

F. A. YOUNG.
TYPE WRITING MACHINE.
APPLICATION FILED FEB. 21, 1911.

1,054,956.

Patented Mar. 4, 1913.

2 SHEETS-SHEET 1.

Fig. 1.

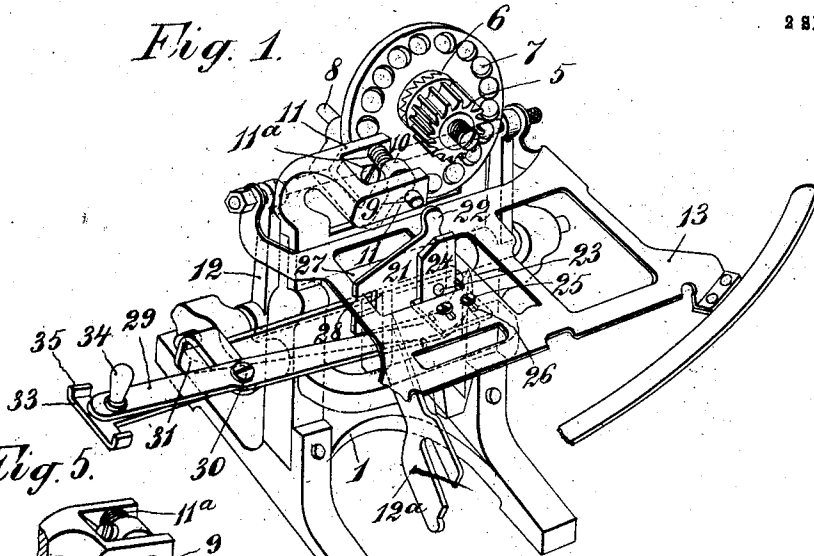


Fig. 5.

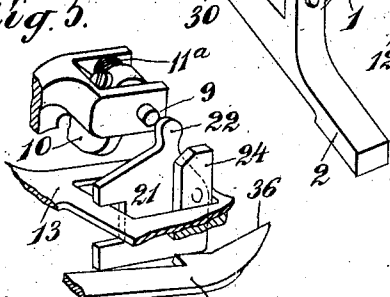


Fig. 6.

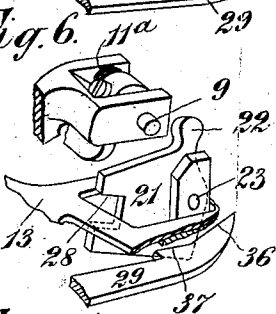
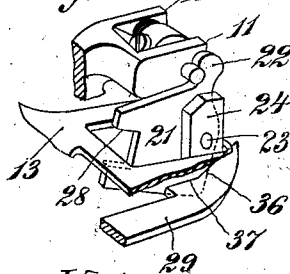


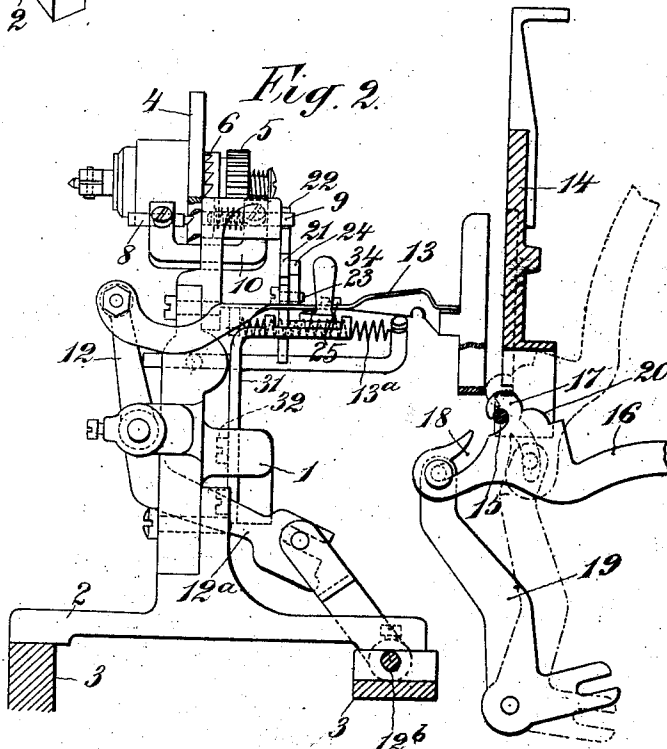
Fig. 7.



Witnesses:

S. H. Wiman
John A. Rennie

Fig. 2.



Inventor:

Frank A. Young
by B. B. Hickney
Attorney

F. A. YOUNG.
TYPE WRITING MACHINE.
APPLICATION FILED FEB. 21, 1911.

1,054,956.

Patented Mar. 4, 1913.

2 SHEETS-SHEET 2.

Fig. 3.

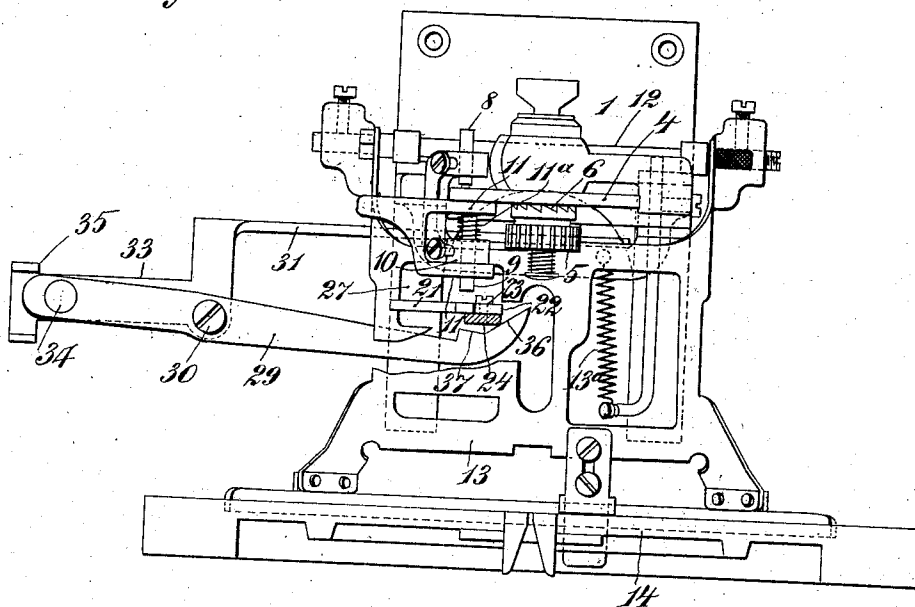
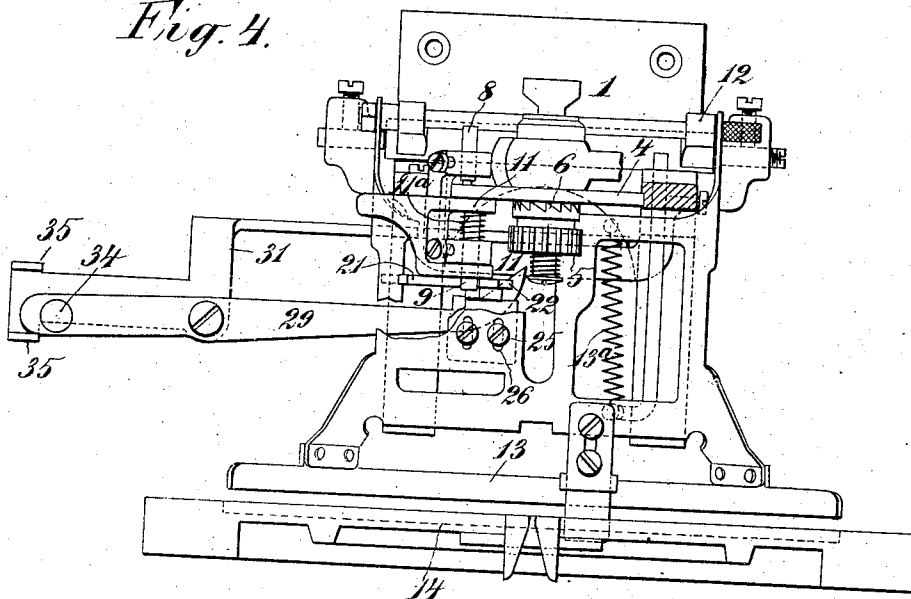


Fig. 4.



Witnesses:
J. W. Wmian
John A. Rennie

Inventor:
Frank A. Young
by B. B. Stickney
Attorney

UNITED STATES PATENT OFFICE.

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

TYPE-WRITING MACHINE.

1,054,956.

Specification of Letters Patent.

Patented Mar. 4, 1913.

Application filed February 21, 1911. Serial No. 609,884.

To all whom it may concern:

Be it known that I, FRANK A. YOUNG, a citizen of the United States, residing in New York, in the county of New York 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 a device for facilitating the removal of the type bars from a typewriting machine.

In the Underwood machine, the feed of the carriage is controlled by means of an escapement at the operation of a universal bar, which is struck by the type bars in their movements. The type bars are hung upon an arc-shaped fulcrum rod in a segment, and each type bar is formed with a heel which moves the universal bar. The latter prevents the removal of the type bars from the segment.

One object of this invention is to provide a device which will enable the universal bar to be moved away, so that any type bar can be removed from the machines, and to construct the parts so that this movement of the universal bar may be accomplished without operating the escapement.

In the accompanying drawings, Figure 1 is a perspective showing a universal bar partly broken away, and also showing an escapement; and in connection with the universal bar, my improvement is illustrated for permitting the forward movement of the universal bar without operating the escapement. Fig. 2 is a side elevation of the escapement mechanism, a portion whereof is shown broken away, and in section. The universal bar is also shown partly broken away, and the relation of the universal bar to the segment when moved forwardly by my device, is also illustrated. In this view, a portion of a type bar and its rocker are shown in full lines, and in dotted lines I indicate the manner in which the type bar may be moved to disconnect it when the universal bar is held in a forward position. Fig. 3 is a plan of the same parts shown in Fig. 2, the type bar being omitted. This view shows a part of the universal bar broken away, and partly shown in cross section. The universal bar is in normal position. Fig. 4 is a view similar to Fig. 3,

but with certain parts broken away, and shown in cross section, and this view indicates the parts with the universal bar advanced as in Fig. 2, to permit the removal of a type bar. Fig. 5 is a perspective, showing a portion of the universal bar together with the shifting pawl of my invention, and illustrating how this pawl normally operates the escapement when the universal bar advances. In this view, there is shown the end of a lever which, when operated, engages the shifting pawl, and forces it to one side so that it will not operate the escapement. Fig. 6 is a view similar to Fig. 5, and illustrating the lever in contact with the shifting pawl, holding the shifting pawl displaced laterally, so that it will not operate the escapement. This view shows the parts in the relation which they assume when the pawl has been shifted, but before the universal bar is advanced. Fig. 7 is a view similar to Fig. 6, but showing a later stage of the movement, and illustrating how the shifting pawl may advance with the universal bar without actuating the escapement pawl.

On the rear portion of the typewriter frame there is provided an escapement frame 1 comprising two feet 2, which are adapted to be secured to the main frame 3 of the typewriter in the usual manner, and this frame 1 supports a rotatable escapement wheel 4, which is connected with the carriage, (not shown), by means of a pinion 5, through a one-way clutch 6. The escapement wheel 4 is provided with a series of openings 7, with which coöperate a detent pawl or dog 8 and a spacing pawl 9. The construction of this escapement wheel and the pawls 8 and 9, is fully described in my co-pending application Serial No. 609,304 filed Feb. 18, 1911. The two pawls are secured on a yoke 10; the said pawl 9 being mounted to slide in suitable forks 11.

In connection with the pawl 9, a spring 11^a tends to return the pawl toward the right, (as viewed in Fig. 2), and holds the detent pawl or dog 8 normally in engagement with one of the openings 7, as shown. The pawl 9 projects from the forward fork 11. The operation of the escapement is such, that if the pawl 9 is forced rearwardly, the escapement wheel will be fed.

From a rocker 12 an arm 12^a extends, which actuates a ribbon feed shaft 12^b in the usual manner.

At the rear side of the frame 1, the rocker 12 is mounted in the usual manner, and to the upper end of this rocker a universal bar 13 is attached, the forward part of the said universal bar being disposed near a segment 14, having an arc-shaped fulcrum rod 15, on which type bars 16 are mounted in the usual manner, that is, each type bar is provided with a hook 17 which engages the rod 15, as indicated in Fig. 2. A spring 13^a is provided for returning the universal bar, as shown in Fig. 2. The type bar is also provided with the usual curved slot 18, by means of which it is connected to the usual operating lever 19. Near the hook 17 the type bar is formed with the usual heel 20, to strike the universal bar and force the same rearwardly to actuate the escapement.

My improvement comprises a feed operator in the form of a shiftable pawl or member 21, which is preferably in the form of a vertical plate having a forwardly extending tongue 22, which is normally held in alinement with the operator 9, so that it will operate the escapement when the universal bar moves forwardly. This operator 21 is shiftable on a pivot pin 23, so that a portion of its body operates as a counterweight. The purpose of shifting it is to enable it to be silenced when the universal bar is thrust back to release the type bars.

The pivot pin 23 is mounted in a bracket 24, fixed on the universal bar 13 by means of screws 25 in adjusting slots 26. These slots extend in the direction in which the universal bar moves, so that they enable the distance of the tongue 22 from the end of the pawl 9 to be nicely adjusted.

The operator 21 occupies one of the usual openings 27, in the universal bar 13, and an edge of the pawl has a notch or shoulder 28, which engages the edge of this opening, so as to limit the rocking movement of the operator.

In order to enable the operator 21 to be shifted and silenced, and the universal bar to be simultaneously moved rearwardly, I provide a shifter in the form of a lever 29, which is pivoted at 30 on a bracket 31, said bracket secured by screws 32 to a portion of frame 1, Fig. 2. The bracket 31 has an extension 33, extending along the handle 34 of the lever, and having projections or stops 35, which limit the swinging of the lever. The inner end of the lever 29 is formed with an inclined edge or cam 36, to strike the right-hand edge of the operator 21, when this end of the lever is swung forwardly; and adjacent to the cam edge 36,

there is an edge 37, to engage the face of the shifted operator 21, to force the universal bar rearwardly.

The mode of operation of these parts is illustrated in Figs. 5 to 7. As the cam edge 36 strikes the shiftable operator the latter is rocked toward the right, so as to move the tongue 22 out of alinement with the dog 9; and then the edge 37 engages the operator and forces the universal bar rearwardly. The completion of this movement is shown in Figs. 2 and 7; the tongue 22 moving up alongside of dog 9 but out of alinement with it, so that it does not strike the dog and does not operate the escapement. From Fig. 2 it will be seen that when the universal bar has been moved rearwardly in this manner, any type bar may be removed by swinging it up, and then raising it so as to disengage its hook 17 from the fulcrum rod 15.

Having thus described my invention, I claim:

1. In a typewriting machine, in combination, a series of detachable type bars, an escapement, a universal bar adapted to move toward said escapement to operate the same, said universal bar preventing detachment of said type bars, an operator carried by said universal bar to actuate the escapement, a lever to engage said operator and shift the same laterally to silence it, and to retract said universal bar to release the type bars.

2. In a typewriting machine, the combination with a type bar having a bearing, of a universal bar locking it to its bearing, a spring holding said universal bar operative, an escapement arranged to be operated by said universal bar at every operation of a type bar, and means for disabling the connection between said universal bar and escapement and moving said universal bar to unlock said type bar.

3. In a typewriting machine, the combination with a universal bar moving with every operation of a type bar and operating an escapement, of means independent of any type bar for moving said universal bar, and an arm for disabling the connection between said universal bar and said escapement by said independent moving means.

4. In a typewriting machine, the combination with an escapement, of a universal bar, an operator on said universal bar normally held by its own weight to operate said escapement from said universal bar, and an arm engaging the operator for lifting it to inoperative position and operating the universal bar.

FRANK A. YOUNG.

Witnesses:

PAUL ZIRON,
F. D. AMMEN.