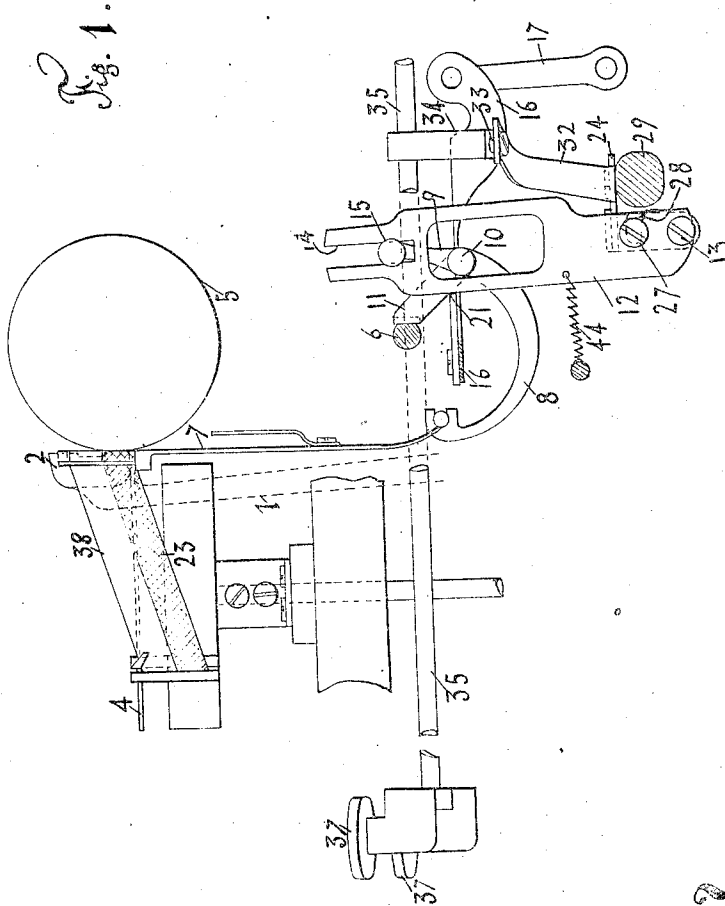


No. 839,409.

PATENTED DEC. 25, 1906.

J. C. McLAUGHLIN.
TYPE WRITING MACHINE.
APPLICATION FILED NOV. 20, 1905.

3 SHEETS—SHEET 1.



Witnesses
K. H. Frankfort.
J. B. Adsett

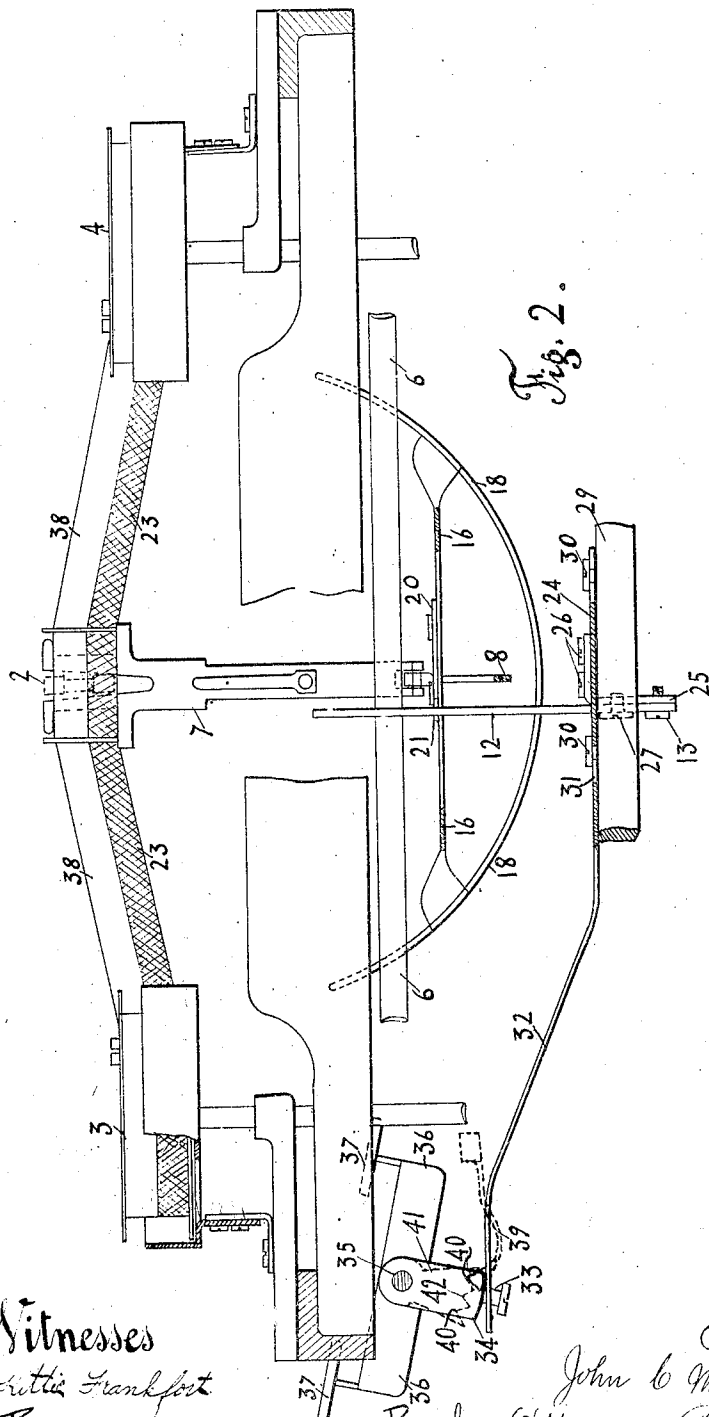
Inventor
John C. McLaughlin
By his Attorney O. B. Stickney

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3 SHEETS—SHEET 2



Witnesses
Little Frankfort
J. P. Adair

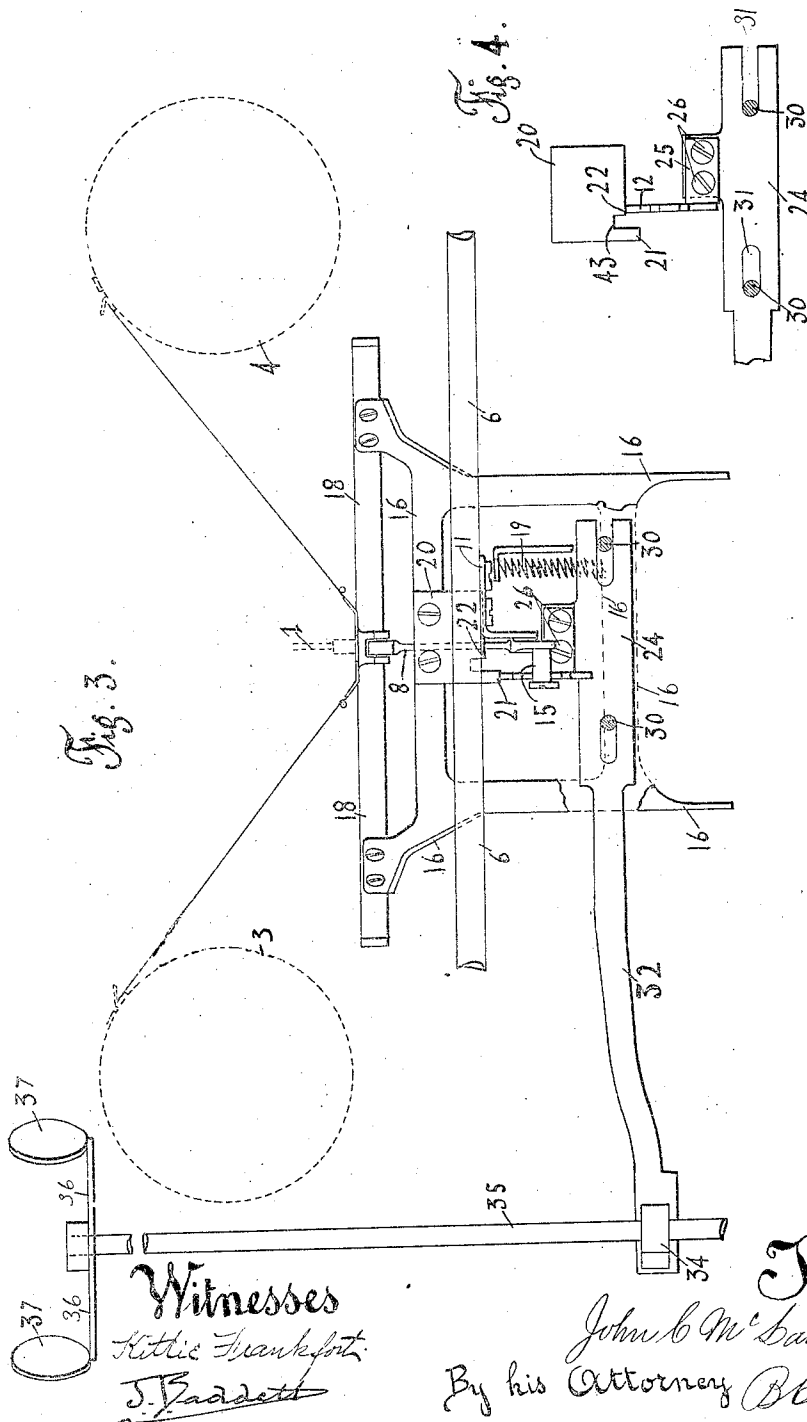
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3 SHEETS—SHEET 3.



Witnesses

Kittie Frankfort.
J. Barrett

Inventor

John C. McLaughlin
By his Attorney O. B. Stickney

UNITED STATES PATENT OFFICE.

JOHN C. McLAUGHLIN, OF NEW YORK, N. Y., ASSIGNOR TO UNDERWOOD TYPEWRITER COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW JERSEY.

TYPE-WRITING MACHINE.

No. 839,409.

Specification of Letters Patent.

Patented Dec. 25, 1906.

Application filed November 20, 1905. Serial No. 288,177.

To all whom it may concern:

Be it known that I, JOHN C. McLAUGHLIN, a citizen of the United States, residing in Manhattan borough, city of New York, 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 and satisfactory mechanism for enabling the operator to bring into use either the upper or lower color-band of a polychromatic ribbon and also to silence the ribbon-vibrating mechanism during the operation of the types at will, so as to adapt a machine for writing stencils.

In carrying out my invention I provide between the universal bar and the ribbon-vibrating lever of the well-known "Underwood" type-writing machine a part having a series of steps thereon, which may be brought into use so as to elevate the ribbon either more or less at the type-strokes, according to the particular color-band which it is desired to use. A suitable finger-piece is also provided for bringing either of the steps into use or for silencing the ribbon-vibrating mechanism, as may be desired.

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. A type is shown as printing through the lower color-band on the ribbon. Fig. 2 is a rear elevation of the ribbon mechanism, the parts being in the same position as at Fig. 1. Fig. 3 is a plan of the ribbon mechanism, the parts being seen adjusted so as to cause the lower color-band on the ribbon to print, as at Figs. 1 and 2. Fig. 4 is a plan showing parts seen at Fig. 3, but adjusted so as to cause the upper color-band on the ribbon to print.

As usual in the Underwood type-writing machine, type-bars 1, carrying upper and lower case types 2, strike rearwardly through a ribbon carried by spools 3 4 against a platen 5. The latter is usually mounted in a frame

or carriage (not shown) which runs upon a rail 6, and this rail is shiftable up and down, together with the platen-frame and platen, to enable the upper and lower case types to print. In the different figures the platen is represented in its depressed or 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 vertically-sliding carrier 7, which stands in front of the platen and is suitably guided. This ribbon-carrier is guided by a lever comprising arms 8 and 9 and pivoted at 10 upon a bracket 11, which is secured to the rail 6. The arm 8 extends forwardly, and the arm 9 upwardly, from said pivot. The vibrations of this lever are effected by an upstanding lever 12 of the third order. This lever is pivoted at its lower end upon a shoulder-screw 13 and at its upper end is provided with a slot 14 to engage a wrist 15, which is provided on the top of the lever-arm 9. The slot 14 extends up and down, so as to accommodate the shifting movement of the wrist 15 when the lever 8 9 is carried up and down by the rail 6.

The lever 12 is operated by means of a frame 16, hinged at its rear end to vibratory supports 17, carrying at the forward end a segmental universal bar 18, which is moved backwardly at each type-stroke and is returned by a spring 19 during the return of the type-bar to normal position. A plate or member 20, secured upon said frame 16, is provided with steps 21 22, the former being seen at Figs. 1, 2, and 3 in engagement with the upstanding lever 12, whereby the latter is given the maximum stroke, since the step 21 is longer than the step 22. In consequence, the ribbon is carried up so far that its lower color-band 23 is brought into use, as at Fig. 1.

The lever is shiftable from left to right at Fig. 3, so as to be engageable by the short step 22. For this purpose the lever is mounted upon a slide 24, movable transversely of the machine. It will be seen that the pivot-screw 13 of the lever is threaded into a bracket 25, which is supported by screws 26 upon said slide 24. The lever is also supported by a screw 27, which engages a slot 28, cut into the lever concentrically with the pivot 13. The slide 24 rests upon a fixed bar 29 of the framing of the machine and is guided by means of screws 30, the lat-

ter engaging slots 31 in the slide. The slide is provided with an extension or link 32, which loosely engages a pin or screw 33, projecting from a rock-arm 34, the latter fixed upon a rock-shaft 35, which extends forwardly to the keyboard, and is there provided with arms 36 and keys 37. By depressing first one key and then the other, the shaft 35 is rocked back and forth, together with the arm 34, and corresponding reciprocation is given to the slide 24, and accordingly the upstanding lever 12 is shifted bodily into position for engagement by either of the steps 21 22 of the universal-bar frame. When the slide is moved to the Fig. 4 position, the step 22 is brought into play, and consequently the lever 8 9 and the carrier 7 are given minimum strokes, whereby the upper color-band 38 of the ribbon is brought into use. It will be seen at Fig. 3 that the stud 15 on the ribbon-lever 8 9 is of sufficient length to accommodate the shifting movements of the upstanding lever 12. The bracket 24 is detained at either end of its stroke by means of a spring-detent 39, engaging either of notches 40, formed in an arm 41, depending from the shaft 35. Said arm 41 is provided with an intervening notch 42 for holding the shiftable parts in a position midway between their extreme positions, and at this time the upstanding lever 12 stands opposite a notch or recess 43, formed in the member 20 between the steps 21 and 22, said notch being so deep as to permit the lever 12 to stand still during the movement of the universal bar, thereby silencing the ribbon-vibrating mechanism during the type-strokes. The spring 44 serves to return the upstanding lever 12 to normal position for each actuation thereof.

Variations may be resorted to within the scope of my invention, and portions of my improvements may be used without others.

Having thus described my invention, I claim—

1. In a type-writing machine, the combination with a sliding ribbon-carrier, of a universal bar having steps, a lever adjustable along said steps so as to be engageable by either thereof, and a lever for transmitting movement between said adjustable lever and said sliding ribbon-carrier.

2. In a type-writing machine, the combination with a sliding ribbon-carrier, of a universal bar having steps, a lever adjustable along said steps so as to be engageable by either thereof, and a lever for transmitting movement between said adjustable lever and said sliding ribbon-carrier; said steps being three in number and so constructed that at one adjustment of said lever the upper edge of the ribbon is caused to cover the printing-point at the type-strokes, and at another adjustment the ribbon-carrier is silenced at the printing strokes.

3. In a type-writing machine, the combination with a sliding ribbon-carrier, of a universal bar having steps, a lever adjustable along said steps so as to be engageable by either thereof, and a lever for transmitting movement between said adjustable lever and said sliding ribbon-carrier; said steps being three in number and so constructed that at one adjustment of said lever the upper edge of the ribbon is caused to cover the printing-point at the type-strokes, and at another adjustment the ribbon-carrier is silenced at the printing strokes; the step for causing the ribbon-carrier to be silenced being provided between the other two steps.

4. In a type-writing machine, the combination with a sliding ribbon-carrier, of a universal bar, a lever mounted upon the framework, steps intervening between said universal bar and said lever, and means being provided for enabling relative adjustment of said universal bar, said steps and said lever so as to cause the latter to be operated by either one or another of said steps at will, a lever operable by said lever, and a sliding vibrator operable by the last-mentioned lever.

5. In a type-writing machine, the combination with a ribbon-carrier, of a universal bar having steps, a lever mounted upon the framework and adjustable so as to be engageable by one or another of said steps, a finger-piece at the keyboard of the machine for controlling the adjustment of said lever relatively to said steps, and a lever operating between said lever and said ribbon-carrier.

6. In a type-writing machine, the combination with a ribbon-carrier, of a universal bar having steps, a slide mounted upon the framework, a lever mounted upon said slide in position to be operated by either of said steps, a link connected to said slide, a rock-shaft connected to said link and bearing a finger-piece, and means for holding said slide where adjusted.

7. In a type-writing machine, the combination with a sliding ribbon-carrier, of a universal bar, a slide mounted upon the framework, a lever pivoted upon said slide, steps provided upon said universal bar to engage said lever, a recess intervening between said steps so as to silence the lever, a finger-piece connected to said slide, means for detaining said slide with the lever either opposite one or the other of said steps or opposite said recess, at will, and means connecting said lever to said ribbon-carrier.

8. In a type-writing machine, the combination with a sliding ribbon-carrier, of a universal bar, a slide mounted upon the framework, a lever pivoted upon said slide, steps provided upon said universal bar to engage said lever, a recess intervening between said steps so as to silence the lever, a finger-piece connected to said slide, means for detaining said slide with the lever either opposite one

or the other of said steps or opposite said recess, at will, a shift-rail of the carriage mechanism, and a lever mounted upon said shift-rail and having a pin-and-slot connection on said lever, and also having a connection with said ribbon-carrier.

9. In a type-writing machine, the combination with a sliding ribbon-carrier, of a universal bar, a slide mounted upon the framework, a lever pivoted upon said slide, steps provided upon said universal bar to engage said lever, a recess intervening between said steps so as to silence the lever, a finger-piece connected to said slide, means for detaining said slide with the lever either opposite one or the other of said steps or opposite said recess, at will, a shift-rail of the carriage mechanism, and a lever mounted upon said shift-rail and having a pin-and-slot connection on said lever, and also having a connection with said ribbon-carrier; said finger-piece being mounted upon a rock-shaft at the keyboard of the machine, and said rock-shaft having a link connection with said slide, said link extending in a direction at about right angles with the movement of said universal bar.

10. In a type-writing machine, the combination with a ribbon-carrier, of a universal bar having steps, a slide mounted upon the framework and provided with a finger-piece, a lever mounted upon said slide so as to be adjustable along said steps, a spring for returning said universal bar to normal position, a spring for returning said lever to normal position, and a lever transmitting movement from said lever to said ribbon-carrier.

11. In a type-writing machine, the combination with a ribbon-carrier, of a universal bar movable forwardly and rearwardly, an upstanding lever, a support upon which said lever is pivoted below said universal bar, said support being movable from side to side or transversely of the movement of said universal bar, steps upon said universal bar for engaging said lever, and a lever connected to said lever above said universal bar and also connected to said ribbon-carrier.

JOHN C. McLAUGHLIN.

Witnesses:

B. C. STICKNEY,
KITTIE FRANKFORT.