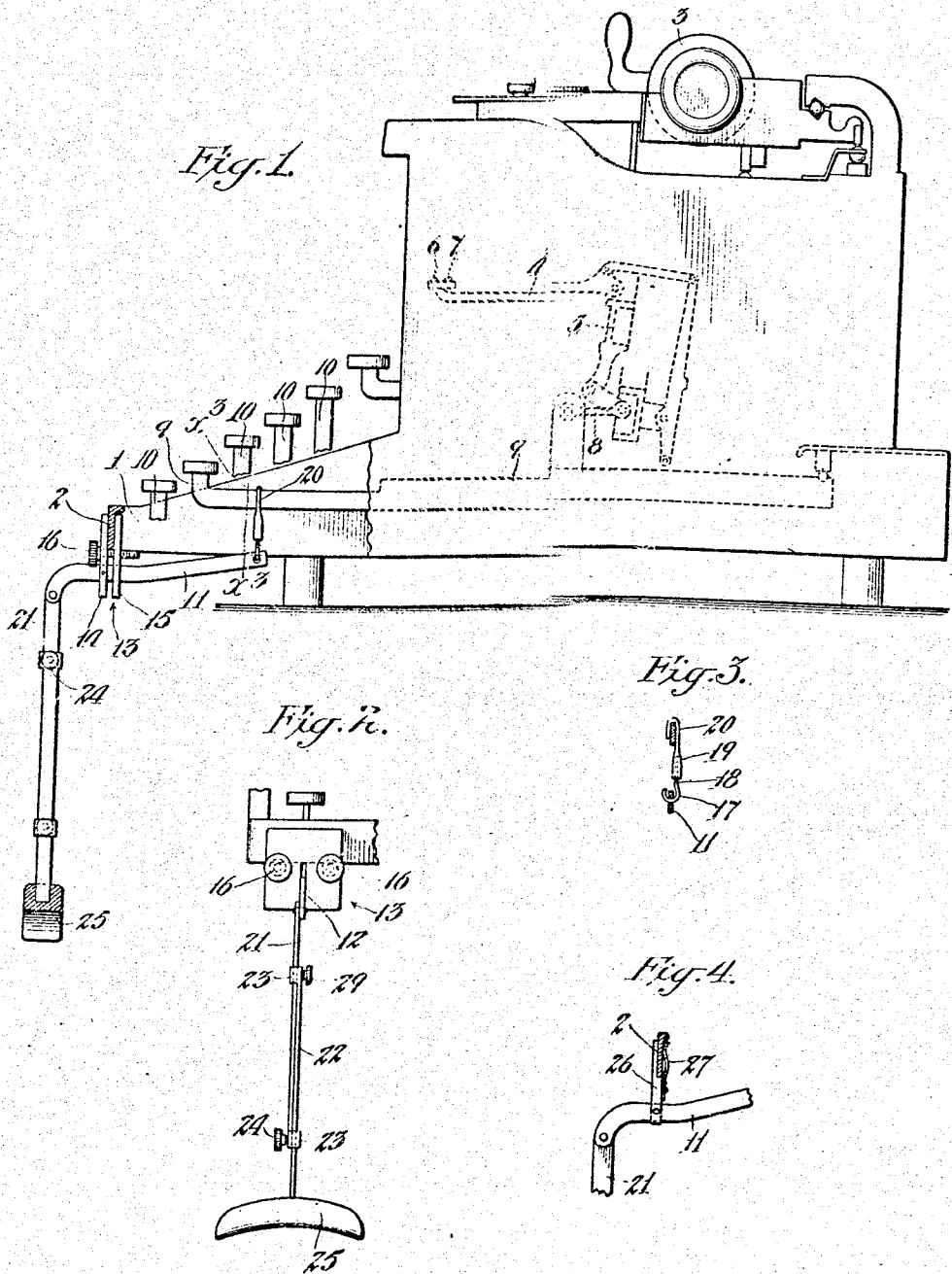


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SHIFTING DEVICE FOR TYPE WRITERS.
APPLICATION FILED NOV. 2, 1908.

968,093.

Patented Aug. 23, 1910.



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UNITED STATES PATENT OFFICE.

HENRI TAHIR, JR., OF SAN BERNARDINO, CALIFORNIA.

SHIFTING DEVICE FOR TYPE-WRITERS.

968,093.

Specification of Letters Patent. Patented Aug. 23, 1910.

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To all whom it may concern:

Be it known that I, HENRI TAHIR, JR., a citizen of the United States, and residing at San Bernardino, in the county of San Bernardino and State of California, have invented a new and useful Shifting Device for Type-Writers, of which the following is a specification.

This invention relates to a device adapted particularly for use on typewriters of the shift-key class, in which each type bar is equipped with a plurality of type and it is necessary at times to operate a shift key in addition to the regular key to produce a capital letter or other character which would not be produced by simply operating the key lever associated with that type bar.

One objection heretofore made to typewriters of the shift-key class is that for capital letters and certain characters an extra key must be pressed in addition to the regular key and such extra operation takes time and sometimes requires the hand of the operator to travel unnecessarily, which is overcome by the present invention.

In operating under what is known as the "touch" system it is important that the hands remain in substantially one position and for such method the present invention is well adapted, the object of the present invention being to enable the shift key to be operated by the knee of the operator, thus leaving the hands free for operating the type keys.

The invention is also adapted for operating a tabulator key, and in this use it obviously is not limited to shift key machines.

Referring to the drawings, Figure 1 is a side elevation of a typewriter showing the device applied thereto, a portion of the typewriter being broken away to better reveal the device. Fig. 2 is a front elevation of the device showing a portion of the typewriter frame. Fig. 3 is a section on the line x^3-x^3 Fig. 1. Fig. 4 is a side elevation of a portion of the device showing a slight modification.

1 designates the frame of the typewriter having a front bar 2.

3 designates the platen.

4 designates a type bar pivoted on a vertically movable segment frame 5, the type bar 4 having two types 6 and 7. The type 6 may, for example, be a small letter and the type key 7 may be a capital letter, the type 6 being brought to printing position on the platen as the type bar 4 is swung up-

wardly when the segment 5 is in normal position, and the type 7 being brought to the proper printing point by shifting up the segment 5 the proper distance and then swinging the type bar 4. The type bars 4 are operated by any of the well known mechanisms, not necessary to be shown or described in detail, and the segment 5 may be shifted in any well known manner, as for example, the linkage 8 connected with the shift key lever 9.

10 designates the regular key levers. Upon depressing the shift key lever 9 the segment 5 is lifted so that when the regular key lever is struck a capital letter or other character will be printed instead of the regular small letter or other character, which is normally printed by a type bar 10, without using the shift key 9.

All of the parts above described are well known in the art.

The invention comprises a lever 11 pivoted to a clamp 13 which preferably consists of two plates 14 and 15 which grip opposite sides of the frame bar 2, and are held in close detachable engagement therewith by two thumb screws 16. The clamp 13 is so constructed that it is adapted to be applied to various makes of typewriters and in addition to being easily attached or detached, is readily adjustable to various thicknesses of frame bars 2.

The inner end of lever 11 is engaged by a hook 17 having a threaded shank 18 which is screwed into a threaded socket 19 formed on a hook 20, the latter being hooked over the shift key lever 9. The two hooks 20 and 17 form a link connecting the lever 11 with shift key lever 9 which may be elongated or contracted by screwing hook 18 in socket 19, to suit the difference between lever 11 and key lever 9. Pivoted to the other end of lever 11 is an extensible bar comprising an upper member 21 and a lower member 22, the end of each having a loop 23 through which the other member passes, thumb screws 24 being provided for clamping the members in the desired position. The lower end of the member 22 is provided with a curved cross piece 25 which is adapted to be engaged by the knee of the operator to tilt the lever 11 and operate the shift key lever 9. The members 21 and 22 may be readily adjusted to suit the distance between the knee of the operator and the lever 11.

Another form of the clamp is shown in

Fig. 4 which consists of a bar 26 to which the lever 11 is pivoted, there being a flat spring 27 secured to the bar 26 and adapted to grip the opposite side of the frame bar 2.

Inasmuch as the pressure against bar 26 is upwardly, this device readily stays in place. It should be understood that I do not limit myself to the particular form of clamp shown therein nor to the precise details of construction and the design of the other parts of the device.

If the device is to operate a tabulating key the hook 17 will be engaged therewith instead of lever 9.

What I claim is:—

1. In combination, a clamp adapted to be adjustably attached to a typewriter frame, a horizontal lever pivoted intermediate its ends to said clamp to swing in a vertical plane, means for detachably connecting one end of said lever with the shift key lever of the typewriter, a vertical, longitudinally extensible bar pivotally connected to the other end of said horizontal lever and depending therefrom, and means for moving said bar longitudinally with a vertical bodily movement comprising a horizontal cross piece on the extensible bar adapted to be engaged by the knee of the operator, said bar being free to swing laterally to accommodate itself to the natural movement of the operator's knee.

2. In combination, a clamp adjustably at-

tached to a typewriter frame, a substantially horizontal lever pivoted intermediate its ends to said clamp, an adjustable rigid connection pivotally attached to one end of said lever for detachably connecting said lever to the shift key of a typewriter, a vertically movable bar pivotally connected to the other end of said lever and depending therefrom, said bar being longitudinally adjustable and free to swing back and forth, and a cross piece on the vertically movable bar having a concave lower face for engagement with the knee of the operator.

3. In combination, a typewriter frame, a shift key, and means for operating said shift key comprising a substantially horizontal pivoted operating lever mounted to swing in a vertical plane, a vertical bar pivoted at its upper end of the horizontal lever and hanging down therefrom and capable of freely swinging laterally without moving the horizontal lever, but movable longitudinally in a vertical direction to rock the horizontal lever and actuate the shift key, and a cross piece on the lower end of said vertical bar for receiving upward pressure of the knee of the operator to impart vertical longitudinal movement to the vertical bar.

HENRI TAHIR, Jr.

In presence of—

G. E. Scow,

D. W. Hobson.