

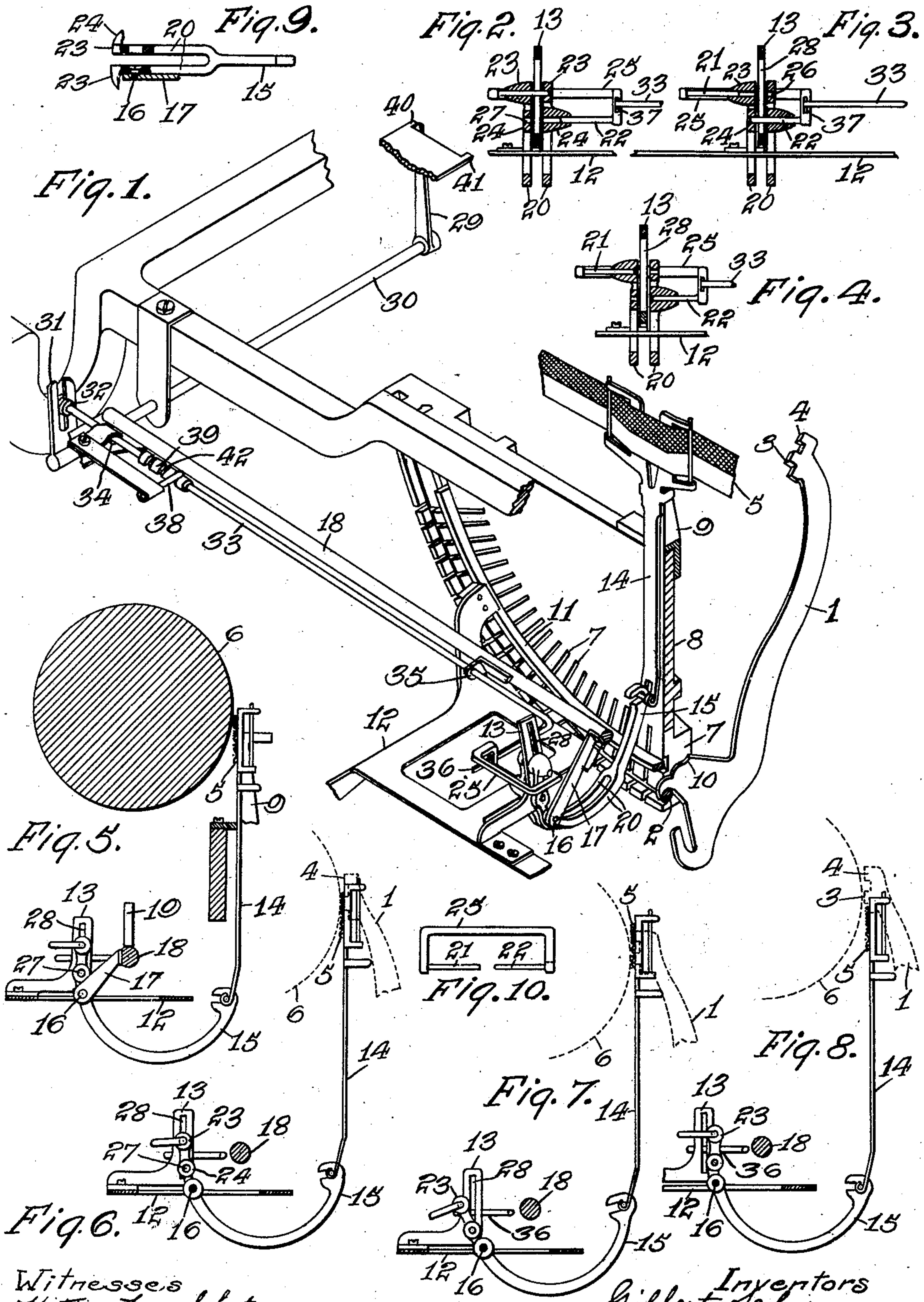
No. 842,814.

PATENTED JAN. 29, 1907.

G. SCHERER & J. LINDBURG.

RIBBON VIBRATING MOVEMENT FOR TYPE WRITERS.

APPLICATION FILED AUG. 11, 1906.



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UNITED STATES PATENT OFFICE.

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RIBBON-VIBRATING MOVEMENT FOR TYPE-WRITERS.

No. 842,814.

Specification of Letters Patent.

Patented Jan. 29, 1907.

Application filed August 11, 1906. Serial No. 330,124.

To all whom it may concern:

Be it known that we, GILBERT SCHERER and JOSEPH LINDBURG, citizens of the United States of America, residing at Denver, in the county of Denver and State of Colorado, have invented certain new and useful Improvements in Ribbon-Vibrating Movements for Type-Writers, of which the following is a specification.

This invention relates to ribbon-vibrating mechanisms of type-writing machines; and its object is to provide simple and improved means for causing different widthwise portions of a ribbon to cover the printing-point, especially when the ribbon is provided with two color-bands and it is desired to write either one color or the other at will.

Another object is to provide simple means for silencing the ribbon-vibrating mechanism so that the types may strike off the ribbon when it is desired to make stencils.

We illustrate our invention as applied to an "Underwood" front-strike type-writing machine, in which we have modified the usual ribbon-vibrating lever and provided it with two wrists, either of which may engage an actuating-arm provided upon the usual universal-bar frame. These wrists are at different distances from the fulcrum of the lever, and either may be brought into use while the other one is silenced, thereby altering the throw of the lever and ribbon, the wrists being connected by a yoke and being movable in axial direction independently of both the lever and the actuator. A finger-piece is provided at the front of the machine and connected to said yoke to control the shifting of the wrists or pins, and the latter are so constructed that when the finger-piece is in a midway position neither wrist engages the actuator, so that the ribbon fails to vibrate at the type-strokes, thus enabling the types to strike off the ribbon. In said machine the platen shifts up and down to write capital and lower-case letters, and the ribbon-vibrating lever shifts therewith, and our improvements include means for accommodating such shifting movement of the lever.

In the accompanying drawings, Figure 1 is a rear perspective elevation, partly in section, of the ribbon-vibrating mechanism of an Underwood type-writing machine provided with our improvements and showing the parts in normal position, the ribbon-shifting mechanism being adjusted to bring the upper color-

band of the ribbon into use. Fig. 2 is a sectional front elevation of a forked ribbon-vibrating lever and an actuator with the upper wrist connecting the lever to the actuator and the lower wrist silenced, this being the position of the parts seen at Fig. 1. Fig. 3 is a view similar to Fig. 2, but showing the upper wrist silenced and the lower wrist brought into action, whereby the extent of vibration of the lever is increased and the lower color-band on the ribbon is brought into use. Fig. 4 is a view similar to Figs. 2 and 3, showing both wrists silenced, so that the ribbon remains motionless below the printing-point during the operation of the types. Fig. 5 is a sectional side elevation showing the parts in normal positions. Fig. 6 is a view similar to Fig. 5, the types printing through the upper color-band of the ribbon. Fig. 7 is a view similar to Fig. 6, but showing the types printing through the lower color-band of the ribbon. Fig. 8 is a view similar to Fig. 7, but showing the types striking off the ribbon. Fig. 9 is a plan of a forked ribbon-vibratory lever. Fig. 10 is a plan of a yoke carrying a plurality of wrists.

Type-bars 1, mounted upon a fulcrum-rod 2 and carrying lower-case and upper-case types 3 4, strike through a ribbon 5 against the front side of a platen 6. The type-bar hubs are guided in slots 7, formed in a segment 8, and upon the latter is secured a type-bar 9. Heels 10 on the type-bars press rearwardly a curved universal bar 11, which is fixed upon a frame or table 12. Upon the latter is erected an actuator 13, which reciprocates backwardly and forwardly with the frame 12 at the type-strokes and causes the ribbon 5 to vibrate up and down to cover and uncover the printing-point. Said ribbon is mounted on an upright carrier 14 and attached to a lever 15, the latter being vibrated by said actuator 13. Said lever is fulcrumed at 16 upon a bracket 17, which extends back from a platen shift-rail 18, upon which runs a roll 19 of the platen-frame. The rail and platen shift up and down in the usual way to enable either set of types 3 or 4 to print.

The lever 15 is formed with forks 20 to bestride the actuator 13. Upper or lower pins or wrists 21 and 22 pass through bosses or heads 23 24, formed one above the other upon said forks. These pins or wrists 21 22, which are mounted at different distances

from the fulcrum 16 of the lever, are rigidly connected by a yoke 25, so as to slide endwise or axially together in bearings 26 27 in said heads or bosses. The bearings are of sufficient length to retain both pins at all times so that the yoke cannot become accidentally unshipped. The yoke and pins may be slidden in and out to engage either pin with an upwardly-extending slot 28 forked in the arm 13. As will be seen by comparison of Figs. 2 and 3, the movement of one pin into engagement with one slot is accompanied by the movement of the other pin out of such engagement, whereby it is silenced.

The shifting of the yoke and pins may be effected by a finger-piece or handle 29, mounted at the front of the machine upon a rearwardly-extending rock-shaft 30, the latter having its rear end in an upwardly-extending slotted arm 31 to engage a grooved collar 32, fixed upon the end of a transverse rock-shaft 33. The latter extends from the side to the middle portion of the type-writing machine, being suitably journaled, as upon brackets 34 35, and at its inner end is provided with an arm 36, which extends rearwardly in a direction about parallel with the direction of movement of the actuator 13, and passes loosely through an eye 37 provided in the yoke 25. By means of the handle 29, acting through the arm 31, the rock-shaft 33 and its arm 36 may be drawn transversely or in the direction of the axes of the pins 21 22, thereby shifting said pins to bring either one into action and simultaneously silence the other. The arm 36 is stationary during the reciprocations of the actuator 13, the yoke 25 slipping idly back and forth along said arm.

A yielding finger 38 is adapted to engage notches formed upon the collar 39, fixed upon the rock-shaft 33 to yieldingly detain the latter where it may be shifted, and stops 40 and 41 may be provided to limit the swinging movements of the handle 29. The latter may be swung to a midway position, so that the yielding detent 38 may occupy a notch midway of the other notches on the collar 39, and at this time the pins or wrists 21 22 will occupy a midway position, as seen at Fig. 4, at which time both are out of engagement with the actuator 13, so that the reciprocations of the latter have no effect upon the ribbon, and hence the types may strike off from the ribbon, as at Fig. 8.

When the platen 6 and the platen shift-rail 18 are shifted up to enable the types 4 to print, the bracket 17 and the lever 15 rise therewith, together with the yoke 25, and whichever pin 21 or 22 is in engagement with the slot 28 rides up in said slide, which is made of sufficient height for the purpose. The arm 36 turns about the axis 33 to accommodate upward movement of the yoke 25, and owing to its loose connection with the

eye 37 permits free movement of the yoke at the platen-shifting operation and during the writing of capital letters.

Having thus described our invention, we claim—

1. The combination of a ribbon-vibrating lever, wrists connected to said lever at different distances from the fulcrum thereof, an actuator for said lever, and means for shifting said wrists independently of the lever to engage either wrist with said actuator, and concomitantly disengage the other wrist from said actuator.

2. The combination of a ribbon-vibrating lever, an actuator, wrists mounted at different distances from the lever-fulcrum, and means for shifting said wrist axially independently of both said lever and said actuator for bringing either wrist into action, and concomitantly silencing the other wrist.

3. The combination of a reciprocating actuator, a ribbon-vibrating lever having forks bestriding said actuator, wrists mounted at different distances from the fulcrum of the lever, and means for shifting the wrist axially independently of both said actuator and said lever for bringing either wrist into action, and concomitantly silencing the other wrist.

4. The combination of a reciprocating actuator having a slot, a ribbon-vibrating lever having forks bestriding said actuator, wrists mounted upon said lever at different distances from its fulcrum, and means for shifting said wrists simultaneously to cause either one to enter said slot, and the other one to withdraw from said slot.

5. The combination of a ribbon-vibrating lever, wrists connected to said lever at different distances from the fulcrum thereof, a yoke connecting said wrists, and a reciprocating actuator for said lever; said yoke being shiftable to move said wrists axially into and out of engagement with said actuator.

6. The combination of a ribbon-vibrating lever, wrists connected to said lever at different distances from the fulcrum thereof, a yoke connecting said wrists, a reciprocating actuator for said lever; said yoke being shiftable to move said wrists axially into and out of engagement with said actuator; a part extending in the direction of reciprocation of said actuator, and loosely connected to said yoke, and means including a finger-piece for shifting the said part to move said wrists in axial direction.

7. The combination of a ribbon-vibrating lever, a reciprocating actuator, wrists mounted at different distances from the lever-fulcrum and connected by a yoke, and shiftable independently of said lever and actuator, a part loosely engaging said yoke and extending in the direction of movement of said actuator, and a finger-piece connected to the said part to move said yoke and wrist in axial direction.

8. In a type-writing machine, the combi-

nation with a platen-shifting mechanism, of a ribbon-vibrating lever shiftable with said mechanism, a reciprocating actuator, wrists yoked together and mounted at different distances from the fulcrum of said lever and shiftable axially in bearings provided upon said lever, a rock-shaft having an arm extending in the direction of reciprocation of said actuator and loosely connected to said yoke, to shift the latter, and also to move idly therewith during the platen-shifting operation, and a finger-piece having means to shift said rock-shaft endwise.

9. The combination of a ribbon-vibrating lever, wrists connected to said lever at different distances from the fulcrum thereof, a reciprocating actuator between said wrists, and means for shifting said wrists axially independently of both the lever and the actuator, and means for detaining said wrist either in such a position that one engages the actuator, or in such a position that the other engages the actuator, or in such a position that neither engages the actuator.

10. The combination of a reciprocating actuator, a ribbon-vibrating lever, wrists mounted at different distances from the fulcrum of the lever, and means including a finger-piece for shifting the wrists axially independently of both said actuator and said lever, so as to bring either one wrist or the other, or neither of them into action at will.

11. The combination of a reciprocating actuator having a slot, a ribbon-vibrating lever having forks bestriding said actuator, wrists mounted upon said lever at different distances from its fulcrum, means for shifting said wrists simultaneously to cause either one to enter said slot, and the other one to withdraw from said slot, and means for detaining said wrists in a midway position in which neither of them engages said slot.

12. In a type-writing machine, the combination with a shifting-platen mechanism, of a ribbon-vibrating lever shiftable with said platen, an actuating-arm having a slot extending in the direction of the shifting of the platen, wrists mounted at different points along the lever, and means for shifting said wrists at either shift position of the platen-shifting mechanism, so as to bring either wrist into action, and simultaneously silence the other wrist.

13. In a type-writing machine, the combination with a shifting-platen mechanism, of a ribbon-vibrating lever shiftable with said platen, an actuating-arm having a slot extending in the direction of the shifting of the platen, wrists mounted at different points along the lever, and means for shifting said wrists at either shift position of the platen-

shifting mechanism, so as to bring either wrist into action, and simultaneously silence the other wrist, or so as to silence both wrists at will.

14. In combination, a platen-shifting mechanism, a finger-piece mounted upon the framework, a rock-shaft connected to said finger-piece to be moved endwise thereby, an arm extending from said rock-shaft, an actuator reciprocating in the direction of said arm, a ribbon-vibrating lever shiftable up and down with the platen, and means loosely connected to said arm for causing said actuator to vibrate said lever to different distances at will.

15. In a type-writing machine having type-operating keys and a universal bar reciprocated by said keys, the combination of an actuator connected to said universal bar and having a slot, a ribbon-vibrating lever, a pair of wrists at different distances from the fulcrum of said lever, means being provided upon said lever for guiding said wrists for axial movements, said wrists being mounted to work in said slot and being movable axially to connect said lever with said actuator, and means connecting said wrists to enable either wrist, when shifted to effective position, to silence the other wrist.

16. In a type-writing machine having type-operating keys and a universal bar reciprocated by said keys, the combination of an actuator connected to said universal bar, a ribbon-vibrating lever, a pair of wrists at different distances from the fulcrum of said lever, and means for moving said wrists simultaneously to silence either thereof, and cause the other to connect said lever to said actuator.

17. In a type-writing machine having type operating keys and a universal bar reciprocated by said keys, the combination with a ribbon vibrator or carrier, of shiftable means for enabling said universal bar to vibrate said carrier different distances at the type-strokes, said vibrating means including a lever between the universal bar and the carrier, a pair of wrists mounted at different distances from the fulcrum of said lever, movement-transmitting means cooperating with said lever and said wrists, and means for shifting said wrists axially at the same time, to bring either into use and silence the other.

In testimony whereof we have affixed our signatures in presence of two witnesses.

GILBERT SCHERER.
JOSEPH LINDBURG.

Witnesses:

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