F. ALEXANDER.

ESCAPEMENT FOR TYPE WRITER CARRIAGES.

APPLICATION FILED JUNE 8, 1909.

950,800. Patented Mar. 1, 1910.

Fig. 1.

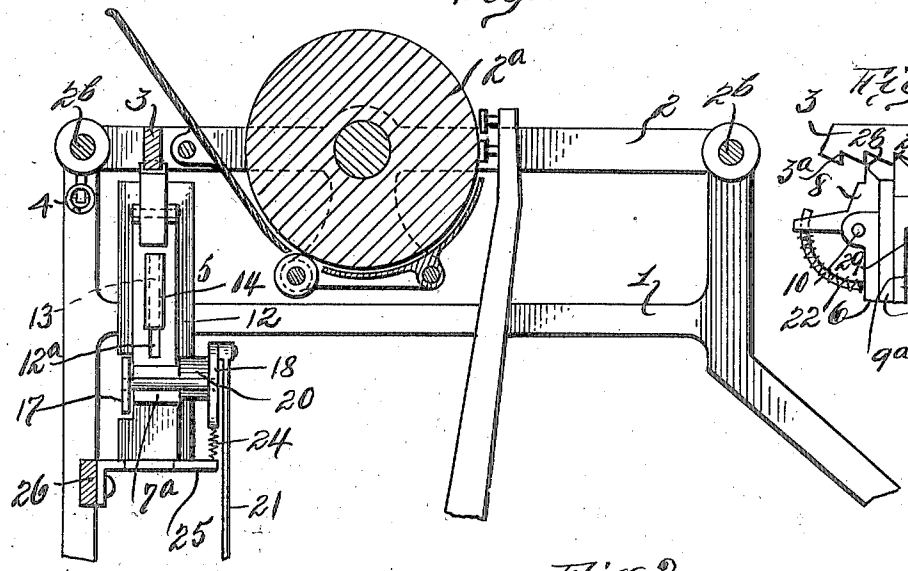


Fig. 4.

Fig. 2.

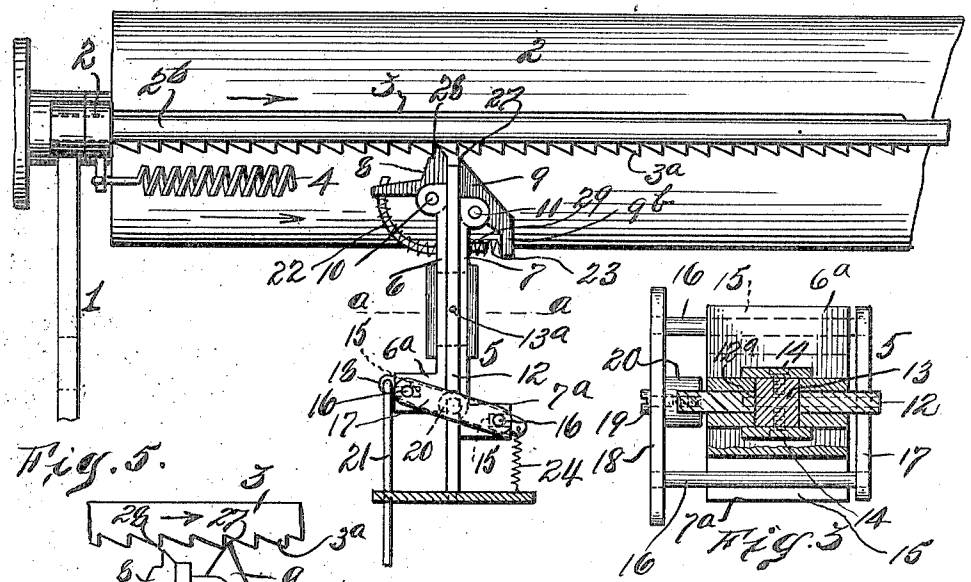
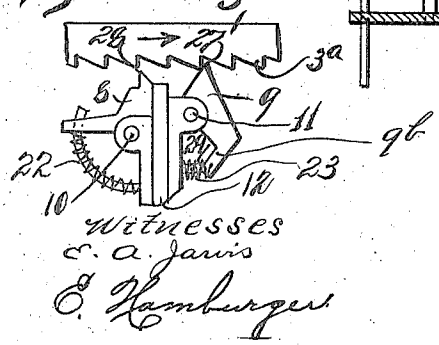


Fig. 5.



Witnesses
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UNITED STATES PATENT OFFICE.

FREDERICK ALEXANDER, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF TO WILLIAM F. LASKOWSKI, JR., OF WEST HOBOKEN, NEW JERSEY.

ESCAPEMENT FOR TYPE-WRITER CARRIAGES.

950,800. Specification of Letters Patent. Patented Mar. 1, 1910.

Original application filed March 29, 1909, Serial No. 486,421. Divided and this application filed June 8, 1909. Serial No. 500,668.

To all whom it may concern:

Be it known that I, FREDERICK ALEXANDER, a citizen of the United States, residing at New York city, borough of Brooklyn, Kings county, New York, have invented certain new and useful Improvements in Escapements for Type-Writer Carriages, of which the following is a clear, full, and exact description.

This invention relates to an escapement for typewriting machine carriages, the object being to provide an escapement which is adapted for usage in connection with a single rack, the said rack being, as is usual, carried by the said carriage.

With the usual form of rack, the carriage is very apt to skip or jump a tooth or teeth owing to the fact that the carriage moving mechanism operates too quickly for the form of escapement used on all the standard machines.

The object of my invention is to produce an escapement so constructed as to prevent the above mentioned skipping or jumping.

I will now proceed to describe my invention and finally claim the novel features thereof, reference being had to the accompanying drawing forming part hereof, wherein:

Figure 1 is a cross-sectional view of an arbitrary form of typewriter frame and movable carriage thereon, showing my improved escapement in position; Fig. 2 is a fragmentary rear view thereof, certain parts being omitted and the escapement support shown in section; Fig. 3 is an enlarged sectional plan view of the escapement, the section being taken on a line *a*—*a* in Fig. 2; and Figs. 4 and 5 are diagrammatic views of different positions of the dogs of the escapement.

The escapement which I am about to describe is not limited to any particular make or design of typewriting machine.

Referring to Fig. 1, the numeral 1 indicates the frame of a typewriting machine which is provided with a transversely movable carriage 2, the said carriage being provided with a platen 2^a. The carriage 2 travels upon the rods 2^b held by the frame 1. In this instance the carriage 2 is provided with a rack 3 provided with a single row of teeth 3^a. A spring 4, a portion of which is only shown, acts to move the carriage 2 in the direction of the arrow whenever the escapement is actuated by the depression of a key-lever, as is usual.

Adjacent the rack 3, I place my improved escapement 5 which comprises the vertically movable slides 6 and 7, having pivotally secured thereto latches 8 and 9 respectively, the said latches being pivotally secured to said slides as at 10 and 11. The slides 6 and 7 are slidably mounted on a support 12 having an opening 12^a therein, within which a block 13 is inserted and held within said slot by a pin 13^a, the holding means for said block comprising plates 14 which overlap the slides 6 and 7, thereby also holding the said slides against the support 12, but permitting the same to move vertically. (See Fig. 3). In order to impart to the said slides an alternate up and down movement, I provide the slides 6 and 7 with blocks 6^a and 7^a respectively, in which slots 15 are cut. To operate the slides, I provide rods 16, which are inserted within the said slots, the said rods being attached to a connecting bar 17 at one end thereof and to a lever 18 at the other end thereof, the lever 18 being pivoted, by a machine screw 19, to a block 20 on the support 12, as shown in Fig. 3. The lever 17 at one end thereof has attached thereto an operating rod 21 which extends downwardly to a bar under the key-levers in the usual manner. The latches 8 and 9 are returned, after each operation thereof, by springs 22 and 23 respectively, while the lever 18 is returned after each operation by a spring 24. The support 12 is attached to a bracket 25, in this instance, which is secured to the bar 26 of the frame, as shown.

Figs. 1 and 2 illustrate the escapement in its normal position with the latch 8 in engagement with the teeth of the rack, the tension of the spring 4 keeping the rack against the support 12. When the latch 8 is in engagement with the teeth of the rack the point 27 of the latch 9 will just clear the teeth 3^a as shown.

When a key-lever is pressed downwardly the rod 21 will consequently be pulled downwardly thereby rotating the lever 18 in a direction which will cause the slide 6 to descend and the slide 7 to rise; this action will be quite obvious by referring to Fig. 2.

As the latch 8 descends the latch 9 will

move upwardly ahead of its adjacent tooth, as shown in Fig. 4. As the depth of the teeth of the rack is considerably greater than the distance between the points of said teeth and the point 27 of the latch 9, it is quite obvious that the said point 27 will pass upwardly and ahead of its adjacent rack tooth before the point 28 of the latch 8 leaves its engaged tooth. Consequently the carriage will not shift until the point 28 of the latch 8 leaves the rack. Fig. 3 illustrates this point.

When the latches have changed positions (as in Fig. 3) the spring 4 will move the carriage until the heel 9^b of the latch 9 contacts the stop 29; the distance between the heel 9^b and stop 29 is designed to allow the carriage to move one tooth which brings the latch 9 to the position shown in Fig. 5. When the key is released the spring 24 will pull the lever 18 downwardly, thereby drawing the latch 9 away from its engaged tooth, and allowing the latch 8 to engage its adjacent tooth; the latch will again be in the position shown in Fig. 1. During the movement of the carriage to the left, or during its movement for writing, the latch 9 is the only latch which swings. When the carriage is pushed back for a new line the latch 8 will knock down.

From the foregoing description it is quite obvious that the carriage cannot skip, as there is always one latch in engagement with the rack.

The above described device is a division of an application for patent for typewriting machines filed by me March 29, 1909, Serial No. 486,421.

Having now described my invention what I claim and desire to secure by Letters Patent is:—

1. In a typewriting machine, a frame, a carriage adapted for movement on said frame, means adapted to move said carriage, an escapement adapted to permit said carriage to move step by step, consisting of a plurality of vertically movable slides, pivotal latches carried by said slides, a rack carried by said carriage adapted to engage said latches, one of said latches being normally in engagement with said rack, and means adapted to cause said latches to alternately engage said rack.

2. In a typewriting machine, a frame, a carriage adapted for movement on said frame, a rack carried by said carriage, means adapted to move said carriage, an escapement adapted to permit said carriage to move step by step, consisting of a plurality of vertically movable slides, pivotal latches carried by said slides adapted to swing in opposite directions, said latches being positioned relatively to the teeth of said rack in such a manner as to permit of the engagement of either of said latches with said rack before the other of said latches leaves its engaged rack tooth, and means adapted to alternately operate said slides.

3. In a typewriting machine, a frame, a carriage adapted for movement on said frame, means adapted to move said carriage, a rack carried by said carriage, an escapement adapted to permit said carriage to move step by step, said escapement comprising a support, a plurality of vertically movable slides carried by said support, latches pivotally mounted at the upper end of said slides and adapted for movement in opposite directions, one of said latches being provided with a heel adapted to contact with a stop on the latch to which it is attached, the other of said latches being normally engaged with said rack, and means adapted to move said slides in opposite directions.

4. In a typewriting machine, a frame, a carriage adapted for movement on said frame, means adapted to move said carriage, a rack carried by said carriage, an escapement adapted to permit said carriage to move step by step, said escapement comprising a support, a plurality of vertically movable slides carried by said support, spring-opposed latches pivotally secured to the upper end of said slides and adapted for movement in opposite directions, one of said latches being normally engaged with said rack, means adapted to move said slides in opposite directions, the other of said latches being adapted to engage the teeth of said rack simultaneously with the withdrawal of the latch first named, and means carried by the latch last named adapted to limit the movement of the carriage.

Signed at New York city, N. Y., on this 7th day of June 1909.

FREDERICK ALEXANDER.

Witnesses:
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