

No. 763,514.

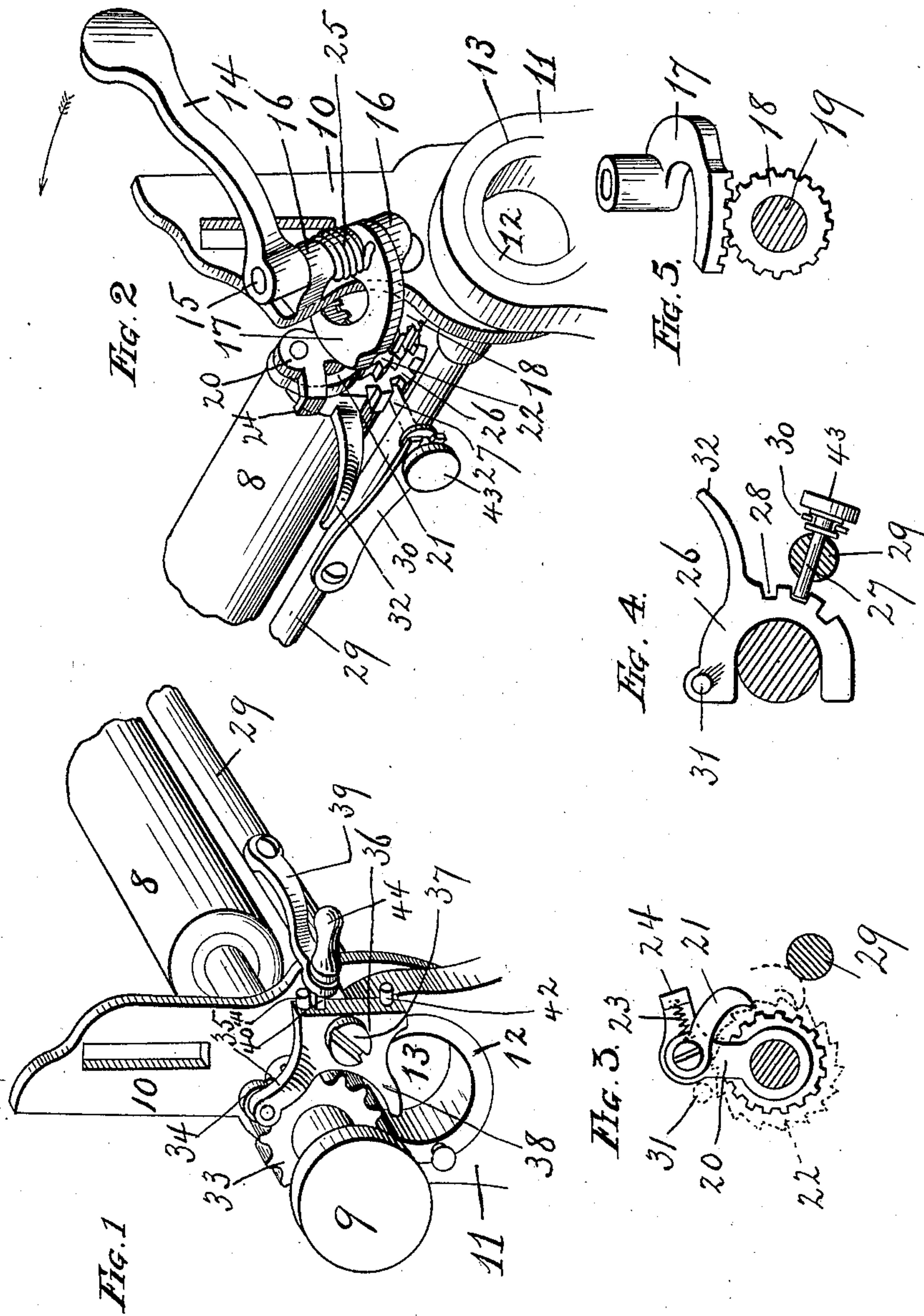
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S. J. SEIFRIED.

PAPER FEED ROLL MECHANISM.

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NO MODEL.



WITNESSES:  
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# UNITED STATES PATENT OFFICE.

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## PAPER-FEED-ROLL MECHANISM.

SPECIFICATION forming part of Letters Patent No. 763,514, dated June 28, 1904.

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*To all whom it may concern.*

Be it known that I, SAMUEL J. SEIFRIED, a citizen of the United States, residing in Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Paper-Feed-Roll Mechanism, of which the following is a specification.

This invention relates to the paper-feed-roll mechanism of type-writers; and its object is to provide a construction which is simple, durable, accurate, and little likely to get out of order.

The invention will be fully understood from the accompanying drawings when considered in connection with the description given below.

In said drawings, Figures 1 and 2 are perspective views of the opposite ends of the paper-feed roll, showing my improvements applied thereto. Figs. 3, 4, and 5 are detail sections of portions of the mechanism.

In said drawings, 8 represents the paper-feed roll of a type-writer receiving step-by-step rotating movements in the ordinary use of the writer, and 9 is the knob projecting from its end whereby it is turned at will when putting in the paper or when adjusting it. The pieces 10 10 are the end frames or vertical portions of the tipping parts of the paper-carriage and supporting the journals of the paper-feed roll, and said end frames are themselves pivotally supported from risers 11 11 upon the main part of the carriage by means of the rotatable bushings 12 12 lining the circular openings 13 13 in the risers.

The feeding movements are imparted to the feed-roll by the hand-lever 14 on the vertical shaft 15, supported from one of the end frames 10 in bearings 16 16 and swinging in the direction of the arrow. Secured rigidly to the shaft 15 is a curved horizontal arm 17, having a rack formed on the under surface of its free end, and this rack meshes with a pinion 18, loosely mounted on the shaft 19 of the feed-roll. Adjacent to pinion 18 is an arm 20, also loosely encircling shaft 19 and in one piece with or otherwise made fast to and always moving with pinion 18. The arm 20 carries

a pawl 21, which engages the ratchet-wheel 22, fast on the shaft 19, and is thus adapted to turn the feed-roll in feeding the paper upward. The hand-lever at each actuation imparts a limited rotation to pinion 18, and this through the mechanism described causes a similar movement by the feed-roll. The pawl is pressed down on the ratchet by a spring 23, inserted between the pawl and the overhanging projection 24 on arm 20. As will be understood, the pawl rides freely over the ratchet when returning to its normal position and also allows the feed-roll to be turned backward at any time. The hand-lever shaft is encircled by a spring 25, adapted to return it and with it the pinion and pawl-arm to their normal positions after each operation. The extent to which the feed-roller shall be moved at each actuation by the hand-lever is controlled by means of a device which may be suitably termed a "regulator" and is shown in detail at 26 in Fig. 4. It partially encircles the shaft 19 in proximity to the ratchet and is held upon the shaft by a pin 27 entering one of the notches 28 on its outer surface, the pin being supported in a stationary bar 29, secured at its ends in the end frames 10 and the pin being held in acting engagement with the regulator by a spring 30, attached to said bar 29. The regulator also carries a laterally-projecting stop 31, which sets behind the arm 20, as shown at Fig. 3, and limits the backward movement of the arm, while the bar 29 limits the forward movement by its contact with the pawl, as also seen at Fig. 3. It will thus be noted that by adjusting the regulator around the shaft the stop 31 will shorten or lengthen the stroke of the pawl, according to the position given the stop by the adjustment, and that the adjustment is effected by inserting the pin 27 in the proper one of the notches 28, the first notch allowing the pawl to move the feed-roll a single line-space, the second notch allowing movement through two line-spaces, and the third notch through three line-spaces. The regulator is also provided with a handle 32 to assist in the adjustment. At the other end of the feed-roll and upon its shaft is located the



notched wheel 33, each notch in which equals a single line-space and is entered by a dolly-roll 34 on one arm 35 of a rocking block 36, pivoted at 37 on the end frame 10. This block is also  
 5 provided with another arm 38, which is curved nearly concentrically with the wheel 33 and adapted when forced against the wheel to bear on the crowns of several of the divisions between the notches and to act as a brake thereon.  
 10 The block has two positions, in one of which the dolly enters the notches, and thereby renders the feed movements very regular as to the extent of rotation, and in the other position the arm 38 bears on the wheel as a brake,  
 15 but does not regulate or divide the movement into spaces. The block is shown in the former position in the drawings and is held in that position by the spring 39, pivoted to bar 29 and carrying a stud 40 at its free end bearing  
 20 on the edge of the block and movable thereon between the stops 41 and 42. By simply moving the spring 39 from one of said stops to the other the block will be swung so as to carry the dolly out of service and bring  
 25 the brake into action, or vice versa.

The pin 27 is preferably provided with a head 43 and the spring 39 with a handle 44.

I claim—

1. The paper-feed roll provided with a step-  
 30 by-step actuating mechanism consisting of a hand-lever, a curved rack on the same shaft with the lever, a pinion loose on the roll-shaft and actuated by the rack, a pawl and its support attached to the pinion, and a ratchet fast  
 35 to the roll and actuated by the pawl, substantially as specified.

2. The paper-feed roll provided with step-by-step actuating mechanism consisting of a hand-lever mounted on a vertical shaft, a hori-

zontal curved rack-piece rigid on the lever- 40 shaft, a pinion loose on the shaft of the roll and meshing with the rack, a pawl and support therefor moving with the pinion, and a ratchet fast to the roll and receiving actua- 45 tions in one direction from the pawl, substantially as specified.

3. The combination with the feed-roll and its actuating mechanism, of line-space-regulating devices consisting of the notched ad- 50 justable regulator partially encircling the roll-shaft and controlling the throw of the roll-actuating devices, pin 27 entering the notches of the regulator and thereby determining the action of the latter, and the rod 29 supporting the pin and also limiting the movement of the 55 pawl, substantially as specified.

4. The combination with the feed-roll and its actuating mechanism, of line-space-regulating devices consisting of the notched ad- 60 justable regulator mounted on the roll-shaft and provided with a stop whereby it limits the throw of the feeding mechanism in one direction, a rod 29 limiting the throw in the other direction, and means whereby the rod determines the position of the regulator, sub- 65 stantially as specified.

5. The combination with the paper-feed roll and its actuating mechanism, of regulating mechanism governing the width of the lines and embracing a pin 27, and brake mechanism 70 embracing a spring 39, and a stationary bar 29 supporting both the pin and the spring, substantially as specified.

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Witnesses:

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