C. B. CORCORAN.

TYPE WRITING MACHINE.

APPLICATION FILED MAY 31, 1912.

1,067,318. Patented July 15, 1913.

FIG. 1.

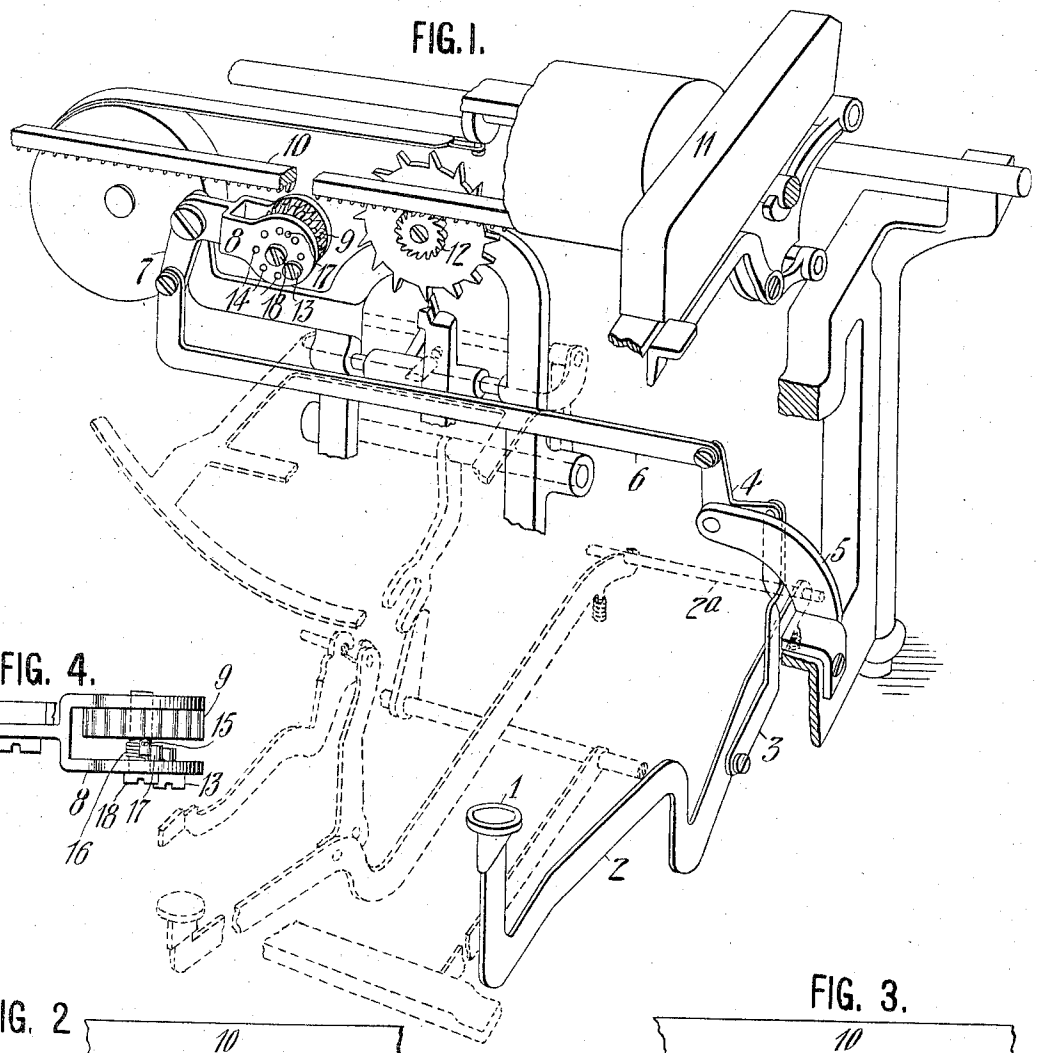


FIG. 4.

FIG. 2

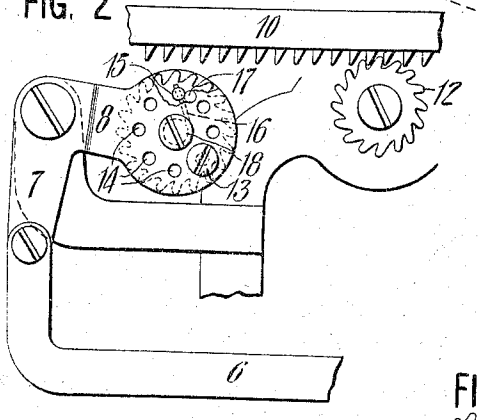


FIG. 3.

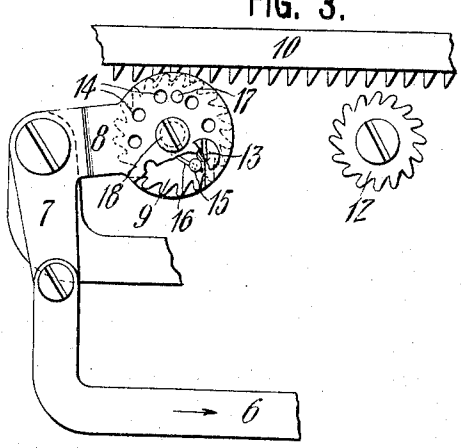


FIG. 5.



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CORNELIUS B. CORCORAN, OF NEW YORK, N. Y., ASSIGNOR TO UNDERWOOD TYPE-WRITER COMPANY, OF NEW YORK, N. Y., A CORPORATION OF DELAWARE.

TYPE-WRITING MACHINE.

1,067,318. Specification of Letters Patent. Patented July 15, 1913.

Application filed May 31, 1912. Serial No. 700,643.

To all whom it may concern:

Be it known that I, CORNELIUS B. CORCORAN, a citizen of the United States, residing in borough of Bronx, city of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a specification.

This invention relates to letter-spacing mechanism of typewriting machines, whereby the carriage may be advanced more than one space at a time.

At the end of a sentence it is customary to leave two or three and sometimes even four or five letter-spaces, before beginning the next sentence. In the usual type of machine, the operator has to depress the space-key a corresponding number of times.

The object of the present invention is to provide means whereby a single depression of a key will cause the carriage to advance a predetermined plurality of letter-spaces independent, except as limited by the range of the carriage travel, of the position of the carriage at the time when the key is depressed.

A key, which is independent of the printing mechanism and may for convenience be called a multiple-space or carriage-jumping key, is provided upon the keyboard, which key is connected so as to raise a pinion mounted upon an arm into mesh with the feed rack of the carriage, so as to lift the same off from the escapement pinion. The carriage thus freed is advanced by its impelling spring until the pinion, which may be termed the multiple-space pinion, is arrested by an adjustable stop mounted upon the arm. The key is then released, whereupon the feed rack reëngages the escapement pinion and the multiple-space pinion is returned to its original position by a spring. By adjusting the stop upon the arm to the proper position, the carriage may be caused to advance any desired number of spaces.

In the accompanying drawings, Figure 1 is a fragmentary perspective view of an Underwood writing machine with the present invention applied thereto. Fig. 2 is a fragmentary detail view illustrating the position of the multiple-space pinion when out of engagement with the feed rack. Fig. 3 is a view similar to Fig. 2, illustrating the multiple-space pinion in engagement with the feed rack, the latter having been lifted off from the escapement pinion and advanced several spaces. Fig. 4 is a plan showing in detail the pinion mounted in the forked arm of a lever which is connected to the multiple-space key. Fig. 5 is a perspective detail view of the pinion and its returning spring.

The multiple-space key 1 is mounted on a bar 2 which may be fulcrumed on fulcrum rod 2ª together with the other key bars of the machine. A link 3 extends from the bar 2 to one arm of a bell-crank 4 fulcrumed upon a suitable bracket 5, attached to the framework. A link 6 extends from the opposite arm of the bell-crank to another bell-crank 7 having a forked arm 8 in which is mounted a pinion 9, which is adapted to be brought into engagement with the feed rack 10 of the carriage 11 to lift the same off from the pinion 12 of the escapement mechanism. When the key 1 is depressed and, through the connections above described, the carriage is lifted free from the escapement pinion, the impelling spring of the carriage advances the latter a number of spaces as determined by the extent of rotation of the multiple-space pinion 9.

The extent of rotation of the pinion 9 is determined by an adjustable stop 13 consisting of a screw which may be inserted in one of a number of apertures 14 formed in one prong of the forked arm 8. This stop is contacted by a coöperating projection or stop 15 secured to the pinion 9. A spring 16 normally maintains the pinion in retracted position, holding the projection 15 in engagement with a fixed stop 17 secured to the forked arm. One end of this spring may be conveniently attached to the projection 15 and the other to the stationary screw or pin 18 upon which the pinion rotates.

The apertures 14 may be positioned so as to correspond to letter spaces of the carriage. Thus, if the stop is placed in the first aperture, the depression of the multiple space key will cause the carriage to

feed forward two spaces; if the stop is placed in the second aperture the carriage will feed or jump forward three spaces, and so on. The position of these apertures may also so be chosen that, when the multiple-space key is released after the carriage has been fed forward, the feed rack will be in proper position to mesh with the teeth of the escapement pinion.

Variations may be resorted to within the scope of the invention, and portions of the improvements may be used without others.

Having thus described my invention, I claim:

1. In a typewriting machine, a carriage, a feed rack connected thereto, escapement mechanism, a pinion movable into engagement with the rack to lift the same off from the escapement mechanism, and a stop mounted adjacent to said pinion to limit the rotary movement thereof; said stop adjustable to vary the number of letter-spaces through which the carriage jumps.

2. In a typewriting machine, a carriage, a feed rack connected thereto, escapement mechanism, a pinion movable into engagement with the rack to lift the same off from the escapement mechanism, two stops mounted adjacent the pinion, a projection on the pinion adapted to engage either of said stops, and a spring holding the projection against one of said stops; said stops being relatively adjustable.

3. In a typewriting machine, a carriage, a feed rack connected thereto, escapement mechanism, a pinion movable into engagement with the rack to lift the same off from the escapement mechanism, a fixed stop and an adjustable stop mounted adjacent the pinion, a projection on the pinion adapted to engage either of said stops, and a spring adapted to hold the projection against one of said stops.

4. In a typewriting machine, a carriage, a feed rack connected thereto, escapement mechanism, an arm mounted adjacent to the rack, a pinion mounted on the arm, a plurality of apertures in said arm, a stop pin adjustable in any of the apertures, a projection on the pinion adapted to engage the stop to limit the rotary movement of the pinion, and means for actuating the arm so as to bring the pinion into engagement with the rack to lift the same free from the escapement mechanism.

5. In a typewriting machine, a carriage, a feed rack connected thereto, escapement mechanism, an arm mounted adjacent to the rack, a pinion mounted on the arm, a plurality of apertures in said arm, a stop pin adjustable in any of the apertures, a projection on the pinion adapted to engage the stop to limit the rotary movement of the pinion, means for actuating the arm so as to bring the pinion into engagement with the rack to lift the same free from the escapement mechanism, and a spring for returning the pinion after being rotated by the rack.

6. In a typewriting machine, a carriage, a feed rack, escapement mechanism, a forked bell crank mounted adjacent the rack, a pinion mounted on the bell crank, a projection formed on the pinion, a fixed stop and an adjustable stop on the bell crank adapted to be engaged by said projection, a spring for holding said projection against one of said stops, a link connected to said bell crank, and a key mounted on the keyboard connected to said link.

7. In a typewriting machine, a carriage, a feed rack, escapement mechanism, a forked bell crank mounted adjacent the rack, a pinion mounted on the bell crank, a projection formed on the pinion, a fixed stop and an adjustable stop on the bell crank adapted to be engaged by said projection, a spring for holding said projection against the fixed stop, a link connected to said bell crank, and a key mounted on the keyboard connected to said link.

8. In a typewriting machine, a carriage, letter-feeding mechanism therefor, and means for releasing the carriage from the letter-feeding mechanism and jumping the carriage forward a uniform number of spaces with one stroke of an operating element from substantially any position of the carriage in its travel, said means including a part adjustable to determine the number of letter-spaces jumped by the carriage.

9. In a typewriting machine, a carriage, a feed rack connected thereto, escapement mechanism including a pinion, means for lifting the rack off from the pinion, a key for operating said lifting means, an adjustable stop brought into use by said key for arresting the carriage after jumping a uniform number of spaces from substantially any position of the carriage, and adjustable means for varying the number of spaces to be jumped at the operation of said key.

10. In a typewriting machine, a carriage, a feed rack connected thereto, escapement mechanism including a pinion, means for lifting the rack off from the pinion, a second pinion, and an adjustable stop for coöperating with the second pinion to arrest the carriage after jumping a variable number of spaces from substantially any position of the carriage.

11. The combination of a power-driven carriage, a device movable by said carriage but normally disconnected therefrom, a carriage-jumping key independent of the printing devices and connected to said movable device to connect it to the carriage, means adjustable to determine the number of letter-spaces said movable device shall be moved by said carriage, and a letter-feeding mechanism releasable by said key.

12. The combination of a power-driven carriage having a rack, a pinion normally disengaged from said rack, a carriage-jumping key independent of the printing devices and connected to said pinion to engage it with said rack to arrest the carriage, said carriage having a letter-feeding mechanism releasable by said key, and means adjustable to determine the number of letter-spaces jumped by the carriage while driving said pinion.

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Witnesses:
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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."