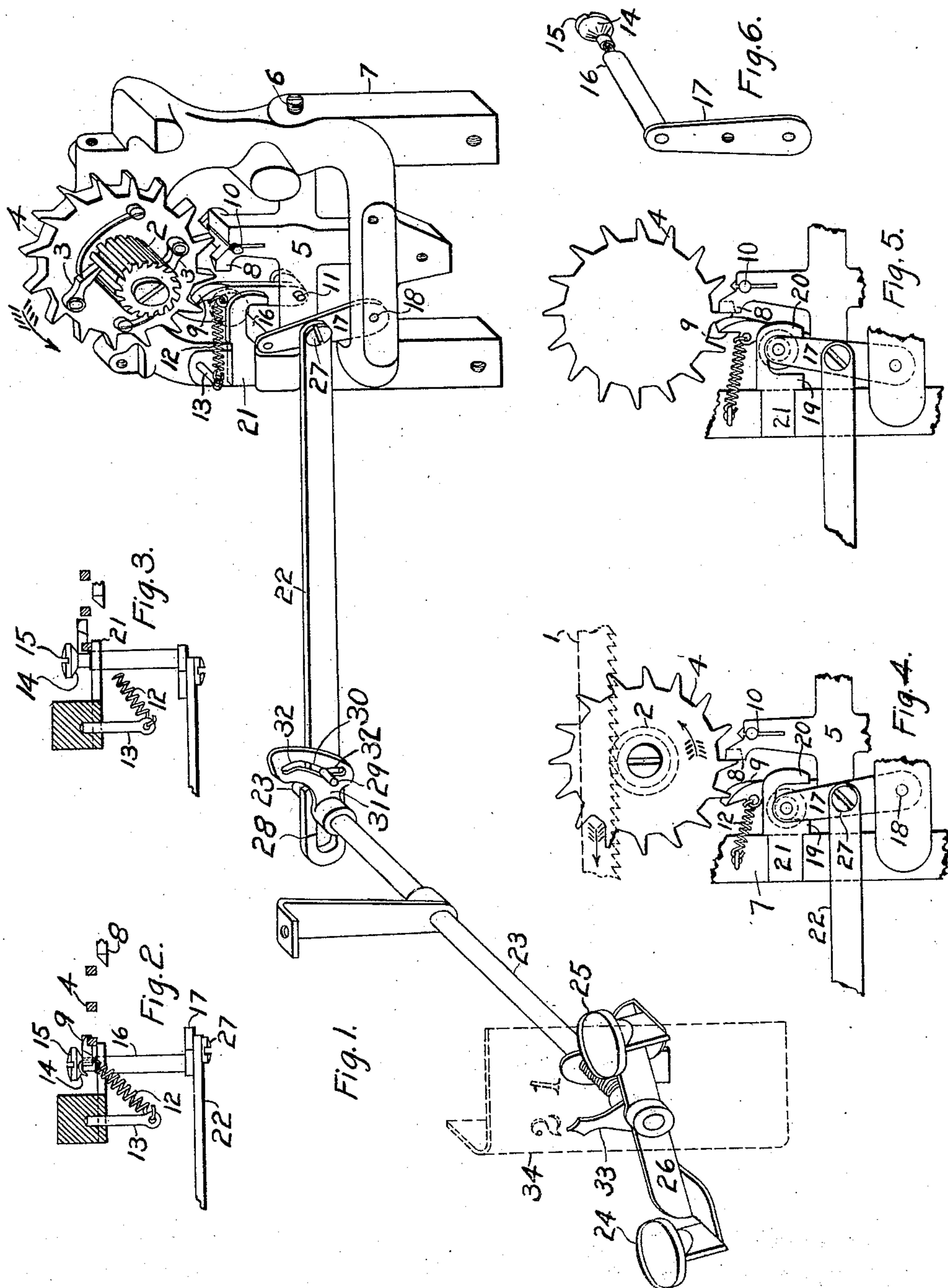


J. C. McLAUGHLIN.
TYPE WRITING MACHINE.
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951,542.

Patented Mar. 8, 1910.



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UNITED STATES PATENT OFFICE.

JOHN C. McLAUGHLIN, OF JERSEY CITY, NEW JERSEY, ASSIGNOR TO UNDERWOOD TYPEWRITER COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW JERSEY.

TYPE-WRITING MACHINE.

951,542.

Specification of Letters Patent.

Patented Mar. 8, 1910.

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To all whom it may concern:

Be it known that I, JOHN C. McLAUGHLIN, a citizen of the United States, residing in Jersey City, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a specification.

This invention relates to the carriage escapement mechanism of typewriting machines, and particularly those of the Underwood type.

The object of the invention is to provide simple and inexpensive means which may readily be applied to existing machines, for enabling the operator at will to cause the carriage to move two letter spaces instead of a single letter space at each type impression, or at each movement of the carriage escapement mechanism, for convenience in writing headings or emphasizing words, etc.

The invention is illustrated in connection with the escapement mechanism disclosed in United States Patent No. 769,804, in which the loose or feeding dog is given a positive diagonal movement during the return stroke of the rocker which carries both said dog and the detent dog, and in which a beveled shoulder screw is employed as an adjustable stop for said feeding dog. According to my present improvements, said stop-screw is mounted upon a device which is shiftable to enable said loose or feeding dog to spring past either one or two of the escapement teeth, at the will of the operator, according as a single or double space is required after the impression of each letter. Said dog stop is mounted by means of a lever upon a stationary part of the machine, and said lever is connected by means of a link and rock shaft to a key or finger-piece at the front of the machine over the keyboard. The rock shaft preferably has a cam arm to vibrate said lever and force or lock it against stops, which limit its strokes.

Other features and advantages will hereinafter appear.

In the accompanying drawings, Figure 1 is a front perspective view showing my improvements applied to an Underwood front strike writing machine; the parts being shown in position to cause double spacing of the carriage at the type strokes. Fig. 2 is a diagrammatic plan to illustrate the operation seen at Fig. 1. Fig. 3 is a view similar

to Fig. 2, but showing the adjustment for a single-space action of the carriage. Fig. 4 is a front elevation illustrating the parts in the Fig. 2 position. Fig. 5 is a view similar to Fig. 4, but illustrating the parts in the Fig. 3 position. Fig. 6 is a perspective view of the adjustable lever which carries the pawl stop.

In said machine, the power-driven carriage is provided with an escapement rack 1, which meshes with a pinion 2, the latter by means of pawls 3 driving a toothed escapement wheel 4. A rocker 5, hung upon pivots 6 in a bracket 7, carries a detent dog 8, which is normally disengaged from the escapement wheel 4, and also a loose or pivoted spacing dog or pawl 9. It will be understood that in said machine a universal bar (not shown) vibrates at each type stroke, and has a part to engage an adjustable projection 10 on the rocker 5, to push the same rearwardly to effect the proper coöperation of the feeding dogs and the escapement wheel. The loose dog 9 is pivoted at 11 on the rocker, to enable it to swing past the teeth of the escapement wheel, as soon as the rocker swings back far enough to liberate said loose dog. A draw-spring 12, connected at its front end to a post 13 and extending diagonally to said loose dog, both causes the latter to swing past the teeth of the escapement wheel 4, and also draws the rocker 5 forwardly to initial position. The movement of the loose pawl 9 under the tension of said spring is arrested by means of a stop consisting of the beveled shoulder portion 14 of a suitably mounted screw 15. By reason of the bevel, the action of the pawl is brought under proper control, as set forth in said Letters Patent.

The parts so far described are in common use on said Underwood machine.

I thread the stop-screw 15 into the rear end of a stud 16 projecting rearwardly from the upper end of a lever 17, the latter pivoted at 18 upon the bracket 7, and its movement being limited by stops 19, 20 formed upon a plate 21 fixed to said bracket. The lever 17 is shifted from side to side by means of a link 22, a rock-shaft 23 and keys 24, 25, said keys mounted on a cross lever 26 fixed upon the front end of said rock shaft over the usual keyboard. The link 22 is directly pivoted at its right hand end to the lever 17 as at 27, and at its left hand end it is longi-

itudinally slotted at 28 to ride loosely upon the rear end of the rock shaft 23. A pin 29 projecting forwardly from the slotted end of the link, works in a cam slot 30 formed in an arm 31 secured upon the rock shaft 23. The cam slot is so shaped that as the arm is rocked up and down, the link 22 is pulled or thrust endwise to shift the lever 17 and the stop-screw 15 thereon. At its ends the cam-slot is formed with less inclined portions 32, to force the pin and link 22 to lock the lever or its stud 16 against either one or the other of the stops 19, 20, so that there may be no danger of the lever working loose and throwing the stop-screw 15 out of position. The rock shaft 23 may be provided with an index 33, to point to numbers seen upon the machine frame 34, to indicate the number of spaces the carriage will move at each type key operation.

When the operator desires to space the written letters widely, he depresses the key 24, thereby rocking the shaft 23 and lifting the arm 31, so that the pin 29 and link 22 are drawn to the left and the lever 17 is vibrated until the stud 16 is arrested by the stop 19 and locked there by the lower portion 32 of said cam-slot. At this time the screw 15 stands in the position seen at Figs. 2 and 4, so that when the loose dog 9 is released from the escapement wheel tooth, it is drawn far enough to the left to pass two of said teeth, as shown in said figures, so that when the dog rocker 5 resumes its normal position, the loose dog 9 will catch the next wheel tooth but one from that from which it just escaped, and hence the escapement wheel and the carriage will be advanced two letter spaces. This operation is repeated at every key stroke. When the operator desires to resume single or ordinary spacing, he depresses the key 25, and the pin 29 is cammed to the right, and the lever 17 is locked against the stop 20, with the screw 15 in the position seen at Figs. 3 and 5, in which position the loose dog 9 performs its ordinary single spacing function, escaping past only one tooth of the escapement wheel at each operation.

Having thus described my invention, I claim:

1. In a typewriting machine, the combination with a carriage escapement wheel or rack, and a detent dog and a spacing dog therefor, of a spring for the spacing dog, a stop for the spacing dog, a lever on which said stop is mounted, a link connected to said lever, a rock shaft having a cam connected to said link, and a finger-piece upon said rock shaft; means being provided to limit the strokes of the lever to enable the feeding pawl to vibrate past either one or two of the escapement teeth.

2. In a typewriting machine, the combination with a carriage escapement wheel or rack, and a detent dog and a spacing dog therefor, of a spring for the spacing dog, a stop for the spacing dog, a lever on which said stop is mounted, a link connected to said lever, a rock shaft having a cam connected to said link, and a finger-piece upon said rock shaft; means being provided to limit the strokes of the lever to enable the feeding pawl to vibrate past either one or two of the escapement teeth; said cam being provided with means at its ends to lock the lever at the extremes of its vibration.

3. In a typewriting machine, the combination with a carriage escapement wheel or rack, and a detent dog and a spacing dog therefor, of a spring for the spacing dog, a stop for the spacing dog, a lever on which said stop is mounted, a link connected to said lever, a rock shaft having a cam connected to said link, and a finger-piece upon said rock shaft; means being provided to limit the strokes of the lever to enable the feeding pawl to vibrate past either one or two of the escapement teeth; said cam being provided with means at its ends to lock the lever at the extremes of its vibration; said lever-arresting means including fixed stops against which the lever is forced by the locking portions of the cam.

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