

(No Model.)

2 Sheets—Sheet 1.

J. M. FAIRFIELD.
TYPE WRITING MACHINE.

No. 536,026.

Patented Mar. 19, 1895.

Fig. 1.

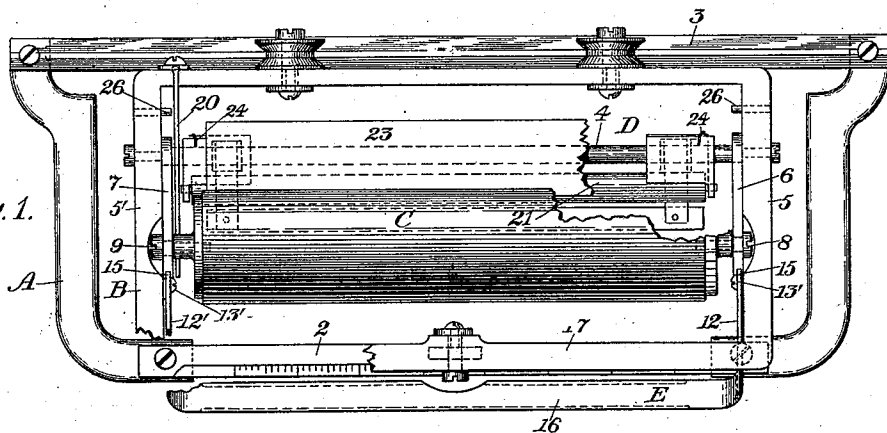


Fig. 2.

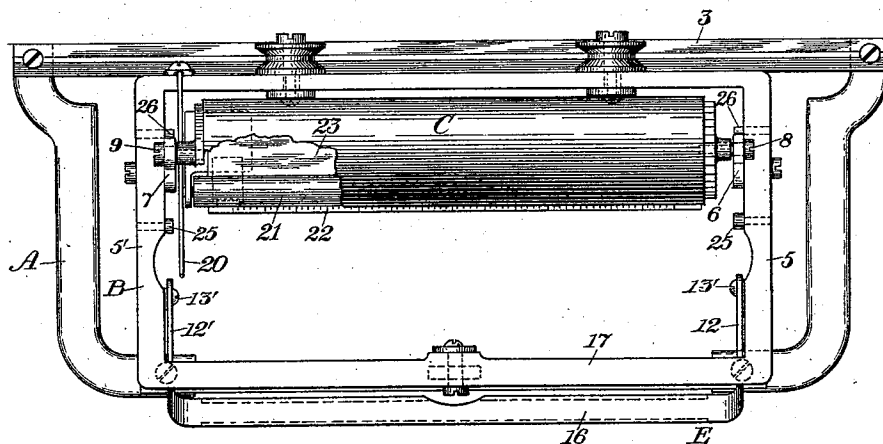
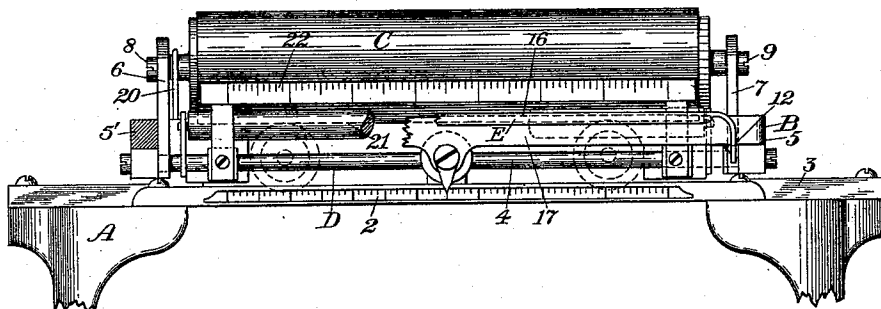


Fig. 3.



Witnesses:

J. L. Edwards Jr.
Fred. J. Dole.

Inventor:

John M. Fairfield,
By his Attorney,
F. A. Richards.

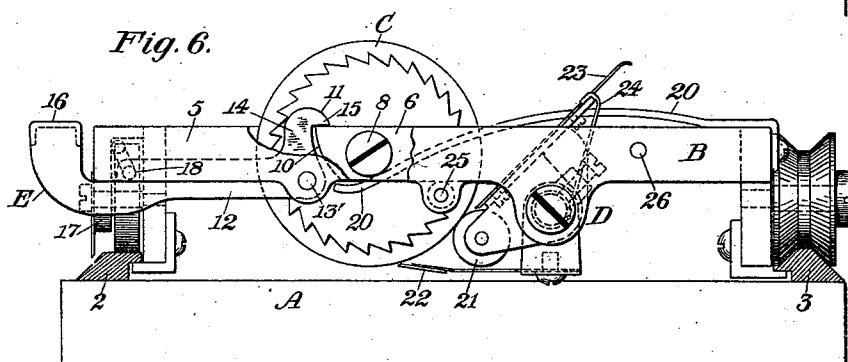
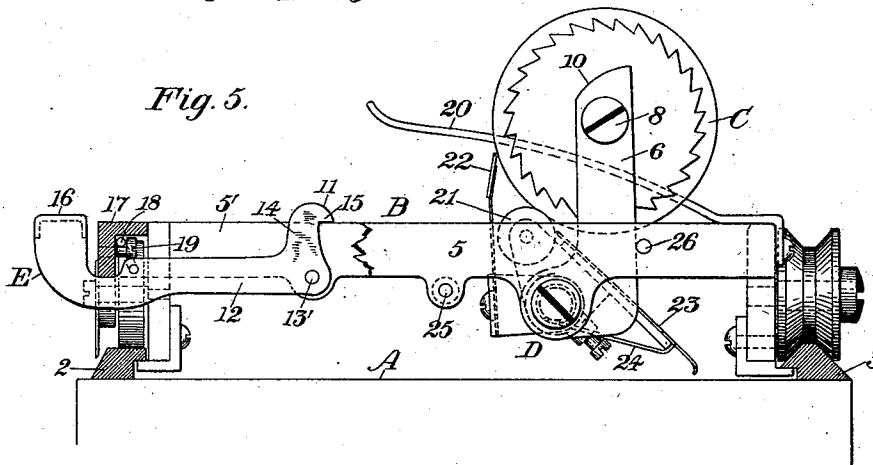
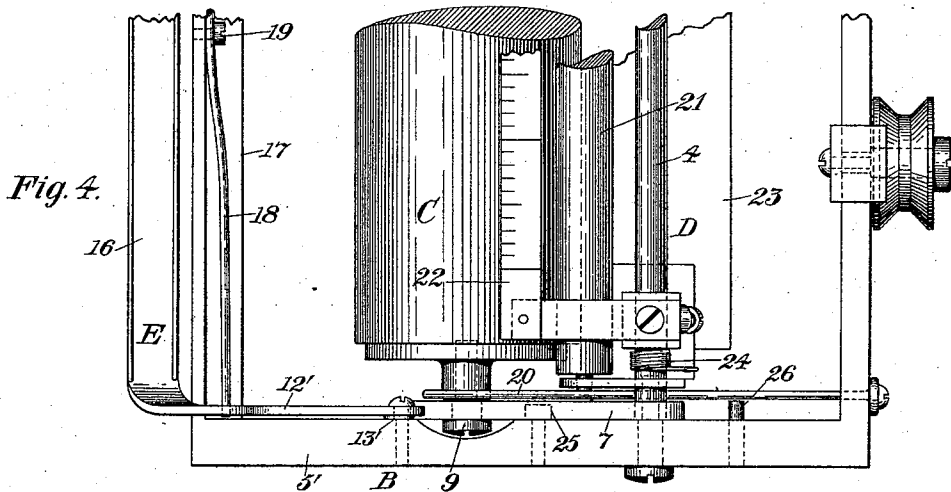
(No Model.)

2 Sheets—Sheet 2.

J. M. FAIRFIELD.
TYPE WRITING MACHINE.

No. 536,026.

Patented Mar. 19, 1895.



Witnesses:

J. L. Edwards Jr.
Fred. J. Dole.

Inventor:

John M. Fairfield,
By his Attorney,
F. H. Richards.

UNITED STATES PATENT OFFICE

JOHN M. FAIRFIELD, OF HARTFORD, CONNECTICUT.

TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 536,026, dated March 19, 1895.

Application filed March 3, 1894. Serial No. 502,274. (No model.)

To all whom it may concern:

Be it known that I, JOHN M. FAIRFIELD, a citizen of the United States, residing at Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Carriages for Type-Writers, of which the following is a specification.

This invention relates to type-writers, and has special reference to carriages therefor.

The object of my invention is to provide, in connection with a longitudinally-movable type-writer carriage, simple and effective mechanism whereby the platen, or impression-roller, will be firmly supported and locked in its normal or working-position and may be readily released from its locked position and simultaneously shifted with relation to the carriage to bring the printing into view.

In the drawings accompanying and forming a part of this specification, Figure 1 is a plan view of a portion of a type-writer frame with my improvements applied thereto, the platen (a portion of which is broken off to show the parts more clearly) being shown as locked in its normal, or working-position. Fig. 2 is a view similar to Fig. 1, showing the platen as thrown upward and forward to bring the printing into view, a portion of the platen being broken away. Fig. 3 is a front elevation drawn in projection with Fig. 2, the parts being illustrated in the position shown in said Fig. 2. Fig. 4 is an under side view of a portion of the carriage, on an enlarged scale, showing the platen in its normal or working-position. Fig. 5 is an enlarged view of the carriage, looking toward the left-hand in Fig. 2, showing the platen thrown upward to bring the printing into view, a portion of the side-rail of the carriage being broken away, and a portion of the bed or frame of the machine being shown in section. Fig. 6 is a view similar to Fig. 5, with a portion of the side-rail broken away, and showing the platen locked in its normal, or working-position.

Similar characters designate like parts in all the figures.

In the drawings only so much of a type-writer structure is shown as will clearly illustrate the application and operation of my improvements. In said drawings, the platen, or impression-roll, is shown supported for lat-

eral movement in the arc of a circle to bring it to two different positions, one of which will be its normal or working-position, and will be herein termed the "printing-position," and the other of which will be an elevated position to bring the printing into view, and will be herein termed the "reading-position." For convenience, the movement of the platen from its printing- to its reading-position will be herein termed "reading-shift" movement.

Briefly stated, my improvements, in the preferred form thereof herein shown, comprise a carriage, B, supported for longitudinal movement upon a suitable frame, or base, A, a platen, or impression-roll, C, a carrier, D, therefor, mechanical devices for elevating the platen, and means for locking the platen in its working-position, the construction, organization and operation of which parts will be hereinafter fully described.

The carriage B may consist of a suitable frame supported for longitudinal movement upon ways, 2 and 3, on the bed A of the machine in the usual manner. The platen, or impression-roll, C, which is or may be of any usual construction, is pivotally supported at its opposite ends by the carrier D, whereby it is adapted to have an upward and backward, or reading-shift, movement, for bringing the printing into sight.

The platen-carrier, in the form herein shown, consists of a shaft, 4, journaled at its ends in bearings formed in the side-rails of the carriage, and the two carrier-arms, 6 and 7, secured at either end thereof adjacent to the side-rails 5 and 5', said carrier-arms extending out laterally from said shaft 4 and having bearings formed transversely in their forward ends, in which are seated the trunnions, 8 and 9, of the platen C.

In the drawings, the carrier-arms 6 and 7 are shown as L-shaped, and as pivotally connected with the shaft 4 at one side of their pivotal connection with the platen. The forward ends of the carrier-arms will preferably be curved or inclined, as shown in Figs. 5 and 6 of the drawings, to form a bearing-face, 10, to act against a similar curved face, 11, upon the locking member of the platen-lock E, by means of which lock the carrier is held with its platen in printing-position. This locking-device for locking the platen in its printing-

position will, in the form thereof herein shown, comprise two levers, 12 and 12', pivotally supported at 13' to the side-rails of the frame, said levers having a laterally-projecting arm, 14, 14', respectively, with a detent-catch, 15, at the ends thereof in position and adapted for engaging the two carrier-arms 6 and 7 when the platen is in its printing, or working-position. In this form of locking-device, the two levers 12 and 12', which are shown located contiguous to the two side-rails 5 and 5', respectively, are connected at their forward ends by an operating-bar, 16, which extends along the front-rail, 17, of the carriage slightly in advance thereof. The locking-device is normally retained in its locking-position by means of a suitable spring, 18, connected with the carriage, as shown at 19, with its free ends in engagement with the locking-levers of said locking-device.

It will be obvious that the locking-device may comprise but one locking-lever held in operative position by any suitable spring, in which case the long connecting-bar 16 will be dispensed with, and any suitable device, as, for instance, a key, for enabling the convenient operation of the locking-lever, be provided.

As a means for automatically imparting to the platen a reading-shift movement with relation to the frame to bring the printing into sight, I have provided a tension device or lifting-spring, 20, which acts against a suitable part of said platen, said spring being herein shown as secured to the rear side of the carriage and as bent upward and bearing against the under side of one of the trunnions of the said platen. This spring will be so constructed and disposed that when the platen is released from its locked engagement with the carriage, said spring will lift the roll by its direct action in the arc of a circle a part of its "reading-shift" stroke, allowing the momentum of the roll and its carrier to finish the stroke, so that at the end of the retractive movement of the platen, the said roll will stand at rest ready to be drawn forward into its printing-position without any resistance from the spring during the first part of said return movement.

In practice, the usual friction-roller 21, paper-clip 22 and guide 23 will be fixed upon the carrier-shaft 4 so as to retain the same position relative to the platen during the various movements thereof, they being held, under tension, in contact with the platen, by means of suitable springs, as 24.

Secured in, or formed upon, the side-walls of the carriage, suitable stops, or abutments, 25 and 26, are shown in position and adapted for limiting the forward and backward movement of the platen.

In operation, when it is desired to shift the platen from the printing-position thereof, shown in Fig. 6, to the reading-position, shown in Fig. 5, it is simply necessary to depress the key or bar of the locking-lever, which will

throw the detent-catch thereof out of engagement with the carrier, and the platen will be directly lifted by the spring 20 a part of its "reading-shift" stroke, and, owing to the momentum acquired by the first action of the spring, said platen will be carried backward its full stroke until it bears against the abutment 26 in position to be returned by hand or otherwise. In returning the platen to its working-position, the same will be drawn forward until the bearing-face 10 of the carrier comes in contact with the bearing-face 11 of the detent-catch 15, which forces said detent-catch forward until said carrier is in position for engagement therewith, when the spring 18 will throw the catch into locked engagement with the carrier and secure the platen in its printing-position.

By providing a resilient shifting-device substantially as described in connection with the platen, or impression-roll, it will be seen that the platen is held under an opposing tension when in its locked or printing-position, which obviates any play of parts during the operation of printing, and firmly holds the platen in a fixed position with relation to the carriage.

It will be understood that various forms and arrangements of springs for imparting the reading-shift movement to the platen might be employed without departure from my invention.

Having thus described my invention, I claim—

1. The combination with a type-writer carriage, of a platen supported for a reading-shift movement with relation to said carriage, a locking-device for holding the platen in its printing-position, means for releasing said locking-device, and means controlled by the release of said locking-device for automatically shifting the platen from the printing- to the reading-position thereof, substantially as described.

2. The combination with a type-writer carriage, of a platen or impression-roll supported for a swinging movement with relation to said carriage and from its printing- to its reading-position, a lock for holding the platen in its printing-position, means for releasing said lock, and means substantially as described and controlled by the release of said lock for automatically swinging the platen upward and backward from the printing- to the reading-position thereof, substantially as described.

3. In a type-writer, the combination with a carriage supported for longitudinal movement, of a platen supported for a reading-shift movement with relation to the carriage, a platen-carrier, a spring-actuated locking-device in position and adapted for engagement with said carrier and having a finger-key or bar for operating the same, and means controlled by the release of said locking-device for automatically shifting the carrier to bring the platen to its reading-position, substantially as described.

4. In a type-writer, the combination with a carriage supported for longitudinal movement, of a platen and platen-carrier, a spring normally under tension and in position and adapted for imparting a reading-shift movement to the platen, and a lock adapted for normally holding the platen in its printing-position against the force of said spring, substantially as described.

5. In a type-writer, the combination with a carriage supported for longitudinal movement, of a platen supported for vertical movement with relation to said carriage, a spring normally under tension and in position and adapted for elevating the platen, stops for limiting the movements of the platen with relation to the carriage, and a locking device normally adapted for holding the platen in its working-position against the force of said spring, substantially as described.

6. The combination with the carriage of a type-writer, of a platen supported for vertical movement by carrier arms pivotally secured to the carriage of the type-writer, a locking-device comprising a lever having a detent-catch in position for engagement with the carrier and adapted for holding the same when the platen is in its printing-position, and a resilient platen-shifting device acting between said platen and carriage, and adapted for automatically imparting a reading-shift movement to said platen upon the release of the platen-carrier by the locking-device, substantially as described.

7. In a type-writer, the combination with a carriage supported for longitudinal movement, of a platen supported for vertical movement with relation to said carriage, a tension-device in position and adapted for automatically elevating said platen, a locking-device adapted to normally hold said platen in its working position against the force of said tension-device, and an actuating key or bar adapted for releasing said locking device, substantially as described.

8. In a type-writer, the combination with the carriage thereof, of a platen, a platen-carrier pivotally connected with the carriage and adapted to be shifted to elevate the platen,

a tension-roller, a paper-clip and a paper-guide carried by said platen-carrier contiguous to the platen, a spring for elevating the platen, and a lock for holding the platen in its working-position, substantially as described.

9. In a type-writer, the combination with the carriage thereof, of a platen supported by a platen-carrier pivotally connected with the carriage and adapted to be shifted to impart a reading-shift movement to the platen, a tension-roller, a paper-clip and a paper-guide carried by said platen-carrier contiguous to the platen, springs for holding the tension-roller and paper-clip closely against the platen, a lock for holding the platen in its printing-position, and means for automatically shifting the platen from the printing- to the reading-position thereof simultaneously with the release of the locking-device, substantially as described.

10. The combination with the carriage of a type-writer, of a platen-carrier comprising a shaft supported at its ends in the side-rails of the carriage, and laterally-projecting carrier-arms secured to said shaft, a platen supported at its ends by said carrier-arms, a spring in position and adapted for elevating the platen and carrier-arms, and a locking-device comprising two detent-levers located in position and adapted for engaging the two carrier-arms and holding the platen in its working-position, a spring for holding said levers in their locking-position, and a connecting-bar between said levers, substantially as described.

11. The combination with a type-writer carriage, of a platen supported for a reading-shift movement with relation to said carriage, a locking-device for holding the platen in its printing-position, means for releasing said locking-device, and a tension-device controlled by the release of said locking-device and adapted for automatically shifting the platen from the printing- to the reading-position thereof, substantially as described.

JOHN M. FAIRFIELD.

Witnesses:

FRED J. DOLE,
FREDERICK A. BOLAND.