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PATENTED JAN. 28, 1908.

H. A. KIRBY.
ATTACHMENT FOR TYPE WRITERS.

APPLICATION FILED MAY 31, 1907.

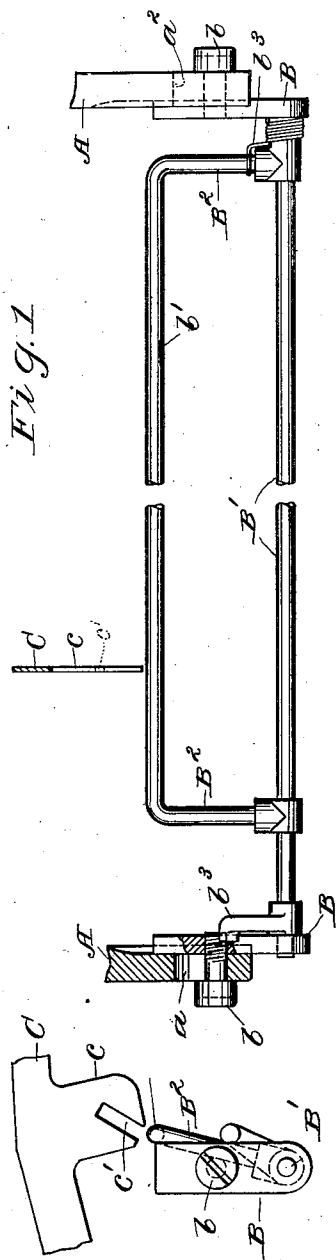


Fig. 4

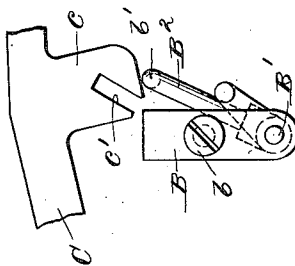


Fig. 3

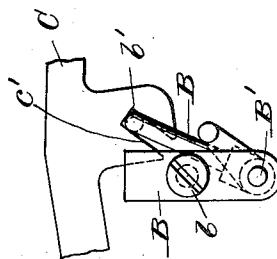
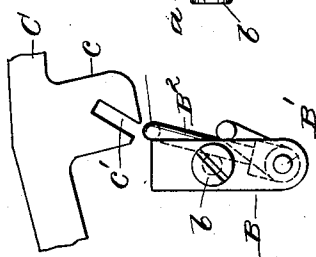


Fig. 2



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ATTACHMENT FOR TYPE-WRITERS.

No. 877,719.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, HENRY A. KIRBY, a citizen of the United States, resident of Cleveland, county of Cuyahoga, State of Ohio, have invented a new and useful Improvement in Attachment for Type-Writers, of which the following is a specification, the principle of the invention being herein explained and the best mode in which I have contemplated applying that principle, so as to distinguish it from other inventions.

My invention relates to improvements in typewriting machines and has as its object the provision of means for preventing the interference of the type bars in such machines when their respective keys happen to be struck too nearly together, as also to prevent the premature actuation of any key, even where such interference does not result, but where crowding of the characters on the sheet would follow owing to the platen not having had time to make its appropriate movement.

To the accomplishment of the above ends said invention consists of the means hereinafter fully described and particularly pointed out in the claims.

The annexed drawing and the following description set forth in detail certain mechanism embodying the invention, such disclosed means constituting, however, but one of various mechanical forms in which the principle of the invention may be used.

In said annexed drawing: Figure 1 is a broken front elevation, with parts shown in cross-section, of my attachment as adapted to one standard make of machine; Fig. 2 is a side elevation of the same in its inoperative position together with a broken section of the actuating lever of the typewriter; Figs. 3 and 4 are similar side elevations of the device showing the same in its operative position, with such actuating lever occupying in each view one of its two possible positions with respect to such attachment.

In Fig. 1, A A represent side portions of the frame of the typewriting machine, assumed in the case at hand to be the portions of the frame laterally adjacent to the keyboard of the same. In each of such frame portions is respectively provided a vertically elongated slot or opening *a* through which projects a set screw *b* by means of which latter an arm or bracket B is adjustably secured against the inside face of the frame

portion in question. Having its respective ends pivoted in such arms or brackets B, and hence transversely disposed below the keyboard, is a shaft B' upon which is mounted parallel therewith a U shaped frame b'. The bar, or transverse portion, b', of the latter is disposed upwardly and lies just beneath the series of type-bar actuating levers, such levers, as here shown, being the ones that bear the keys themselves. In certain machines possibly intermediate levers might more conveniently be employed in connection with my attachment. Of such levers only one C appears in the figures of reference. Each of these levers C bears on its lower face a downwardly projecting lug *c* provided with an inclined notch *c'* as shown in Figs. 2, 3 and 4. The bar b', oscillatorily mounted as it in effect is in view of the construction of shaft B', above described, is designed in its normal position to lie just beneath the notches *c'* in the lugs of the respective bars, Fig. 2, when the latter occupy their usual elevated positions. Such frame and oscillatory bar are maintained in this normal position by means of a spring b² mounted at one end of shaft B', as clearly shown in Fig. 1, a stop-arm b³ at the other end of said shaft and adapted to engage with one of the arms or brackets B, serving to limit the rearward movement of the shaft and frame.

The effect of the depression or downward movement of any one of the levers C will be the engagement of the slot *c'* therein with bar b'. As a result of the direction of movement of such lever together with the inclination of the slot *c'*, this engagement produces a slight displacement or oscillation about its pivotal axis of the bar b' without in any wise interfering with the movement of the particular lever being actuated, Fig. 3. Such displacement of the bar, however, removes the same out of alinement with the slots *c'* of the remaining levers, Fig. 4, so as to retain, or lock the latter against depression.

Having thus described, with sufficient detail it is thought, the construction of my attachment, its manner of operation should be obvious. For, as has been explained, the actuation of any one of the levers *c* absolutely prevents the actuation of any of the remaining levers, until such actuated lever again resumes its normal position, or approximates such position, as explained be-

low. It thus becomes impossible to strike one key before the type-bar actuated by the other has had time to get out of the way of the succeeding bar, or before the platen has had time to move to provide sufficient space for the impression of such succeeding bar. By providing for the vertical adjustment of the bar, whereby, as will be obvious, the locking effect of the same may be continued for a longer or shorter time, the locked levers can be rendered free before the actuated lever is fully restored to its normal position, or the corresponding type-bar back in its place on the type-rest. In other words the operation of the device can be accommodated to the operator of the machine so as not unduly to hamper or delay the manipulation of the key bars. The incorporation of this attachment in any machine, it will be clear, will hence result in absolute precision in the matter of spacing, at the same time preventing the annoyance of the type-bars becoming entangled, without in the least hampering the operator or reducing the speed of the operation of the machine.

Other modes of applying the principle of my invention may be employed instead of the one explained, change being made as regards the mechanism herein disclosed, provided the means stated by any one of the following claims or the equivalent of such stated means be employed.

I therefore particularly point out and distinctly claim as my invention:—

1. In a typewriter, the combination of a

series of depressible type-bar actuating levers, each of said levers being provided with a slot on its under side; a bar mounted beneath said levers, said bar being movable transversely of such slots and vertically adjustable; and means normally retaining said bar in line with the slots in said levers, the engagement of the slot of any one lever with said bar serving to move the latter out of line with respect to the slots of the remaining levers.

2. In a typewriter, the combination of the typewriter frame; a series of parallel, depressible, type-bar actuating levers mounted therein, each of said levers being provided on its lower edge with a lug formed with an inclined slot; brackets mounted in the portions of said frame laterally adjacent to said series of levers and vertically adjustable therein; a U-shaped frame having its ends pivoted in said brackets respectively; a spring normally retaining said frame to position the cross-bar thereof in line with the slots in such lugs, in which position said levers are respectively free to be depressed, the engagement with said bar of the slot of any one lever, however, serving to oscillate said frame to move said bar out of line with respect to the slots of the remaining levers.

Signed by me this 11th day of May, 1907.

HENRY A. KIRBY.

Attested by:

MARY ISRAEL,

JNO. F. OBERLIN.