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H. L. WAGNER.
TYPE WRITING MACHINE.
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UNITED STATES PATENT OFFICE.

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UNDERWOOD TYPEWRITER COMPANY, OF NEW YORK, N. Y., A COR-
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TYPE-WRITING MACHINE.

No. 855,027.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, HERMAN L. WAGNER, a citizen of the United States, residing in Mount Vernon, in the county of Westchester 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 the mechanism in typewriting machines, whereby the rolls which usually press the paper against the platen are released from the platen.

One object of the invention is to provide, simple, inexpensive and reliable means for enabling a release key to throw off the rolls, especially when two roller shafts are employed at different points around the platen.

Another object is to provide improved means for holding the release key down, so as to leave both hands of the operator free to manipulate the paper.

I illustrate my improvements as applied to an "Underwood" front strike writing machine in which two roller shafts extend along the platen, and in which a fixed rod also extends along the platen between said roller shafts; spring pressed arms extending from said rod to carry said shafts. Upon the rear roller shaft I fix a lever, to which the release key is directly connected by means of a link; and means co-operate with said lever both to oscillate said rear shaft away from the platen, and also to swing the forward shaft away from the platen. Upon the release key I also pivot a latch which automatically detains the key in its depressed position; the latch having an arm extending beneath the key and movable upwardly to release the latch; whereby a downward pressure will depress and lock the key while an upward movement will cause the same to be restored to normal position.

In the accompanying drawings, Figure 1 is a side elevation of an "Underwood" typewriter carriage having my improvements applied thereto, the parts all in normal positions. Fig. 2 is a sectional elevation taken at the same end of the platen frame, and showing the parts in normal positions. Fig. 3 is a diagram to illustrate the operation whereby depression of the key oscillates the rear roll away from the platen. Fig. 4 is a

sectional elevation taken at the left hand end of the platen frame, that is the end opposite from Fig. 2; the parts shown in normal positions. Fig. 5 is a view similar to Fig. 4, but showing the rolls released from the platen. Fig. 6 is a sectional rear elevation of the release key latching devices. Fig. 7 is a sectional elevation similar to Fig. 2, but showing the pressure rolls released from the platen, and the release key locked down. Fig. 8 is a bottom view of the pressure roll system. Fig. 9 is a sectional elevation showing particularly the arms which carry the pressure roll shafts.

In said machine impressions are made by type bars 1 against the front side of a platen 2, which is journaled by an axle 3 in the platen frame comprising ends 4, 5, and an inclined rear plate or paper shelf 6 which curves forwardly under the platen at 7.

The forward pressure rolls 8 and rear pressure rolls 9 are mounted respectively upon shafts 10, 11, which extend along the platen and are supported respectively by arms 12, 13, extending forwardly and rearwardly from a rod 14 upon which they are hinged. The rod 14 extends along the platen between the shafts 10, 11, and is fixed at its ends upon the ends 4, 5 of the platen; and the arms are provided with sockets 15 to receive the shafts. Springs 16 press the forward arms, and spring 17 press the arms 13 toward the platen, all of said springs being secured upon said rod 14.

A release key 18 is formed upon an arm 19 extending forwardly from a hub 20 which turns upon a shoulder screw 21 threaded into the platen frame 5; an arm 22 projecting rearwardly from said hub, and a link 23 extending down from the arm 22 to the front end of a lever 24 to lift the same. Said lever 24 is rigidly secured by means of a hub 25 and screw 26 upon the rear pressure roll shaft 11. When the key 18 is depressed and the link 23 lifted the lever 24 rocks upon a pin 27 projecting therefrom between its ends and fulcruming against a part 28 of the platen frame; whereby the shaft 11 is given an oscillating movement away from the platen to release the rolls 9 thereon.

It will be seen that spurs 29, 30 are fixed by means of hubs 31, 32 upon the shaft 11,

and that said spurs are adapted to bear upon the forward ends of levers 33, 34, which project forwardly from the shaft 10, being fixed thereon by means of screws 35, 36. These
 5 levers 33, 34 are fulcrumed between their ends upon the fixed rod 14 so that the pressure of the spurs 29, 30 upon the free forward ends of said levers 33, 34 may rock the latter about said rod 14 to swing the roller shaft 10
 10 away from the platen, Figs. 5 and 7.

During the operation of the lever 24, the spur 30, which turns practically about an axis coincident with 27, forces the lever 34 to rock about the rod 14 to swing the roller
 15 shaft 10 away from the platen. In other words, while the shaft 11 is moving away from the platen, the tip of the spur 30 moves toward the platen to actuate the lever 34.

During the initial part of the movement of
 20 the shaft 11, the spur 29 bears up against the lever 33, but preferably the latter does not at first yield owing to the pressure of the spring 16 against the left hand arm 12 which carries the roller shaft. The arm 33 therefore may
 25 serve temporarily as an abutment or bearing to support the spur 29, while this end of the shaft 11 oscillates away from the platen, owing to the torsion put upon the shaft by the lever 24. Before the completion of the
 30 lever stroke however, the left hand end of the shaft 11 engages a fixed bearing 37, which may be in the form of a bent arm projecting rearwardly from the rod 14. Said device 37 prevents this end of the shaft 11 from moving
 35 farther away from the platen, so that the final movement of said shaft at this end is a movement of rotation only, thereby causing the spur 29 to force the lever 33 to rock upon
 40 the rod 14 and lift this end of the roller shaft 10 away from the platen. Thus a single movement of the key 18 throws all of the rollers 8 and 9 off from the platen. It will be seen that the releasing mechanism is not only efficient but simple and inexpensive and
 45 readily adapted to existing machine. Certain features may be used however for a single roller as illustrated diagrammatically at Fig. 3, and the shaft 11 may be otherwise mounted upon the platen frame for oscillating away
 50 from the platen and simultaneously effecting the release of the rolls 8.

Upon the releasing arm 22 is pivoted at 38 a latch 39 which at the depression of the key 18 hooks over an abutment 40 provided
 55 upon the platen frame, thereby to hold the pressure rolls 8, 9 away from the platen. Upon said latch is formed a releasing arm 41 having a finger-piece 42 just beneath the finger piece 18.

Having thus described my invention, I 60 claim

1. In a typewriting machine having a platen and a platen frame, the combination of a shaft extending along the platen and having a roll thereon, means for pressing the
 65 roll against the platen, a lever fixed upon said shaft and connected to a finger key, said lever being fulcrumed upon the platen frame, spurs fixed upon said shaft, a second spring-pressed roller-shaft, and levers extending
 70 from said second shaft to said spurs upon the first shaft to be actuated thereby, to move the second shaft away from the platen, a support being provided for the end of the first shaft remote from said fulcrum arm, to enable said
 75 end of the first shaft to oscillate to move the corresponding end of the second shaft away from the platen.

2. In a typewriting machine having a platen, a roll, and means to press the roll
 80 against the platen, the combination with a key for releasing said roll, of a latch called into action by the depression of said key for locking the roll away from the platen, said latch having a releasing device in proximity
 85 to said key and operable independently thereof.

3. In a typewriting machine having a platen, a roll and means to press the roll
 90 against the platen, the combination with a depressible key for releasing said roll, of a latch called into action by the depression of said key for locking the roll away from the platen, said latch having a releasing arm immediately beneath said key, said arm mov-
 95 able upward to release the latch.

4. In a typewriting machine having a platen, a roll and means to press the roll
 100 against the platen, the combination of a lever provided with a finger-piece and connected to said roll to release the same, a latch pivoted upon said lever, and a finger-piece for releasing said latch.

5. In a typewriting machine having a platen, a roll and means to press the roll
 105 against the platen, the combination of a lever provided with a finger-piece and connected to said roll to release the same, a latch pivoted upon said lever, and a latch-releasing finger-piece rigid with said latch, said finger-
 110 piece extending beneath said release key and constituting a weight to operate the latch at the depression of the finger key.

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