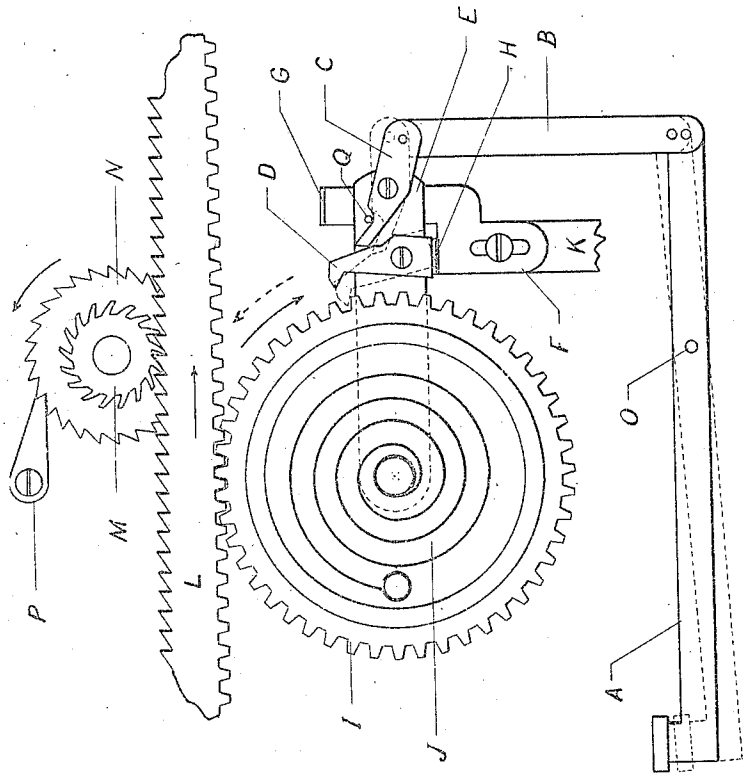
H. RAYMOND.

BACK SPACING MECHANISM FOR TYPE WRITERS.

APPLICATION FILED DEC. 18, 1909.

957,376. Patented May 10, 1910.



WITNESSES

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BACK-SPACING MECHANISM FOR TYPE-WRITERS.

957,376. Specification of Letters Patent. Patented May 10, 1910.

Application filed December 18, 1909. Serial No. 533,956.

To all whom it may concern:

Be it known that I, HARRY RAYMOND, a citizen of the United States, residing at Syracuse, in the county of Onondaga, in the State of New York, have invented new and useful Improvements in Back-Spacing Mechanisms for Type-Writers, of which the following is a clear and accurate specification, with reference to the accompanying drawing.

The invention consists of means for shifting the carriage of a typewriter one letter space in the direction contrary to that employed in writing and positively preventing its being carried by inertia more than one space.

The drawing shows in full lines the mechanism at rest. The dotted lines show the relative position of the members after the operating key has been partially depressed. The positive lock is clearly illustrated in the dotted position.

The back spacer is shown attached to the driving gear on a gear driven carriage machine. It might with equal facility, however, be applied directly to the carriage or other moving part.

Letter L represents the carriage rack.

I is the carriage driving gear containing the carriage driving spring J tending to move the parts in the direction indicated by the solid arrows.

The parts M, N and P constitute a mechanism for normally preventing the spring from moving the carriage but leaving the carriage free to be moved against the pressure of the spring by external means.

The arm E is freely pivoted concentric with the gear I. The engaging dog D and the actuating and locking dog C are mounted on arm E so that they freely swing on their respective centers.

A is an actuating lever pivoted at some point O to the frame of the typewriter.

B is a connecting rod transmitting the motion of A to C.

F is a bracket adjustably mounted on the frame having an upper stop G which limits the upward swing of the arm E. H is a lower stop on the same bracket against which the lower portion of the engaging dog D strikes limiting the downward motion of the arm E. The dog D and the stop H are so shaped relatively that when D comes down against H the upper end of D is completely withdrawn from the teeth with which it engages.

When the key A is depressed the parts first assume the dotted positions. The dog C sliding along an oblique portion of dog D swings D between the teeth of the gear and positively prevents its withdrawal before the lever A is raised. Further depression of the lever A causes the arm E with all its attached parts to swing upwardly until it strikes the stop G. The pawl P will now engage with a tooth removed from the tooth it formerly engaged by a distance representing one letter space in the movement of the carriage and prevent the return of the carriage when the dog D ceases to hold it. Upon the raising of the lever A the actuating dog C will at once take its initial position and strike against the stop Q. The pull of the connecting rod is then transferred to the arm E. The lower portion of the tooth on dog D is made oblique so that when it is drawn downward it is partially swung out of the gear. When it strikes the stop H it is completely withdrawn.

It is apparent since the dog D is positively held in mesh with the gear, that the movement of the gear is positively limited to the movement of the dog D and arm E, which are in turn positively limited by the stops G and H.

Having described my invention I claim as new:

1. In a typewriter, a carriage, gearing connected to the carriage, means for causing the carriage to tend to move in one direction, means for normally preventing its movement in that direction, an actuating key, a dog D adapted to swing between two consecutive teeth of said gearing, a movable arm supporting said dog, a second dog C pivoted to said arm and adapted to cause the dog D to engage said gearing and positively prevent said dog D from slipping on the teeth of said gear, means for connecting the actuating key and the dog C, and stops for limiting the movement of said movable arm.

2. In a typewriter, a carriage, gearing connected to the carriage, means for causing the carriage to tend to move in one direction, means for normally preventing its movement in that direction but permitting its movement in the opposite direction, means for causing said carriage to move a

definite distance in said opposite direction consisting of: a vibrating member; means for positively attaching said vibrating member to said gearing during the movement of said vibrating member in one direction consisting of a movable dog D adapted to enter between two consecutive teeth of said gearing, a dog C for pushing dog D into engagement with said teeth and positively holding it there; means for actuating said vibrating member; means for limiting the motion of said vibrating member.

3. In a device for back spacing a typewriter carriage, gear teeth for driving the carriage, a member having a limited oscillating movement past said gear teeth, a dog pivoted to said oscillating member and adapted to enter between said gear teeth, an actuating and locking dog also pivoted to said oscillating member and adapted to force said dog between said gear teeth and prevent its withdrawal until said dog is itself released, means for limiting the motion of said oscillating member, means for limiting the rotation of said locking dog, and means for actuating said locking dog and said oscillating member.

In testimony whereof I affix my signature in the presence of two witnesses.

HARRY RAYMOND.

Witnesses:
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