

(No Model.)

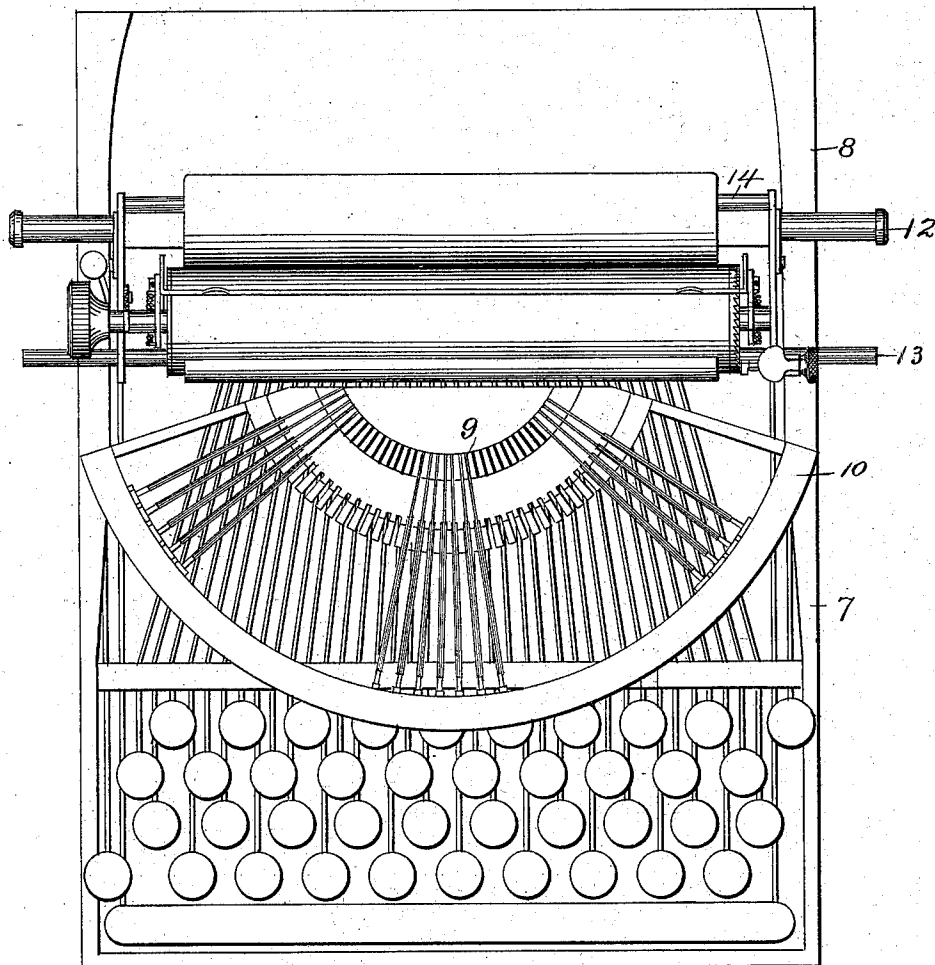
3 Sheets—Sheet 1.

A. W. STEIGER.
TYPE WRITER CARRIAGE.

No. 557,912.

Patented Apr. 7, 1896.

Fig. 1.



Attest:

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Inventor:

Andrew W. Steiger
by Howard Kellogg

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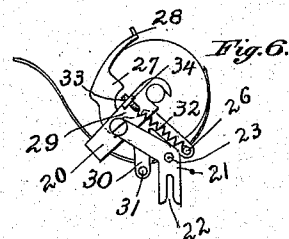
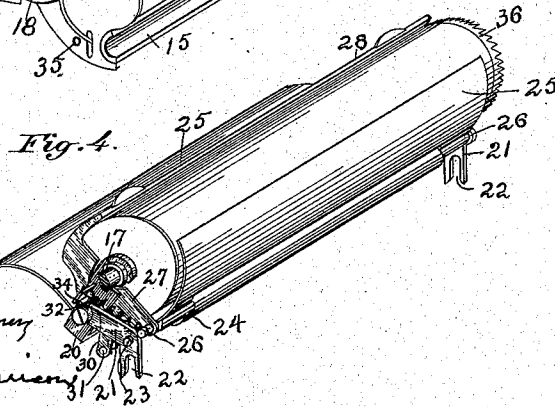
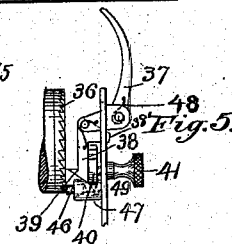
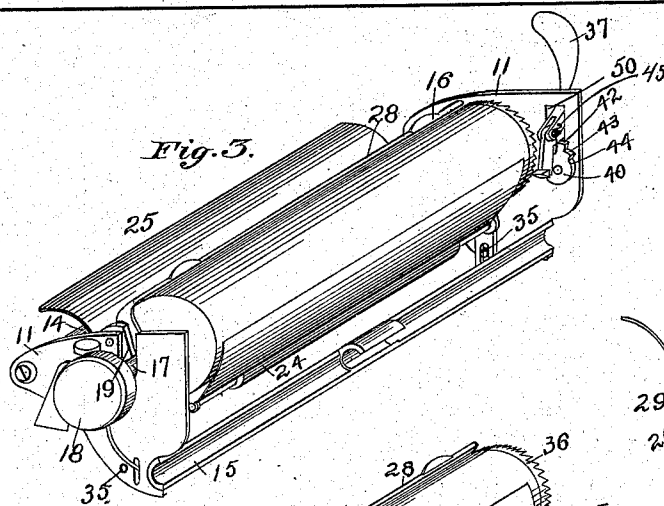
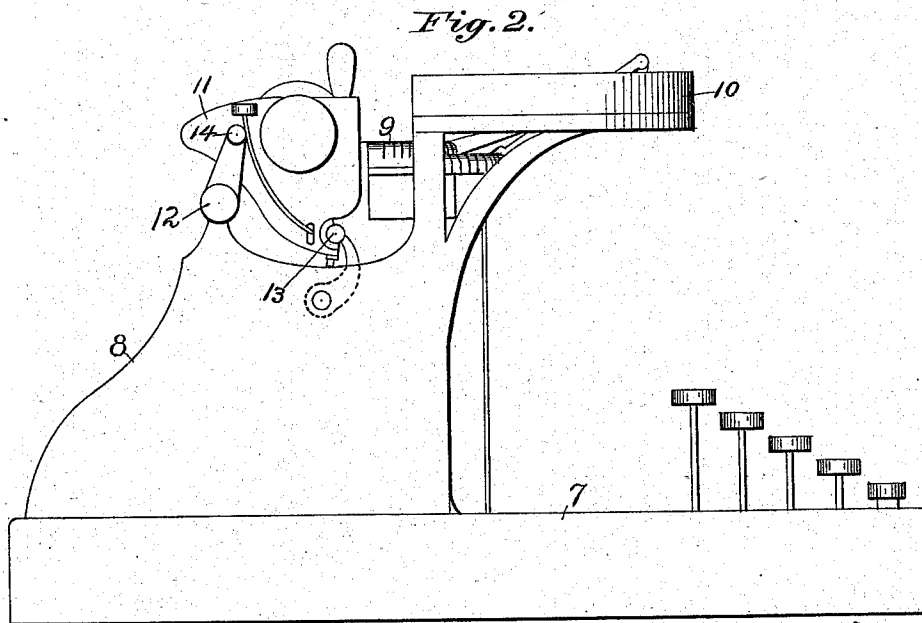
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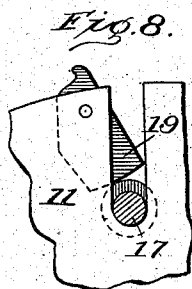
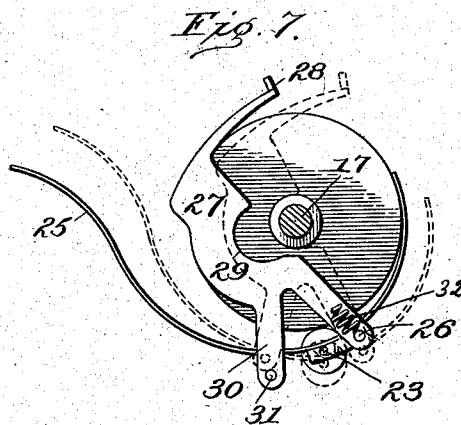
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TYPE WRITER CARRIAGE.

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Patented Apr. 7, 1896.



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UNITED STATES PATENT OFFICE.

ANDREW W. STEIGER, OF BRIDGEPORT, CONNECTICUT, ASSIGNOR TO THE JACKSON TYPEWRITER COMPANY, OF BOSTON, MASSACHUSETTS.

TYPE-WRITER CARRIAGE.

SPECIFICATION forming part of Letters Patent No. 557,912, dated April 7, 1896.

Application filed July 31, 1895. Serial No. 557,679. (No model.)

To all whom it may concern:

Be it known that I, ANDREW W. STEIGER, a citizen of the United States, residing in Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Type-Writer Carriages, of which the following, taken in connection with the accompanying drawings, is a specification.

This invention relates to improvements in type-writing machines, and more particularly to the paper-carriage, and has for its object to provide means whereby the paper to be written on by the printing mechanism of the machine may be easily inserted into its position to receive the impression of the type and fed regularly, step by step, to form the spaces between the lines of writing, adjustments being provided for the spacing of the lines according as a wider or narrower spacing is required.

It also relates to a paper-carrying roll or platen which is entirely removable from the carriage with its paper in position whenever it is desired to change one piece of work and substitute another, as is often the case, it being understood that the original piece of work with accompanying platen may be returned to the machine at any time and the original piece of work continued. This is a very desirable feature when manifold copies are being made, as it is almost impossible to remove the paper from the roller or platen and return it in proper position to continue the work. It very frequently happens that while the operator in an office is making manifold copies it becomes desirable to stop and change work. Such changes may be back and forth from several pieces of work.

The several features of this invention are hereinafter described.

In the accompanying drawings, Figure 1 is a general plan view of a writing-machine embodying my invention, some of the type-bars being omitted. Fig. 2 is a side elevation of the same. Fig. 3 is a perspective view of the paper-carriage removed. Fig. 4 is a similar view of the paper-carrying platen removed from the carriage-frame, the knurled handle being broken away to show the working parts. Fig. 5 shows the line-spacing mechanism, the

view being taken from the front of the machine. Fig. 6 is an end view of the platen and its appliances. Fig. 7 represents an end elevation of the platen, paper-table, and cam-levers for swinging the paper-table away from the platen, said parts being removed from the frame and the hanger and mechanism interlocking with the carriage being omitted. Fig. 8 represents a fragment of one end of the paper-carriage, a section of a journal of the platen supported in a slot therein, and a latch for holding the platen in position in the carriage.

Upon the base 7 of the machine are fixed the upright standards 8 8, which support the type-basket 9, the inking-pad 10, and the carriage 11, the latter being adapted to slide on the rods 12 13, connected to the supports and provided with suitable mechanism to feed it along with a step-by-step movement while the writing is being done. The end pieces 11 11 of this carriage are securely held together by the bars 14 and 15. The paper-carrying platen 16, upon which the printing is done, is made cylindrical in form and is mounted on a shaft 17, in which is formed a socket to set over a stud in the right-hand carriage end and at the left end made to extend through and beyond the carriage end and to terminate in a knurled button 18, by which it may be readily turned. The carriage end is cut out in a vertical notch to receive the shaft 17, so that the latter may be lifted out to remove the platen, and a latch-piece 19 is pivoted to the carriage end and adapted to latch over the shaft of the platen in the carriage to hold it in place.

The paper-carrying platen and its attachments are better shown in Fig. 4, wherein is a hanger comprising two ends pivoted on the shaft of the platen and suspended therefrom and a strip connecting said end pieces. To this hanger at each end is pivoted a forwardly and downwardly projecting arm terminating in a fork 22. In these arms are formed bearings 23 for the feed-roll 24, and on this feed-roll is hung by journal-bearings the paper-table 25, extending from the rear of the carriage to and underneath the platen and up in front of it to a point just beneath the printing-point, it being cut away

sufficiently to allow the feed-roller 24 to pass through it and bear on the platen. Pivoted to the paper-table at each end at 26, slightly forward of its journal-bearings on the feed-roller, are cam-arms 27, extending backward and upward under and in the rear of the axis of the platen and then joined near the upper surface of the latter by a rod 28, extending from end to end of the platen. These arms are formed, as better shown in Fig. 7, with a cam-notch 29, so adjusted that when the rod 28 is drawn forward the lower edge of the cam-notch 29 will operate against the axis 17 of the platen to throw said arms and the paper-table, and with it the feed-roller, away from the platen, as shown in dotted lines in Fig. 7. To insure the swinging out of the front portion of the paper-table from the platen during this last-described movement, downwardly-projecting arms 30 are formed on the cam-arms 27, into which are fastened inwardly-extending pins 31, which, when the cam-arms 27 are drawn forward to force the paper-table away from the platen, will bear upon the under side of said paper-table at the rear of its journal-bearing and force its forward edge away from the platen. When the rod 28 is pushed back to its normal position, the paper-table carrying the feed-roll is carried back and made to bear upon the platen by means of adjustable springs 32, attached at one end to the paper-table fulcrum 26 and at the other end to adjusting-screws 33, working through a projection 34 on the yoke 20. These springs also hold the platen and connected parts in fixed position relatively to one another when these parts are removed from the carriage.

A locking device is employed for retaining the hanger 20, the paper-table and its connections in proper relation to the carriage when adjusted therein. When constructed as herein shown, the locking device comprises the downwardly-projecting forked arms 22 and pins 35, projecting inwardly from the carriage ends, said arms engaging said pins.

To provide for the regular feeding of the paper through the carriage line by line, as required, the right-hand end of the platen 16 is provided with a series of teeth or projections 36, extending lengthwise of the platen and set in a circle around its axis. In the right-hand carriage-head is pivoted a lever 37, one end projecting upward above the carriage end and terminating in a flattened thumb-piece. The other end of this lever extends inwardly through the carriage end, terminating in line with the teeth on the platen end, and has pivoted to it a toothed lever or pawl 38, having a tooth 39 on its inner face, which may engage with the teeth on the platen end, so that a movement to the right of the thumb-piece on the lever 37 will cause the platen to rotate on its axis. A spring 48 is adjusted to the pivoted bearing of the arm 37 and bearing thereon to retain it in its upright position, and a spring 45, one end of which bears

on the lever 37 and the other on the pawl 38, tends to keep the latter in engagement with the platen-head. The distance that the platen may be moved by the lever 37 is regulated by means of a plate 40, mounted on the carriage end by means of a shaft running through the same and terminating in a knurled button 41, by which it may be moved. This plate 40 is located immediately below the inner projecting end of the lever 37, and a tailpiece 38' on the outer face of the pawl 38 is made to extend over it. The edge of the plate 40 is cut away to form the faces 42 43 44, varying in height, so as to stop the pawl 38 in its movement, so that it will cover one, two, or three notches on the platen, and it is so adjusted that before stopping the movement of the lever 37 it will withdraw the pawl 38 from its engagement with the platen-head. To prevent a too easy revolution of the platen, I preferably use a detent in the form of a round-headed spring-actuated plunger 46, mounted in a post 47, mounted on the inner side of the carriage end in line with the teeth on the platen-head, so that the plunger, actuated by its spring, will bear upon the platen-head and under ordinary conditions keep it in place; but the end of the plunger is rounded and smoothed, so that by the use of a little power the platen may be easily turned in its bearings. As the lever 37 is thrown over, the top of the pawl 38 comes in contact with the top of the notch 50 and locks the roller, preventing any overthrow.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. In a type-writing machine, the combination of a carriage, a platen supported thereon, a feed-roll, means for supporting said feed-roll, a spring for pressing said feed-roll toward said platen, and pivoted cam-arms adapted to engage the shaft of the platen for swinging said feed-roll away from said platen and holding it in such position.

2. In a type-writing machine, the combination of a carriage, a platen supported thereon, a paper-table having a clamping edge, and a feed-roll supported on said table some distance from the clamping edge thereof and adapted to engage said platen, a spring for pressing the edge of said paper-table and feed-roll toward said platen, and pivoted cam-arms adapted to engage the shaft of the platen for swinging said paper-table and its feed-roll away from said platen, and holding it in such position.

3. In a type-writer, the combination of a carriage, a platen supported thereon, a hanger on the shaft of said platen, arms pivoted to said hanger, a paper-table pivoted on said arms, a spring for pressing said table against said platen, and pivoted cam-arms for swinging said table out of contact with the platen.

4. In a type-writer, the combination of a carriage, a platen supported thereon, a

hanger on the shaft of said platen, arms pivoted to said hanger, a paper-table pivoted on said arms, a spring for pressing said table against said platen, and cam-arms pivoted to said paper-table and adapted to engage the shaft of said platen for swinging the paper-table out of contact therewith.

5. In a type-writer, the combination of a carriage, a platen supported thereon, a hanger on the shaft of said platen, arms pivoted to said hanger, a paper-table pivoted on said arms, a spring for pressing said table toward said platen, and cam-arms pivoted to said paper-table and adapted to engage the shaft of said platen for swinging the paper-table out of contact therewith, said cam-arms being provided with downwardly-extending arms having means for engaging the under side of said table in the rear of its pivot.

6. In a type-writer, the combination of a carriage, a platen supported thereon, a hanger on the shaft of said platen, arms pivoted to said hanger, a paper-table pivoted on said arms, a spring for pressing said table toward said platen, cam-arms pivoted on said paper-table and adapted to engage the shaft of said platen to swing the paper-holder out of contact therewith, and a connecting-bar for said cam-arms extending over the rear portion of the platen.

7. The combination of a paper-carriage, a platen supported thereon, a paper-table, means for supporting said paper-table, means for holding said paper-table in contact with the platen at the front thereof, a movable rod disposed adjacent to the platen over the upper portion thereof for holding the paper in horizontal position above the platen, and devices connecting the paper-table and rod whereby they are movable in unison away from the platen for the insertion of the paper.

8. In a type-writer, the combination of a removable platen, a hanger pivoted on the shaft of said platen, arms pivoted on said hanger, a paper-table having a pivotal connection with said arms, and springs connecting said hanger and paper-table in front of the pivots of said table and arms, whereby said parts are held in proper relative positions when removed from the carriage.

9. In a type-writing machine, the combination of a paper-carriage, a removable platen,

a paper-table, mechanism for suspending said table from the shaft of said platen, and a locking device one part of which is stationary on said carriage and the other part disposed on said mechanism, the part on said mechanism engaging the part on the carriage when the platen is placed in the carriage and serving to retain the paper-holding mechanism in proper position relative to the carriage.

10. In a type-writer, the combination of a paper-carriage, provided with fixed pins at its opposite ends, a removable platen supported thereon, a hanger suspended from the shaft of said platen, arms pivoted on said hanger and provided with means for engaging said pins, a paper-table having a pivotal connection with said arms, and springs connecting said hanger and paper-table in front of the pivots of said table and arms.

11. In a type-writer, the combination of a paper-carriage, a cylindrical platen mounted thereon and provided with ratchet-teeth on one end, a lever pivoted near one end on said carriage and adapted to swing in line with the movement thereof, a pawl pivoted directly to the inner end of the said lever and provided on its inner face with a pawl-tooth for engaging said ratchet-teeth and on its outer face with a tailpiece, and a space-regulator consisting of an adjustable stepped plate with which said tailpiece engages to regulate the throw of the pawl.

12. In a type-writer, the combination of a paper-carriage, a cylindrical platen mounted thereon and provided with ratchet-teeth at one end, a lever pivoted near one end of said carriage and adapted to swing in line with the movement thereof, a pawl pivoted directly to the inner end of said lever and provided on its inner face with a pawl-tooth for engaging said ratchet-teeth and on its outer face with a tailpiece, a rotatable plate provided with teeth adapted to be engaged by said tailpiece, and a knob for turning said plate.

In testimony whereof I have hereunto subscribed my name this 18th day of July, A. D. 1895.

ANDREW W. STEIGER.

Witnesses:

CHAS. A. KELLOGG,
CHAS. F. HOWE.