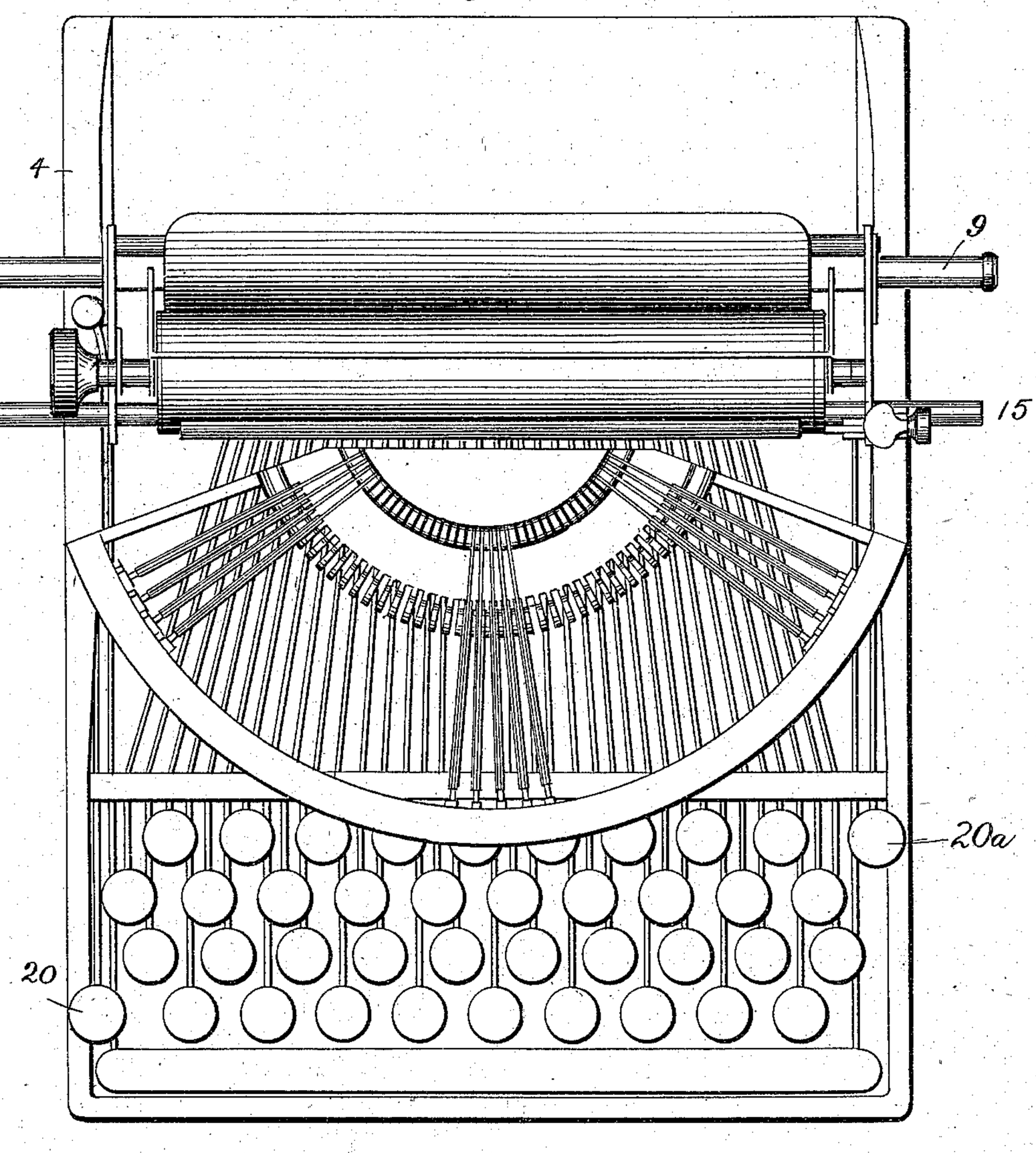
(No Model.) 2 Sheets—Sheet 1.

A. W. STEIGER.

CARRIAGE SHIFT FOR TYPE WRITERS.

No. 557,910. Patented Apr. 7, 1896.

Fig. 1.



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(No Model.) 2 Sheets—Sheet 2.

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Fig. 2.

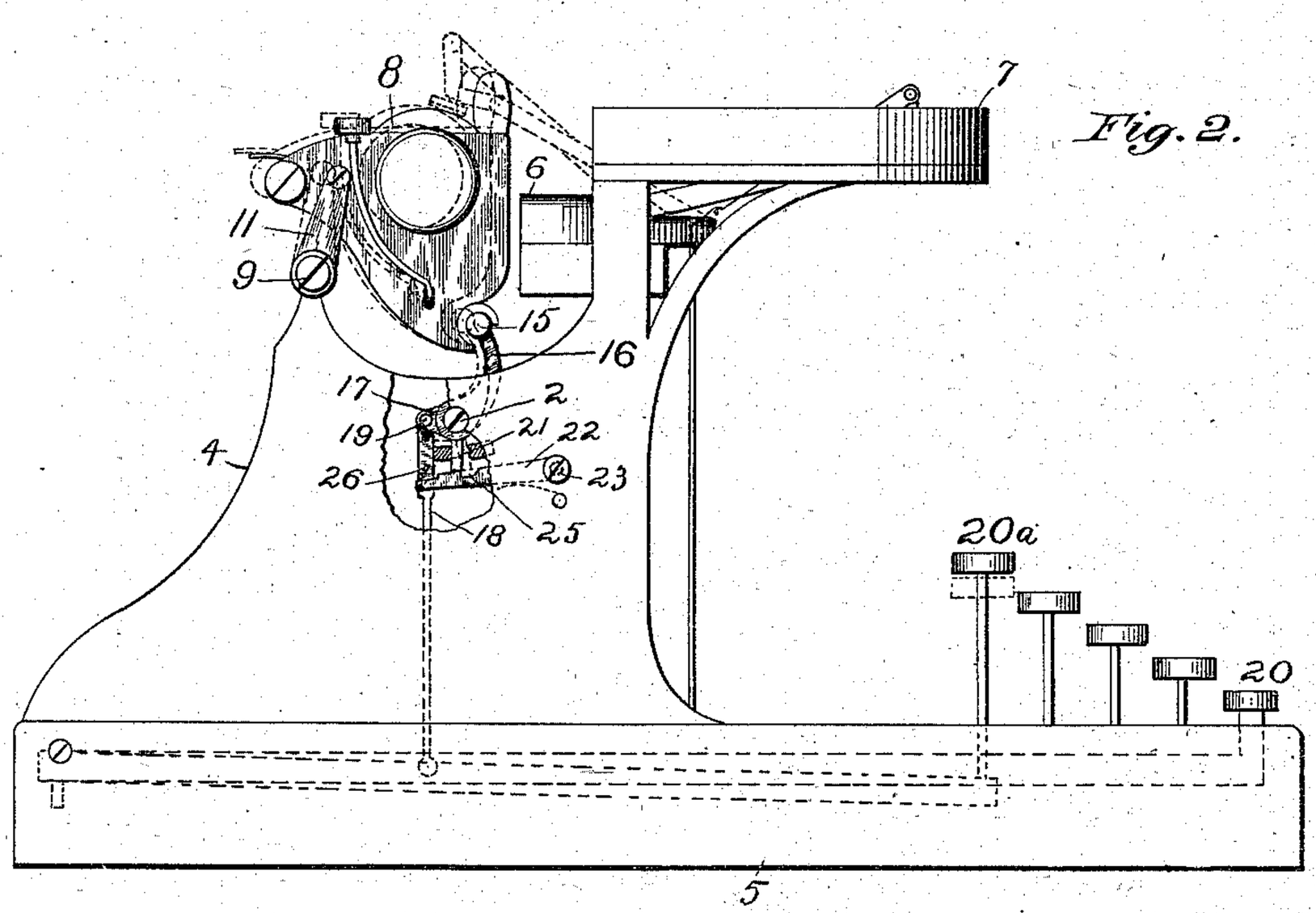
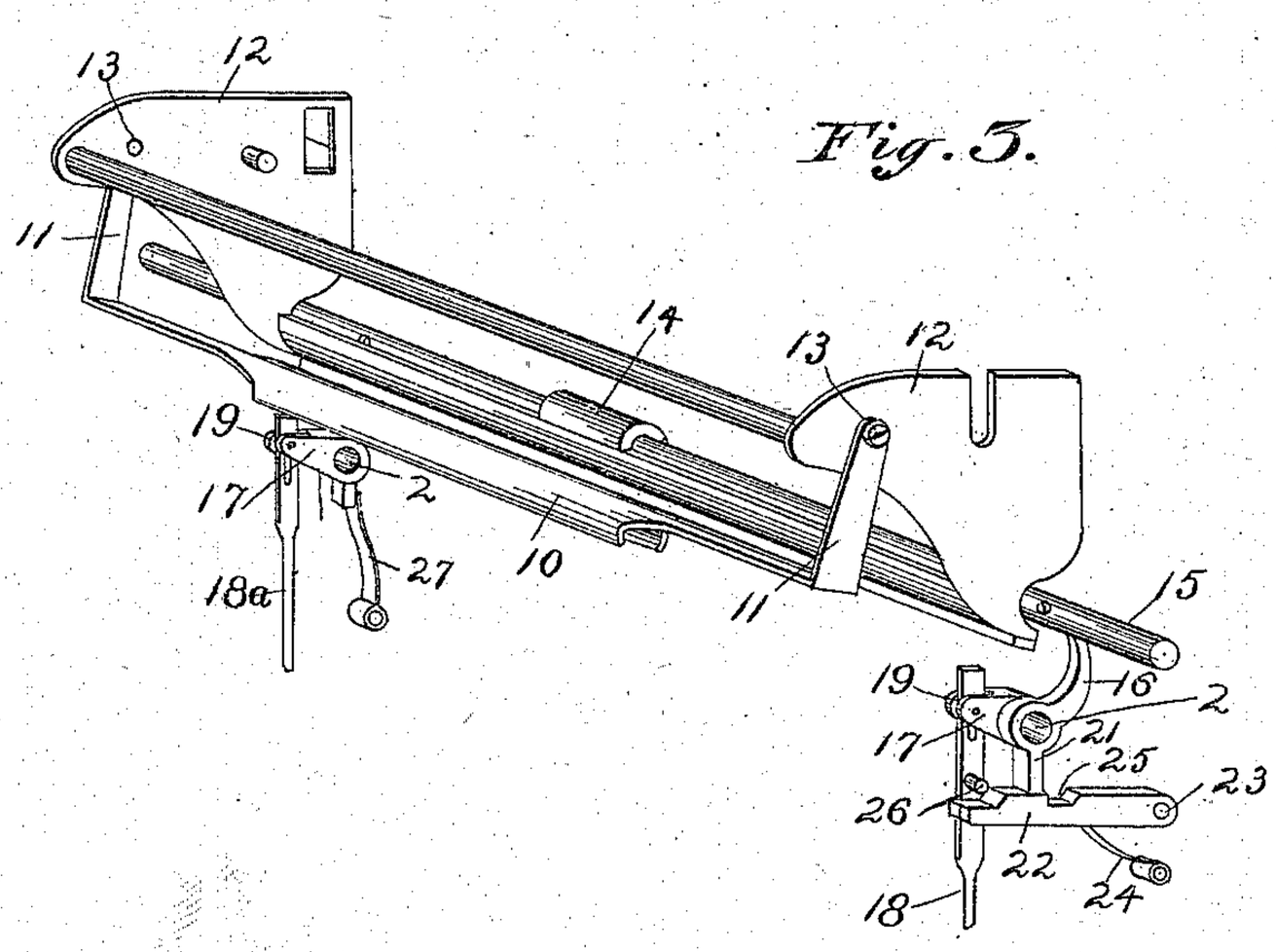


Fig. 3.



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UNITED STATES PATENT OFFICE.

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

CARRIAGE-SHIFT FOR TYPE-WRITERS.

SPECIFICATION forming part of Letters Patent No. 557,910, dated April 7, 1896.

Application filed July 31, 1895. Serial No. 557,677. (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 Carriage-Shifts for Type-Writers, of which the following, taken in connection with the accompanying drawings, is a specification.

This invention relates to type-writing machines, and more especially to that portion of such machines known as the "shift mechanism," whereby it is possible to use two types or characters on each type-carrier and either letter or character may be impressed or printed upon the paper on the carriage as the carriage is shifted up or down, carrying the printing-point with it; and it further consists in a certain mechanism whereby the carriage, when shifted, may be locked in its shifted position until released by a second movement, or the carriage may be shifted and return automatically as soon as the pressure is removed from the shift-key. This I accomplish by using two keys and a certain mechanism herein more fully described.

In the accompanying drawings, Figure 1 is a plan view of a writing-machine embodying my invention. Fig. 2 is a side elevation of the machine shown in Fig. 1, a part of the frame of the machine being broken away to better illustrate my invention. Fig. 3 is a perspective view of the carriage-frame and shifting mechanism detached from the machine.

Upwardly-projecting brackets 4 4 from the base 5 support the type-basket 6 and ink-pad 7 and the carriage 8. The carriage 8 is supported by means of a rod 9, fixed to the brackets 4 4, and on which is a sliding yoke 10, capable of a movement from side to side of the machine equal to the length of the line required to be written. Upwardly-extending arms 11 11 from this yoke are pivoted to the ends of the carriage-frame 12 12 at 13 13.

The front of the carriage is supported by means of a short yoke 14, attached to the frame of the carriage and sliding on a rod 15, extending from side to side of the machine and supported on crank-arms 16 16, pivoted to the frame of the machine, preferably by means of a rock-shaft 2, extending from side to side of the machine and pivoted in the brackets 4 4.

Backwardly-extending arms 17 17 are formed on the crank-arms 16 16, and to these extending arms are connected rods 18 18ª by means of pins 19 19, extending through the crank-arms and through slots in the upper ends of the rods, these slots permitting the movement of the shift-cranks 16 16 without moving the connecting-rods. The lower ends of the connecting-rods 18 18ª are connected to levers pivoted at the rear end of the base 5 and extending forward to their operating-keys 20 20ª in the keyboard of the machine, the key 20ª being a locking shift-key and the key 20 a temporary shift-key.

It will be readily seen that when either of the keys 20 or 20ª is depressed the connecting-rod will be drawn down and the crank-arms will be thrown back, and with them the rail 15, carrying back the carriage, the latter swinging on the arms 11 11 and the yoke 10 to move the printing-point back to the new position required. When the shift-key is released, the carriage by means of its own weight will fall forward to its original position.

The shift-lock consists of a downwardly-projecting arm or lug 21 on one of the shift-cranks and a spring-actuated notched latch or lever 22, pivoted to the frame of the machine at 23, having a spring 24, attached to the frame of the machine and pressing it against the arm 21. A notch 25 is made in the upper side of the lever 22 in such a position that when the carriage is shifted back it will engage the arm 21 and hold it until released. A pin 26 is fixed in the connecting-rod 18 to project over the lever 22, so that when this connecting-rod is drawn down to shift the carriage it will bear upon and depress the lever 22, so that its notch 25 will not engage and lock the crank-arm 16.

It will be readily seen that when the key 20 is depressed the carriage will be shifted back, but by reason of the locking-lever being depressed the shift will not be locked, and when the pressure is relieved from the key 20 the carriage will return to its normal position. If, however, the other shift-key 20ª

is depressed, the carriage will be shifted and the lever 22 will rise by means of its spring 24 and lock the carriage in its shifted position, where it will remain until the key 20 is depressed with its pin 26 on the connecting-rod 18 to force the lock-lever 22 out of engagement with arm 21 on the shift-crank.

I contemplate making the supporting-points of the carriage 13 and 15, respectively, forward of the yoke and pivotal points of the crank-arms, so that the carriage will move forward from its shifted position to its normal position by reason of gravity; but in lieu thereof I may substitute a spring, as shown at 27, attached to the frame of the machine and bearing against a lug on the shift-crank 16, so that it will tend to return the carriage to its normal position after it has been shifted.

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 paper-carriage, means for imparting a longitudinal step-by-step movement to said carriage, crank-levers provided with means for engaging said carriage, rods having a sliding connection with said crank-levers, key-levers to which said rods are connected, the sliding connections of said rods with the crank-arms permitting either rod to actuate said arms without disturbing the other rod, and a locking device actuated by one of said rods.

2. In a type-writing machine, the combination of a frame, a horizontal back rod, crank-arms, a horizontal front rod supported on said crank-arms, a yoke adapted to slide on said back rod, a paper-carriage pivoted on said yoke and provided with means for engaging said front rod, a key-lever, and intermediate mechanism between said key-lever and front rod for changing the position thereof to shift the carriage.

3. The combination of a frame, a paper-carriage, pivoted crank-arms, one of said arms being provided with a lug, a horizontal rod supported on said crank-arms and engaging said carriage, a vertical rod connected with one of said crank-arms, a key-lever to which said vertical rod is connected, and a spring-actuated locking-lever provided with a notch adapted to engage the lug of said crank-arm for locking the carriage in shifted position.

4. The combination of a frame, a paper-carriage, pivoted crank-arms, one of said arms being provided with a lug, a spring-actuated latch adapted to engage said lug, two connecting-rods having sliding connection with said crank-arms, one of said rods being provided with means for releasing said latch, and shift-keys with which said rods are connected, the sliding connection of said rods with the crank-arms permitting the crank-arms to be actuated under the influence of one of said rods without moving the other.

5. In a type-writing machine, the combination of a paper-carriage, means for imparting a longitudinal step-by-step movement to said carriage, crank-levers provided with means for shifting said carriage, rods having a sliding connection with said crank-levers, key-levers to which said rods are connected, the sliding connection of said rods with the crank-arms permitting either rod to actuate said arms without disturbing the other rod, and a locking device for holding the carriage in shifted position, one of said rods being provided with a pin for engaging said locking device.

6. The combination of a paper-carriage, means for engaging said carriage for shifting it, comprising a crank-lever provided with a lug, a spring-actuated notched latch for engaging said lug, and a connecting-rod connected with said crank-lever and provided with a pin for engaging said latch.

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.