

F. A. YOUNG.
TYPE WRITING MACHINE.
APPLICATION FILED DEC. 10, 1910.

1,054,327.

Patented Feb. 25, 1913.

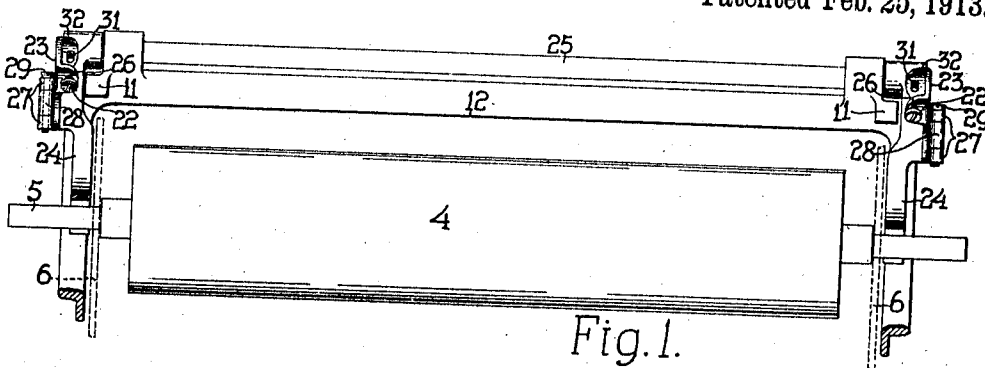


Fig. 1.

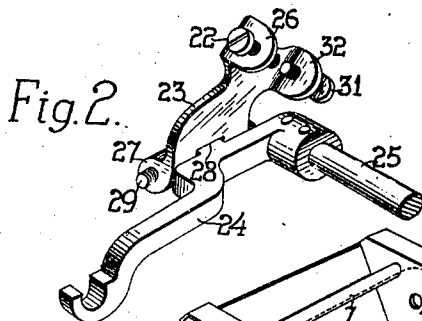


Fig. 2.

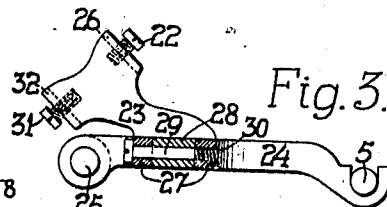


Fig. 3.

Fig. 6.

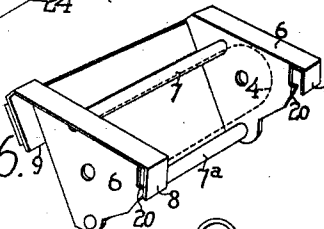


Fig. 4.

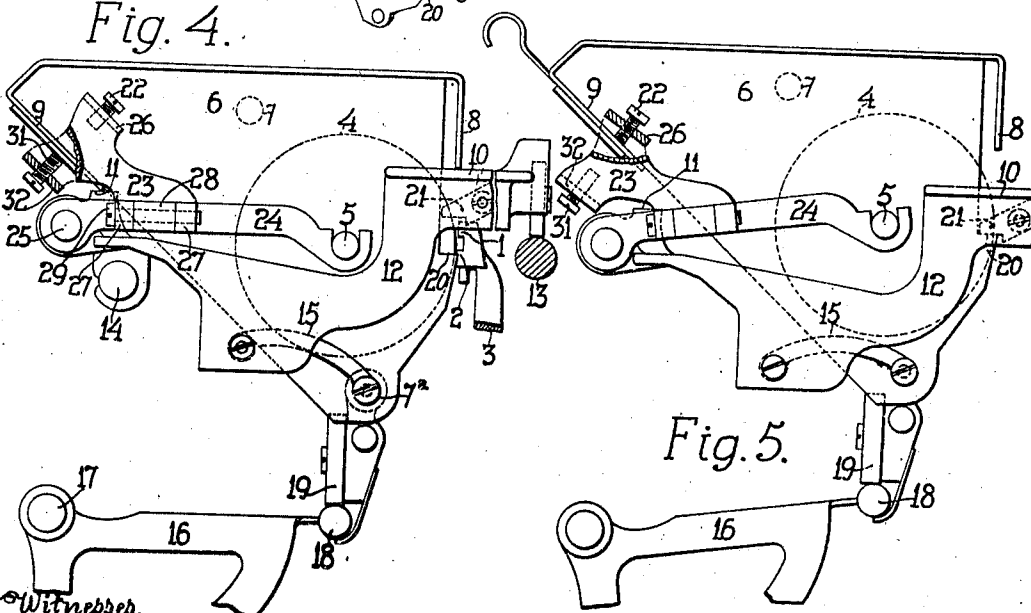


Fig. 5.

Witnessed.
Lionel Schriff
Ralph S. Welford

Inventor.
Frank A. Young.
By R. C. Steiner
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.

1,054,327.

Specification of Letters Patent.

Patented Feb. 25, 1913.

Application filed December 10, 1910. Serial No. 596,587.

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 the shiftable platen frames of typewriting machines.

In certain front strike writing machines, the platen is mounted in a platen frame normally seated on the carriage. A shifting mechanism is connected to the platen.

A vigorous operation of the shifting mechanism is found sometimes to cause irregularity in the writing, especially during rapid operation of the machine. I have found that this is due to the fact that the sudden arrest of the platen frame at its front portion by means of the usual stops causes a slight momentary vibration of the rear portion thereof. If a type key is struck during such vibratory movement, the type will not print in perfect alinement.

The principal object of this invention is to overcome this difficulty. I employ stops or rests on the carriage which may be engaged by the rear portion of the platen frame when shifted to upper case position simultaneously with the engagement of said front stops by said frame, so that the entire platen frame is prevented from vibrating.

In the accompanying drawings, Figure 1 is a plan of part of a carriage frame of an Underwood writing machine having the invention applied thereto. Fig. 2 is a detail perspective of a swinging arm, showing the rest attached thereto. Fig. 3 is a side view, partly in section of the same. Fig. 4 is an end view, showing the platen frame supported in lower case position on the carriage. Fig. 5 shows the platen frame in upper case position. Fig. 6 is a perspective reduced in size, of the platen frame itself.

Upper and lower case types 1 and 2 on type bars 3 strike a platen 4 having an axle 5 journaled in the ends 6 of a platen frame, said ends being connected by a tie rod 7. Stops 8 and 9 on the front and rear corners of the platen frame normally rest, when in lower case position (Fig. 4), on the stop faces 10 and 11, respectively, formed on a carriage 12 mounted on the front and rear

rails 13 and 14. A link 15 connects the platen frame at one end to the carriage.

A platen shifting mechanism including a frame 16 pivoted at 17 and having a shift rail 18 on which runs a roll 19 carried by the platen frame, lifts the platen frame and platen to enable the upper case types 1 to print.

Shoulders 20 on the forward corners of the platen frame engage stops 21 fixed to the carriage 12 to arrest the platen frame and platen when lifted sufficiently to bring the line of writing opposite types 1. The stops 21 prevent vibration of the front part of the platen frame; and to prevent vibration of the rear part thereof, rests or stops 22 are connected with the carriage and arranged to be engaged by the rear corners of the platen frame. Said rests 22 overhang the stops 9 which in the present instance comprise ribs extending outwardly from the rear edges of the ends 6 of the platen frame. Said rests 22 may be carried by standards 23 mounted on arms 24 extending forwardly from a shaft 25 journaled at the rear of the carriage 12. The platen axle 5 seats in the arms 24 which steady the platen against endwise rocking on its roll 19 when in upper case position. Preferably said rests 22 are adjustable to compensate for slight differences in the machines as manufactured, and for this purpose may comprise screws threaded through lips 26 on the standards 23 overhanging the rear corners of the platen frame.

The platen frame is removable from the carriage by releasing one end of the link 15 from the frame, the standards 23 preferably being hinged to the arms 24 to swing out of the way of stops 9. Ears 27 on the standards embrace lugs 28 on said arms 24. A pivot screw 29 passing loosely through the lug and one ear and threaded in the remaining ear, as at 30 (Fig. 3), clamps the ears upon the lug to normally hold the rests or stops 22 effective. By loosening the screw the standards with said rests may be swung away from the platen frame to free the latter.

To insure the proper seating of the platen frame on the carriage, upon its return to lower case position, and to compensate for slight differences in manufacture, the usual rear stop faces 11 on the carriage may be

replaced by take-up rests 31 upon which the rear corners of the platen frame seat, said rests 31 being adjustable to be engaged by said rear corners at about the same time that the front corners of the frame engage their rests 10, to hold the platen frame horizontally. Said take up rests 31 may comprise screws threaded through lips 32 on the standards 23, said lips 32 being opposed to the lips 26 and projecting under the rear stops 9 at the rear corners of the platen frame.

Variations may be resorted to within the scope of the invention, and portions of the improvements may be used without others.

Having thus described my invention, I claim:

1. In a typewriting machine, the combination with a carriage having swinging arms, an axle resting on the arms, a platen on the axle, an oblong platen frame in which the axle is journaled, means to shift the platen and its frame from lower to upper case position, stops to support the platen frame at each corner in lower case position, and other stops engaged by two corners of the platen frame when in upper case position, of rests engaged by the remaining corners of the frame when in upper case position.

2. In a typewriting machine, the combination with a carriage having swinging arms, an axle resting in the arms, a platen on the axle, an oblong platen frame in which the axle is journaled, means to shift the platen and its frame from lower to upper case position, stops to support the platen frame at each corner when in lower case position, and other stops engaged by two corners of the platen frame when in upper case position, of rests carried by the arms and engaged by the remaining corners of the frame when in upper case position.

3. In a typewriting machine, the combination with a carriage, a platen frame shiftably mounted thereon and having a platen, the frame being removable from the carriage, means to shift the platen from lower to upper case position, stops to arrest the platen frame in lower case position, and other stops engaging two corners of the platen frame to arrest the latter in upper case position, of rests engaged by the remaining corners of the platen frame when in upper case position to steady the frame and platen, and shiftable supports on which the rests are mounted.

4. In a typewriting machine, the combination with a carriage, a platen frame shiftably mounted thereon and having a platen, the frame being removable from the carriage, means to shift the platen from lower to upper case position, stops to arrest the platen frame in lower case position, and other stops engaging two corners of the platen frame to arrest the latter in upper

case position, of rests engaged by the remaining corners of the platen frame when in upper case position to steady the frame and platen, and hinged arms on which the rests are mounted to free the platen frame for removal.

5. In a typewriting machine, the combination with a carriage, a platen frame and platen mounted thereon to shift from lower to upper case position, and stops to arrest two corners of the frame in upper case position, of rests engaged by the remaining corners of the frame to steady the latter when in upper case position, the frame being removable from the carriage, arms on which the rests are mounted, and a fastening means to hinge the arms to the carriage and to clamp them in operative position.

6. In a typewriting machine, the combination with a carriage, a platen frame and platen mounted thereon to shift from lower to upper case position, and stops to arrest two corners of the frame in upper case position, of a lug supported independently of the platen frame, arms having ears embracing the lug, rests on the arms engaged by the remaining corners of the frame to steady the latter when in upper case position, the frame being removable from the carriage, and pivot screws passing through the ears and lugs respectively, to clamp the latter in operative position.

7. In a typewriting machine, the combination with a carriage having a platen and platen frame mounted in the carriage and shiftable from lower to upper case position and return, and stops supporting two corners of the frame when in lower case position, of take-up rests to support the remaining corners, other stops engaged by two corners of the frame to arrest the latter in upper case position, and rests engaged by the remaining corners to steady the frame in upper case position.

8. In a typewriting machine, the combination with a carriage, of a platen frame which, when the platen frame shifting mechanism is operated, is caused to move from lower to upper case position, the frame being arrested in upper case position by stops engaged by two corners of the frame, and by adjustable rests engaged by the remaining corners of the frame, the platen frame being removable from the carriage, to effect which the rests are mounted in swinging arms supported independently of the frame and having take-up rests to support the frame in lower case position in addition to regular stops on the carriage.

9. In a typewriting machine, the combination with a carriage having a shift frame carrying a platen, of means for shifting said frame, a pivoted guide arm for said frame, a stop for positively arresting said frame at the limit of its shift, and a stop

on said shift frame cooperating with said pivoted guide arm to arrest said frame coincidentally with said first stop and arranged to lock said frame down against said guide arm.

10. In a typewriting machine, the combination with a carriage having a shift frame carrying a platen, a stop on the front of said carriage to arrest said frame at the limit of its shift, a stop on the back of said carriage to steady said frame as it strikes said first stop, and means lying between said stops for shifting said frame.

11. In a typewriting machine, the combination with a carriage having a shift frame carrying a platen, of a guide for said frame, from which guide it may be lifted, means for shifting said frame, a stop on the front of said frame to arrest it at the limit of its upward throw, a stop on the back of said

frame cooperating with said first stop to arrest said frame and force it down against said guide, and a pivot on which said second stop revolves and on which it may be swung clear of said carriage to permit said frame to be lifted from the machine.

12. In a typewriting machine, the combination with a carriage, of a platen shift frame, means for shifting the platen frame, two pivoted arms guiding said frame, a front-stop for positively arresting the platen and its frame, and a back-stop effective simultaneously with said front-stop to positively arrest the platen to preserve the alignment determined by the pivoted arms.

FRANK A. YOUNG.

Witnesses:

K. FRANKFORT,
C. RIPLEY.

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