Aug. 21, 1928. 1,681,243

A. G. F. KUROWSKI

TYPEWRITING MACHINE

Filed Aug. 25, 1925 2 Sheets-Sheet 1

Fig. 1.

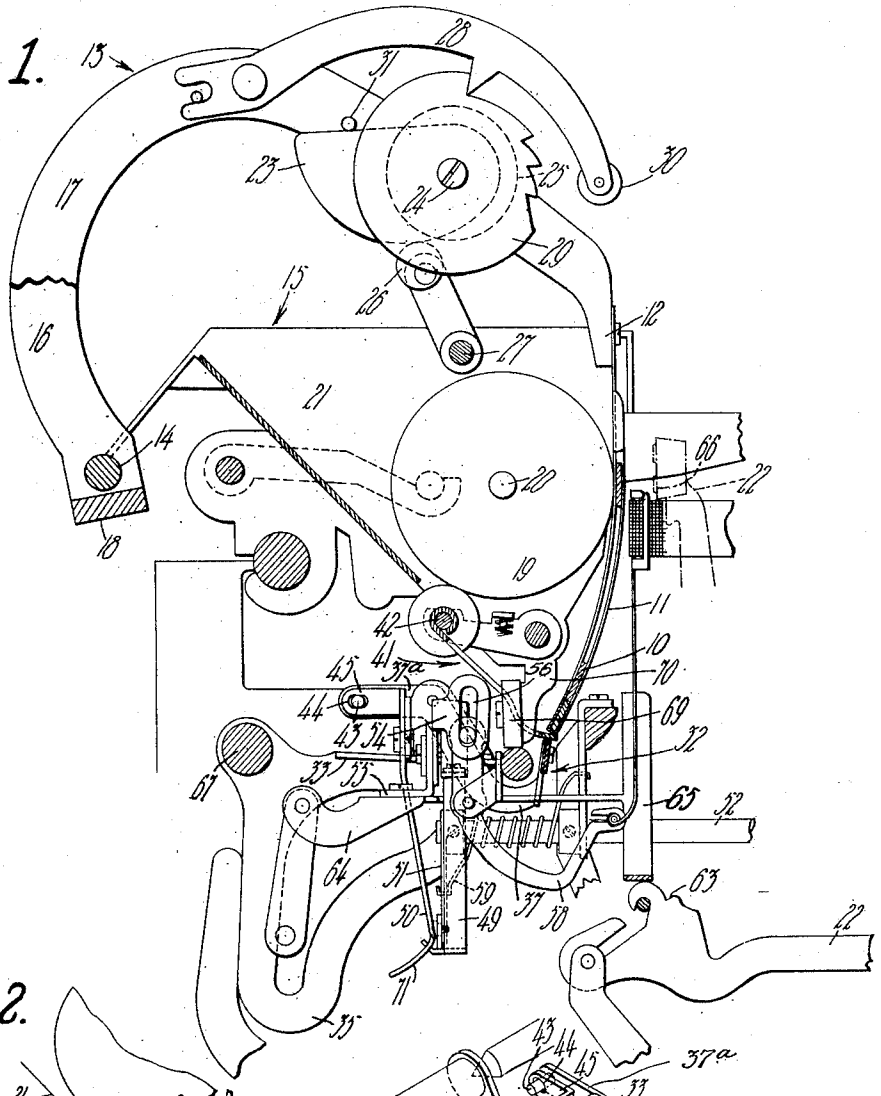
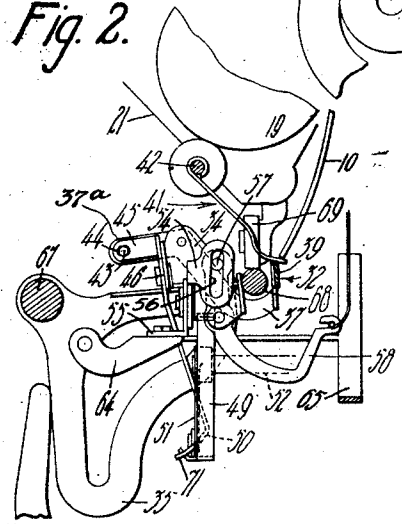


Fig. 2.



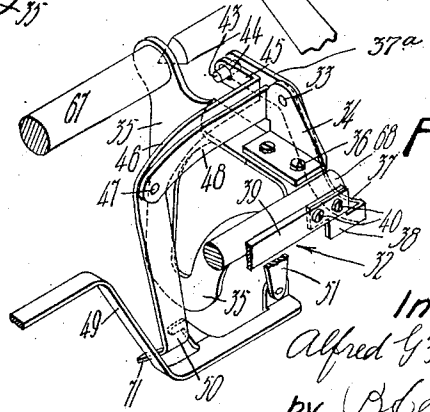


Fig. 3.

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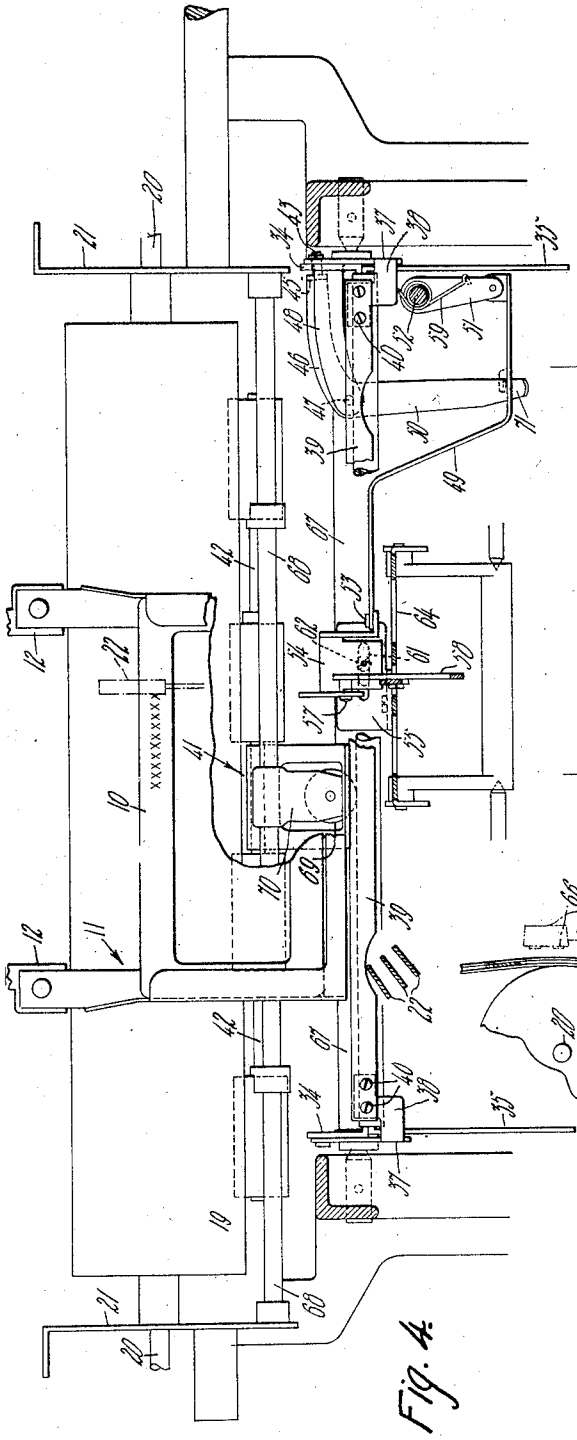


Fig. 4.

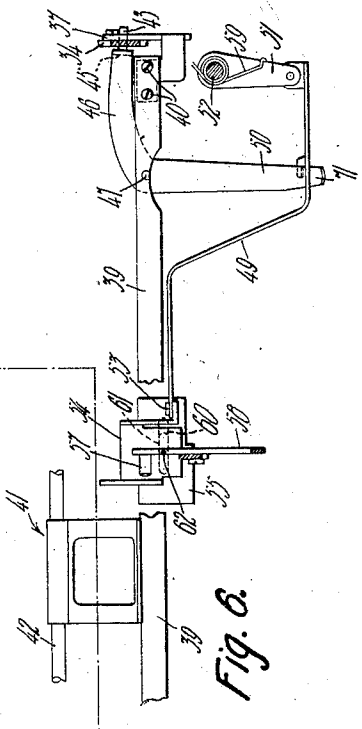


Fig. 6.

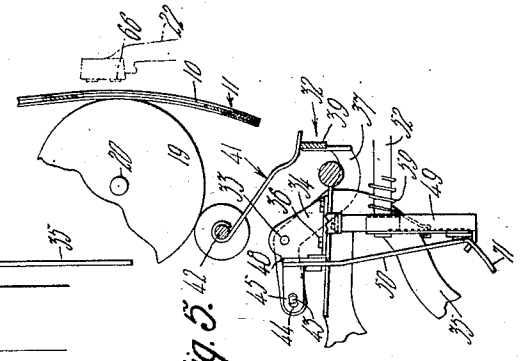


Fig. 5.

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Patented Aug. 21, 1928. 1,681,243

UNITED STATES PATENT OFFICE.

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TYPEWRITING MACHINE.

Application filed August 25, 1925. Serial No. 52,272.

This invention relates to combined typewriting and stencil machines, and one of its features resides in the provision of means to facilitate the handling of a card, upon which it is desired to ribbon-type a line at the upper edge thereof, and to cut several lines of typing upon the stencil-window.

The stencil-card usually comprises a heavy paper or cardboard-frame, and has an opening across which is stretched a stencil-sheet of prepared thin paper. Since it is desired to ribbon-type a line at the upper edge of the card, upon the paper-frame, there is provided mechanism effective to raise a ribbon in front of the type, to cover the printing point. The ribbon-vibrating mechanism is, however, automatically rendered ineffective when typing upon the stencil-sheet, that is to say, the ribbon is not raised to cover the printing point when typing, and therefore the stencil-sheet is struck with the bare type.

One of the objects of this invention is to relieve the operator of the effort required to remember to cast off and restore the ribbon-silencing mechanism, therefore precluding the possibility of errors and generally facilitating the handling of the work.

According to the method of handling the card in this invention, the same is placed in a card-holding frame in front of the platen, and is lowered all the way down to present the upper edge thereof to the printing point. In order to render automatic the ribbon-vibrating mechanism, the lower or bottom edge of the card-holding frame is designed to engage the ribbon-vibrator with the universal bar, whereupon the ribbon will be raised at each key-depression. Since most of the writing is done with the bare type, it has been found advantageous to hold the mechanism disconnected or ineffective by means of a spring, and to positively force it into engagement against the spring, when the card is lowered, so that the ribbon will be conversely rendered ineffective upon line-spacing the card, because, when raising the card, the pressure upon the ribbon-mechanism is released and the spring is allowed to retract, thus disconnecting the ribbon from the universal bar.

In my pending application, No. 33,621, filed May 29, 1925, there is provided a frame, rockably mounted upon a shaft at the rear of the carriage. The free end of the frame is provided with a card-holding frame or pocket into which the card is placed, wherein it is held by means of springs, and is caused to move upwardly or downwardly by the action of a cam, rotatably mounted upon the frame and borne by a fixed roller.

This invention is in the nature of an improvement on said application, since it eliminates the manual operation of the ribbon-mechanism, which is objectionable.

Other features and advantages will hereinafter appear.

In the accompanying drawings,

Figure 1 is a cross-sectional view, in elevation, through the center of an Underwood standard typewriting machine having the invention applied thereto. In this view the card is shown in its lowermost position ready to receive a ribbon-typed line at the upper edge thereof.

Figure 2 is a fragmentary cross-sectional view of the platen in upper-case position.

Figure 3 is a perspective view of the ribbon-switching mechanism.

Figure 4 is a front view of the machine, showing the card in its lowermost position.

Figure 5 is a fragmentary view, showing the card in a position to receive the first line of typing upon the stencil-sheet, the ribbon-mechanism being shown in its silenced or inoperative position.

Figure 6 is a fragmentary front view, in elevation, showing the ribbon-vibrating mechanism disconnected from the operating pin on the universal bar.

According to the method of handling the work in this machine, it is proposed to insert a stencil-card 10, bottom edge first, down a card-receiving frame 11, which is supported by its uppermost ends at 12, to a rocking frame 13. The rocking frame 13 is pivotally mounted upon a cross-shaft 14 secured to a platen-frame 15, and comprises two arms 16 and 17, rigidly connected by a cross-bar 18, which may form an integral part thereof. The frame is slightly curved inwardly, and is disposed in front of a platen 19 on an axle 20, journaled in end plates 21 of the platen-frame. The platen, of course, serves as a backing for the card when the same is struck by type-bars 22. Since the card-receiving frame 11 is secured to the free end of the frame 13, in order to line-space the card it is necessary to raise the free end of the frame. In my said pending application there is shown mechanism for line-spacing the card,

and need not herein be described. In this invention, however, this mechanism is shown diagrammatically, and comprises a cam 23 revolubly mounted in the rocking frame 13 by means of a shaft 24, having a finger-wheel 25 fast thereto. The cam is backed by a fixed roller 26, which is borne by a shaft 27 fast to the end plates 21 of the platen frame. In order to raise the card, it is only necessary to rotate the shaft 24, so that a pawl 28 will engage the next tooth of a ratchet-wheel 29. It will be noted that a handle 30 is provided to restore the frame 13 to its normal position. By releasing the pawl 28, a spring, not shown, is permitted to retract to rotate the cam 23 to its normal position, which is determined by a pin 31 on the arm 17.

When the card-receiving frame is lowered all the way down, as shown in Figure 1, the bottom edge thereof strikes a bail-piece 32, which is pivotally mounted at 33 upon brackets 34, secured to the platen-shift-frames 35 by means of screws 36. The bail-piece 32 comprises two arms 37, having a bent tab 38, upon which there is secured a cross-bar 39 by means of screws 40. In order to prevent the drag of the bottom edge of the card-receiving frame against the stationary cross-bar 39 when the carriage of the machine is letter-spaced, there is provided an intermediate element or card-rest 41, which is pivotally mounted on the feed-roll-shaft 42. Said card-rest is effective to rock the bail 32 upon being urged downwardly by the card-carrying frame.

In upper-case position, as illustrated in Figure 2, the top edge of the bail-piece 32 has moved inward of the machine and to one side of the bottom of the card-receiving frame 11. During such change of position of the bail-piece 32, the card-rest 41 provides a medium for maintaining the downward pressure of frame 11 on said bail-piece.

A rear lever-arm 37^a extending from one of the arms 37 of the bail 32 is provided with a stud 43, fast thereto and engaging with a hole 44 in a bent portion 45 of a lever 46, pivotally mounted at 47 upon an extension 48 of one of the brackets 34. Upon swinging the bail 32 downwardly, the rear arm 37^a of the lever will be moved upwardly, thus swinging the lever 46 in a manner to draw on a link 49, engaging with the lowermost end of the lever 46 at 50. One end of the link 49 is operatively connected to the lowermost end of an arm 51, fast to a rock-shaft 52, while the other end is operatively connected at 53 to a piece 54, slidably mounted on a bracket 55, fast to a universal bar frame 64. The piece 54 is provided with an elongated slot 56 designed to engage a pin 57, fast to a ribbon-vibrating lever 58. Normally, a spring 59 will hold the piece 54 out of engagement with the slot 56, as shown in Figure 6, and, therefore, the reciprocating motion of the universal bar will not be transmitted to the ribbon-vibrator. Upon depressing the card-receiving frame, however, the lever 46 will be rocked to draw on the link 49, thereby sliding the piece 54 into engagement with the pin 57. In order to facilitate the sliding of the piece 54 upon the bracket 55, the latter is provided with a horizontally-disposed slot 60, into which there is fitted a locating block 61 fast to the piece 54 by means of a screw 62.

The universal bar frame 64 is vibrated in the regular way at each key-depression by the action of a heel 63 on each type-bar 22 striking a universal bar 65, which forms an integral part of the universal bar frame 64.

One of the features of this invention relates to the provision of means, whereby either type of a two-type type-head may be used. The platen is normally held in front of a lower type 66, and, in order to write in upper-case type, the platen is raised to upper-case position. The platen-frame is raised in the regular manner, by depressing a key, not shown, thereby swinging the platen-shift-frame 35 on a shaft 67. The shift-frames 35 carry, fast thereto, a rail 68, upon which the platen-frame is slidably mounted by means of a roller 69, revolubly mounted upon a downwardly-extending bracket 70. In order to compensate for the position of the platen when the same is shifted to upper case, it has been found advisable to support the bail 32 upon the brackets 34 on the shift-frames 35, but, since the lever 46 is pivotally mounted in said brackets, and is operatively connected at 50 to the link 49, fixed relatively to the lever 46, the same is provided with a bent portion 71, the radius of which is substantially radial with the shaft 67, upon which it swings when the platen is shifted to upper-case position.

Variations 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 typewriting machine, the combination with a platen, typing instrumentalities, and ribbon-vibrating mechanism, of means for rendering said mechanism normally silent, a card-holding frame for presenting a stencil-card to the types, a train of devices effective to cause said vibrating mechanism to vibrate the ribbon at the type-strokes actuated for a single line of typing by the lower edge of said carbon-holding frame in its lowermost position, and means for line-spacing the frame, said vibrating mechanism returning to silent condition upon a line-spacing operation of said frame.

2. In a typewriting machine, the combination with a platen, typing instrumentalities, and ribbon-vibrating mechanism, of means for rendering said mechanism normally silent, a pendant card-holding frame for presenting a stencil-card to the types, a

train of devices including a bail extending in carriage-feeding direction beneath the platen and said card-holding frame, said bail being directly operable by the lower edge of said frame to cause the vibrating mechanism to vibrate the ribbon at the type-strokes when the frame is in its lowermost position, and means for line-spacing the frame independently of the platen, said vibrating mechanism returning to silent condition upon a single line-spacing operation of said frame which returns said train of devices to normal position.

3. In a typewriting machine, the combination with a case-shifting platen and a carriage therefor, typewriting instrumentalities, and a ribbon-vibrating mechanism, of means for rendering said mechanism normally silent, a train of connections associated with said mechanism including a bail extending in carriage-feeding direction beneath the platen, a card-holding frame for presenting a stencil-card to the types, a carriage-carried element independent of the frame and positioned intermediate the latter and said connections to slide along said bail, said card-holding frame in its lowermost position being effective to engage said element to depress said bail and thereby operate said connections to cause said vibrating mechanism to vibrate the ribbon at the type-strokes, said element providing means for maintaining said connections in operated condition while permitting the same to move to new positions relative to said frame during case-shifting and letter-spacing operations, and means for line-spacing said card-holding frame to thereby render the ribbon-vibrating mechanism silent for cutting the stencil portion of the card with the bare types.

4. In a typewriting machine, the combination with a case-shifting platen, typewriting instrumentalities, and ribbon-vibrating mechanism, of means for rendering said mechanism normally silent, a train of connections associated with said mechanism, said connections including a bail extending in carriage-traveling direction beneath the platen, a card-holding frame for presenting a stencil-card to the types, and an element intermediate said bail and the card-holding frame, said element traveling with the platen and having a portion thereof slidably resting upon the bail, the lower edge of said card-holding frame being effective to directly engage and operate said element, whereby to impart motion to the bail and thus condition said vibrating mechanism to render the ribbon-vibrator effective at the type-strokes, said element permitting changes in position of said bail relative to the frame while maintaining said bail in operated position during case-shifting of the platen.

5. The combination with a typewriting machine having a case-shifting platen, a carriage, typing instrumentalities, and a universal member controlled by said typing instrumentalities, of a normally ineffective ribbon-mechanism, means including a card-carrying frame for presenting a stencil-card to the printing field in front of the platen, and means controlled by said frame to automatically throw the ribbon-mechanism into engagement with the universal member, to thus vibrate the ribbon in front of the types at each key-depression, said last-mentioned means including a plate mounted under the platen in the downward path of the card-carrying frame, so as to be directly engaged and operated by the latter, said plate being arranged to be moved along with the carriage, a bail-piece rockably mounted on the platen-shift-frame of the machine, the upper edge of the bail-piece serving as a support for said plate, and a train of connections controlled by said bail-piece and effective to connect the ribbon-vibrating mechanism to the universal member, said plate being effective to maintain the downward thrust of said frame against said bail-piece when the latter moves to a new position during case-shifting operations, and means for line-spacing the frame independently of the platen.

6. In a typewriting machine including, in combination, a platen-carriage, a platen, typing instrumentalities, ribbon-vibrating mechanism, a rocking frame borne by the platen-carriage to swing above the platen, means on said rocking frame for presenting a stencil-card along the printing line of the platen for first ribbon-typing a line along the upper edge of the card and thereafter cutting the stencil-portion of the card with said typing instrumentalities, and means dependent upon the movement of the stencil-card from its lowermost position for silencing said ribbon-vibrating mechanism.

7. In a typewriting machine including, in combination, a platen-carriage, a platen, typing instrumentalities, a normally silent ribbon-vibrating mechanism, a rocking frame borne by the platen-carriage to swing above the platen, a pendent card-holder mounted on said rocking frame so as to present a stencil-card along the printing line of the platen for first ribbon-typing a line along the upper edge of the card and thereafter cutting the stencil-portion of the card with said typing instrumentalities, and means in the path of said holder for causing said ribbon-vibrating mechanism to vibrate the ribbon when the stencil-card is in its lowermost position so as to ribbon-type the line on the upper edge of the card.

8. In a typewriting machine, the combination with a platen, typing instrumentalities, ribbon-vibrating mechanism including an actuator movable into and out of operative position and means for normally holding the actuator out of operative position for cutting

a stencil-card with the bare type, of a train of connections associated with said actuator, said train including a bail extending in carriage-feeding direction beneath the platen operative to move the actuator into position for actuating the ribbon-vibrating mechanism when the bail is depressed, an intermediate member carried by the platen-carriage to move therewith and in sliding engagement upon said bail, and a card-holding frame for presenting the stencil-card along the printing line of the platen, said card-holding frame when in its lowermost position presenting the card with its upper edge at the printing line and depressing said bail through engagement with said intermediate member to render the ribbon-vibrating mechanism operative for ribbon-typing a line along said upper border of the card by the operation of said typing instrumentalities.

9. In a typewriting machine, the combination with a platen, typing instrumentalities and ribbon-vibrating mechanism including an actuator movable into and out of operative position, of a card-holding frame for presenting a stencil-card along the printing line of the platen, means for normally holding the actuator out of operative position for cutting a stencil-card with the bare type, and a train of connections associated with said actuator, said train including a lever extending into the path of the lower edge of said card-holding frame beneath the platen and operative to move the actuator into position for operating the ribbon-vibrating mechanism when the lever is depressed, said card-holding frame when in its lowermost position presenting the card with its upper edge at the printing line and depressing said lever to render the ribbon-vibrating mechanism operative for ribbon-typing a line along said upper border of the card by the operation of said typing instrumentalities.

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