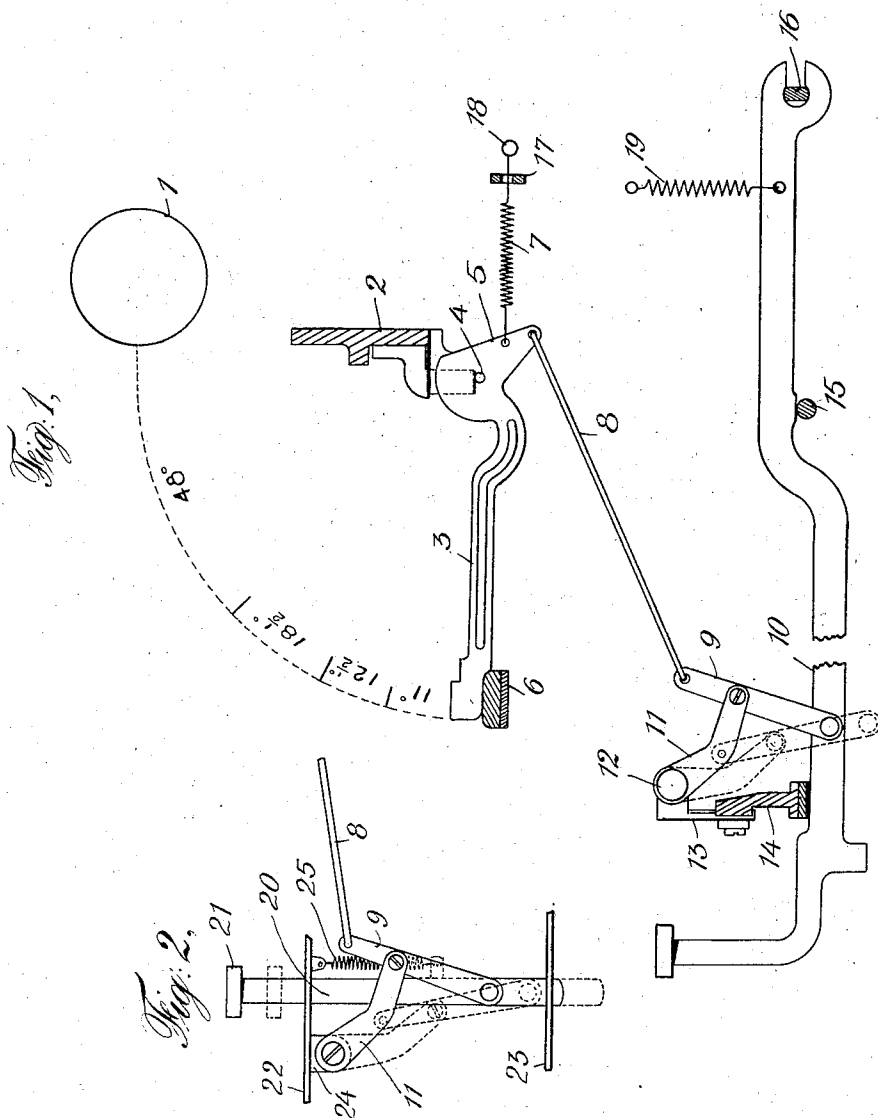


E. B. HESS.
TYPE WRITING MACHINE.
APPLICATION FILED MAR. 12, 1908.

1,009,513.

Patented Nov. 21, 1911.



WITNESSES:
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TYPE-WRITING MACHINE.

1,009,513.

Specification of Letters Patent. Patented Nov. 21, 1911.

Application filed March 12, 1908. Serial No. 420,551.

To all whom it may concern:

Be it known that I, EDWARD B. HESS, a citizen of the United States of America, residing in the borough of Brooklyn, city and State of New York, have invented certain Improvements in Type-Writing Machines, of which the following is a specification.

This invention relates to a means for actuating type bars of a visible writing machine with an increasing velocity of movement of the type bar from position of rest to the printing point. It is shown applied to a front strike machine. The movement is applicable to either key lever or push pin machines.

In the accompanying drawing, Figure 1 is a somewhat diagrammatic view in the nature of a vertical longitudinal section showing one of the central type bars and its key lever; and Fig. 2, a detail view showing the type bar actuating means operated by a push pin.

1 indicates the platen and 2 any suitable form of type bar segment located below the platen and having pivoted in it type bars that normally lie toward the front of the machine. The type bar 3 is pivoted in the segment at 4 and has a heel or projection 5 extending downwardly and rearwardly from the pivot. A spring device is to be used, the reaction of which tends to return the type bar to normal position against the type bar rest 6. In this instance, a coiled spring 7 is attached at its front end to the heel of the type bar. Any other form of spring device otherwise located may of course be used.

Hinged to the heel 5 of the type bar is a link 8 that extends forward and at its front end is hinged to the upper end of a lever arm 9 pivotally connected with the corresponding key-lever 10. Intermediate the points of connection of the arm 9 with the link and type bar there is pivotally connected to it the rear end of a rocking arm 11 whose front end is mounted to rock about a fixed axis 12 in an upright bracket 13 secured to a front plate 14 of the machine. All the other bars of the machine will be similarly connected with their respective key levers.

15 indicates the ordinary universal bar and 16 a bar upon which all the key levers may be pivoted at their rear ends.

When the key lever is depressed the arms

9, 11, pass into the position shown by dotted lines and during their movement the type bar is pulled by link 8 to the printing point with a rapidly increasing velocity. In the particular arrangement shown, the degrees through which a type bar will move from position of rest to the printing point, are indicated for each quarter of the downward movement of the finger piece of the key lever. When the bar has been depressed one-fourth of its stroke, the head of the type bar will have moved through eleven degrees; on the next quarter, twelve and one-half degrees; on the third quarter eighteen and one-half degrees; and on the fourth quarter, forty-eight degrees. The velocity of the bar adjacent the printing point both during approach and retreat, is therefore very high and affords many well known advantages unnecessary to recite here.

The pivotal connection of the rocker arm 11 with lever arm 9 affords a moving fulcrum about which the lever arm swings and in the construction shown that fulcrum describes an arc of a circle when the key lever is depressed.

The principle of operation of the simple mechanism described may no doubt be embodied in different mechanical form by those skilled in the art without departing from this invention.

The rear end of the wire forming the spring 7 is extended in a straight line, passes loosely through an aperture in a fixed plate 17 and is provided in rear of the plate with a head or enlargement 18. The spring is only brought into action by its head 18 abutting against the rear face of plate 17. The relation of the parts is such that this occurs when the type bar head is suitably adjacent the printing point, and the spring acts to effect quick retreat of the bar from the platen. A suitable spring 19 is applied to each type bar.

In Fig. 2 the arm 9 is pivoted to a push pin 20 equipped with a finger piece 21 and movable vertically in guide slots in upper and lower key board plates 22, 23. The rocking arm 11 in this case turns about an axis in a bracket 24 on the under face of plate 22. The reaction spring 25 for the push pin is connected to the under side of plate 22 and to a projection on the side of the push pin, the spring being located be-

tween the plates 22, 23. The operation of the type bar actuating devices is the same as already described.

I claim:

- 5 1. The combination of a pivoted type bar and its vertically movable operating key-board member, a lever arm pivoted at one end to said member, a link directly connecting the other end of said lever arm with the
10 type bar and a rocker arm pivotally connected with the lever arm between its points of connection with the key-board member and with the link and an axis about which the rocker arm swings.
- 15 2. The combination of a pivoted type bar normally lying toward the front of the machine, its vertically movable operating key-board member, a lever arm pivoted at one end to said member and extending upwardly
20 therefrom, a link directly connecting the other end of the lever arm and the heel of the type bar and a rocker arm pivotally connected at its rear end to the lever arm between its points of connection with the
25 key-board member and with the link and a support about which its front end rocks.
3. The combination of a pivoted type bar normally lying toward the front of the ma-

chine, its vertically movable operating key-board member, a lever arm pivoted at its lower end on said member and extending upwardly therefrom, a link directly connecting the upper end of the lever arm with the heel of the type bar and a yielding pivot for said lever arm applied intermediate its points of connection with the link and with the key-board member.

4. The combination of a pivoted type bar normally lying toward the front of the machine, its vertically movable operating key-board member, a lever arm pivoted at its lower end on said member and extending upwardly therefrom, a link directly connecting the upper end of the lever arm with the heel of the type bar and a yielding pivot adapted to describe a circular arc for said lever arm applied thereto intermediate its points of connection with the link and with the key-board member.

In testimony whereof, I have hereunto subscribed my name.

EDWARD B. HESS.

Witnesses:

T. C. MYERS,
F. C. JOUTRAS.

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