No. 848,708. PATENTED APR. 2, 1907.

F. X. WAGNER.

TYPE WRITING MACHINE.

APPLICATION FILED MAY 29, 1905.

2 SHEETS—SHEET 1.

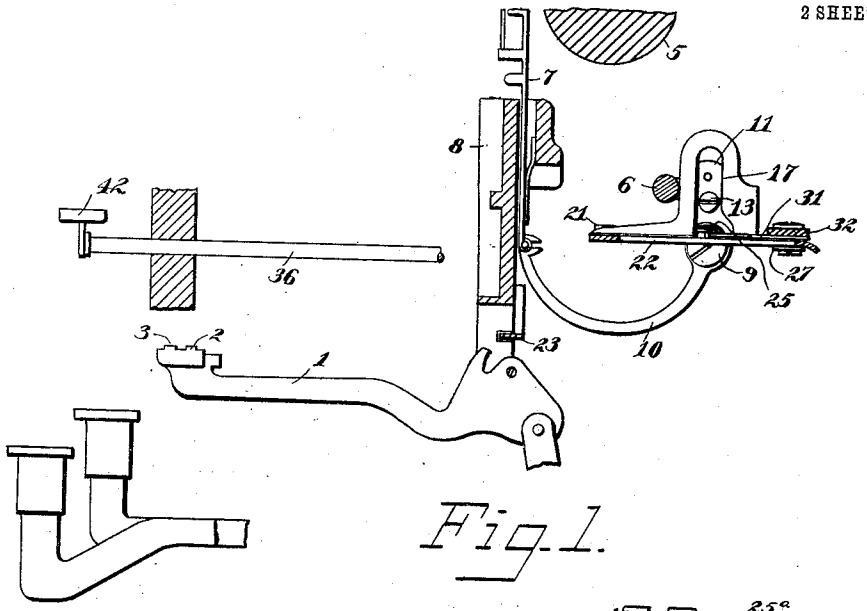

Fig. 1.

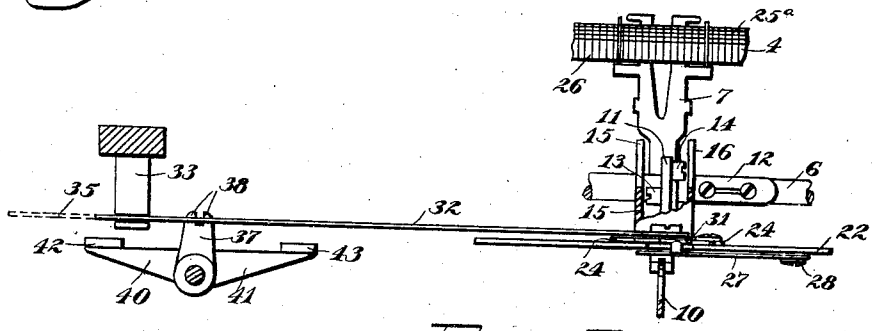

Fig. 2.

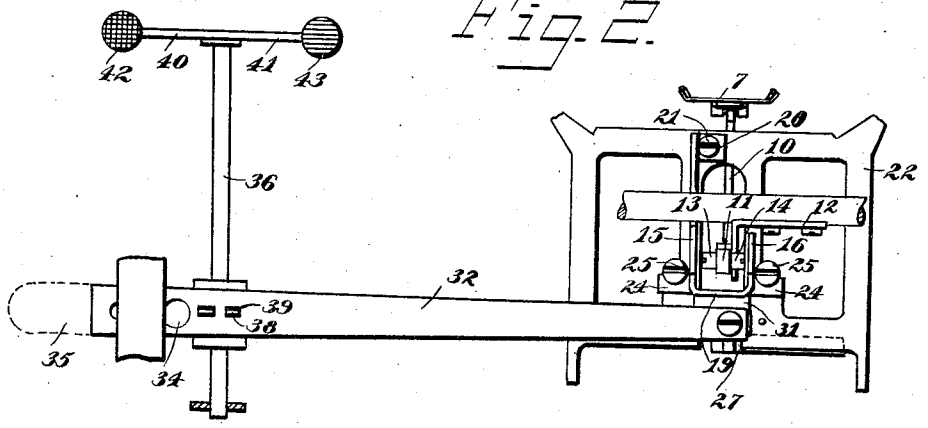

Fig. 3.

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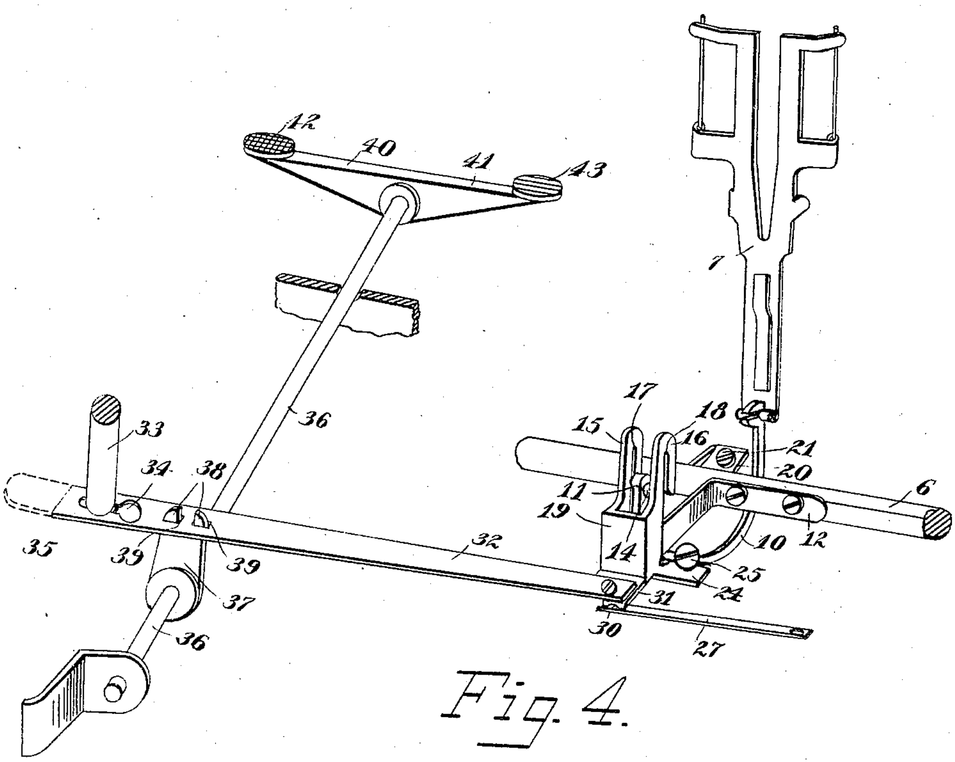

Fig. 4.

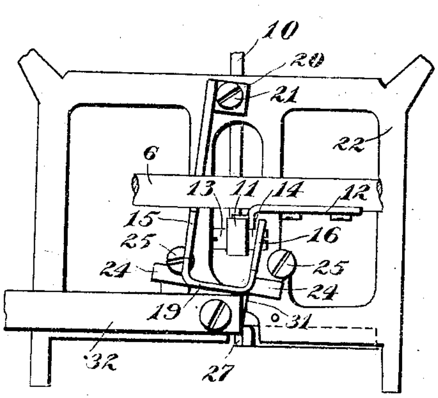

Fig. 5.

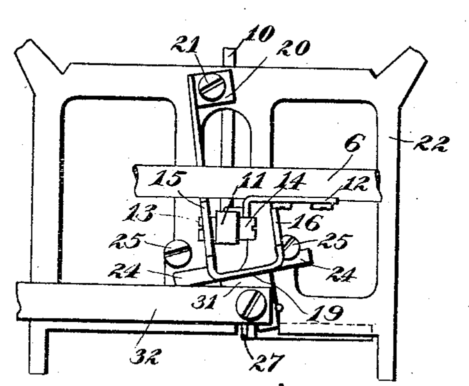

Fig. 6.

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

TYPE-WRITING MACHINE.

No. 848,708. Specification of Letters Patent. Patented April 2, 1907.

Application filed May 29, 1905. Serial No. 262,851.

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 object of my invention is to produce a simple mechanism for enabling the operator to shift the ribbon up and down to bring either color-band thereof into use and also to render the ribbon mechanism inoperative at will, so as to adapt the machine for writing stencils.

In carrying out my invention I provide a manually-shiftable device which actuates the ribbon-vibrating lever, and to this device I preferably connect a pair of keys having colors corresponding to the color-bands of ribbon, and I connect the keys to the lever, so that when either key is depressed the corresponding color-band is brought into use.

In the preferred form of my invention I provide the ribbon-vibrating lever of the "Underwood" type-writing machine with studs upon its opposite sides and at unequal distances from the lever-fulcrum, and the usual slotted actuator I make in two parts, one placed upon each side of the lever, the actuator itself being pivoted or otherwise mounted, so that it may swing from side to side, whereby either of its slots may be brought into use or caused to engage its associated stud. Said actuator is mounted upon the frame, which usually reciprocates uniformly at each type-stroke. When the actuator is in engagement with one of said studs, it imparts a greater vibration to the lever than when it engages the other thereof. The two parts of the actuator are so separated that when one of them is in engagement with its stud the other is necessarily out of engagement, and provision is also made whereby the actuator may be held in a midway position, in which neither stud will be engaged, so that the actuator vibrates idly at the key-strokes and the ribbon remains in inoperative position for writing stencils.

In the accompanying drawings, Figure 1 is a sectional side elevation taken through the ribbon mechanism of an Underwood type-writing machine and showing my improvements applied thereto. The keys and type-bars are shown in normal position and the ribbon-shifting device is shown in its idle position, so that the ribbon is not elevated at the key-strokes. Fig. 2 is a sectional rear view of parts seen at Fig. 1. Fig. 3 is a plan of the same. Fig. 4 is a perspective view of the principal portions of the ribbon-vibrating mechanism, the parts being in position seen at Fig. 1. Fig. 5 shows the actuator shifted to the left to give a short stroke to the ribbon, and Fig. 6 shows the same shifted to the right to give a long stroke to the ribbon.

As usual in the Underwood type-writing machine, type-bars 1, carrying lower-case types 2 and upper-case types 3, 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, shiftable up and down, together with the platen, to enable the types 2 and 3 to print. In all the views the platen and rail are shown in lower-case position.

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, standing vertically in front of the platen and guided in a casting or segment 8, in which are mounted the type-bars 1. The ribbon-carrier is moved up and down by a lever mounted upon a pivot 9 and comprising an arm 10, extending forwardly from the pivot to the vibrator 7, and an arm 11, extending upwardly from said pivot. The lever is pivoted upon a bracket 12, fastened upon the platen shift-rail 6. Said arm 11 has upon one side a stud 13 and upon the opposite side a stud 14, the former nearer the pivot 9 than the latter. A double or two-part actuator comprises a pair of vertical plates 15 and 16, having, respectively, vertical slots 17 and 18, adapted to engage said studs. The plates 15 and 16 form the sides of a U-shaped member 19, Fig. 3, and the plate 15 is extended for-

wardly and provided with an ear 20, which engages a pivot-screw 21 upon a reciprocating frame 22. The latter is connected to a universal bar 23, which is operated as usual at each type-stroke. Said two-part actuator may be swung or shifted about said pivot 21 and may also be provided with ears 24, that slide under the head of guide-screws 25, the latter fixed in said frame 22. As will be understood, when the actuator is swung to the Fig. 5 position the upper stud 14 is engaged by the slot 18, whereby a minimum vibration of the lever 10 and the ribbon-carrier 7 is effected, so as to bring into use the upper color-band 25^a upon the ribbon; but when said actuator is swung to the Fig. 6 position the slot 17 engages the stud 13, which is nearest to the lever-pivot 9, and thereby the lever and ribbon-carrier are given maximum movement, so as to bring into use the lower color-band 26. When, however, the actuator is in a midway position, as at Fig. 3, neither stud is engaged by the actuator, the studs being too short to reach the sides of the latter, and hence the universal-bar frame 22 vibrates idly so far as the ribbon is concerned, and the latter remains inoperative, so that the types strike off the ribbon. A spring-detent 27, secured by a screw 28 upon the under side of the frame 22, is adapted to engage a suitable opening 30 in an ear 31, projecting rearwardly from the actuator, and hold the actuator in midway position and also to engage the side edges of the ear for holding the actuator in extreme positions. To said ear 31 I connect loosely a link 32, which extends toward the left and is supported at its other end upon a grooved stud 33, the link having a keyhole-slot 34, which engages the groove in the stud and permits ready attachment and detachment of the link. The latter may be extended and provided with a finger-piece 35, projecting at the side of the machine; but preferably I mount upon a forwardly-extending rock-shaft 36 an arm 37, having forks 38 projecting up through holes 39 in the link, so that by rocking the shaft the link is caused to move endwise. Upon the forward end of this shaft I provide divergent arms 40 and 41, the former provided with a key 42 of the same color as the top band 25 of the ribbon and the latter with a key 43 of the same color as the lower band 25^a of the ribbon. When either of said keys is depressed, the shaft 36 is correspondingly rocked and the corresponding color of the ribbon is brought into play. The slots 17 and 18 are of considerable height to accommodate up-and-down shifting movement of the ribbon-vibrating lever, which is connected to the shift-rail 6.

Having thus described my invention, I claim—

1. The combination with a ribbon-vibrating lever having studs at unequal distances from its fulcrum, of an actuator having slots to engage said studs, said actuator being shiftable to bring either stud into use at will, and also being shiftable to a position in which neither stud is engaged by the actuator; and a pair of shift-keys mounted at the keyboard and connected to said actuator.

2. In a type-writing machine, the combination of a ribbon-vibrating lever having studs at unequal distances from its fulcrum, an actuator having slots to engage said studs, a reciprocating frame whereon said actuator is pivoted in such a manner that the actuator may be shifted from side to side to enable either slot to engage its associated stud or to render the actuator free of the studs, and a detent for holding said actuator in any position to which it is shifted.

3. In a type-writing machine, the combination with a ribbon-vibrating lever having studs at unequal distances from its fulcrum, of an actuator having slots to engage said studs, a link connected to said actuator, an arm connected to said link, a shaft upon which said arm is fixed, divergent arms upon said shaft, and keys upon the ends of said arms.

4. In a type-writing machine, the combination with a ribbon-vibrating lever having studs at unequal distances from its fulcrum, of an actuator having slots to engage said studs, a reciprocating frame whereon said actuator is pivoted in such a manner that the actuator may be shifted from side to side to enable either slot to engage its associated stud or to render the actuator free of the studs at will, a detent for holding said actuator in any position to which it is shifted, and shift-keys connected to said actuator.

5. In a type-writing machine, the combination with a ribbon-vibrating lever, of an actuator, a reciprocating frame whereon said actuator is shiftable, a detent for holding said actuator in any position to which it is shifted, a pair of keys, and means for enabling said keys to shift said actuator; means being provided whereby shifting of the actuator effects variation in the leverage of the latter upon said lever, and said keys being mounted upon the framework of the machine near the keyboard.

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