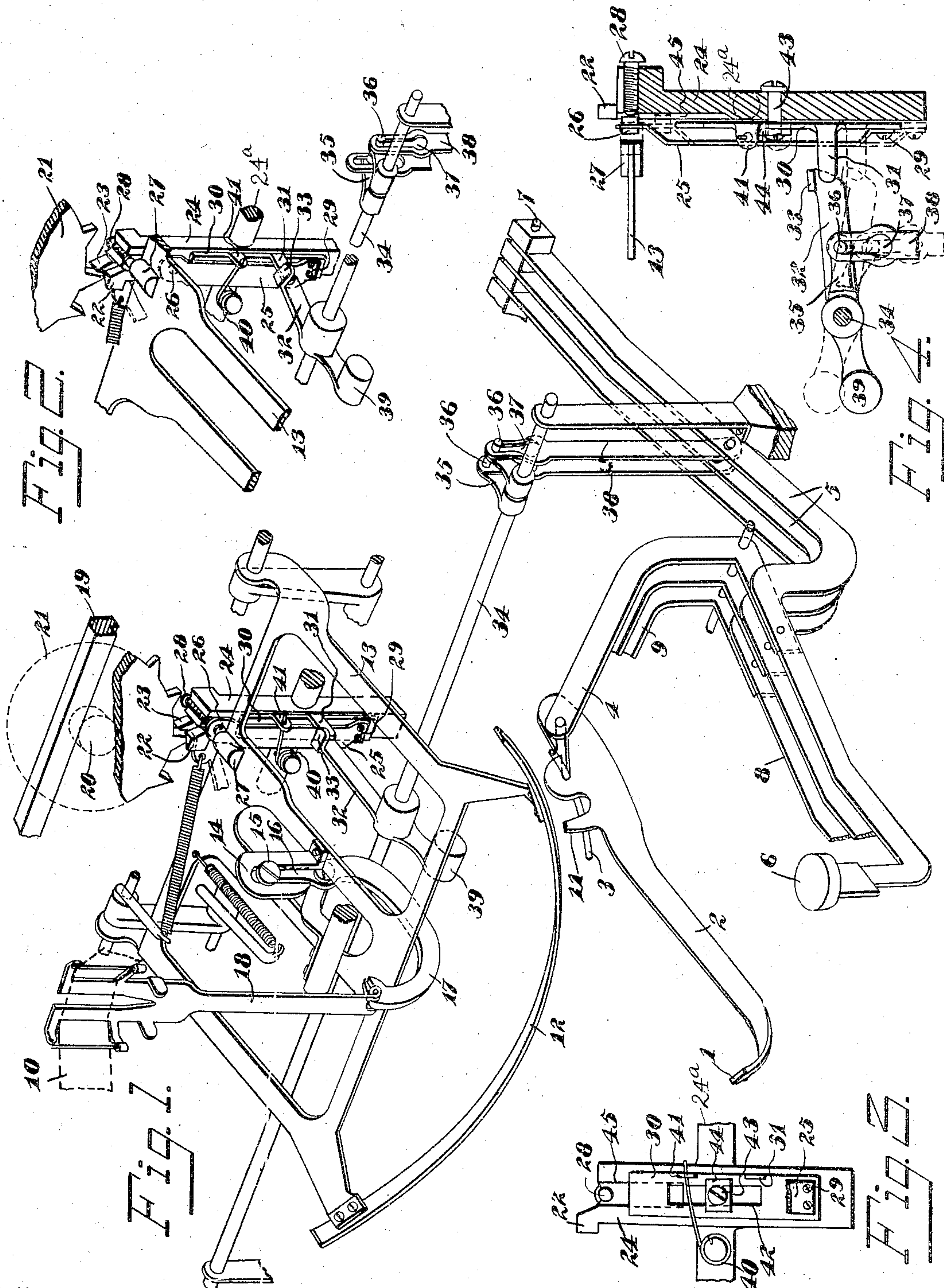


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PATENTED AUG. 7, 1906.

W. F. HELMOND.
TYPE WRITING MACHINE.
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UNDERWOOD TYPEWRITER COMPANY, OF NEW YORK, N. Y., A COR-
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TYPE-WRITING MACHINE.

No. 827,726.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WILLIAM F. HELMOND, a citizen of the United States, residing in Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a specification.

This invention relates to the accent-key mechanism of those type-writing machines in which a ribbon is caused to vibrate at each type-stroke to cover and uncover the printing-point.

In such machines the ribbon-vibrator is operated in the usual manner by a universal bar, and the latter is operated by all the type-keys, including the accent key or keys; but each of the latter controls means for preventing the carriage from being fed by the operation of the universal bar, and hence it is practicable by striking one or more accent-keys and then the ordinary type-key to secure proper register or relation of the accent or accents above or below the letter upon the written sheet.

In carrying out my present improvements I mount upon the dog-carrier of the well-known "Underwood" type-writing machine an interponent, which under normal conditions serves to transmit movement from the universal bar to said dog-carrier. To the accent key or keys, however, I connect means for moving said interponent to idle or ineffective position, so that the movement of the universal bar has no effect upon the dog-carrier, and hence, although the ribbon is vibrated to cover the printing-point, still the carriage-dogs are not moved and no feeding of the carriage is effected.

In the accompanying drawings, Figure 1 is a perspective view of my improvements applied to the carriage-feeding and ribbon-vibrating mechanisms of an Underwood front-strike type-writing machine, the parts being all shown in normal position. Fig. 2 is a fragmentary perspective view illustrating the manner in which an accent-key withdraws the interponent to permit movement of the universal bar without operating the dog-carrier. Fig. 3 is a front view of a portion of a dog-carrier, showing a slide mounted thereon and carrying a yielding interponent, the parts being shown in normal position. Fig. 4 is a sec-

tional elevation taken from front to rear and illustrating details of the interponent mechanism, the parts being shown in full lines in normal position and in dotted lines with the interponent withdrawn to idle position.

An accent-type 1 is fixed upon a type-bar 2, mounted upon a fulcrum-rod 3 and engaged by a bell-crank 4, the latter connected to a lever 5, having an accent-key 6 and pivoted at its rear end at 7. The levers and bell-cranks for the ordinary types are indicated at 8 and 9, respectively. A depression of any key carries down its lever and vibrates the bell-crank forwardly, thereby throwing the type-bar rearwardly, the type striking through a ribbon 10 against the front side of a platen. (Not shown.)

Each of the series of type-bars has a heel 11, which strikes a curved universal bar 12 and moves the same rearwardly, the universal bar being fixed upon a horizontal table or frame 13, which in said machine is suitably guided for rearward and forward movements. Upon said frame is usually fixed a slotted actuator 14, which engages a wrist 15, provided upon a short arm 16 of a lever 17, whereby the latter is caused to carry up and down a vibrator 18, through which is threaded the ribbon 10. The ribbon is vibrated at the actuation of all the type-keys, including the accent-keys. Said universal-bar frame is also utilized to effect the feeding of the paper-carriage, the latter, including a rack 19, meshing with a pinion 20, connected to an escapement-wheel 21, with which cooperate the usual spacing and detent dogs 22 and 23, said dogs mounted upon an upright rock-arm or carrier 24. The backward movement of said carrier is effected in this instance by means of an interponent comprising a plate 25, having at its upper end a head 26. One side of the latter receives the impact of a tappet 27, mounted upon the rear edge of the universal-bar frame 13, and the other side is in contact with a screw or adjustable abutment 28, threaded into the upper portion of the dog-carrier 24, thereby to regulate the stroke imparted to the latter through the interponent 26 and secure accurate and rapid feeding of the carriage. The universal bar under normal conditions operates said interponent and dog-carrier at each rearward movement of each ordinary type-bar, so as to effect the usual feeding move-

ments of the carriage. Said interponent-plate is secured at its lower ends by means of screws 29, upon a vertical slide 30, mounted upon the dog-carrier. The plate 25 is yielding and presses lightly against the screw 28, the latter having a rounded end to engage the head 26.

The slide 30 is provided with a projection 31, whereby it may be pulled down, this movement being effected by an arm 32, having a lip 33 normally standing over said projection 31, said arm being fixed upon a rock-shaft 34, suitably mounted in the framework of the machine and provided, near its right-hand end, with operating-arms 35, having pins 36 engaged by slots 37, formed vertically in the upper ends of links 38, connected to the accent-type key-levers 5.

When any ordinary key-lever 8 is depressed, its type-bar is swung up until the universal bar is operated, so that the ribbon is vibrated, and the dog-carrier is also swung backward by means of the interponent 26; but when any accent-key 6 is depressed its link 38 is drawn down, vibrating the arm 35 and rocking the shaft 34 and arm 32, the lip 33 on the latter carrying down the projection 31 and slide 30, and hence withdrawing the interponent 26, so that the movement of the universal bar 13 is ineffective to operate the dog-carrier 24. The provision of the slots 37 in the links 38 enables either link to rock the shaft 34 independently of the other. A counterweight 39 or other means may be provided for returning said shaft to normal position. A spring 40, provided upon the dog-carrier, engages an ear 41 upon the slide 30 to lift the latter to normal position independently of the keys 5. The slide 30 is guided partly by means of a vertical slot 42, which engages a screw 43, having a square collar or keeper 44, partly by the head 26, which works in a slot 45, formed in the front face of the dog-rocker.

Variations may be resorted to within the scope of my invention, particularly in the construction and operation of the interponent, which need not in all cases be mounted upon the dog carrier or actuator, 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 types, type-keys and a carriage, of a universal bar operable by the keys, a ribbon-vibrator operable by said universal bar, carriage-feeding devices, an interponent being provided between said universal bar and said carriage-feeding devices for operating the latter, and means connected to one of said keys for moving said interponent to inoperative position, and thereby render the universal bar ineffective to move the carriage-feeding devices from normal position.

2. In a type-writing machine, the combination with types, type-keys and a carriage, of a universal bar operable by the keys, a ribbon-vibrator operable by said universal bar, carriage-feeding devices, an interponent being provided between said universal bar and said carriage-feeding devices, means connected to one of said keys for moving said interponent to inoperative position and thereby render the universal bar ineffective to move the carriage-feeding devices from normal position; and an adjustable device associated with said interponent for regulating the stroke imparted by said universal bar to said carriage-feeding devices.

3. In a type-writing machine, the combination with types, type-keys and a carriage, of a universal bar operable by the keys, carriage-feeding dogs, a carrier for said dogs, an interponent mounted upon said carrier, for enabling the universal bar to operate the carrier, and connections from said interponent to one of said keys, to enable it to move said interponent to ineffective position.

4. In a type-writing machine, the combination with types, type-keys and a carriage, of a universal bar operable by the keys, a ribbon-vibrator operable by said universal bar, carriage-feeding dogs, a carrier for said dogs, a yielding interponent between said universal bar and carrier, to enable the universal bar to operate the carrier, connections from said interponent to one of said keys to enable it to move said interponent to ineffective position; and an adjustable screw against which said interponent bears, thereby to regulate the stroke imparted by the universal bar to the carrier.

5. In a type-writing machine, the combination with types, type-keys and a carriage, of a universal bar operable by the keys, carriage-feeding dogs, a carrier for said dogs, an interponent between said universal bar and said carrier, to enable the universal bar to operate the carrier, connections from said interponent to one of said keys, to enable it to move said interponent to ineffective position, and a spring for holding said interponent in effective position independently of its keys.

6. In a type-writing machine, the combination with types, type-keys and a carriage, of a universal bar operable by the keys, a ribbon-vibrator operable by said universal bar, carriage-feeding dogs, a dog carrier or actuator, an interponent mounted upon said carrier, a spring holding said interponent in normal position, and means for enabling one of said keys to move said interponent to idle position to prevent the actuation of said carrier by the universal bar.

7. In a type-writing machine, the combination with types, type-keys and a carriage, of a universal bar operable by the keys, a ribbon-vibrator operable by said universal bar, carriage-feeding dogs, a dog carrier or actu-

ator, an interponent mounted upon said carrier, and means for enabling any one of a plurality of said keys to move said interponent to idle position to prevent the actuation of said carrier by the universal bar.

8. In a type-writing machine, the combination with types, type-keys and a carriage, of a universal bar operable by the keys, a ribbon-vibrator operable by said universal bar, a dog carrier or actuator, a slide mounted upon said carrier and transmitting movement to the latter from the universal bar, and means for enabling one of said keys to move said slide to ineffective position.

9. In a type-writing machine, the combination with types, type-keys and a carriage, of a universal bar operable by the keys, a ribbon-vibrator operable by said universal bar, a feeding dog carrier or actuator, a slide mounted upon said carrier, and means for enabling one of said keys to move said slide to idle position; an adjustable screw being provided upon said carrier, and said slide having a yielding part which bears lightly against said screw and transmits motion from the universal bar to the dog-carrier.

10. In a type-writing machine, the combination with types, type-keys and a carriage of a universal bar operable by the keys, a ribbon-vibrator operable by said universal bar, a feeding dog carrier or actuator, a slide mounted upon said carrier and having a movement-transmitting part interposed between the latter and the universal bar, a projection upon said slide, and an arm controlled by one of said keys and in position to engage said projection to move said slide to idle position.

11. In a type-writing machine, the combination with types, type-keys and a carriage, of a universal bar operable by the keys, a ribbon-vibrator operable by said universal bar, a dog carrier or actuator, a slide mounted upon said carrier and having a movement-transmitting part interposed between the latter and the universal bar, a projection upon said slide, an arm in position to operate said projection, a rock-shaft carrying said arm, and a loose connection between one of said keys and said rock-shaft.

12. In a type-writing machine, the combination with types, type-keys and a carriage

of a universal bar operable by the keys, a ribbon-vibrator operable by said universal bar, a feeding dog carrier or actuator, an interponent mounted upon said carrier, an arm for moving said interponent to idle position, a rock-shaft carrying said arm, and loose connections between a plurality of said keys and said rock-shaft.

13. In a type-writing machine, the combination with types, type-keys and a carriage, of a universal bar operable by the type-keys, a ribbon-vibrator operable by said universal bar, a dog carrier or actuator, a slide upon said carrier, a spring-plate mounted upon said slide and having a head engageable upon one side by said universal bar, a screw upon said carrier to engage the other side of said head, a spring for returning said slide, an arm mounted in position to actuate said slide, and means enabling one of said keys to actuate said arm.

14. In a type-writing machine, the combination with types, type-keys, and a carriage, of carriage-feeding dogs, two members whereof one is operated by the keys, and the other operates said dogs, an interponent mounted upon the dog-operating member, and through which said member is operated, and means for enabling one of said keys to move said interponent to idle position.

15. In a type-writing machine, the combination with types, type-keys, and a carriage, of a universal bar operable by the type-keys, a ribbon-vibrator operable by said universal bar, carriage-feeding mechanism an operative connection being provided between said carriage-feeding mechanism and said universal bar, and means operated at the depression of one of said type-keys for breaking the connection between said universal bar and said carriage-feeding mechanism, so that the latter remains in normal position during the depression of said key, means being provided for causing the return of said key to restore the connection between the universal bar and the carriage-feeding mechanism.

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Witnesses:

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EDWIN C. SMITH.