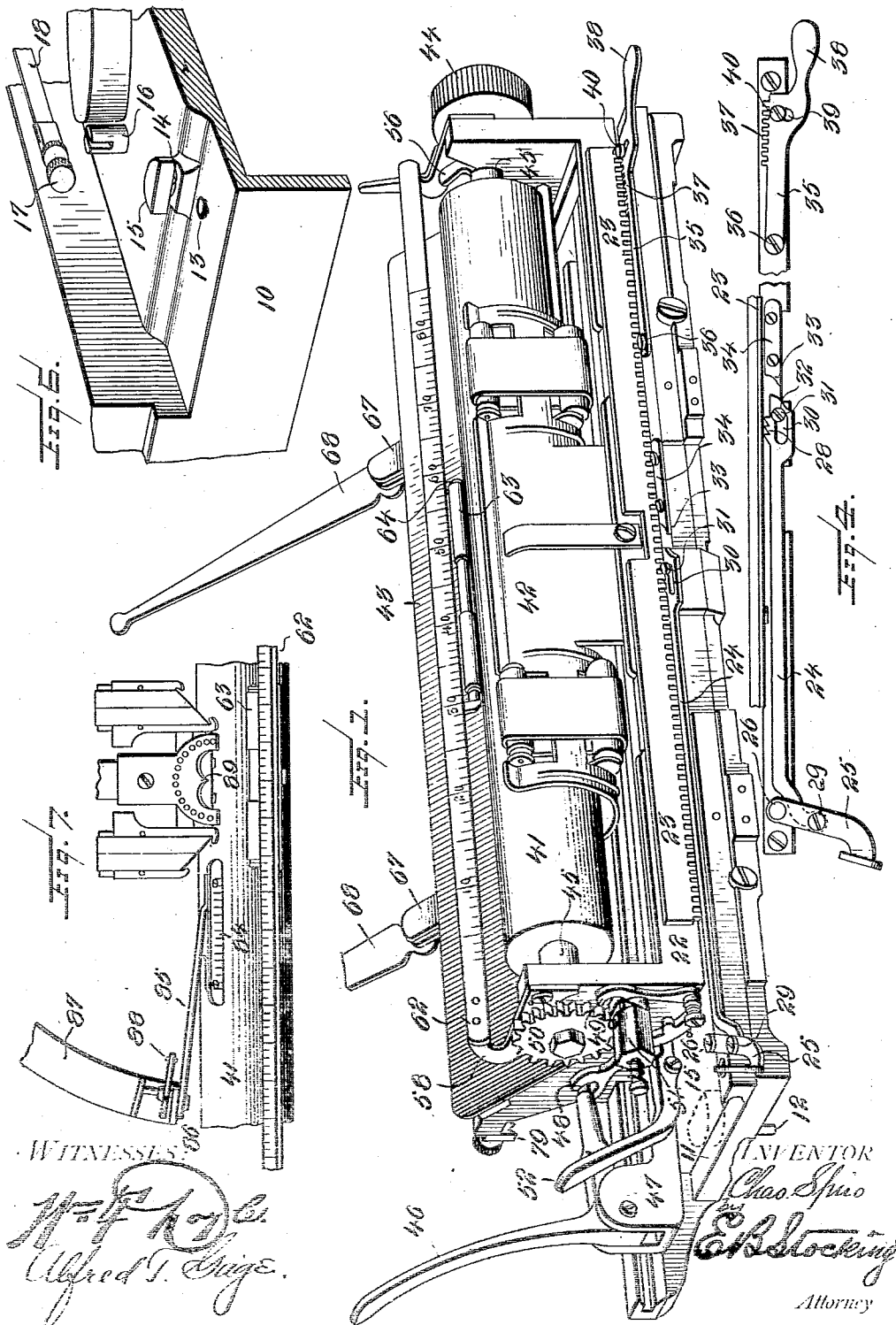


TYPE WRITER CARRIAGE MECHANISM.

Patented Mar. 29, 1910.

2 SHEETS--SHEET 1.

953,559.

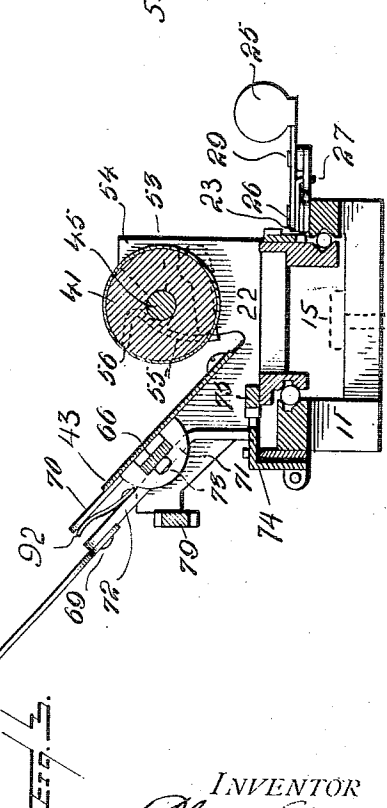
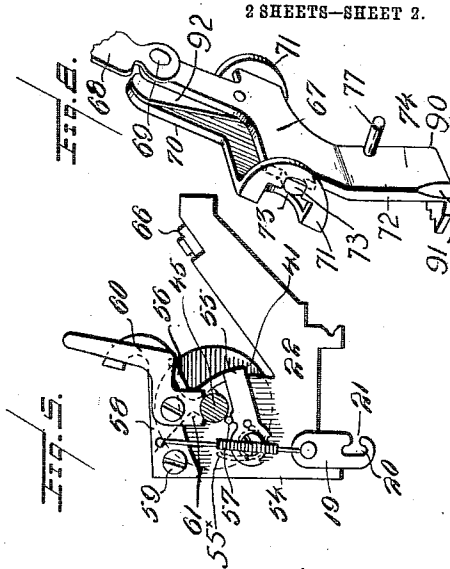
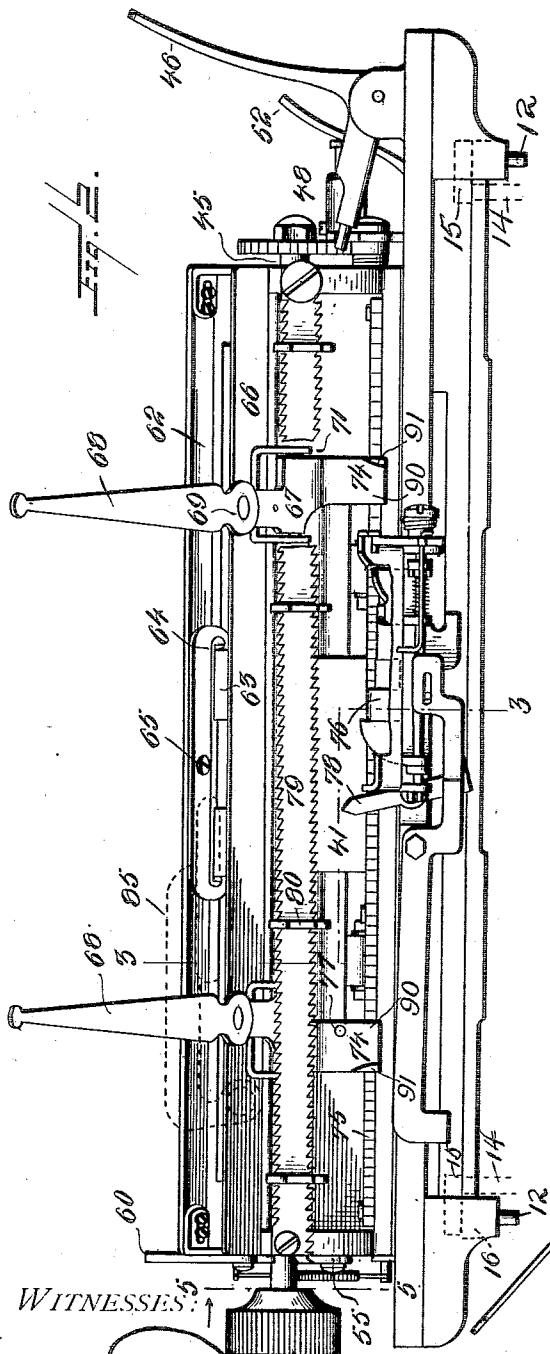


C. SPIRO.
TYPE WRITER CARRIAGE MECHANISM.
APPLICATION FILED MAY 28, 1908.

953,559.

Patented Mar. 29, 1910.

2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

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TYPE-WRITER-CARRIAGE MECHANISM.

953,559.

Specification of Letters Patent.

Patented Mar. 29, 1910.

Application filed May 28, 1908. Serial No. 435,455.

To all whom it may concern:

Be it known that I, CHARLES SPIRO, citizen of the United States, residing at New York, county of New York, and State of New York, have invented certain new and useful Improvements in Type-Writer-Carriage Mechanism, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to a typewriter carriage mechanism, and particularly to means for controlling the movement of said carriage and the adjustment of the parts thereof.

The invention has for an object to provide a removable carriage adapted to be mounted upon the frame of the machine together with means for locking and holding said carriage against movement during the transportation of the machine and for permitting the removal of the platen as found necessary.

Another object of the invention is to provide means for back spacing said carriage when necessary for corrections.

A further object of the invention is to provide an improved construction and arrangement of line finder pivotally mounted to be thrown when desired into contact with the platen.

Another object of the invention is to provide an adjustable paper support which also comprises a margin gage cooperating with the dog controlling mechanism.

Other and further objects and advantages of the invention will be hereinafter fully set forth and the novel features thereof defined by the appended claims.

In the drawings:—Figure 1 is a perspective of the carriage of the machine removed; Fig. 2 is a rear elevation thereof; Fig. 3 is a vertical section on line 3—3, Fig. 2; Fig. 4 is a plan of the back spacing and locking mechanisms; Fig. 5 is a section on the line 5—5, Fig. 2; Fig. 6 is a detail perspective of the machine frame; Fig. 7 is a plan showing the application of the line finder; Fig. 8 is a perspective view of the paper support and margin gage.

Like numerals refer to like parts in the several views of the drawings.

The numeral 10 designates the frame of the typewriter of any desired construction or configuration adapted to receive the carriage base 11 which may, when desired, be provided with a pin or projection 12 adapted to enter a recess 13 in the frame 10. This

base is removably secured in position upon the frame by means of the screw 14 located in a cross bar and having the segmental head 15 which when rotated in the opposite position from that shown in Fig. 6 will engage and hold the carriage base upon the frame, yet, when rotated as there shown will permit the free removal thereof. The machine frame is also provided with the slotted post 16 which is adapted to receive and hold the head 17 carried by the strap 18 of the tension mechanism for the carriage which when released from the carriage may be engaged and held by this post, as shown in Fig. 6. The carriage is also provided with a depending lug 19 to receive and hold the head 17 of the strap of the tension spring which is inserted within the slot 20 through the reduced aperture 21 and thus prevent its accidental removal.

The carriage 22 is mounted to freely reciprocate upon the base 11 in the usual manner and is provided at its front portion or that next the platen with a rack or engaging projection 23 which is adapted to cooperate with both a back space mechanism and a carriage locking device. This back space mechanism comprises a bar 24, as shown in Figs. 1 and 4, which is connected at one end to a lever 25 pivoted at 26 and provided with a tension spring 27 for normally holding the teeth 28 of the bar 24 out of engagement with the teeth of the rack 23, said spring being coiled about the pivot 26 of the operating lever 25 which is connected to said bar at 29. This bar is provided with an elongated slot, as shown at 30, and a pin 31 disposed therein to retain the parts in position. In the longitudinal movement of the bar 24 the curved face 32 at its free end and cooperating face 33 disposed upon the base of the carriage, for instance, by means of plate 34 secured thereon, contact with each other and causes an inward movement of the toothed end of the bar to engage the rack 23 upon the carriage and move the same backward for one space. Immediately the pressure is relieved from the lever 25 the bar returns to its initial position and may be successively operated to feed the carriage backward step by step.

For the purpose of handling or transportation it is desirable to lock the carriage against movement upon its base and for this purpose a movable locking device is provided and adapted to engage a rack bar

upon the carriage. In the present instance the rack bar 23 is utilized and coöperates with the lever 35 pivoted at 36 and provided with teeth 37 to mesh with those of the rack bar 23, this lever being operated by handle 38 and with an elongated slot 39 through which a holding screw 40 extends. By tightening this screw the lever may be positively locked in its adjusted position either for the continued use of the carriage or to firmly hold it for transportation.

The carriage 22 is provided with the platen 41 of usual construction, and the paper guide and feed 42 disposed at the front thereof together with the paper table 43 at the rear. This platen is adapted to be rotated in any desired manner, for instance, by the handle 44 upon its shaft 45 or by means of the lever 46 mounted in the bracket 47 from the carriage and adapted to engage the rock lever 48 thereon which is provided at one end with the pawl 49 to contact with the ratchet wheel 50 upon the shaft of the platen. The extent of throw or travel of this pawl is determined by the rotating adjusting block 51 mounted at one end of the carriage, as shown in Fig. 1. The lever 52 is also provided for the purpose of releasing the carriage feed mechanism. This platen is adapted to rest in an open recess or bearing 53 carried by the end wall 54 of the carriage and is secured therein by means of the retaining lever 55 adapted to contact with the shaft 45 of the platen 41. This holding lever 55 is normally held in its raised or retaining position by spring tension at 55* so as to close the bearing for the shaft of the platen, but may be depressed by the finger holds 56 to permit the withdrawal of the platen whenever desired. The upward or closing movement of the lever is limited by the stop pin 57 upon the carriage frame which engages the holding lever 56. This platen is also retained in position by means of the arms 58 pivotally mounted at 59 in the end portions 54 of the carriage. One of these arms is provided with a pivotally mounted lever 60 thereon having a bearing portion 61 adapted to contact with the shaft 45 of the platen. The arms at the opposite ends of the platen are connected together by a graduated plate 62 which coöperates with the usual indicating device for locating the written character on the machine. This indicator plate has mounted thereon intermediate of its ends a pivoted holding roller 63 carried by the frame 64 which is centrally pivoted at 65 upon the plate 62 and therefore adjustable relative to the surface of the platen 41.

Upon the bar 66 at the rear of the carriage paper guides 67 are adjustably mounted and comprise the fingers 68 pivotally mounted at 69 upon the clip 70. As shown in Fig. 8 these clips comprise the plate 70

having its end portion 71 bent laterally and adapted to embrace the bar 66. Within these bent portions the clamping member 72 is pivotally mounted by means of lugs 73 and the extended lower end 74 thereof is provided with teeth adapted to engage the toothed rack 75 secured upon the carriage and held thereon by spring 92. By this means the guides or supports for the paper may be readily adjusted convenient to the width thereof, and at the same time the portion 74 which engages the rack constitutes a margin gage or stop 90 engaging a proper portion of the feed stop 76 and has an opposite inclined face 91. This portion 74 is also provided with a pin 77 adapted to engage the lever 78 to operate the bell ringer in the travel of the carriage from right to left. At the rear of the carriage frame a tabulator stop rack 79 is mounted in any desired manner and provided with stops 80 which are not herein claimed as they are made the subject of a separate application. The pivotal mounting of the paper guides and supports 68 permit their being inclined toward or from each other to properly secure the paper feed to the platen and determine the margin of the writing thereon.

For the purpose of finding and locating the position of a line of writing when desired for correction or otherwise a graduated line finder 84 is mounted upon a lever 85 pivoted at 86 to the type bar sector 87 carrying the type bars 88. This line finder is swung into contact with the upper face of the platen 41 as indicated by dotted lines in Fig. 2 and the typewritten line brought into alinement therewith when the carriage is moved to bring the desired character opposite the point 89 at which all of the type bars strike so that the desired correction may be made in the matter already written.

It will be seen that the segmental screw heads permit a ready removal and replacement of the carriage base relative to the machine frame, and during such removal the tension strap may be held in the slotted post. The platen is also readily removable by swinging the graduated bar to one side and withdrawing the shaft thereof from beneath the holding lever upon the frame. When it is desired to effect a correction of a letter or character already written the carriage may be back spaced step by step to any desired extent through the back space lever at one side of the machine, and when it is desired to transport the machine or to prevent its use it can be effectually locked by the locking lever and setting the screw holding the same. The correction of written matter is also facilitated by the use of the swinging line finder which when not in use may be swung to one side of the type bar sector. The paper supports are also ad-

justable for any width of paper which it may be desired to use and are held firmly at such adjustment so as to automatically form a margin gage for the width of the paper used. These supports may also be swung toward or from each other to properly support the paper feed.

Having described my invention and set forth its merits, what I claim and desire to secure by Letters Patent is:—

1. In a typewriter, a frame, a carriage base having crossbars at its opposite ends, rotatable means threaded into the frame at one side of said crossbars and adapted to swing into engagement with the upper surface thereof, and interlocking means between said bars and frame.

2. In a typewriter, a frame, a carriage base having crossbars at its opposite ends, a screw mounted in said frame and having a segmental head rotatable into engagement with the upper surface of one of said crossbars, and interlocking means between said bars and frame.

3. In a typewriter, a frame, a carriage base having crossbars at opposite ends, rotatable means threaded into the frame at one side of one of said cross bars and adapted to swing into engagement with the upper surface thereof, and a projection from said bars adapted to enter a recess in said frame.

4. In a typewriter, a carriage provided with a platen socket, a platen having pivots mounted in said socket, swinging levers mounted upon the carriage and provided with a connecting gage bar, and a lever having a pivotal bearing upon one of said swinging levers and mounted to engage the platen pivot.

5. In a typewriter, a carriage provided with a platen socket, a platen having pivots mounted in said socket, swinging levers mounted upon the carriage and provided with a connecting gage bar, a lever having a pivotal bearing upon one of said swinging levers and mounted to engage the platen pivot, and a spring for normally holding said swinging lever in closed position.

6. In a typewriter, a frame, a carriage base provided with a cross bar, a screw mounted in said frame and having a segmental head rotatable into engagement with the upper surface of said cross bar, and a downwardly projecting pin from said cross bar adapted to enter said base.

7. In a typewriter, a carriage supporting frame, a carriage movable thereon and provided with a locking member, a locking lever pivoted upon said frame for movement toward and from the carriage, and a cooperating locking member carried by said lever intermediate its pivot and free end.

8. In a typewriter, a carriage supporting frame, a carriage movable thereon and pro-

vided with a locking member, a locking lever pivoted upon said frame for movement toward and from the carriage, a cooperating locking member carried by said lever intermediate its pivot and free end, and means for retaining said lever in adjusted position.

9. In a typewriter, a frame, a carriage base mounted thereon, a carriage movable upon said base and provided with a locking member mounted thereon, a cooperating pivoted tooth lever mounted upon said base to move laterally of the path of travel of said carriage, and means for retaining said lever in adjusted position.

10. In a typewriter, a frame, a carriage base thereon, a carriage movable upon said base and provided with a locking rack, a horizontally disposed lever pivoted upon one end of said base and provided at its opposite end with locking teeth, and means mounted upon said base to engage and retain said lever in adjusted position.

11. In a typewriter, a frame, a carriage base mounted thereon, a carriage movable upon said base, a toothed member mounted upon said carriage, a cooperating toothed lever mounted upon said base to engage the toothed member of the carriage, and a securing device extending through a slot in said lever.

12. In a typewriter, a frame, a carriage base mounted thereon, a carriage movable upon said base, a toothed member mounted upon said carriage, a cooperating toothed lever mounted upon said base to engage the toothed member of the carriage, and an operating handle extended from said lever at one end of the carriage.

13. In a typewriter, a frame, a carriage base mounted thereon, a carriage having a rack movable therewith, and movable toothed locking means upon the base to engage said rack to hold said carriage.

14. In a typewriter, a frame, a carriage base mounted thereon, a carriage having a rack movable therewith, and a locking lever pivoted in said base and having teeth to engage said rack.

15. In a typewriter, a frame, a carriage base mounted thereon, a carriage having a rack, a locking lever pivoted in said base and having teeth to engage said rack, and a retaining screw extended through a slot in said lever.

16. In a typewriter, a frame, a carriage mounted thereon and provided with a back space rack, a reciprocating back space bar, and an operating lever pivoted at one end to said frame and having a secondary pivot for said bar mounted thereon intermediate its pivot and free end.

17. In a typewriter, a frame, a carriage mounted thereon and provided with a back space rack, a reciprocating back space bar, an operating lever pivoted at one end to said

frame and having a secondary pivot for said bar, an inclined face upon the opposite end of said bar, and a cooperating inclined abutment upon the frame adapted to engage said face.

18. In a typewriter, a base, a carriage mounted thereon and provided with a back space rack, a reciprocating tooth bar mounted to engage said rack in a horizontal plane transversely of the travel of said carriage and provided with a slot having an inclined face, a fixed projection extending through said slot to guide said bar toward the rack, an operating lever for said bar mounted upon said base and pivotally connected to said bar intermediate the pivot and free end of said lever, and a restoring spring connected to said lever.

19. In a typewriter, a base, a carriage mounted thereon and provided with a back space rack, a reciprocating tooth bar mounted to engage said rack in a horizontal plane transversely of the travel of said carriage and provided with a slot having an inclined face, a fixed projection extending through said slot to guide said bar toward the rack, an operating lever for said bar mounted upon said base and pivotally connected to said bar intermediate the pivot and free end of said lever, and a restoring spring disposed at the pivot of said lever.

20. In a typewriter, a frame, a carriage mounted thereon and provided with a back space rack, a reciprocating bar provided with engaging teeth at one end and with an angularly disposed portion at the opposite end, means for guiding said bar toward said rack during its reciprocation, means for retaining said rack in engagement with said bar at one extreme of its reciprocation, and an operating lever pivotally connected to the angular extension of said bar intermediate the lever pivot and its free operating end.

21. In a typewriter, a frame, a carriage mounted thereon and provided with a back

space rack, a reciprocating bar provided with engaging teeth at one end and with an angularly disposed portion at the opposite end, means for guiding said bar toward said rack during its reciprocation, means for retaining said rack in engagement with said bar at one extreme of its reciprocation, an operating lever pivotally connected to the angular extension of said bar intermediate the lever pivot and its free operating end, and a finger piece disposed at the free end of said lever and at one end of the carriage.

22. In a typewriter, a carriage frame provided with end walls having open platen sockets, a swinging lever mounted on one of said walls and normally held under tension, and a secondary lever pivoted upon said swinging lever and adapted to engage a pivot of said platen.

23. In a typewriter, a carriage having a platen socket, a platen having pivots mounted in said socket, swinging levers for retaining said platen in said socket, and a gage bar provided with a bearing to engage the pivots of said platen.

24. In a typewriter, a carriage provided with a platen socket, a platen having pivots mounted in said socket, swinging levers for retaining said platen in said socket, and a gage bar provided with a lever having a pivotal bearing to engage said platen.

25. In a typewriter, a carriage, a platen mounted therein, a gage bar disposed above said platen, pivoted arms supporting said gage bar, a tension spring extending from one of said arms to a portion of the carriage, a stop to limit the downward movement of one of said arms, and a lever carried by one of said arms and provided with a bearing for the platen pivot.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES SPIRO.

Witnesses:

EDWD. E. JONES,
FRANK THORLIN.