

N° 18,978



A.D. 1914

(Under International Convention.)

Date claimed for Patent under Patents and Designs Act, 1907, being date of first Foreign Application (in the United States), } 21st Jan., 1914

Date of Application (in the United Kingdom), 22nd Aug., 1914

At the expiration of twelve months from the date of the first Foreign Application, the provision of Section 91 (3) (a) of the Patents and Designs Act, 1907, as to inspection of Specification, became operative

Accepted, 23rd July, 1915

COMPLETE SPECIFICATION.

Carriage Release Device for Typewriting Machines.

I, CLAYTON CARPENTER HARTING, Mechanician, of General Delivery, City of Woodstock, County of McHenry, State of Illinois, United States of America, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to an improved device for releasing the carriage of a typewriting machine from its letter spacing mechanism, of the form shown in the Specification of British Patent No. 1060 of 1906, whereby the carriage may be moved freely in either direction from end to end of its travel, for the purpose of facilitating the insertion of characters in an already printed line, or for other purposes.

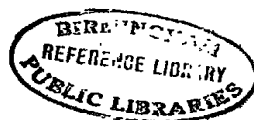
My improvements are shown as applied to an "Oliver" typewriting machine, wherein endwise movement of the carriage, for letter-spacing, under the action of its actuating spring, is effected through the medium of an escapement mechanism embracing a rotative pinion which is yieldingly held in intermeshing relation with a rack-bar on the carriage frame and which is disengaged from said rack-bar by the movement of a release bar mounted upon said carriage.

A mechanism constructed according to the features of my invention may, however, be applied to other typewriting machines having similar means for effecting letter spacing.

The object of this invention is to provide new and improved means whereby the movement of the release bar can be effected with greater ease and facility than has hitherto been possible.

This invention consists in a carriage release device having the release bar moved obliquely forward upon said carriage by lever means comprising two levers pivotally mounted upon the carriage in operative connection with each other, an arm of one of said levers engaging the rear margin of the release bar and an arm of the other of said levers extending outwardly from the end of the carriage adjacent the platen-turning knob at that end of the carriage.

[Price 6d.]



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The invention also consists in a carriage release device as hereinafter described.

Referring now to the accompanying drawings,

Figure 1 is a view in front elevation of the carriage of an Oliver typewriting machine;

Figure 2 is a view in horizontal section, taken on line 2—2 of Figure 3, with portions broken away to show the carriage release device;

Figure 3 is a view in transverse, vertical section of the carriage and portions of the machine frame, showing parts of the operating mechanism.

Referring to the drawings, the shift-frame 11 of the machine supports the endwise movable carriage 10, which is provided with a roller 12 (Figure 3) which engages a horizontal rail 13 on said shift-frame. The carriage supports the rotative platen 14, provided at its ends with the usual turning knobs 15, 15. A rack-bar 16 forms the lower, front, longitudinal member of the carriage; said rack-bar being provided at its forward edge with rack-teeth. A vertical shaft 17, journaled in bearings on the shift-frame 11, is provided at its upper end with a pinion 18, adapted to engage the teeth on said rack-bar and to be thrown out of engagement therewith by means of the release device hereinafter described. The shaft 17 is rotatively mounted at its upper end in a block 19, adapted to slide toward and from the rack-bar within a guide slot in a forwardly projecting bracket 20 on the shift-frame. A spring 21, mounted within said slot, acts to yieldingly force the block toward the rack-bar. The lower end of the shaft is mounted upon the shift-frame, in such a manner as to permit the upper end of said shaft to oscillate toward and from the rack-bar. An escapement wheel (not shown), mounted upon the lower portion of the shaft and operatively connected to the letter spacing mechanism of the machine, forms part of the escape-mechanism which controls the rotative movement of the shaft.

Referring now to the means for throwing the pinion 18 forwardly out of mesh with the rack-bar 16, a release bar 24 is longitudinally arranged upon an upwardly facing, horizontal bearing surface of the said rack-bar 16, and is adapted to move or slide on the rack-bar in a direction toward and from the pinion. As illustrated in the drawings, said release bar consists of a flat metal plate provided at its forward margin with an upright flange 25, adapted to engage a roller 26 mounted on the shaft 17 immediately above the pinion 18. In the release bar near its ends are provided two slots 27, 27, arranged obliquely with reference to the forward margin of the bar. Headed screws or studs 28, 28, extend through said slots and are fixed in the rack-bar, said studs acting to hold said release bar in contact with the bar and to guide the same so that it has an oblique movement on the rack-bar. The margins of the bar adjacent to the said slots 27 are curved rearwardly; thereby forming projections 27^a, 27^b, within which the rear parts of said slots are formed. At the left side of the carriage is an actuating rod 29, the same comprising a flat metal strip having sliding engagement with the flat top bearing surface of the rack-bar and arranged parallel with the release bar and slightly in the rear of its forward margin. Said rod 29 extends laterally beyond the carriage and passes through a guide slot formed in the adjacent side plate 30 of said carriage. At the outer end of the rod is provided a knob 31 adapted to be pressed by the finger of the operator to effect the inward endwise movement of the rod. The inner end portion of the rod is enlarged and provided with a longitudinal guide slot 32 having engagement with a stud or screw 33 inserted in the rack-bar. The end of the said rod 29 abuts against a bearing shoulder 24^a, on the release bar, which faces toward the left at the left-hand side of the projection 27^a. When the rod 29 is pressed inwardly, the release-bar is moved toward the right by the pressure of the said rod on the transverse shoulder 24^a and an oblique movement is given to the release-bar by the action of the guide slots 27, 27 on the studs 28, 28, whereby the release-bar is shifted forwardly; the end of the rod sliding on the shoulder 24^a as the release-bar 20 moves forwardly.

At the opposite right-hand end of the carriage, the release-bar is provided

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with an actuating device performing the same function as the actuating device at the left-hand end of the carriage, but embracing two levers 35 and 40. The lever 35 is pivoted upon the carriage at the rear of, and inwardly from, the end of the release-bar, by means of a pivot-stud 36, inserted in the rack-bar and extending through the lever intermediate of its ends, thereby forming two arms 37 and 38. The left hand or longer arm 37 of the lever 35 is curved and partially embraces the rearward projection 27^b on the release-bar, and engages the left-hand and rearward part of the margin of said projection so as to act thereon in a direction forwardly and to the right, when the said arm 37 is swung forwardly. The right-hand arm 38 of the lever 35 is made of U-shape and is provided at its outer end with a short bearing surface 39. The other lever 40 is pivoted to the rack-bar at the right of the lever 38 and adjacent to the end of the release-bar. This lever is pivoted on the rack-bar so as to swing in a horizontal plane, by a pivot stud 41 located intermediate of its ends. The longer or right-hand arm 42 of the lever 40 projects outwardly through a slot in the adjacent side plate of the carriage and beyond the same, said arm being suitably formed to provide a finger-piece having a rearwardly facing surface, adapted to receive the pressure of the operator's finger in manipulating the actuating device. The inner or left-hand arm 43 of the lever 40 extends toward the lever 35 and constantly engages the front face of the arm 38 thereof. By exerting a pressure in a forward direction upon the outer end of the arm 42, the inner arm of said lever 40 is swung rearwardly so as to press the arm 38 of the lever 35 rearwardly, while its left-hand arm is swung forwardly. By reason of the pivot of the lever 35 being located at the rear of the release-bar, the left-hand end of said lever 35 has an oblique movement, in the direction of the oblique movement of the release-bar, and acts to press said release-bar forwardly and toward the right.

At the central part of the release-bar is attached one end of a coiled spring 44, the opposite end of said spring being fixed to the carriage and at such point that the axis of the spring substantially coincides with the direction of movement of the release-bar. As shown in the drawings, the rear margin of the release-bar is provided with a hooked projection 45 preferably formed integral with the bar, and to which the end of the spring may easily be attached. The function of the spring is to draw the release-bar rearwardly to its non-operative position when the pressure on either of the actuating devices is released.

These actuating devices are provided at both ends of the carriage to permit the release-bar to be operated by either hand of the operator and are designed to be readily and easily accessible to the hand of the operator when grasping either of the knobs of the platen for the purpose of turning the platen, or for shifting the carriage from left to right. The left-hand actuating device, embracing the endwise movable rod, enables the operator, in pressing on the rod, to shift the carriage to the right while simultaneously operating the release-bar to release the escapement mechanism from the rack-bar, as in the "Oliver" machine as heretofore constructed. In the right-hand actuating device made as described the lever arm 42 is shifted forwardly toward the operator to operate the release-bar, so that when the platen knob is grasped by the right hand in the most natural manner, the second finger may be easily and conveniently employed in manipulating the release-bar without shifting the position of the hand upon the platen knob. Such right-hand actuating device has advantages over the device for the same purpose heretofore used in the "Oliver" machine, as will appear from the following. In the prior device, the lever handle at the right-hand end of the carriage was moved rearwardly to operate the release-bar, and to so operate the device it was necessary for the operator to use the thumb for this purpose. In shifting the carriage with the right hand, the natural manner in doing so is to grasp the right-hand platen knob with the thumb and index finger, and to also utilise the thumb for operating the release-bar involves an unnatural position of the hand. Moreover, when

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the thumb is used to press the right-hand release lever backwardly, the thumb and hand are brought in position for contact with parts of the machine forward of the carriage, as the latter is moved toward the left, but when the release lever is arranged to be operated by the finger, as herein described, the fingers and thumb may pass behind the parts in front of the carriage, without liability 5 of striking the parts referred to.

A further advantage gained by the construction described in the right-hand release device, is that the release-bar may be therefore more smoothly and easily thrown forward against the action of its retracting spring, because of the fact that the lever arm which directly engages the release-bar, acts thereon in an 10 oblique direction and substantially in the direction of movement of the release-bar.

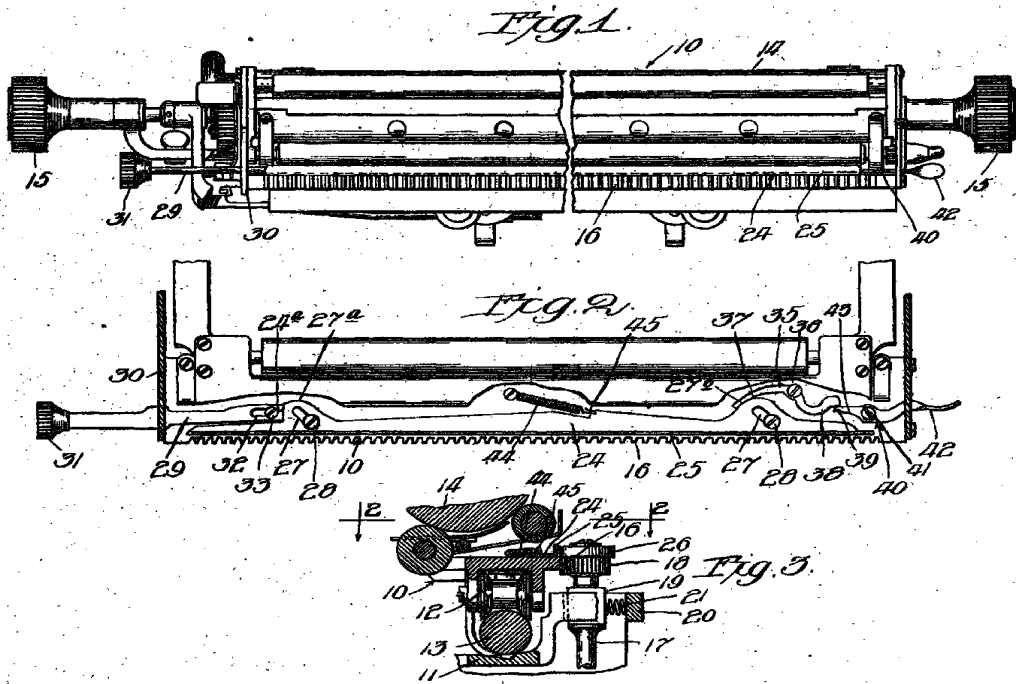
Having now particularly described and ascertained the nature of my said invention, and in what manner the same is to be performed, I declare that what I claim is:— 15

1. For use in a typewriter machine a carriage release device having the release bar moved obliquely forward upon said carriage by lever means comprising two levers pivotally mounted upon the carriage in operative connection with each other, an arm of one of said levers engaging the rear margin of the release bar and an arm of the other of said levers extending outwardly from 20 the end of the carriage adjacent the platen-turning knob at that end of the carriage, substantially as described.

2. A carriage release device for typewriter machines substantially as and for the purpose described with reference to the accompanying drawings.

Dated this 21st day of August, 1914.

MARKS & CLERK. 25



[This Drawing is a full-size reproduction of the Original.]



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