

M. B. SARGENT.
TYPE WRITER LINE LOCK MECHANISM.
APPLICATION FILED APR. 20, 1909.

948,147.

Patented Feb. 1, 1910.

2 SHEETS—SHEET 1.

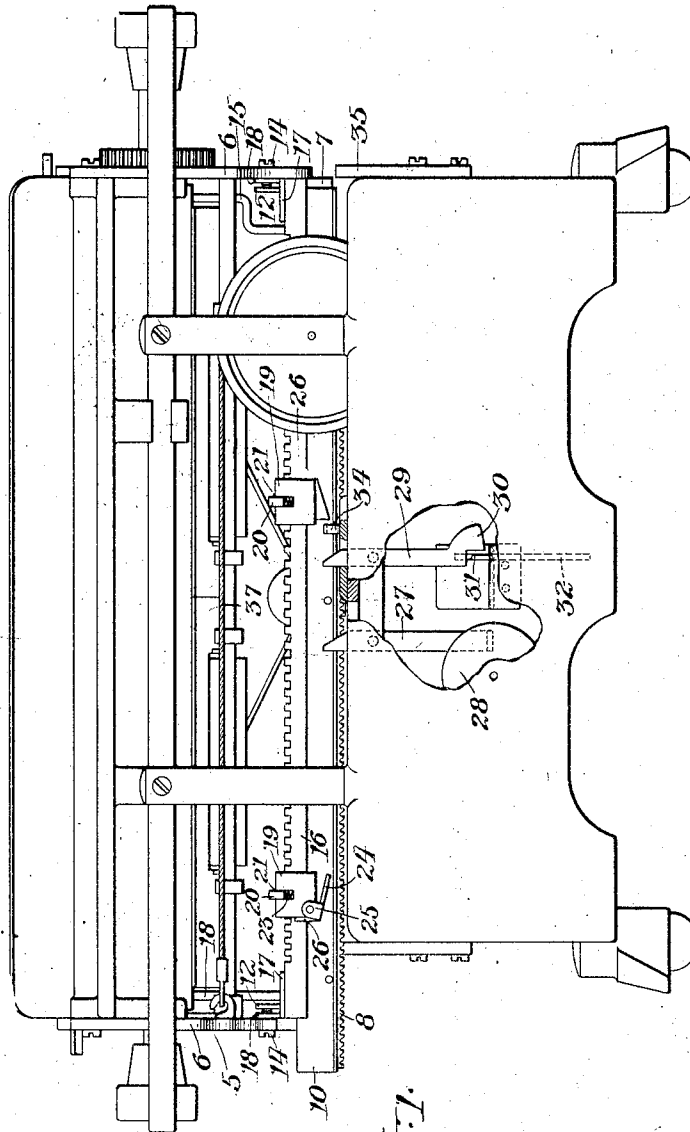


Fig. 1.

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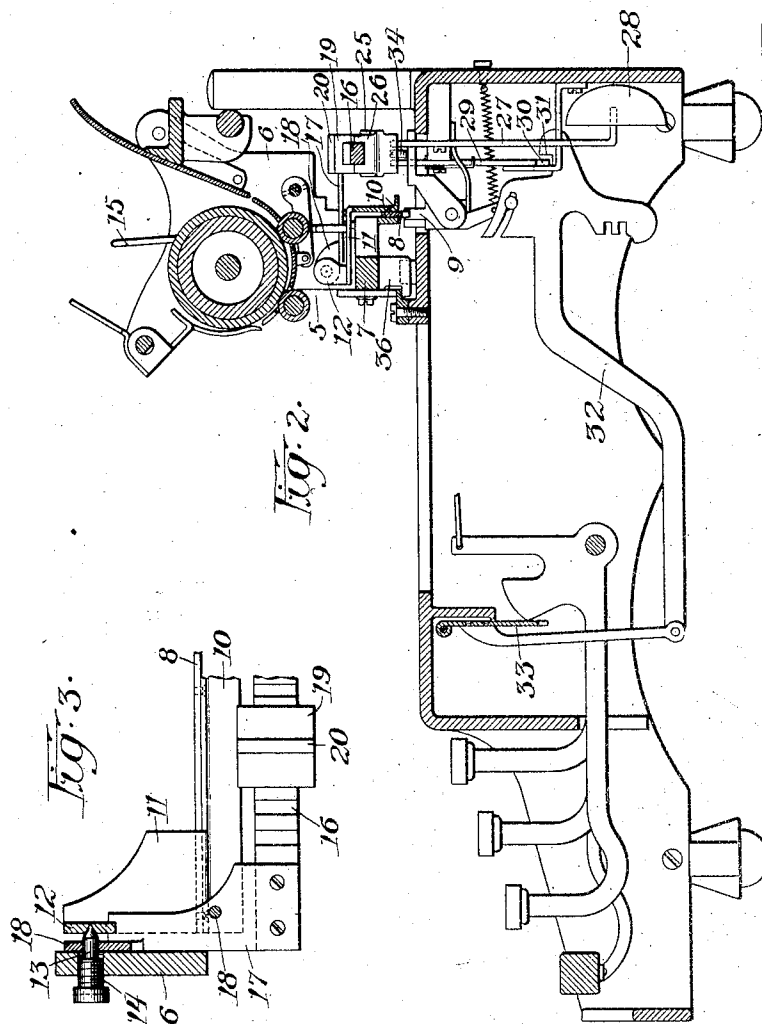
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2 SHEETS—SHEET 2.



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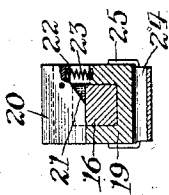


Fig. 4.

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UNITED STATES PATENT OFFICE

MARSHALL B. SARGENT, OF MOMENCE, ILLINOIS, ASSIGNOR TO EMERSON TYPE-WRITER COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF MAINE.

TYPE-WRITER LINE-LOCK MECHANISM.

948,147.

Specification of Letters Patent.

Patented Feb. 1, 1910.

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To all whom it may concern:

Be it known that I, MARSHALL B. SARGENT, a citizen of the United States, residing at Momence, in the county of Kankakee and State of Illinois, have invented certain new and useful Improvements in Type-Writer Line-Lock Mechanism, of which the following is a specification.

The present invention relates to the adjustable margin stops for limiting the normal travel of the typewriter carriage in either direction, and to the means provided for throwing the margin stops out of engaging position when it is desired to shift the carriage to a position beyond the normal, as is frequently the case in certain classes of work. In the normal operation of the machine, the margin stop, in traveling from right to left, will first actuate the bell, and thereafter engage the key locking mechanism for limiting the movement of the carriage.

The present invention relates particularly to the means provided for lifting the margin stops in order to clear these several devices individually and successively to permit the operator to regulate the feed of the carriage under special conditions.

Further objects will appear from a detailed description of the invention, which consists in the features of construction and combination of parts hereinafter described and claimed.

In the drawings, Figure 1 is a rear elevation of a typewriter, or so much thereof as has to do with the present invention, showing the framework partially broken away to reveal the interior mechanism; Fig. 2 a longitudinal sectional elevation of the same; Fig. 3 a detail showing the method of hinging the margin stop bar; and Fig. 4 a sectional detail of one of the margin stops.

The special features forming the subject matter of the present invention are secured to and movable with a carriage 5 having end plates or walls 6, which are connected by means of the carriage frame 7. The method of mounting and guiding the carriage forms no part of the present invention and need not be here described. The normal escape of the carriage is regulated by means of a rack 8 which engages with an escapement dog 9. The rack is carried by a rack 10 of angle formation, provided, at each end, with

a forwardly extending arm or bail 11, which terminates in a hanger 12, which finds a cone bearing in the tapered end 13 of an adjusting screw 14 entered through the end wall or plate of the carriage, as best shown in Fig. 3. The rack bar is adapted to be lifted and the rack swung out of engagement with the escapement dogs by means of an upwardly extending lever 15 located near one end of the carriage.

To the rear of and parallel with the rack is located a notched margin stop bar 16 provided at its ends with forwardly extending arms or bails 17, which terminate in hangers 18, which are pivoted or hung from the smooth shanks of the adjusting screws at each end of the carriage, as shown in Fig. 3. The arms or bails which connect with the margin stop bar lie upon and are adapted to be lifted with the rack bar when the latter is moved, and are furthermore movable independently of the rack bar by the movement of a handle or lever 18, similar to the handle or lever 15, and connected with the bail 17 at the end of the carriage opposite to that at which the lever 15 is located. The margin stop bar 16 furnishes a mounting for a pair of margin stop blocks 19 which ride upon the bar and are adapted to be held in any desired position of adjustment by means of a dog 20 which is pivoted within a slot 21 in the top of the block, and is normally adapted to engage with one of the notches of the bar. The rear under end 22 of the dog is cut away to afford space for the reception of a spring 23, which normally holds the forward end of the dog in engagement, but permits the dog to be thrown out of engagement by a depression of its rear end. One of the blocks has hinged thereto a stop plate 24, which is provided with ears 25 adapted to embrace the opposite sides of the block, and is further provided at its nonacting end with a finger 26 which engages the outer face of the block and furnishes an abutment for limiting its swing. It will be seen that the stop on the left hand side is cast solid with the stop block, and that the margin stops lie in a plane opposite to one another.

The margin stop, shown to the left of Fig. 1, which limits the normal feed from right to left of the carriage, is adapted to first engage the upper end of a pivoted bell lever

27, the lower end of which is inturned, and serves as a hammer for striking the bell 28. The stop, in its normal travel, next engages the upper end of a pivoted lock lever 29, the lower end of which is provided with an offset detent 30, which is adapted to be thrown into position to engage with a shoulder 31 on the rear end of a main operating lever 32, which connects with a universal bar 33. The operating lever controls the movements of the escapement dog, so that by preventing the forward swing of the operating lever, the universal bar will be locked and the operation of the machine prevented. The details of the locking mechanism, however, form no part of the present invention and need not be further referred to.

To the right of the locking lever, in Fig. 1, which would be to the left thereof as regards the front of the machine, is located a stop pin 34, which affords a few spaces for the travel of the carriage beyond the point of engagement with the locking lever. The final stop of the carriage is located at one end of the frame in the form of an upwardly extending finger 35 adapted to engage with a depending lug 36 on the carriage frame. Obviously, the final stop members might be otherwise arranged. The carriage is carried forward by the tension of a spring actuated cord or cable 37 of the usual character.

In the normal operation of the machine, the margin stop blocks will be adjusted to the desired positions on the margin stop bar, after which the machine will be operated in the usual manner. The depending hinged stop plate on the stop block which limits the forward feed of the carriage will first engage with and ride over the bell lever, and this movement raises the striking end of the lever into position so that when released it will swing back and deliver a blow on the bell. Thereafter, in the normal operation of the machine, seven forward steps will be taken by the carriage, which brings the pivoted stop plate into engagement with the upper end of the locking lever, and moves the detent into position to engage the shoulder on the end of the operating lever 32, which prevents the forward movement thereof and locks the machine. In these circumstances, if the operator desires to print additional characters, the margin stop bar can be raised by a movement of the lever 18 sufficiently to elevate the pivoted stop plate 24 in position to clear the end of the locking member, and the writing will then continue until the stop plate is brought into engagement with the stop pin 34. If further operation is desired, the margin stop bar can again be raised, and the carriage will travel forward until brought to its ultimate stop by contact with the stop finger 35. The position of the lever 18 is such that these adjustments can be readily made

by the operator. In certain operations of the machine, with which the present invention is not concerned, it is desirable to lift the rack out of engagement with the escapement dogs in order to permit the carriage to be released, and this raising of the rack bar will also serve to lift the margin stop bar in position to clear the various devices with which it normally contacts, so that in releasing the carriage from the escapement dog, it will travel freely without obstruction of any kind. The stop block which limits the movement of the carriage in the first direction operates in the manner previously described, and can be lifted into position to clear the stop pin 34, or the other devices in the manner previously set forth. By hinging or pivoting the stop plate in the manner specified, it will easily ride over the stops or other devices on a backward movement, so that no difficulty will be experienced in returning the carriage to its original position.

What I claim as new and desire to secure by Letters Patent is:

1. In typewriter line lock mechanism the combination of a carriage, a margin stop bar secured to the carriage and adapted to be raised and lowered, a stop block adjustable on the bar and provided with a stop plate hinged in position to bring its acting end below the block, devices adapted to be engaged by the depending end of the stop plate when the margin stop bar is in normal lowered position and adapted to be cleared by said plate when said bar is in raised position, and a rack bar movably secured to the carriage in position to lift the margin stop bar out of normal position with a movement of the rack bar from normal position, substantially as described.

2. In typewriter line lock mechanism, the combination of a carriage, a margin stop bar secured to the carriage and adapted to be raised and lowered, a stop block adjustable on the bar and provided with a stop plate hinged in position to bring its acting end below the block, devices adapted to be engaged by the depending end of the stop plate when the margin stop bar is in normal or lowered position and adapted to be cleared by said plate when said bar is raised out of normal position, a rack bar movably secured to the carriage in position to raise the margin stop bar out of normal position with a movement of the rack bar from normal position, and means for moving the margin stop bar independently of the movements of the rack bar, substantially as described.

3. In a typewriter line lock mechanism the combination of a carriage, an escapement rack movably attached to the carriage, margin stop bar movably attached to the carriage, stop blocks adjustably secured to

the margin stop bar, lever mechanism for locking the printing type bars when contacted by the stop blocks, means for independently moving the margin stop bar out of alinement with said lever mechanism, and means for moving the escapement rack and margin stop bar out of alinement with the escapement device and lever mechanism, substantially as described.

4. In a typewriter line lock mechanism, the combination of a carriage, an escapement rack movably secured to the carriage, a margin stop bar rotatably pivoted to the carriage, a lever for locking the printing type bar mechanism, stop blocks for contacting the type locking lever and adjustably secured to the margin stop bar in such a way as to be in alinement with the locking lever when the margin stop bar is in its normal position, means for independently rotating the margin stop bar and stop blocks out of alinement with the locking lever, and means for moving the escapement rack out of contact with the escapement device and for rotating the margin stop bar and stop

blocks out of alinement with the locking lever, substantially as described.

5. In a typewriter line lock mechanism, the combination of a carriage, an escapement rack rotatably secured to the carriage, a rod for locking the type bars in non-operative position and suitably connected with a locking hook, a lever mechanism for engaging the locking hook, a margin stop bar rotatably secured to the carriage, a stop block adjustably secured to the margin stop bar and normally in alinement with the locking lever mechanism, independent means for rotating the margin stop bar and the stop block out of alinement with the locking lever mechanism, and means for moving the escapement rack out of engagement with the escapement device, and for rotating the margin stop bar and stop block out of alinement with the locking lever mechanism, substantially as described.

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