J. C. DOANE.

RATCHET MECHANISM FOR RIBBONS OF TYPE WRITING MACHINES.

APPLICATION FILED MAR. 12, 1908.

962,133. Patented June 21, 1910.

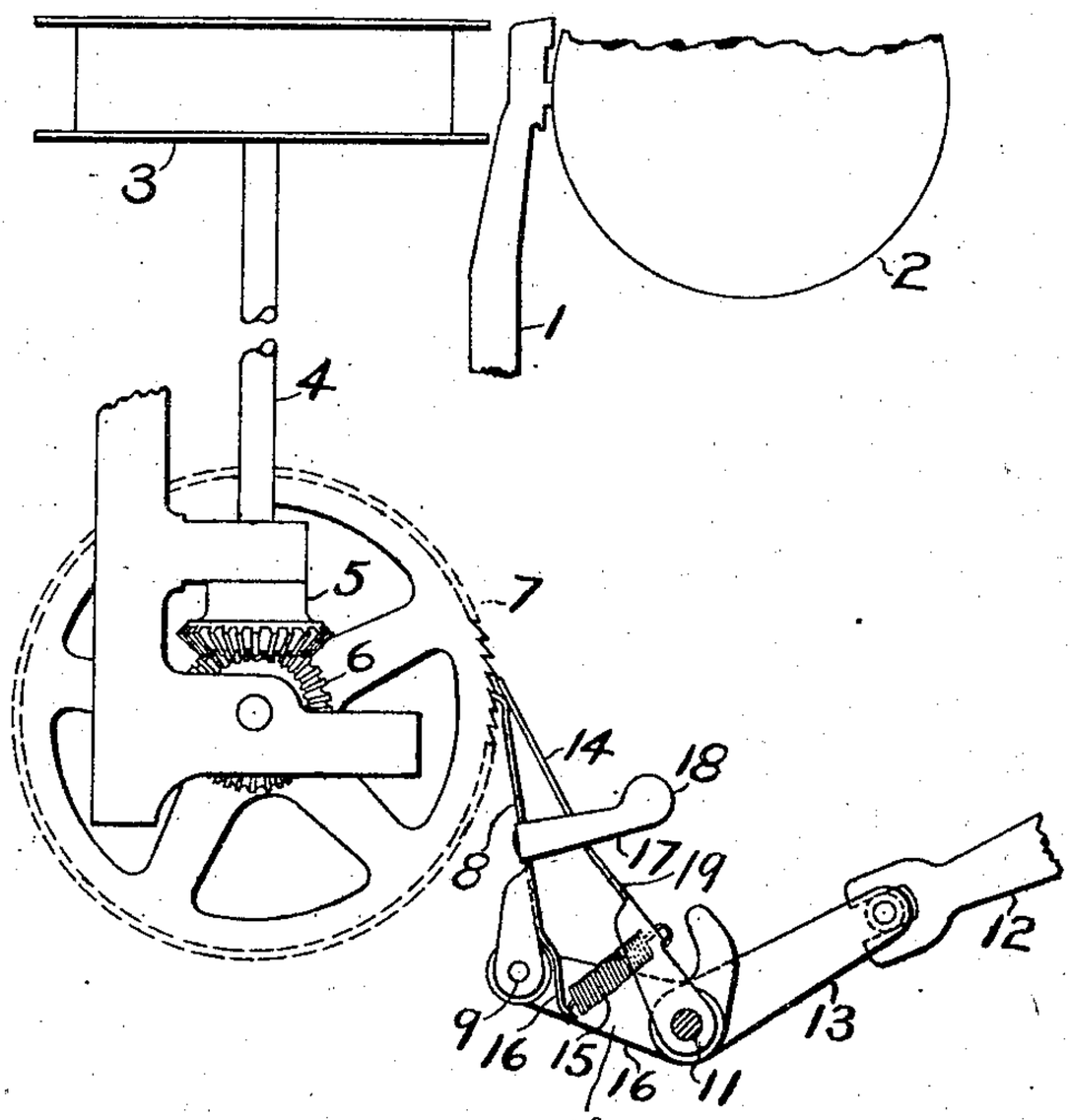


Fig. 1.


Fig. 2.

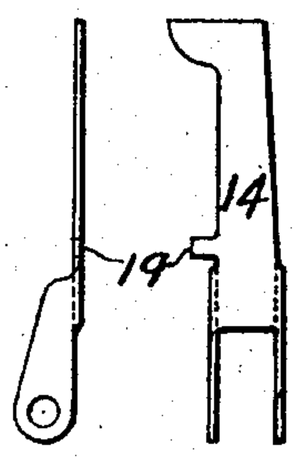


Fig. 3.

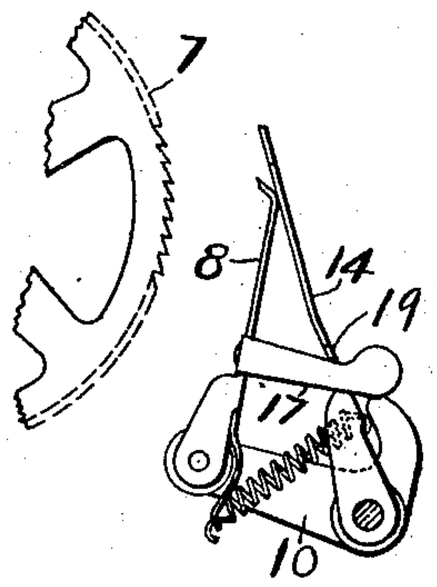


Fig. 4.

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# UNITED STATES PATENT OFFICE.

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## RATCHET MECHANISM FOR RIBBONS OF TYPE-WRITING MACHINES.

962,133. Specification of Letters Patent. **Patented June 21, 1910.**

Application filed March 12, 1908. Serial No. 420,709.

*To all whom it may concern:*

Be it known that I, JOHN C. DOANE, a citizen of the United States, residing in Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Ratchet Mechanisms for Ribbons of Type-Writing Machines, of which the following is a specification.

This invention relates to the ribbon-winding ratchet mechanisms of typewriting and other machines, in which the ribbon or the like is wound by means of a ratchet wheel and a reciprocating pawl, and in which the ratchet wheel is also provided with a holding-pawl.

It is frequently desired to stop the winding movement of one or both of the ratchet wheels usually provided for the ribbon spools, and it is the object of my invention to provide simple and inexpensive means for this purpose that may readily be applied to existing typewriting machines.

In carrying out my invention, I provide upon the usual reciprocating pawl a spring-latch, which extends from the pawl conveniently to be grasped by the operator to swing the pawl away from the wheel; and the holding-pawl is so mounted that during such swinging movement the driving pawl engages and swings the holding pawl also away from the ratchet wheel. Upon the latter is provided a projection or catch over which said spring latch is sprung, thereby holding both pawls away from the ratchet wheel and permitting the latter to be turned freely in either direction.

In the accompanying drawings, Figure 1 is a side elevation of the ribbon-winding mechanism at one side of an "Underwood" typewriting machine; the same being practically a duplicate of the mechanism at the other side of said machine, the parts shown in normal position. Fig. 2 is a perspective view of a spring-latch. Fig. 3 shows side and rear views of the holding-pawl. Fig. 4 is a side elevation showing the driving and holding pawls locked away from the escapement wheel.

Type bars 1 strike through a ribbon (not shown) upon the front side of a platen 2. The ribbon is carried upon spools 3 mounted upon shafts 4 having beveled gears 5 to mesh with beveled gears 6 connected to ratchet wheels 7. Each wheel is rotated by a pawl 8 pivoted at 9 upon a rocker arm 10, said rocker arm fixed upon a transverse rock-shaft 11, which is vibrated at the key strokes by an arm 12 connected to an arm 13 fixed upon said rock shaft. The wheel is held against backward rotation by means of a holding-pawl 14 pivoted loosely upon the rock-shaft 11. A draw-spring 15 is connected to the holding pawl between its ends, and extends to a finger 16 formed upon the driving pawl, so that said spring operates to hold both pawls against the ratchet wheel.

Upon the driving pawl 8, I secure a thin spring-latch 17 having at its end a finger-piece 18. By depressing the finger-piece, the pawl 8 is swung backwardly about its pivot, and takes with it the holding pawl 14, as seen at Fig. 4. A slight pressure upon the finger-piece will then swing the latch over a projection or catch 19 formed upon the side edge of the holding-pawl 17, and thereby both pawls are held away from the ratchet wheel, at Fig. 4. To restore the pawl to action, it is only necessary to touch the finger-piece 18 and disengage the latch from the catch 19, whereupon the spring 15 throws both pawls into normal positions, as at Fig. 1.

Having thus described my invention, I claim:

1. The combination with a ratchet wheel, of a pawl reciprocating to drive said wheel, a holding pawl for said wheel, the driving pawl being movable away from the wheel, and the holding pawl being movable by such movement of the driving pawl, and a latch upon the driving pawl to engage a catch upon the holding pawl to hold both pawls away from the wheel.

2. The combination with a ratchet wheel, of a pawl reciprocating to drive said wheel, a holding pawl for said wheel, the driving pawl being movable away from the wheel, and the holding pawl being movable by such movement of the driving pawl, a latch upon the driving pawl to engage a catch upon the holding pawl to hold both pawls away from the wheel, and a spring connecting said pawls and tensioned to swing both of them against the ratchet wheel when said latch is released.

3. The combination with a ratchet wheel, of driving and holding pawls for said wheel, both movable away from the wheel, and one mounted to impart such movement to the

other, so that both move away together from the wheel, and a latch on one of said pawls to engage the other thereof to hold both pawls away from the wheel.

4. The combination with a ratchet wheel, of driving and holding pawls for said wheel, both movable away from the wheel, and one mounted to impart such movement to the other, and a latch on one of said pawls to engage the other thereof to hold both pawls away from the wheel; said latch in the form of a yielding arm to engage a catch provided upon the other pawl.

5. The combination with a ratchet-wheel, of spring-pressed driving and holding pawls for said wheel, and a spring latch having a finger-piece and extending from one of said pawls to enable the operator to move such pawl away from the wheel, and thereby throw the second pawl also away from the wheel, a catch being provided upon the second pawl over which said spring latch may be sprung to lock both pawls away from the ratchet wheel.

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