

(No Model.)

J. B. GATHRIGHT.  
TYPE WRITING MACHINE.

No. 436,916.

Patented Sept. 23, 1890.

Fig I.

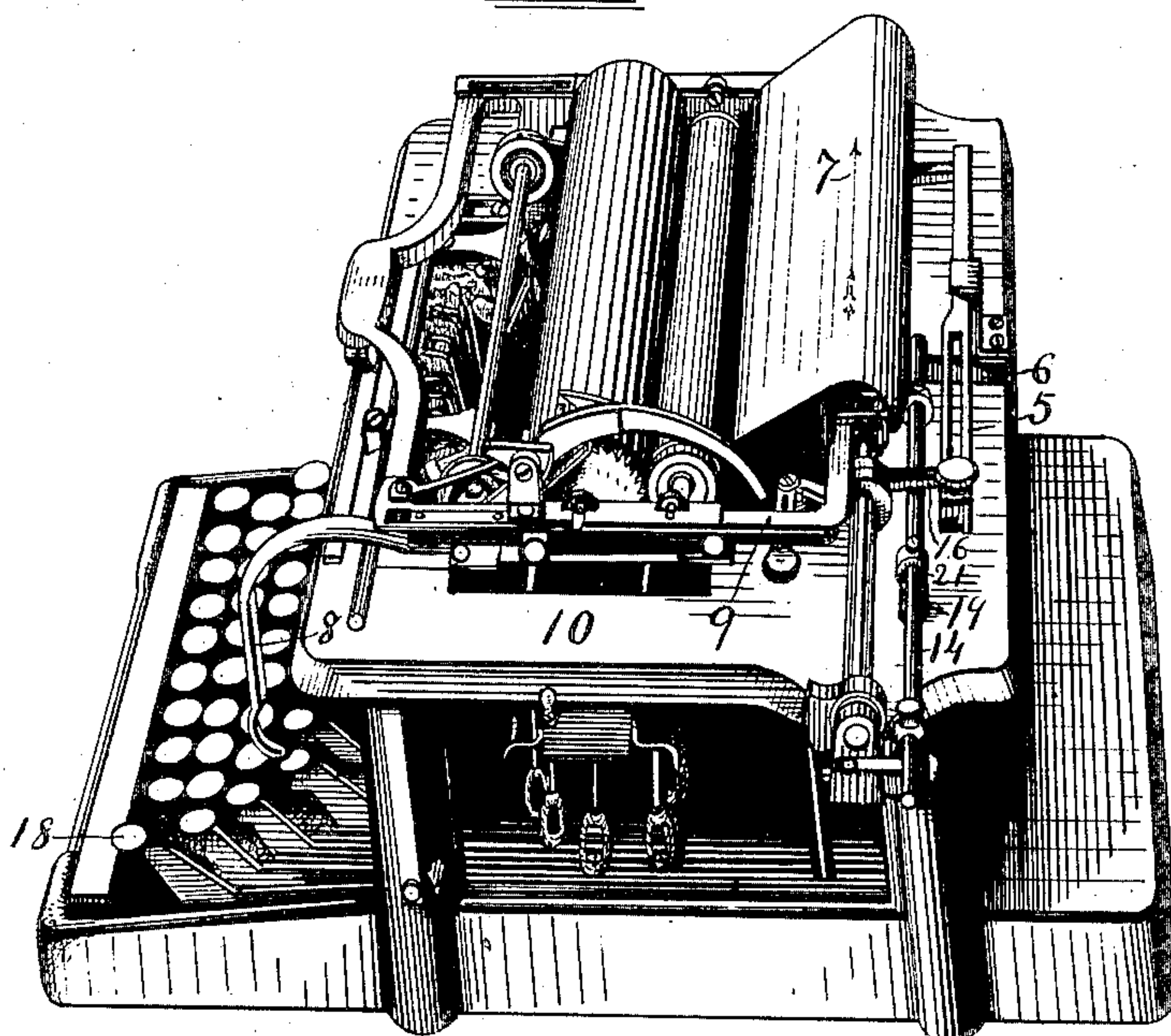
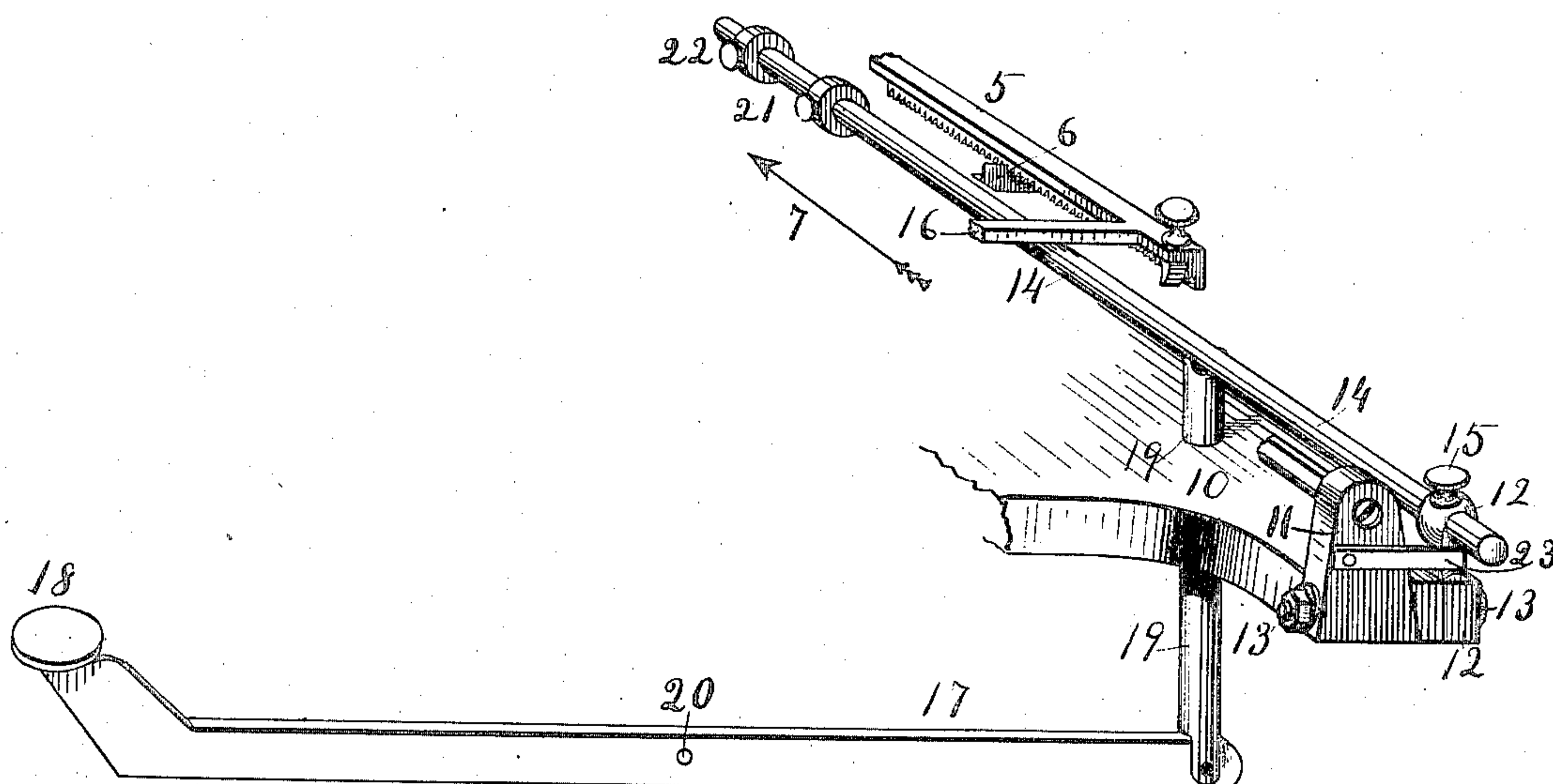


Fig II.



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## TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 436,916, dated September 23, 1890.

Application filed January 15, 1889. Serial No. 296,456. (No model.)

*To all whom it may concern:*

Be it known that I, JOSIAH B. GATHRIGHT, a citizen of the United States, residing at Louisville, in the county of Jefferson and State of Kentucky, have invented certain new and useful Improvements in Type-Writing Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to that class of type-writing machines which are provided with feed-racks, or equivalent means for moving a carriage to space between the letters upon each line—such, for example, as the Remington type-writer, and the following description is made with reference to that machine.

Heretofore in producing writings in which some of the lines are not filled, or in which open spaces occur, in order to bring certain words or figures into accurate vertical columns—such writings, for example, as bills of goods, invoices, statements of accounts, &c.—it has been necessary for the operator to pass the carriage over blank spaces either by repeatedly striking a spacing-key which feeds the carriage the space of only one letter at a time, or by unlatching the carriage and sliding it to the desired point by means of a hand-lever. Both of these methods are tedious, and they keep the mind of the operator under constant tension to remember the point where the carriage is to be stopped to register with the column, as desired, and the practice is common among operators of striking the first figure lightly and then turning the carriage up to see whether that figure registers properly before printing it in full. This method evidently requires many experiments at the expense of time and tends greatly to perplex the operator.

The object of my invention is to obviate these objections by providing means for automatically locating with the type-writer one or more columns of words or figures and of mechanically skipping any intervening space desired to be left blank.

To this end my invention consists in the construction and combination of parts form-

ing a portion of a type-writing machine, as hereinafter described and claimed, reference being had to the accompanying drawings, in which—

Figure I is a perspective view of a Remington type-writing machine, showing my invention attached thereto. Fig. II is a perspective view of a portion of a type-writing machine, with my invention made conspicuous by the absence of all parts not needed to show its construction and operation.

9 represents the carriage on which the paper to receive the writing is to be mounted.

5 is the feed-bar, pivoted to the carriage to swing a little up and down, and 16 is a lateral arm thereof.

The carriage is constantly impelled to slide in the direction of the arrow 7 by a weight or spring, and its movement is governed by an escapement or detent 6, engaging a rack of teeth on the under side of the feed or rack bar. The escapement is operated, as usual, by a spacing-key and by each key on the board, whereby the carriage is permitted to advance one notch or two at every stroke of a key.

8 represents a hand-lever by which the rack may be disengaged from the detent of the escapement and the carriage be moved either way along the machine.

10 represents the upper table of the fixed frame of the machine, and 11 a permanent vertical post thereof, to which I have pivoted an arm 12 by means of a pivot-bolt 13.

14 is my lift-slide and stop-rod, adjustable longitudinally of the machine through the upper portion of the arm 12, and 15 is a set-screw, whereby the rod may be firmly secured in the arm at any required point in the length of the rod. This rod is normally supported close beneath some cross portion—such as the arm 16 of bar 5—by means of the lever 17 and a connecting-rod 19. The lever 17 is pivoted to the frame of the machine at 20, and is provided with a supplemental spacing-key 18, whereby its forward end may be pressed down to raise its rear end and the rods 19 and 14, and with them to raise the rack-bar 5 out of engagement with the detent 6. That would permit the carriage to slide or be fed freely in the direction of the arrow 7.



21 and 22 represent stop-lugs provided with set-screws, whereby they may be adjusted to any desired points upon the rod and there be fixed firmly to it, so that when the rod 14 is in service the lugs 21 22 are in the path of arm 16 to stop it. There may be any desired number of these lugs, each serving as a shoulder upon the rod 14 to catch and stop the carriage from sliding farther. Then the key 18 being released the rod 14 returns to its normal position, whereby the stopping-shoulder is removed, and the arm 16 is free to be fed along over the stop 21 by the regular operation of the machine.

23 represents a spring attached to the post 11, and constantly bearing its free end against the arm 12 to insure the return of the whole skipping device to its normal position more quickly than it would do when actuated by gravity alone.

By the words "supplemental spacing-key" I mean a key like the key 18, which is exclusively devoted to the following duty, to wit: First, to disengage the carriage-rack from the detent and to hold it disengaged until the carriage, traveling its usual path, has passed over a space including a number of letter-spaces, which it was desirable to skip, to a stop whose location is adjustable, and was predetermined to fit said skipped space; and, second, to remove the said stop by the act of releasing the said spacing-key, thus permitting the carriage to resume service at the usual letter-spaces. Such a key I contrast with keys which allow the carriage to advance but one letter-space at a time; also, with the common hand-lever, whereby the carriage may be raised from its usual path and be carried over any number of letter-spaces. I also contrast it with any key adapted by light pressure to advance the carriage a single letter-space, and by a heavier pressure to entirely release the carriage, so that it may travel over a number of letter-spaces to a stop. This latter key would be in constant danger of being overpressed, so that it would skip at the wrong time, thus keeping the operator's mind under constant tension to weigh the force of his stroke, which would defeat a prominent object of my invention. My supplemental spacing-key has only one service to perform. When it is pressed down in operation, it releases the carriage-detent and places an adjusted stop in the path of the carriage to arrest it at the desired point. On permitting the supplemental spacing-key to rise it withdraws the stop from the path of the carriage, leaving it free to resume work, as usual.

The operation is described as follows: First decide where the columns of figures shall be located and fix the lugs 21 22 on the rod 14 accordingly—one lug for each column. The word "column" as here used does not mean a vertical line of single figures, but a vertical line of sums, each sum including a number of figures on one horizontal line, and the lugs should be set with reference to the position

of the largest decimal to be placed on any line. Let us suppose that the following entry is to be made:

5 yds. brown gros grain silk . . . .	\$1.50	\$7.50	70
10 doz. papers pins . . . . .	.25	2.50	
1 doz. Johnson's I. O. U. flax thread . . . . .		1.20	
		11.20	75

The lug 21 should be so fixed that the "1" in "1.50" will be located as desired, and the lug 22 should be set to locate the "7" in "7.50." Now, when the word "silk" has been written, the operator strikes key 18, which lifts rod 14 and disengages the rack-bar 5 from the escapement 6 and permits the carriage to advance until it is stopped by the arm 16 meeting the lug 21. Now the key 18 is released and the rack descends and re-engages the detent, when the operator proceeds to write "1.50." Then key 18 is again struck and the carriage skips over a space until stopped by lug 22, when, as before, the operator resumes writing and "7.50" is placed, as desired. In like manner the next line is written, only that the operator will readily understand that on passing the lug 21 the usual spacing-key of the machine must be struck once for the absence of a unit before ".25." In like manner, by striking the spacing-key once at the lug 21 and then again pressing down key 18, the space will be continued until lug 22 is reached. Then "1.20" may be written.

It would require only ordinary mechanical skill to adapt my stop rod and lugs to any kind of a self-feeding type-writing machine by following out the principle of construction herein described. Therefore I deem it unnecessary to illustrate its application to the great variety of type-writing machines which have been invented.

The great advantage of being able to skip a space of uncounted letters and stop the carriage again at a single stroke of a key, so as to accurately align figures or words in column, is too obvious to require further demonstration.

Because of the necessary changes in details of construction that would naturally result from the adaptation of my invention to different styles of type-writing machines, I do not wish to confine my claims to the specific device herein described.

What I believe to be new, and desire to secure by Letters Patent, is the following:

1. In a type-writing machine, the combination of a stop-rod located beneath a portion of the carriage in the direction of its feed-movement and freely hung to the machine, a stop-lug upon the said rod, and means for adjusting its location in the direction of the rod, a supplemental spacing-key hung in the machine, and connections between the said key and stop-rod and between the stop-rod and rack-bar, substantially as shown and described.

2. The combination of a stop-rod 14, freely



hung to the machine beneath a portion of the carriage in direction of its feed-movement, one or more stop-lugs adjustably secured upon the said rod in the path of a cross portion of the carriage when in operation, a supplemental spacing-key hung in the machine, and connections between the said key and stop-rod, substantially as shown and described, whereby the rack-bar of the carriage may be disengaged and the carriage be allowed to skip to a determined point, as set forth.

3. The combination, in a type-writing machine, of the rack-bar 5, provided with a cross-arm 16, the detent 6, adapted to engage the said rack, a frame 10, provided with a post 11, an arm 12, pivotally hung to the said post 11 and provided with a perforation and a set-screw 15 at its upper end, a stop-rod 14, fitted to the said perforation and extending beneath the cross-arm 16 and to be securely held by the said set-screw 15, one or more lugs 21 22, fitted upon the rod 14 and provided with set-screws, a lever 17, pivoted at 20 in the frame and provided with a key 18, the vertical rod 19, connecting the lever 17 with the rod 14, and a spring 23, secured at one end to the frame of the machine and adapted to bear with its free

end against the arm 12, substantially as shown and described.

4. The combination of a stop-rod freely hung to the machine, a stop-lug thereon, and a supplemental spacing-key hung in the machine and adapted to move the said stop-lug into the path of a portion of the feed-carriage, and connection between the stop-rod and rack-bar, substantially as shown and described.

5. In a type-writer, the combination of the usual letter-keys and one or more spacing-keys having mechanism in common for permitting the carriage to move a definite space at each stroke, and a supplemental spacing or skipping key fitted to permit the carriage to move any desired number of said spaces, according to adjustment, said key provided with independent mechanism for releasing the carriage from the detent, and mechanism for simultaneously interposing an adjustable stop, substantially as shown and described.

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

JOSIAH B. GATHRIGHT.

Witnesses:

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ROBT. S. AYARS.