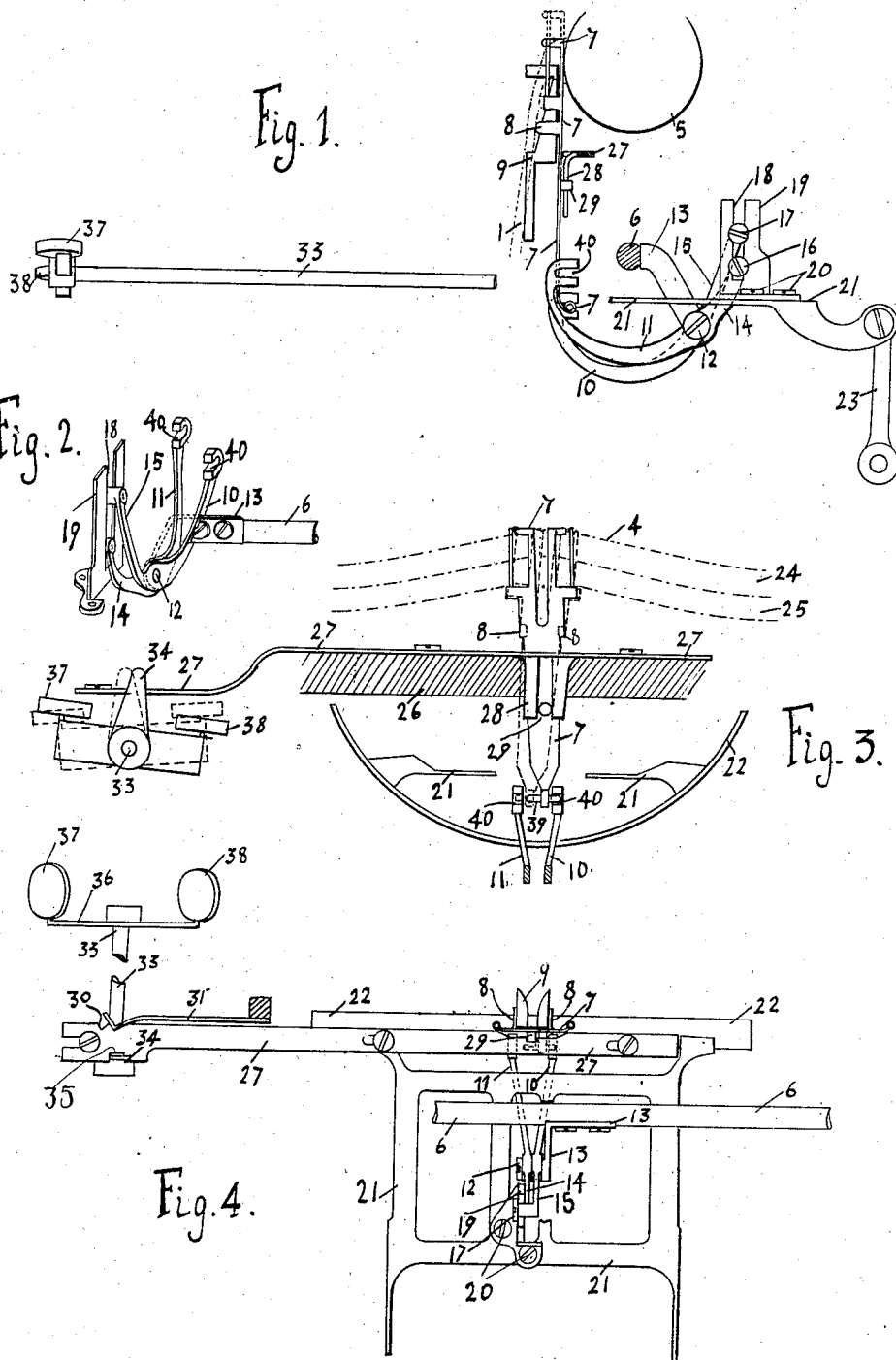


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PATENTED APR. 2, 1907.

F. X. WAGNER.
TYPE WRITING MACHINE.
APPLICATION FILED DEC. 13, 1905.



Witnesses

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FRANZ X. WAGNER, OF NEW YORK, N. Y., ASSIGNOR TO UNDERWOOD TYPE-WRITER COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW JERSEY.

TYPE-WRITING MACHINE.

No. 848,787.

Specification of Letters Patent.

Patented April 2, 1907.

Application filed December 13, 1905. Serial No. 291,580.

To all whom it may concern:

Be it known that I, FRANZ X. WAGNER, a citizen of the United States, residing in Bronx borough, New York city, 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 the ribbon-controlling devices of type-writing machines, and particularly to the mechanism in front-strike and other visible-writing machines by which the ribbon is caused to cover and uncover the printing-point at each type-stroke.

The principal object of my invention is to produce a simple and easily-applied mechanism for enabling the operator to bring into use either the upper or the lower color-band of a polychromatic ribbon.

In carrying out my invention I employ in place of a single ribbon-vibrating lever, as heretofore, two levers, which vibrate together at each type-stroke, one lever having a longer stroke than the other, and I provide shiftable means under the control of the operator for connecting the ribbon-carrier to either one lever or the other, whereby the ribbon is given a long stroke from normal position or a short stroke from normal position, so as to bring either one or the other color-band into use at the type-strokes. The shiftable means includes a finger-piece mounted upon the framework, which can rock the ribbon-carrier into engagement with either lever, the shifting mechanism not interfering with the up and down movements of the ribbon-carrier.

In the accompanying drawings, Figure 1 is a sectional side elevation taken through the ribbon mechanism of an "Underwood" front-strike writing-machine and embodying my present improvements. The parts are shown in printing position. The platen is shown in lower-case position, from which it may be elevated to upper-case position together with the ribbon-vibrator and associated parts. Fig. 2 is a perspective view of the two ribbon-vibrating levers, which are shown in the same positions as at Fig. 1. Fig. 3 is a sectional rear view of parts seen at Fig. 1. In this view the parts are in normal positions and the ribbon-carrier is shown in full lines connected to the short-motion lever and in dotted lines as connected to the long-motion

lever. Fig. 4 is a plan of the ribbon-vibrating mechanism.

As usual in the Underwood machine, type-bars 1, carrying lower-case and upper-case types, strike rearwardly through a ribbon 4 against a platen 5, the latter mounted in a frame or carriage (not shown) which runs upon a rail 6. Said rail is shiftable up and down together with the platen-frame and platen to enable the different types to print.

At each type impression the ribbon is first vibrated up to cover the printing-point and then down to disclose the writing, these movements being effected by a carrier 7, which stands vertically in front of the platen and is guided loosely by a pair of ears 8 upon the vertical sides of a type-guide 9. Said ribbon-carrier may be actuated by either one or the other of two levers 10 11, which are pivoted together upon a single shoulder-screw 12, the latter threaded into a bracket 13, which is fastened upon the platen-shifting rail 6. Said levers have arms 14 15 extending upwardly from said pivot and having screws or wrists 16 17 to engage a single slot 18 in a rearwardly and forwardly movable actuator 19, which reciprocates at the type-strokes, whereby said levers are vibrated together at each type-stroke. The arm 14 is considerably shorter than the arm 15, and hence vibrates through a longer arc at each reciprocation of the actuator 19, the latter having a substantially rectilinear movement. By this means the lever 11 is caused to rise higher at the printing position than the lever 10, Figs. 1 and 2. When, therefore, the ribbon-carrier is connected to the lever 10, Fig. 1, it is given a short stroke, but when it is connected to the lever 11, as in dotted lines at Fig. 3, it is given a long stroke at the printing operation.

The actuator 19 is in the form of a plate or lug having the vertical slot 18 and secured by screws 20 upon a table or frame 21, to which is secured a curved universal bar 22, engageable by heels formed upon the type-bars, as usual. Each type-bar as it swings up to the platen pushes back said universal-bar frame or table, together with the slotted plate or actuator 19, thereby vibrating both levers up to the printing position. (Seen at Fig. 1.) The rear end of said frame 21 is supported by idle links 23 and is returned to normal position by the usual means. (Not

shown.) The ribbon is made along its upper portion with a black or other color band 24 and along its lower portion with a differently-colored band 25, and in order to bring either band into use I provide means for swinging the ribbon-carrier laterally between the full-line and dotted-line positions seen at Fig. 3, so as to connect with either the short-movement lever 10 or the long-movement lever 11. This lateral shifting of the vibrator is effected by using the ears 8 as fulcras, and it is so slight that it does not interfere with the free upward and downward movements of the carrier. For shifting said carrier laterally I provide upon a fixed part of the framework 26 a shifter-bar 27, having forks or a slotted member 28 extending down in rear of the vibrator and bestriding a pin 29, which projects rearwardly from the ribbon-carrier. The forks stand vertically, so as not to interfere with the up and down movements of the pin 29. By sliding the shifter-bar 27 to the left or right the forks are caused to engage the pin 29 and vibrate the carrier to either of the positions seen at Fig. 3. Upon the bar are formed notches 30, either of which is engageable by a spring-detent 31 for detaining the shifter-bar at either end of its movement. The bar may be operated by a rock-shaft 33, having an upstanding arm 34 to engage a notch 35, formed in the end of the bar 27, so that by rocking said shaft the bar may be shifted. Upon the forward end of the shaft and over the keyboard of the machine I provide a two-armed lever 36, having keys 37 38, which may correspond in color to the bands 24 25 upon the ribbon, so that by depressing either key its color of ribbon will be brought into use. The carrier at Fig. 3 extends down between the levers 10 11 and is provided with oppositely-projecting pins 39 to engage slots or holes 40, formed in the ends of the levers.

Variations, however, 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 type-writing machine, the combination with types and a platen, of a sliding ribbon-carrier, a part which is reciprocated at the operation of the types, two levers so connected to said reciprocating part as always to be vibrated thereby, and means for rocking said ribbon-carrier sidewise into direct engagement with either of said levers; one of said levers being so mounted and connected as to give a longer stroke than the other lever to the ribbon-vibrator.

2. In a type-writing machine, the combination with types, of a ribbon-carrier, two levers mounted side by side upon coincident axes, and extending to said carrier, a single device for vibrating said levers at the type-

strokes through unequal distances, and means for rocking said carrier so as to engage either of said levers to be operated thereby.

3. In a type-writing machine, the combination with types, of a ribbon-carrier, said carrier being movable to cover or uncover the printing-point, means for rocking said carrier from side to side, and means cooperating with said carrier, when the latter is rocked in one direction, to give the carrier a short stroke, and means cooperating with said carrier when it is rocked in the other direction, to give the carrier a long stroke, for covering the printing-point with the ribbon, so as to bring into use different width-wise portions of the ribbon.

4. In a type-writing machine, the combination with types and a ribbon-carrier, of two levers mounted upon a single pivot, a slotted reciprocating member engaging said levers at different distances from their pivots, so that the levers are vibrated simultaneously through different arcs, and means for causing said ribbon-carrier to be operated by either of said levers, at will.

5. The combination with types, of two levers, means for vibrating said levers simultaneously through unequal distances at the type-strokes, and a sliding ribbon-carrier movable into direct engagement with either of said levers at will.

6. The combination with types and a shifting platen, of two levers, mounted to shift with the platen, means for vibrating said levers simultaneously through unequal distances at the type-strokes, a ribbon-carrier, and means mounted upon the framework and connected to said carrier for effecting and maintaining connection thereof with either of said levers at will.

7. In a type-writing machine, the combination with types, of a ribbon-carrier, means for guiding said carrier for a sliding movement to cover and uncover the printing-point, means for effecting a transverse rocking movement of said carrier, and unequally-moving devices with either of which said carrier may connect by means of its rocking movements, to cause said carrier to carry the ribbon unequal distances over the printing-point.

8. In a type-writing machine, the combination with types, of a stationary guide, a ribbon-carrier having means loosely engaging said guide to slide thereon to and from the printing-point, a member having a pin-and-slot engagement with said ribbon-carrier, and shiftable so as to rock said carrier sidewise, and unequally-vibrating levers with either of which said carriers may be engaged by means of such rocking movement, and whereby the carrier may be moved different distances over the printing-point.

9. In a type-writing machine, the combination with types, and a shifting platen, of a

part reciprocated at the type-strokes, a ribbon-carrier, a finger-piece mounted upon the frame of the machine and having a loose connection to said ribbon-carrier whereby it
 5 may effect lateral movements thereof, means detaining said finger-piece in different positions, and two levers shiftable with the platen and connected to said reciprocating part so as to be operated simultaneously
 10 thereby; said finger-piece being capable of moving said carrier laterally into connection with either of said levers.

10. In a type-writing machine, the combination with types and a platen, of a part reciprocating at the type-strokes and having a slot, two levers pivoted together and having
 15 wrists engaging said slot at different points, a ribbon-carrier, a guide which said ribbon-carrier loosely engages, and a shifter mounted upon the framework and having a loose
 20 connection with said carrier for shifting the same laterally so as to engage either of said levers.

11. In a type-writing machine, the combination with types and a platen shiftable to
 25 enable different types to print, of a frame or

rail shiftable with the platen, two levers reciprocated together at the type-strokes and shifting with said frame or rail, a ribbon-carrier, and means for shifting said ribbon-carrier laterally to connect with either of said
 30 levers so as to be given either a short or a long stroke, and also so as to be shifted together with said frame or rail.

12. In a type-writing machine, the combination with types and a platen shiftable to
 35 enable different types to print, of a ribbon-vibrating mechanism including a ribbon-carrier which is shiftable laterally, and levers with either of which said carrier may be engaged by said lateral movement and by
 40 either of which said carrier may be caused to shift with said platen, means for vibrating said levers together but unequally at the type-strokes, and a shifter mounted upon the
 45 framework of the machine and having a loose connection to said vibrator for effecting lateral movements thereof.

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