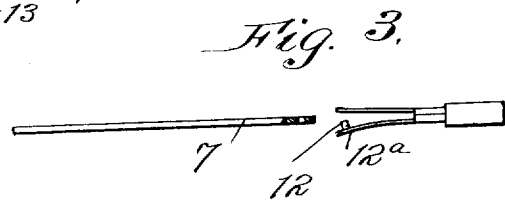
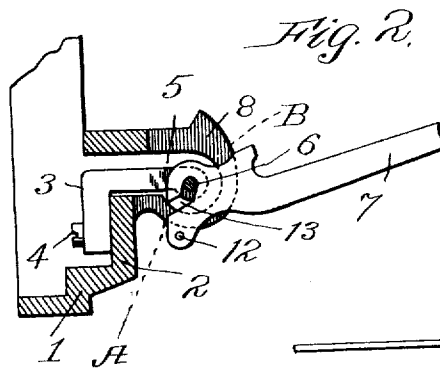
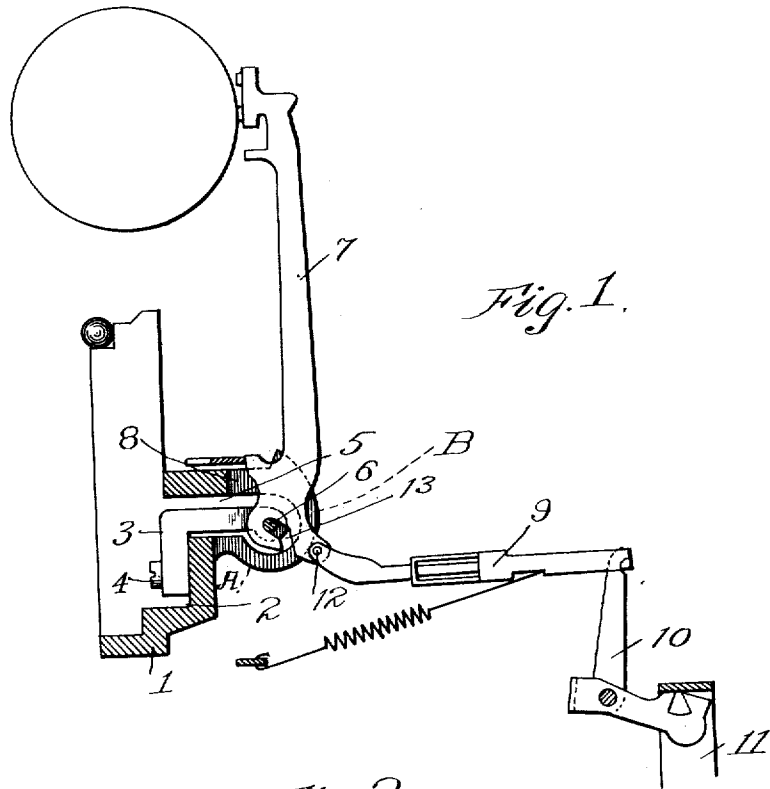


H. E. BRIDGWATER.
DETACHABLE TYPE BAR FOR WRITING MACHINES.
APPLICATION FILED NOV. 11, 1911.

1,023,806.

Patented Apr. 23, 1912.



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UNITED STATES PATENT OFFICE.

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DETACHABLE TYPE-BAR FOR WRITING-MACHINES.

1,023,806.

Specification of Letters Patent.

Patented Apr. 23, 1912.

Application filed November 11, 1911. Serial No. 659,791.

To all whom it may concern:

Be it known that I, HERBERT E. BRIDGWATER, a citizen of the United States, residing at Derby, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Detachable Type-Bars for Writing-Machines, of which the following is a specification.

10 The object of my invention is to provide a type bar for a writing machine of such a form and so associated with its pivotal support, radial guide and operating link as to be conveniently and quickly detached from
15 those parts and removed from the machine for the purpose of cleaning, adjusting or substitution. With respect to the first named purpose, in those writing machines in which the type bars are guided at their
20 heel portions by the walls of slots cut radially in their supporting segments, it is desirable to keep the bearing surfaces as clean as possible, and to properly clean these surfaces removal of the type bar is necessary.

25 My invention relates to, and is applicable to any of the several forms of type bar writing machines, and is especially adapted to that class of machines usually designated as front strike writing machines in which the
30 type bars are raised from the horizontal to a vertical position to strike rearwardly upon the front side of the platen.

In the accompanying drawings: Figure 1 is a sectional view of the segment of a writing
35 machine between the walls of a type bar guiding slot showing my improved type bar. Fig. 2 is a similar view showing my improved type bar in removable position. Fig. 3 is a front view of my type bar and a
40 top plan view of its connecting link detached therefrom.

Referring to Fig. 1, 1 is a type bar segment of a writing machine of the character shown and described in my pending application, Serial No. 474,348. This segment
45 is provided with the abutment 2 to which is attached the type bar hangers, one of which is indicated at 3, by screws 4. This hanger 3 extends forwardly into the recess 5 in the segment 1. It is provided at its forward end with the pivot stud 6 upon which the
50 type bar 7 is pivotally supported to vibrate between the walls of the slot 8 which are cut radially in the segment 1. The type
55 bar 7 is actuated by the link 9 which in

turn is operated by the bell-crank lever 10 and the link 11 which extends to a key-lever (not shown). The link 9 has its attachment to the short arm of the type bar 7 at the pivot 12. The heel of the type bar 7 is provided with the angular slot 13 which extends radially for a short distance from the axial bearing stud 6 and then continues tangentially thereto, extending to and opening out at the edge of the bar. The radial
60 portion of the slot 13 is in alinement with the pivotal connection 12 so that the pull of the link 9 has a tendency to keep the bottom of the slot in contact with the bearing stud 6. To further prevent displacement of the bar 7 from its bearing 6, the exterior or periphery of the segment 1 circumferentially comprised between the radial dotted lines A and B is finished so as to be concentric with the axis of the bearing stud 6, whereby the axis of the connecting pivot 12 remains equidistant therefrom throughout the extent of its movement in relation thereto. The rear end of the link 9 which encircles the pivot 12 is concentric thereto and its radial width is such that it occupies the space intermediate that pivot and the periphery of the adjacent segment 1, abutting thereon and acting as a stop
85 against movement of the heel of type bar 7 radially toward its bearing 6. The rear end of the link 9 terminates in a bifurcated clip to the end of one of which bifurcations the pivot stud 12^a is permanently attached and extends to and through a suitable opening in the opposite member. This clip embraces the short arm of the type bar 7, engaging the pivotal opening 12, as shown in Fig. 1. When it is desired to remove a
90 type bar from the segment 1, one of the members of the bifurcated clip portion of the link 9 is sprung aside by any suitable means, the type bar 7 is disengaged from the stud 12^a and passed between its free end and the opposite member to clear the link. The type bar is then held in the position shown in Fig. 2, raised bodily, parallel with the radial portion of the slot 13 as far as will go and then it is withdrawn in a direction parallel with the tangential portion of that slot from between the walls of the guide slot 8 in the segment 1 and out of engagement with the bearing stud 6 which passes through and out of the open slot 3. To replace the type bar, this process is reversed. 110

Thus it will be seen that while the link 9 is attached to the type bar 7 it is impossible for the type bar to become detached or even unseated from its fulcrum, the pivot stud 6, inasmuch as the radial distance from the axis of the stud 6 to the axis of the pivot 12, with the type bar 7 as a connecting member, is equal to the combined radii of the abutting peripheries of the concentric portion of the segment 1 and the rear end of the connecting link 9 which is concentric with the pivot stud 12^a, thus carrying out the object of my device.

I claim:

15 1. In a typewriting machine, a type bar slotted at its heel portion, a pivotal support for said type bar engaging said slotted portion, a peripheral abutment concentric to the axis of said pivotal support and adjacent to said type bar, a link for actuating said type bar upon its pivotal support, a pivot connecting said link to said type bar and a peripheral abutment concentric with the axis of said connecting pivot radially 20 opposed to the first recited abutment whereby said type bar is secured to its pivotal support.

2. In a typewriting machine, a type bar slotted at its heel portion, a pivotal support 30 for said type bar engaging said slotted por-

tion, a peripheral abutment concentric to the axis of said pivotal support and adjacent to said type bar, a link for actuating said type bar upon its pivotal support, a removable pivot connecting said link to said type bar and a peripheral abutment concentric with the axis of said connecting pivot radially opposed to the first recited abutment whereby said type bar is removably secured to its pivotal support.

3. In a typewriting machine, a pivotally mounted type bar having its heel portion slotted to engage its pivot support, a slotted member the slots of which form lateral guides for the movement of the type bar, said type bar having its heel portion extended beyond said slotted member in the direction of the open end of the slot in said heel portion, an actuating member for the type bar and a detachable connection between said heel extension and said actuating member, said connection having a greater width than that of the slots of the slotted member, whereby said connections form a stop to prevent the dismounting of said type bar from its pivot.

HERBERT E. BRIDGWATER.

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