No. 819,008. PATENTED APR. 24, 1906

E. FAHL.

CARRIAGE FEED MECHANISM FOR TYPE WRITING MACHINES.

APPLICATION FILED OCT. 5, 1904.

Fig. 1.

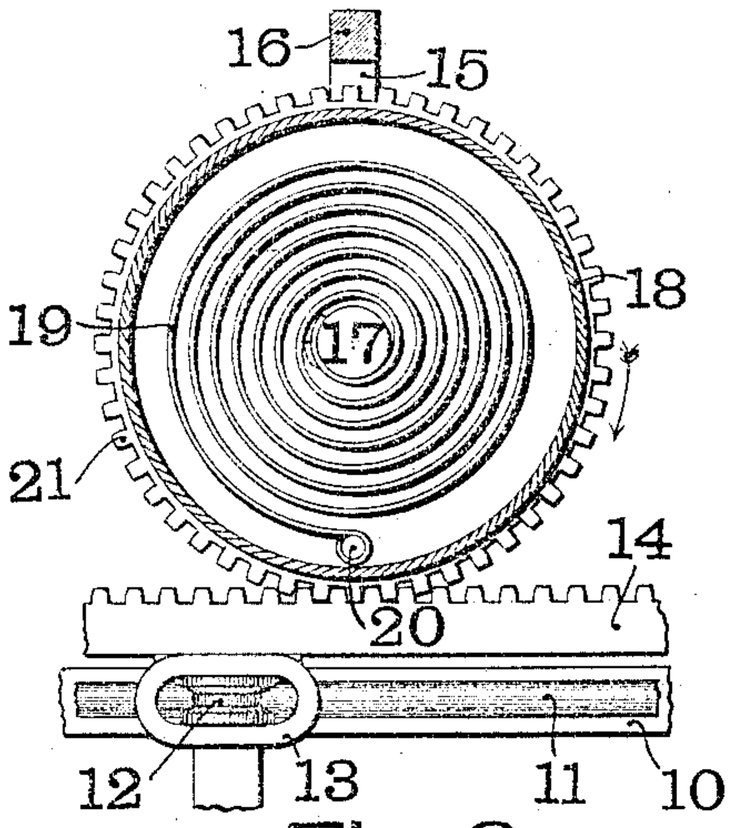


Fig. 2.

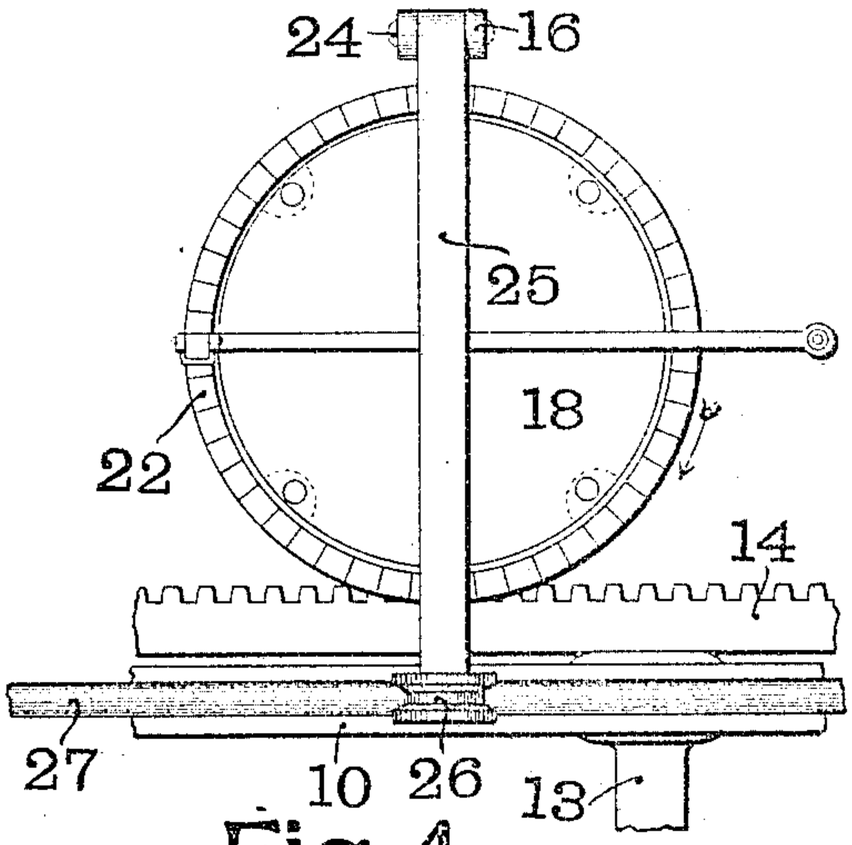
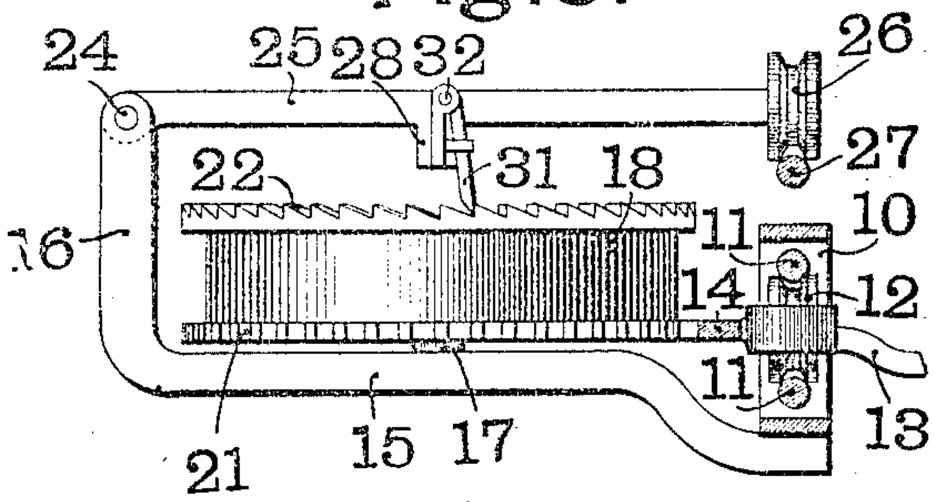


Fig. 3.

Fig. 4.



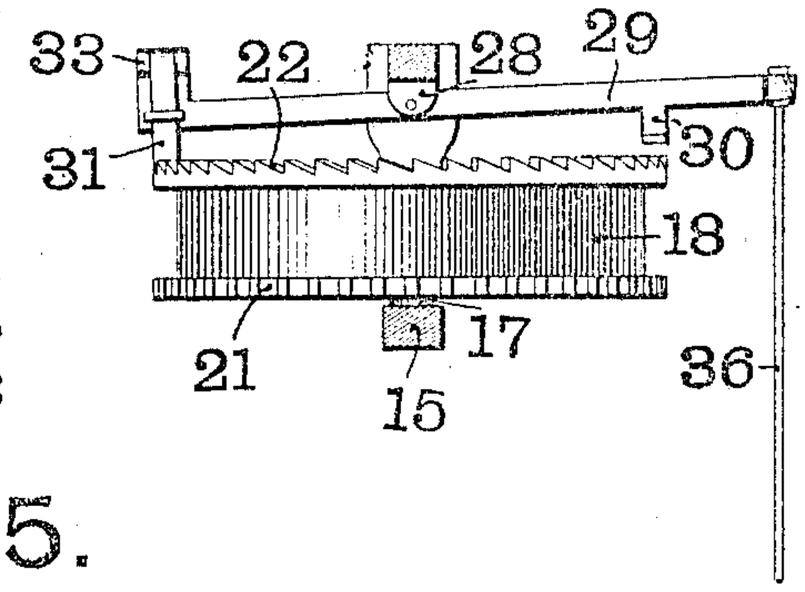
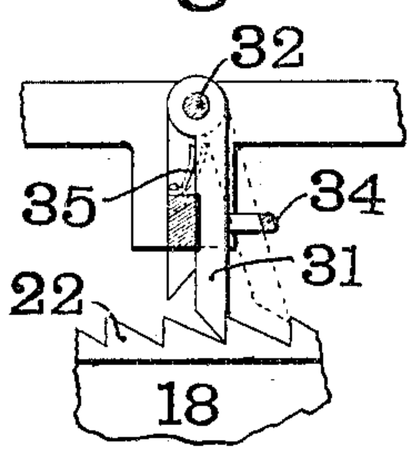


Fig. 5.



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EUGENE FAHL, OF ST. LOUIS, MISSOURI, ASSIGNOR OF ONE-FOURTH TO LEONARD MATTHEWS, OF ST. LOUIS, MISSOURI.

CARRIAGE-FEED MECHANISM FOR TYPE-WRITING MACHINES.

No. 819,008. Specification of Letters Patent. Patented April 24, 1906.

Application filed October 5, 1904. Serial No. 227,195.

To all whom it may concern:

Be it known that I, EUGENE FAHL, a citizen of the United States, residing at the city of St. Louis, State of Missouri, have invented a certain new and useful Carriage-Feed Mechanism for Type-Writing Machines, of which the following is such a full, clear, and exact description as will enable any one skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

The object of my invention is to provide a carriage-feed mechanism for type-writing machines or the like which will be simple in construction, compact, and reliable in operation. I accomplish these objects by combining the spring-barrel and the escape mechanism so as to form practically one device.

In the accompanying drawings, which illustrate a feed mechanism made in accordance with my invention, together with a portion of the carriage of a type-writing machine, to which the same is applied, Figure 1 is a horizontal section. Fig. 2, is a top plan view. Fig. 3 is a side elevation. Fig. 4 is an end view; and Fig. 5 is an enlarged view, partly in section, showing a detail of construction.

Like marks of reference refer to similar parts in the several views of the drawings.

10 represents a portion of the frame of a type-writing machine. Carried by the frame 10 are two guide-rods 11. Between these guide-rods 11 are situated the rear guide-wheels 12 of the carriage 13. Secured to the carriage 13 is a rack-bar 14. These parts may all be of the usual construction.

Extending rearwardly from the frame 10 is a bracket 15, having an upward extension 16. Carried by the bracket 15 about midway of its length is a pin 17, on which is rotatively mounted the spring-barrel 18. Contained within the spring-barrel 18 is the spring 19, which is secured at one end to the pin 17 and at the other to the spring-barrel 18 by means of a pin 20, so that it will tend to rotate the barrel in the direction of the arrows in Figs. 1 and 2. The spring-barrel 18 is provided at or near its lower edge with spur-teeth 21, which mesh with the teeth of the rack-bar 14, so that when the spring-barrel is rotated in the direction indicated by the arrows in Figs. 1 and 2 the carriage will be fed toward the left-hand end of the machine. The spring-barrel 18 is also provided on its upper face with ratchet-teeth 22. These ratchet-teeth 22 are so spaced that when the spring-barrel 18 is allowed to move forward the distance of one tooth the carriage 13 will be fed toward the left a distance equal to the width of one letter. Pivoted to the upper bifurcated end of the upright 16 by means of a pin 24 is an arm 25. The forward end of this arm 25 is provided with a roller 26, which runs on a bar 27. This bar 27 is connected in any suitable manner with the usual release-key of the machine. The pivoted arm 25 is provided with lugs 28, between which is pivoted a rocking bar 29. This rocking bar 29 is provided with two pawls 30 and 31, respectively. The pawl 30 is fixed with respect to the rocking bar and is preferably formed integral therewith. The pawl 31, however, is movable with respect to the rocking bar, being pivoted, by means of a pin 32, between upwardly-extending lugs 33, carried by the said rocking bar. A guard 34 limits the movement of the pawl 31, and said pawl is normally moved toward the guard 34 by means of a spring 35, Fig. 5. The end of the rocking lever 29 adjacent to the pawl 30 is connected, by means of a rod 36, with the usual universal bar, so as to be actuated by the key-bars or spacing-key of the type-writing mechanism.

The operation of my device will be apparent. Whenever the rod 36 is drawn downward by the operation of the keys of the machine or the spacing-bar, the lever 29 will be rocked on its pivot, so as to withdraw the pawl 31 from the teeth 22 and at the same time to bring the pawl 30 into engagement with the said teeth. The parts are so arranged that the pawl 30 will enter well into engagement with the teeth 22 before the pawl 31 is disengaged therefrom, and consequently no movement of the spring-barrel will take place during the downward movement of the rod 36. When, however, the key or spacing bar is released, the rod 36 will move upwardly and swing the rocking lever back into its first position. As soon, however, as the rocking lever has been moved to withdraw the pawl 31 from the teeth 22 this pawl will assume the position shown in dotted lines in Fig. 5, owing to the action of the spring 35, and when the bar 29 is rocked back

into its first position the pawl 30 will be withdrawn from the teeth 22 and the spring-barrel will move under the influence of the spring 19, so as to move the pawl from the position shown in dotted lines in Fig. 5 to that shown in full lines, thus allowing the spring-barrel to rotate the distance of one tooth, which, as previously described, will feed the carriage one space toward the left. The carriage is released, as has been hereinbefore described, by raising the bar 27. This swings the arm 25 on its pivot and raises the escapement mechanism completely out of engagement with the teeth 22, so that the spring-barrel 18 is free to rotate in either direction.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a feed mechanism for type-writers, the combination with a carriage, of a rack on said carriage, a rotary toothed member meshing with said rack, ratchet-teeth on the face of said rotary member, an arm pivoted to swing toward and away from said rotary member to release the feed, connections for actuating said arm, a rocking bar pivoted to said arm, a pair of dogs carried by said rocking bar and coöperating with said ratchet-teeth to feed the carriage longitudinally for letter-spacing, one of said dogs having movement relative to said rocking bar, and connections for operating said rocking bar.

2. In a feed mechanism for type-writers, the combination with a carriage, of a rack on said carriage, a rotary toothed member meshing with said rack, ratchet-teeth on the face of said rotary member, an arm pivoted to swing toward and away from said rotary member to release the feed, connections for actuating said arm, a rocking bar pivoted to said arm substantially at right angles thereto, a pair of dogs carried by said rocking bar and coöperating with said ratchet-teeth to feed said carriage longitudinally for letter-spacing, one of said dogs having movement relative to said rocking bar, and connections for operating said rocking bar.

3. In a feed mechanism for type-writers, the combination with a carriage, of a rack on said carriage, a rotary toothed member meshing with said rack, ratchet-teeth on the face of said rotary member, an arm pivoted to swing toward and away from said rotary member to release the feed, a movable member with which said arm makes running contact, a rocking bar pivoted to said arm, a pair of dogs carried by said rocking bar and coöperating with said ratchet-teeth to feed said carriage longitudinally for letter-spacing, one of said dogs having movement relative to said rocking bar, and connections for operating said rocking bar.

4. In a feed mechanism for type-writers, the combination with a carriage, of a rack on said carriage, a rotary toothed member meshing with said rack, ratchet-teeth on the face of said rotary member, an arm pivoted to swing toward and away from said rotary member to release the feed, a movable member with which said arm makes running contact, a rocking bar pivoted to said arm substantially at right angles thereto, a pair of dogs carried by said rocking bar and coöperating with said ratchet-teeth to feed said carriage longitudinally for letter-spacing, one of said dogs having movement relative to said rocking bar, and connections for operating said rocking bar.

In testimony whereof I have hereunto set my hand and affixed my seal in the presence of the two subscribing witnesses.

EUGENE FAHL. [L. S.]

Witnesses:

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JAMES H. BRYSON.