

J. ALEXANDER.
TYPE WRITER KEY AND TYPE BAR MOVEMENT.
APPLICATION FILED APR. 18, 1911.

1,050,089.

Patented Jan. 14, 1913.

2 SHEETS-SHEET 1.

FIG- 1-

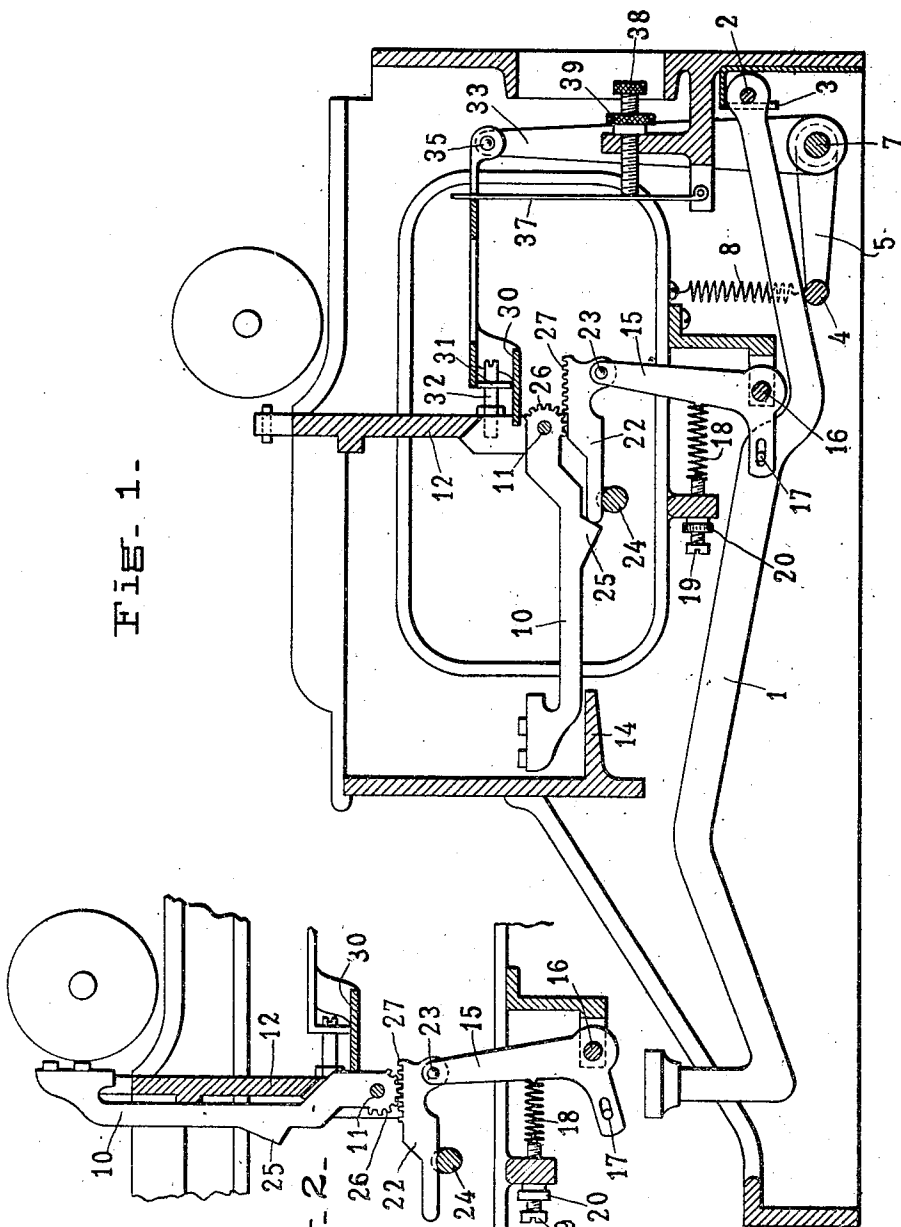


FIG- 2-

WITNESSES:

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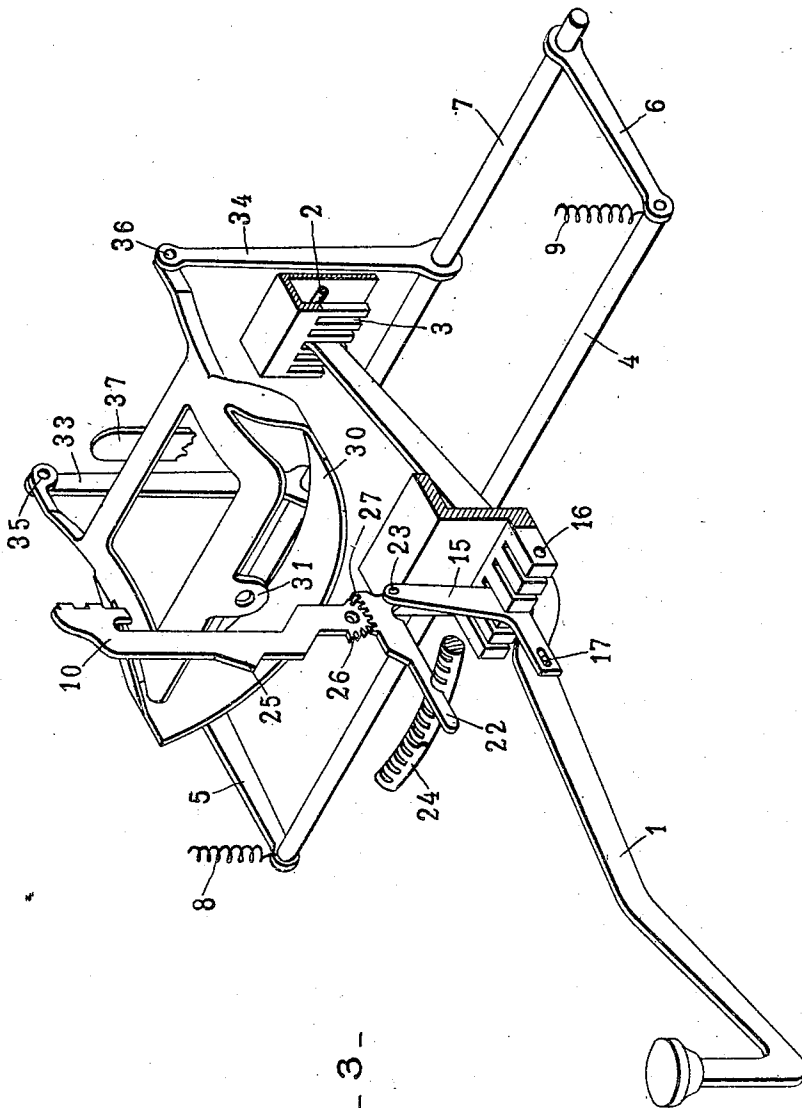


Fig-3-

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JESSE ALEXANDER, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF TO CHARLES G. WILLIS, OF NEW YORK, N. Y.

TYPE-WRITER KEY AND TYPE-BAR MOVEMENT.

1,050,089.

Specification of Letters Patent.

Patented Jan. 14, 1913.

Application filed April 18, 1911. Serial No. 621,732.

To all whom it may concern:

Be it known that I, JESSE ALEXANDER, a citizen of the United States, and resident of New York, in the county of Kings and State of New York, have invented certain new and useful Improvements in Type-Writer Key and Type-Bar Movements, of which the following is a specification.

My invention relates particularly to a key and type bar movement for a front stroke visible writing machine.

The object is to provide a construction which may be operated with great rapidity without interference.

The invention consists in its preferred form of a series of type bars arranged to strike on the front of a platen and key levers and connecting mechanism adapted to operate the type bars, the type bars having freedom of motion independently of the key levers.

Figure 1, is a vertical section and side elevation showing the mechanism of my invention in the position of rest. Fig. 2, is a fragmentary vertical section and side elevation showing a type bar in the printing position. Fig. 3, is a perspective view of the principal elements of the mechanism embodying my invention, the type bar being in the printing position.

The key levers such as 1 are all pivoted at the rear of the machine for instance, on the pivot 2 and are spaced apart for instance, by a comb 3. Beneath the key levers extends a pressure bar 4 carried by the arms 5 and 6 loosely pivoted on shaft 7 and drawn upwardly by the springs 8 and 9 so that the depression of any of the key levers presses the bar 4 downward and against the tension of the springs 8 and 9 which tend to return the parts.

The type bars such as 10 are pivoted as at 11 in the lower edge of the type bar segment or plate 12. The front ends of the type bars are supported by the flange 14.

The intermediate levers such as 15 are pivotally supported at 16 and suitably spaced apart. The horizontally forwardly extending arms are connected with the key levers by a pin and slot construction such as 17. Each intermediate lever is pressed rearwardly by a spring 18 which may be adjusted by a screw 19 and clamped by the set nut 20.

A slide 22 pivotally connected at the rear

end of the upper arm of the lever 15 as at 23 has its front end supported by the notched bar 24. The type bar has a lug 25 with an inclined surface adapted to be engaged by the front end of the slide 22. Each type bar has teeth 26 forming the segment of a gear around the pivot 11 with which the teeth 27 of a rack on the slide 22 are adapted to mesh. When the key lever 1 is depressed the intermediate lever 15 is tilted forwardly and forces the slide 22 forwardly so that by reason of its engagement with the lug 25 the type bar 10 is thrown upwardly to the printing position. This enables me to obtain a quick action of the type bar. The gear teeth 26 and 27 enable me to obtain a great pressure at the end of the stroke when desired for instance, in manifolding. The teeth of the rack and gear segment however, do not normally mesh.

In the rear of the type bars is arranged a curved universal bar 30 which has a perforated lug 31 guided on the pin 32 at the rear of the type bar segment or plate 12. The rear end of the universal bar 30 is pivotally connected to the oscillating arms 33 and 34 at 35 and 36 respectively. A blade spring 37 presses against the universal bar 30 and holds it yieldingly in position back of the type bar plate 12. The spring 37 may be adjusted by the screw 38 and check nut 39. This universal bar thus affords yielding means for checking the type bars and returning them to their normal position of rest. It will be seen that the key levers meet the resistance of the spring pressed bar 4, the intermediate levers are under pressure of the individual springs 18 and the type bars are resiliently met by the universal bar 30.

What I claim is:—

1. A key and type bar movement consisting of a key lever pivoted at its rear end, an intermediate lever having a horizontal arm connected to said key lever and a vertically extending arm, a pivoted type bar, a slide adapted to engage said type bar in front of and below its pivot at the beginning of the stroke and connected to the vertically extending arm of said intermediate lever and gear teeth carried by said type bar and slide adapted to intermesh.

2. In a key and type bar movement, a pivoted type bar having an inclined lug and a segmental gear arranged about its pivot, a slide having one end formed to engage said

lug and having gear teeth arranged along one edge to intermesh with said segmental gear, and means for operating said slide.

3. In a key and type bar movement, a pivoted type bar having an inclined lug and a segmental gear arranged about its pivot, a slide having one end formed to engage said lug and having gear teeth arranged along one edge to intermesh with said segmental gear, and means for operating said slide including a key lever and an intermediate lever connecting said key lever and said slide.

4. In a key and type bar movement, a pivoted key lever, a pivoted type bar, an intermediate lever connected to said key lever and a slide connected to said intermediate lever adapted to operate said type bar, a yielding return bar beneath said key lever, an individually adjustable spring for said intermediate lever and a spring pressed bar adapted to return said type bar.

5. In a key and type bar movement, a pivoted type bar having a lug and a gear segment, a slide adapted to co-act with said lug and having gear teeth adapted to intermesh with said gear segment, a key lever connected to operate said slide, a universal bar adapted to be operated by said type bar, a

blade spring normally pressing said universal bar and means for adjusting the tension thereof.

6. In a key and type bar movement, a pivoted type bar having a lug with an inclined rear face and a gear segment arranged about its pivot, a slide having its front end adapted to engage the rear face of said lug and having gear teeth normally disengaged from said gear segment but adapted to intermesh therewith when the slide is moved forwardly, and means for operating said slide.

7. In a key and type bar movement, a pivoted type bar having a lug with an inclined rear face and a gear segment arranged about its pivot, a slide having its front end adapted to engage the rear face of said lug and having gear teeth normally disengaged from said gear segment but adapted to intermesh therewith when the slide is moved forwardly, and means for operating said slide including a key lever and an intermediate connecting lever.

JESSE ALEXANDER.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."