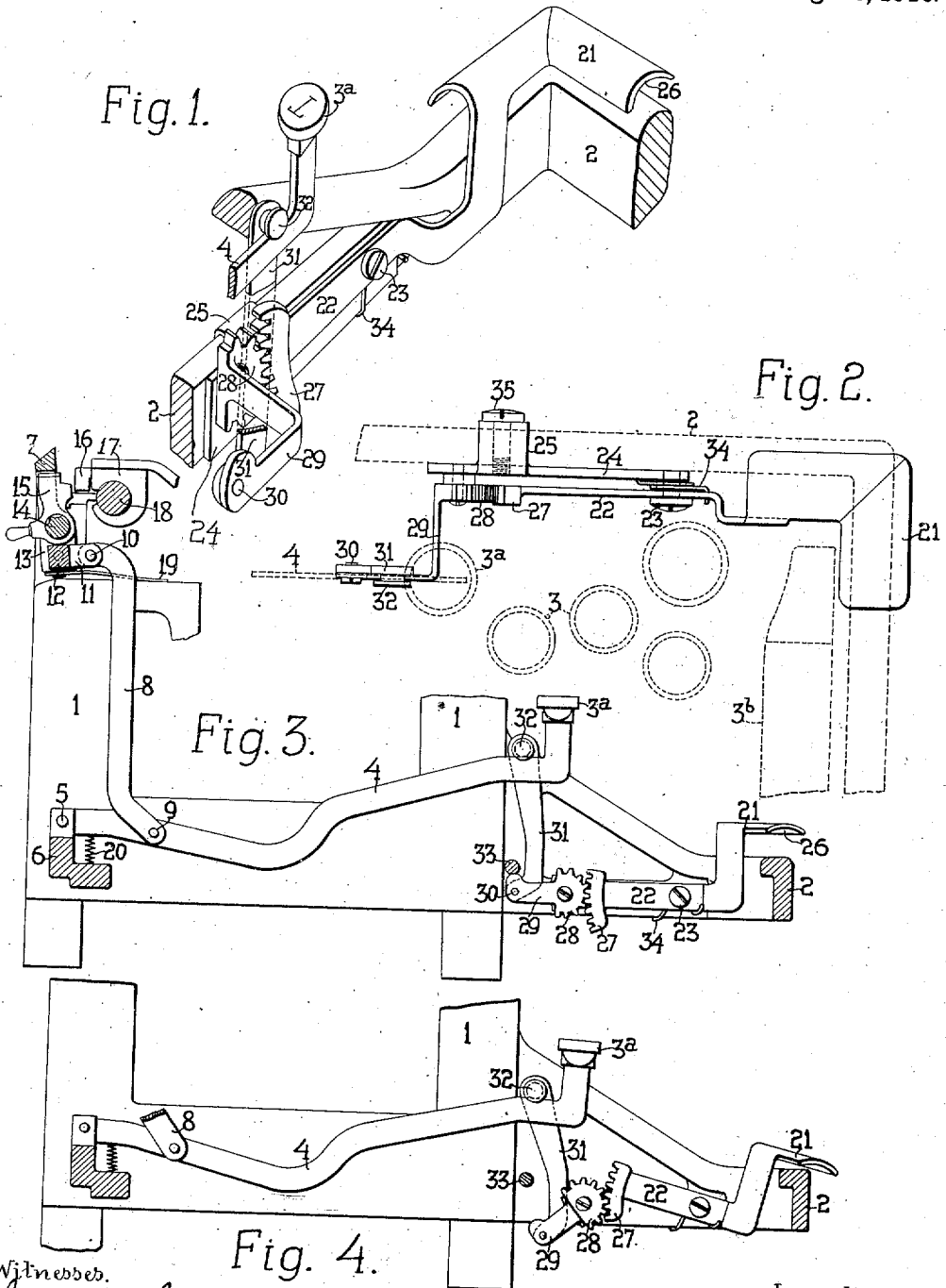


F. A. ROBINSON.
TYPE WRITING MACHINE.
APPLICATION FILED JULY 1, 1910.

968,985.

Patented Aug. 30, 1910.



Witnesses.
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UNITED STATES PATENT OFFICE.

FRANK A. ROBINSON, OF NEW YORK, N. Y., ASSIGNOR TO UNDERWOOD TYPEWRITER COMPANY, OF NEW YORK, N. Y., A CORPORATION OF DELAWARE.

TYPE-WRITING MACHINE.

968,985.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, FRANK A. ROBINSON, a citizen of the United States, residing in the borough of Brooklyn, city of New York, in the county of Kings and State of New York, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a specification.

This invention relates to an auxiliary key to control a tabulating mechanism of a type-writing machine.

An auxiliary key loosely connected to the main tabulating key-lever, is arranged at the front of the keyboard near one end of the usual space bar, said key having a broad surface, to enable its operation by merely resting the hand or wrist thereon, without necessitating the removal of the hand or wrist from the front of the keyboard.

In the accompanying drawings, Figure 1 is a perspective, showing the application of the invention to the frame of an Underwood writing machine. Fig. 2 is a plan of the device, the frame being shown in dotted lines. Fig. 3 is a side view, the parts being in normal position. Fig. 4 is a similar view, showing the parts in operative position.

The main frame 1 of an Underwood writing machine has a skeleton guard frame 2 projecting forwardly from its base to inclose and protect a keyboard comprising keys 3.

A key 3^a, on a lever 4, the latter pivoted at 5 to a bracket 6 at the rear of the frame 1, swings a tabulator rack 7, through a link 8, pivoted at 9 to the key lever 4, and at 10 to a lug 11 secured to a bar 12 connected with the arms 13 of the tabulating rack, said arms being journaled intermediate their ends on a rod 14 mounted in the frame 1. The tabulating rack is thus swung forwardly to interpose a column stop 15 (adjustable along the rack) in the path of a stop 16 connected with the carriage 17 mounted on the rear rail 18. A spring 19 returns the rack to normal position; and a spring 20 returns the lever 4 and key 3^a to normal position.

An auxiliary tabulating key 21 is mounted on a lever 22, the latter pivoted at 23 to a member 24 of a clamp 25 fixed to the frame 2, by a screw 35. Said key 2 is preferably of L form, and overlies the corner of frame 2 adjacent to one end of the usual space bar 3^b above which it projects, and it has a comparatively large area, to enable its operation by merely resting the wrist or the ball of the

palm thereon. The key may overhang the guard frame 2 as shown, its under face being concaved, as at 26, to clear the frame to permit the normal position of the key to be correspondingly lower. Said auxiliary key lever lies between the side of the guard frame and the keyboard where it is out of the way.

The depression of the auxiliary key 21 (Fig. 4) rocks its lever 22 on the pivot 23, to swing up a rack or segment 27, fixed on said lever and meshing with a gear 28, journaled on the clamp 25 and having an arm 29 to which is pivotally connected at 30, a link 31 having a headed stud or hook 32 to catch over the main key lever 4 to rock the latter and operate the tabulating mechanism. Other loose connections between the link and main key lever may be employed, the object being to enable the main tabulating key to be operated independently of the auxiliary key mechanism, when desired. A spring 34 holds the auxiliary key mechanism in normal position (Fig. 3) when the main tabulating key 3^a is directly operated. When the auxiliary tabulating key 21 is released, the springs 19, 20 and 27 return the parts to normal position. A stop 33 arrests the auxiliary key mechanism at normal position.

The key 21 facilitates the operation of the tabulating mechanism, and renders the same almost mechanical on the part of the operator, the removal of his hand from the front part of the keyboard, not being required.

The device obviates the necessity of using a finger to depress the key; is readily affixed to existing machines to form a part thereof; opposes no obstruction to the independent operation of the main tabulating key; is simple and inexpensive in construction, and occupies but little space.

Having thus described my invention, I claim:

1. In a typewriting machine, the combination with a tabulating mechanism, and a main tabulator key and key lever controlling said mechanism, of an auxiliary key lever also controlling said tabulating mechanism and pivoted to the frame of the machine, and a link to which the auxiliary key lever is operatively connected, said link loosely connected with the main tabulating key lever to operate the main tabulating key.

2. In a typewriting machine, the combi-

nation with a tabulating mechanism, and a main tabulating key and key lever controlling said mechanism, of an auxiliary tabulating key and key lever detachably connected to the machine, a segment on the auxiliary key lever meshing with a gear, an arm fixed to turn with the gear and pivoted to a link, and a stud on the link taking over the main tabulating key lever to operate the latter when the auxiliary key is depressed.

3. In a typewriting machine, the combination with a keyboard, a tabulating mechanism, and a main tabulator key in the keyboard controlling said mechanism, of an auxiliary tabulator-controlling device comprising a clamp removably mounted on the frame of the machine, an auxiliary key lever pivoted to the clamp, said auxiliary lever lying between the frame and the keyboard and having a key, an arm pivotally mounted on the clamp and operatively connected with the auxiliary key lever, and a link connected to the arm and engaging the main key lever to enable the latter to operate independently of the auxiliary key.

4. In a typewriting machine, the combi-

nation with a tabulating mechanism and a main key and key lever to operate the latter, of an auxiliary tabulating key lever removably pivoted to the frame and having a comparatively broad key overhanging the frame and being concaved to clear the frame, when depressed.

5. An attachment for keyboard-operated typewriting machines having tabulating mechanism controlled by a main key, comprising an auxiliary tabulating key having a comparatively broad surface, said auxiliary key being removably fastened to the frame of the machine and loosely connected with the main tabulating key to operate the latter, and to enable the latter to be operated independently of the auxiliary key, and a spring to return the auxiliary key to normal position, and to maintain it in such position during the independent operation of the main tabulating key.

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Witnesses:

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