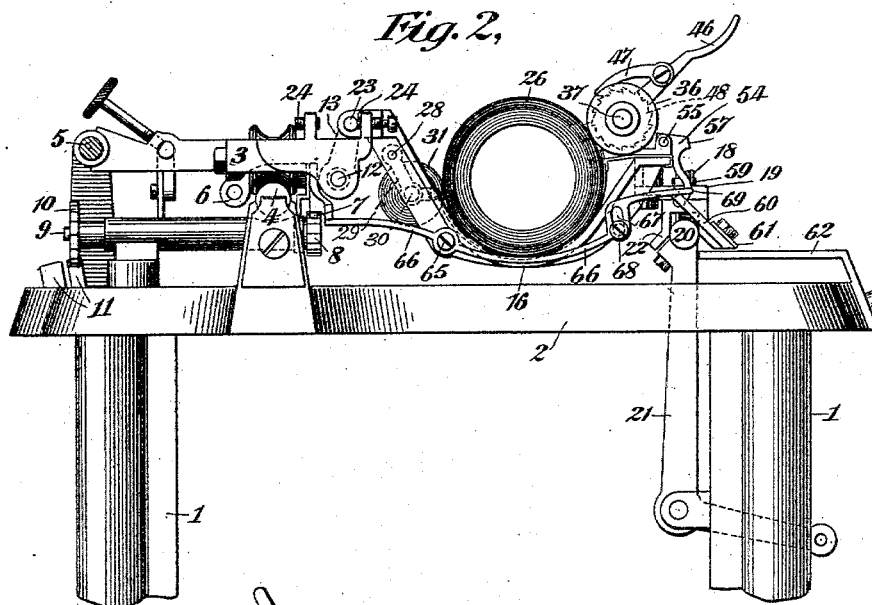
Witnesses
C. E. Ashley
H. W. Lloyd

Inventor
George B. Webb
By his Attorney
H. D. Donnelly

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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. 490,329, dated January 24, 1893.

Application filed May 18, 1892. Serial No. 433,422. (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 more particularly to the platen-carrier or carriage and its accessories, and has for its main objects; first, to provide a construction whereby paper of any width may be used; secondly, a construction whereby the platen may be readily detached and re-applied, or substituted by another platen when manifolding is to be performed; and thirdly, a construction whereby the paper may be properly held upon or against the platen and may also be properly fed or moved in line-space direction.

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

In the accompanying drawings, Figure 1 is a top plan view of so much of a type-writing machine as is necessary to illustrate my improvements. Fig. 2 is an end view thereof taken at the left hand side of the machine. Fig. 3 is a vertical section, enlarged, taken at the line *x, x* of Fig. 1. Fig. 4 is an enlarged vertical section taken at the line *y, y* of Fig. 1, and Fig. 5 is a detail view of one of the back feed-roller links and one of the pressure springs for said roller.

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

I have illustrated my present improvements in connection with a type writing machine of the general construction shown in the Letters Patent granted to me March 29, 1892, No. 471,710, to which reference is hereby made for a fuller understanding of the construction and operation of any part herein shown but not relating to my present improvements.

1 designates the frame-work, 2 the top-plate or type-ring, 3 the main carriage, 4 and 5 the carriage guide-rails, 6 the pivoted spring-actu-

ated feed-rack frame, 7 the vertically-arranged feed-rack, 8 the pinion engaging said rack, 9 the shaft of said pinion, 10 the ratchet-wheel on said shaft, and 11 the feed-dogs.

12 designates a rock-shaft mounted at its ends in the main carriage and provided near each end with an upwardly-extending arm 13 which is pivotally-connected to one of the side or end bars of the platen-carrier. The platen-carrier consists preferably of a back rod 14, a front bar 15 and side or end bars 16 and 17. The front side of the platen-carrier is supported by a grooved anti-friction roll 18, mounted in a bracket 19 secured on the underside of the front bar 15 and bearing and rolling upon a cylindrical shift-rail 20 mounted at or near its ends upon arms 21 connected as heretofore to a shift-key. On the underside of the bracket 19 is a flaring yoke-piece 22 which embraces the shift-rail in the usual manner and for the usual purposes. Projecting laterally from each end bar is a pin 23 which plays between two fixed screws 24 in upwardly-projecting lugs of the main carriage. These pins and screws form limiting stops for the transverse vibrations or shifting movements of the platen-carrier.

The side or end bars 16 and 17 are constructed alike and from their rear ends are bent downwardly, forwardly and then upwardly again into substantially U-shape, in order to pass under the platen or impression-roller 26. The ends of the platen are supported on the underside by the lowermost or depressed portions of the end bars; but the said ends of the platen preferably rest upon a pair of ribs or projections 27 formed on each of said end bars, one on each side of the vertical centerline of the platen. Pivoted at 28, on each end bar is a depending link 29, the lower end of which supports one end of the shaft or axle 30 of a feed or pressure roller 31. Near each end of said axle or shaft 30 is mounted a bracket 32, to which is pivotally-connected or hinged at 33 a spring 34 which is curved or bent to pass around and in contact with the underside of the cylindrical platen and to terminate in front thereof above its horizontal center. To this spring is attached a hook 35 which engages with the front

bar 15 of the platen-carrier. The said springs 34 serve to press the feed-roller 31 against the platen.

In front of the platen are arranged two 5 small rollers 36 mounted upon a common shaft or axle 37 which is arranged to turn in bearings in brackets 38 connected to the front bar 15 of the platen-carrier near each end thereof. The said brackets 38 are each formed of a 10 horizontal base-plate 39 and an upwardly-extending arm or member 40, which terminates in an eye or bearing 41 for the roller shaft or axle 37. Each of said brackets 38 is spring-pressed and also hinged or pivotally- 15 connected to the bar 15. The underside of the base-plate 39 is formed with a half round groove, and the upper side of the bar 15 is similarly formed to receive a hinge or pivot-pin 42. The base-plate 39 is also provided 20 with a perforation, through which passes a screw 43, whose point engages with a threaded hole in the bar 15. Between the underside of the head of the screw and the upper surface of the base-plate is arranged a coiled spring 25 44, whose power or tension may be regulated by said screw. The action of the spring 44 is such as to normally maintain contact between the surfaces of the rolls 36 and the surface of the platen. The rollers 36 are likewise so 30 arranged that their lines of contact occur above the center of the platen, in order that their pressure, together with that of the back roller 31, may operate to force the platen downwardly and prevent the same from falling out 35 when the platen-carrier is turned up, or of accidentally shifting from its proper position, when the platen is down and the machine is being used. The front and back rollers pressing with nearly equal force on the platen in 40 a line above its center as shown in Fig. 2 permit the resultant downward pressure added to the weight of the platen itself, to always center and hold the platen properly in position transversely upon the projections or ribs 45 on the end bars and beneath the platen ends.

As the front and back rollers are incapable of moving longitudinally in their bearings they serve in connection with the friction of the contact of the platen or the paper thereon 50 with the ribs or projections referred to, to keep the platen firmly in position against longitudinal movement in the platen-carrier or frame. Of course instead of the two short rollers 36, one long or continuous roller may 55 be employed.

In connection with the left hand roller 36, preferably, I provide means for rotating the rollers 36 and feeding the paper lengthwise for necessary line-spacing. Upon the shaft 60 37 is mounted a hub 45, from which extends a line-space lever 46 provided with a pivoted driving-pawl 47, the hook-shaped end of which is adapted to engage with the teeth of a ratchet-wheel 48 affixed upon said shaft. To 65 the hub 45, through a hook 49, is connected one end of a coiled spring 50, the opposite end of which, by a hook 51, is connected to

the bracket 38 on the front bar of the platen-carrier. The said hub is notched or cut-away, 70 as at 52, to receive a pin 53 projecting from the base-plate 39, which pin serves to limit the movements of the hub under the action of the spring 50. By pulling down the arm or lever 46 in the direction of the arrow, the driving-pawl is caused to turn the ratchet- 75 wheel and the rollers 36 and cause them to partially rotate the platen and move the paper thereon in line space direction. During the downward movement of the arm or lever 46 the spring 50 is stretched, and upon re- 80 lease of said lever said spring operates to restore the hub, lever and driving-pawl to their normal positions. The extent of movement of the paper in this direction may be regulated to the distance of one or two teeth 85 on the ratchet-wheel by means of a line-space regulator consisting of a block 54 pivoted at 55 in lugs on the bracket 38. The block 54 is formed with a face 56 and a face 57 and is pivoted eccentrically so that the plane of the 90 face 56 is nearer the pivot than is the plane of the face 57. A flat, bent spring 58 is riveted upon the base-plate 39, and at its free end presses against the pivots of the regulator to hold the same firmly in either of the 95 two positions it is capable of being set. The regulator is provided with a handle 59, by which the same may be conveniently adjusted. When in the position shown at Figs. 2 and 4, the line-space lever or arm 46 may 100 be moved down to an extent sufficient to turn the ratchet-wheel the distance of two of its teeth; but when the face 57 is turned uppermost, the line-space lever will turn the ratchet-wheel and the rollers connected thereto the 105 distance of only one notch on said wheel.

Upon arms 60, attached to the front bar of the platen-carrier, is secured a scale 61, in connection with which is used a stationary pointer 62 attached to the top-plate, and preferably 110 provided with an indicating or aligning mark 63. Another scale 64 may be secured to the springs 34 on the underside of the platen to assist in making adjustments of and corrections on the paper being written. 115

Pivoted at 65 on the left hand end bar is a lever 66 which is bent to lie below the plane of the platen, and which near its forward end is slotted at 67 to embrace a guide pin 68 on the end bar. The front end of said lever 120 terminates in a finger-piece 69, by depressing which, the feed-rack may be lifted from engagement with the pinion to permit the carriage to be moved rapidly in either direction.

The paper to be written upon may be inserted 125 between the back pressure roller 31 and the rear side of the platen, and by rotating said platen the leading edge of the sheet is carried down and around the underside of the platen and up and between the front rollers 130 and the front side of the platen. If the paper be of a width greater than the distance between the springs 34 the side portions of the paper will lie between the under side of

the platen and the upper surfaces of said springs, and in inserting such a sheet its leading edge is prevented from following the undersides of the front rollers 36 by means of extensions 70 of the springs 34 which act to positively deflect the leading end of the sheet in between the front rollers and the front side of the platen. If the sheet to be written upon is of a width greater than the distance between the side bars, it will be supported by said side bars and upon and in contact with said ribs or projections, (if the latter be used.) The platen is preferably made hollow, as shown, and consists of a tubular core with a surrounding sheath of vulcanized rubber; but if desired, one or both ends of said platen may be provided with a hand-wheel, by which said platen may be rotated to effect the feeding in or adjustment of the paper. During the writing of the sheet the spacing between lines is preferably effected by the line-spacing devices hereinbefore described.

From the foregoing it will be readily understood that paper of any width, either less or greater than the length of the platen, may be used. It will also be readily understood that the platen may be removed by simply pulling it upwardly out of the bight of the oppositely-disposed spring-pressed rollers.

As is well known, it is very desirable to change the platen, according to the kind of work to be performed, and the manner in which the platen is mounted permits the substitution of one platen for another with the utmost facility. To introduce a platen it is simply necessary to force it down between the opposing rollers, as illustrated. As the distance between the inner faces of the opposing rollers is slightly less than the diameter of the platen, said rollers are of course spread farther apart during the introduction of the platen, the front rollers swinging about the pivots 42, and the back roller about the pivot 28. Of course the back roll 31 instead of being made continuous may be formed in sections or of a number of small independent rollers.

In addition to the advantages referred to of the constructions described, it will be seen that the paper may be placed upon the platen in a true position while the latter is out of its carriage and the platen then restored to its proper position in said carriage. It will also be seen that as the platen need not and ordinarily will not, come in the same position on returning it, the wear of the surface of the platen will therefore be practically uniform, which is not the case with a platen having a fixed ratchet-wheel on one end and having a fixed longitudinal position.

Of course numerous changes in detail construction and arrangement may be made without departing from the gist of my improvements, and I do not therefore wish to be considered as limiting myself to the precise means herein shown and described.

My improvements may of course be car-

ried out in other forms or constructions of 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, and a platen-carrier depressed or sunken at each side or end below the plane of the underside of the platen, whereby paper of a greater width than the platen or the platen-carrier may be used.

2. In a type writing machine, the combination of a platen, and a platen-carrier having its end or side bars depressed or sunken below the level of the underside of the platen.

3. In a type writing machine, the combination of a platen, a platen-carrier provided with depressed or sunken end bars below the level of the underside of the platen, and means for forcing said platen down upon said end bars.

4. In a type writing machine, the combination of a platen, a platen-carrier provided with depressed or sunken end bars below the level of the underside of the platen, and opposing feed-rollers arranged to contact with said platen on opposite sides and in a line above its center.

5. In a type writing machine, the combination of a platen, a platen-carrier having depressed or sunken end bars below the level of the underside of the platen, and opposing spring-pressed feed-rollers.

6. In a type writing machine, the combination of a platen, a platen-carrier having depressed or sunken end bars provided with ribs or projections, and means for forcing said platen against said ribs or projections.

7. In a type writing machine, the combination of a platen, and a platen-carrier, the back and front bars of which stand above the center of the platen and the end bars of which are bent or shaped to pass beneath said platen.

8. In a type writing machine, a platen carrier, the end bars or members of which are substantially U-shape to receive and support the periphery of a cylindrical platen.

9. In a type writing machine, the combination of a platen, a platen-carrier having depressed or sunken end bars, a pivotally-mounted feed-roller, and springs passing around the underside of said platen serving to force said roller against said platen.

10. In a type writing machine, the combination of a platen, a platen-carrier having depressed or sunken end bars, a feed-roller mounted in pivoted arms or links, and a pair of springs, each connected at one end to said feed-roller and, after passing around the underside of the platen, at its opposite end connected to the platen-carrier.

11. In a type writing machine, the combination of a platen, a platen-carrier having depressed or sunken end portions, a pair of links, a feed-roller, a feed-roller shaft or axle mounted to turn in said links, and a pair of springs each of which is pivotally-connected at one end to the shaft or axle of said roller,

and, after passing around the under side of said platen at its opposite end is connected to the platen-carrier.

12. In a type writing machine, the combination of a platen, a platen-carrier, a feed-roller, a feed-roller shaft or axle mounted in pivoted supports or links, a bracket attached to each end of said shaft or axle, and springs arranged to pass around the underside of the platen and hinged or pivoted each at one end to one of said brackets.

13. In a type writing machine, the combination of a platen, a platen-carrier having sunken or depressed side bars, a shaft or axle, a roller mounted thereon to bear upon the platen above its longitudinal center; and a pair of hinged spring-pressed brackets for supporting said shaft or axle above the plane of the platen-carrier.

14. In a type writing machine, the combination of a platen, a platen-carrier, a bracket hinged to the bar of said platen-carrier and consisting of a base-plate and an upwardly-extending arm provided with a bearing, a shaft or axle having a feed-roller supported in said bracket, a screw passing through a perforation in said base-plate and engaging a threaded hole in the bar of the platen-carrier, and a spring arranged between the upper surface of the base-plate and the underside of the head of the screw.

15. In a type writing machine, the combination of a platen, a platen-carrier having depressed or sunken end portions, a feed-roller pressing against said platen or the paper thereon, and line-spacing devices for turning said roller and said platen and moving the paper lengthwise.

16. In a type writing machine, the combination of a platen, a platen-carrier, a spring-pressed feed-roller, a line-space lever having a driving-pawl mounted on the shaft or axle of said roller, a ratchet-wheel fast on said shaft or axle, and a returning spring connected at one end to the line-space lever, and at the other end to a relatively-fixed member of the platen-carrier.

17. In a type writing machine, the combination of a platen, a platen-carrier having de-

pressed or sunken end bars a release key-lever pivoted to one of said bars and bent to pass below the plane of the underside of said platen and arranged to extend forward of said platen, and the carriage feeding or escapement devices.

18. In a type writing machine, the combination of carriage feeding or escapement devices, a platen, a platen-carrier having depressed or sunken end bars, and a release key-lever pivoted to one of said end bars and bent to pass below the plane of the underside of said platen and formed with a slot which embraces a guide and stop pin arranged on said end bar.

19. In a type writing machine, the combination with a platen-carrier, of a rotatory platen without axle or pivots.

20. In a type writing machine, the combination with a platen-carrier, of a rotatory platen without axle or pivots, and held in working position by pressure on its periphery.

21. In a type writing machine, the combination of a platen-carrier, open at its ends in the line of the platen, a rotatory platen unattached at either end to said carrier, and means applied to the periphery of said platen for holding the same in working position.

22. In a type writing machine, the combination with a platen-carrier, of a rotatory platen without axle or pivots, and paper feeding devices which operate to also hold the platen in working position.

23. In a type writing machine, the combination with a platen-carrier, of a rotatory platen without axle or pivots, and paper feeding rollers which operate also to hold the platen in working position.

24. In a type writing machine, the combination of a platen carrier having depressed or sunken end bars, a pivotless rotatory platen, and paper feeding devices.

Signed at New York city, in the county of New York and State of New York, this 16th day of May, A. D. 1892.

GEORGE B. WEBB.

Witnesses:

JACOB FELBEL,
IDA MACDONALD.