

C. B. CORCORAN.
TYPE WRITING MACHINE.
APPLICATION FILED APR. 2, 1910.

Patented Apr. 29, 1913.

2 SHEETS-SHEET 1.

1,060,321.

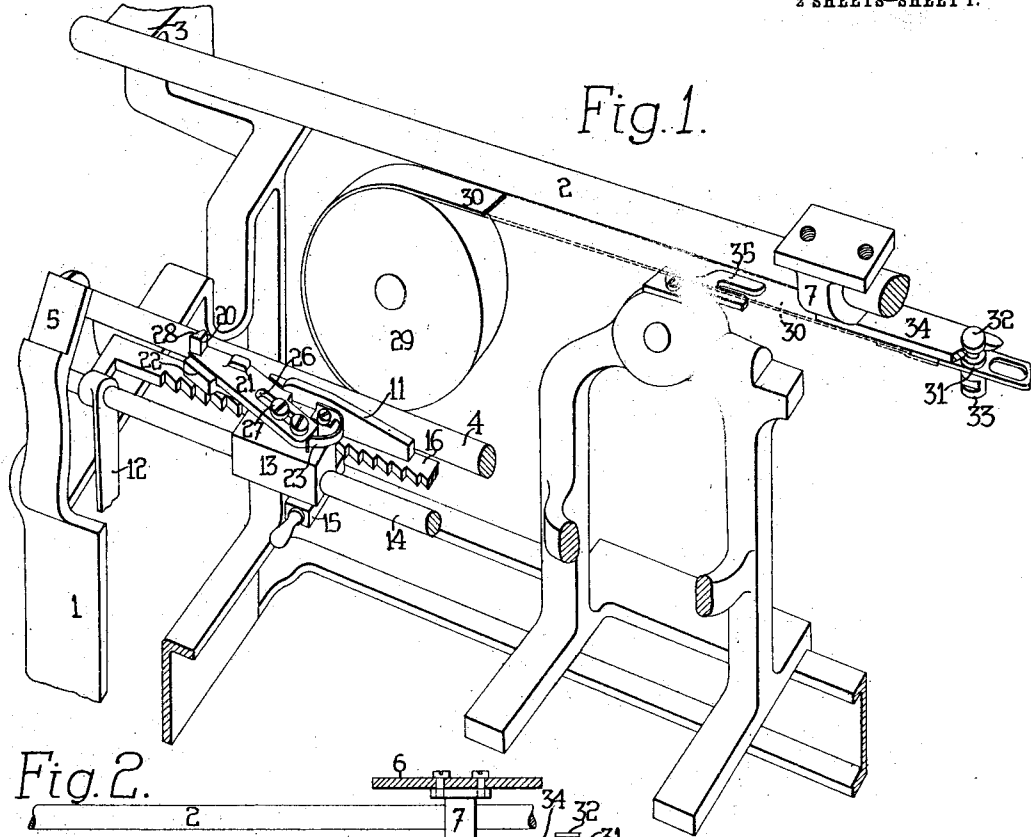


Fig. 2.

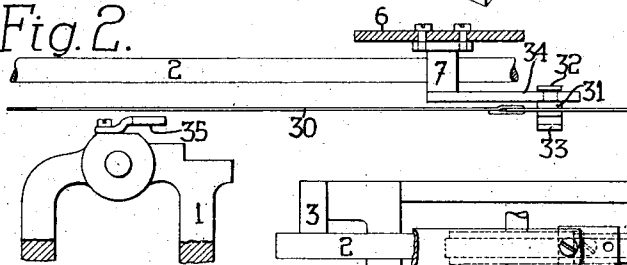
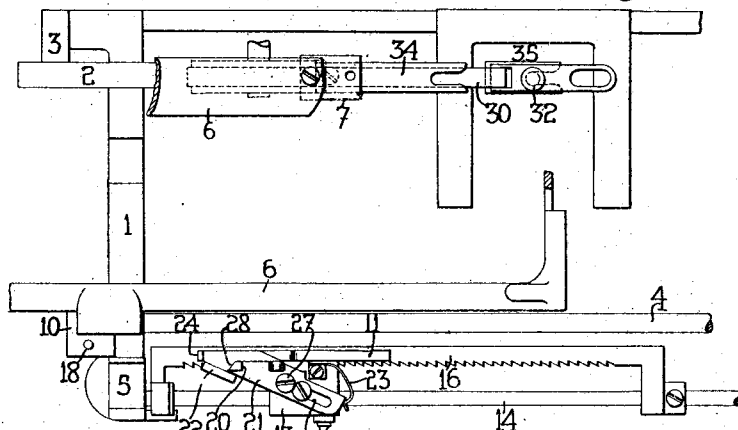


Fig. 3.



Witnesses.
Signatures Schiff
Ralph S. Warfield

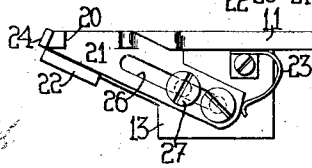


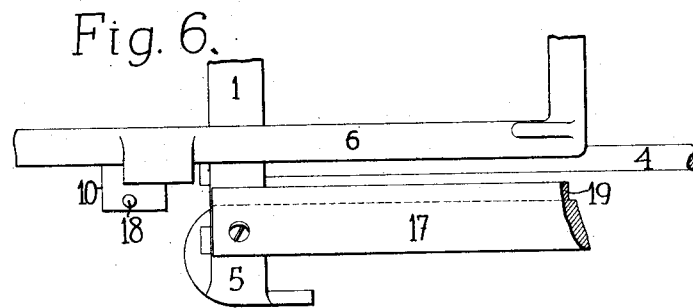
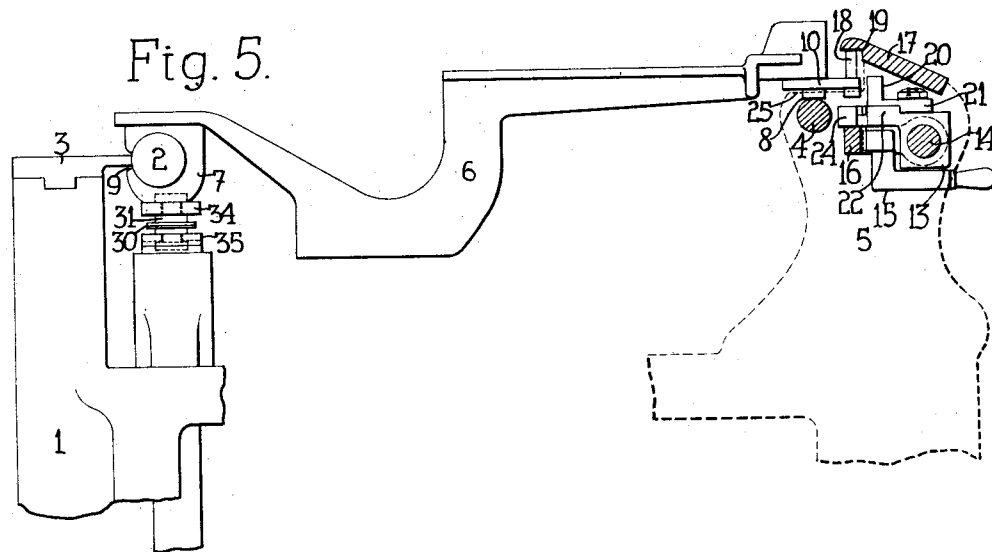
Fig. 4.

Inventor.
Cornelius B. Corcoran
By *Attorney.*

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Witnesses.
Sigmund Schiff
Ralph S. Warfield

Inventor.
Cornelius B. Corcoran
By *B. C. Stickney*
Attorney.

UNITED STATES PATENT OFFICE.

CORNELIUS B. CORCORAN, OF NEW YORK, N. Y., ASSIGNOR TO UNDERWOOD TYPE-WRITER COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW JERSEY.

TYPE-WRITING MACHINE.

1,060,321.

Specification of Letters Patent.

Patented Apr. 29, 1913.

Application filed April 2, 1910. Serial No. 553,013.

To all whom it may concern:

Be it known that I, Cornelius B. Corcoran, a citizen of the United States, residing in borough of Bronx, city of 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.

10 This invention relates to improved means whereby a carriage of a typewriting machine may be more easily and quickly applied to and detached from the main frame, etc., for repairs, inspection, or the substitution of another carriage.

15 The stop which usually lies in the path of the carriage to prevent its detachment from the frame, I have contrived to shift out of the path of the carriage when it is desired to detach the latter from the frame. Said stop is mounted on the left-hand margin gage, though a stop otherwise supported may be employed for this purpose.

20 To enable the usual carriage drive mechanism to be automatically connected to and disconnected from the carriage, the customary strap or band connected to the spring motor, is provided with a button normally engaged by a cleft hook on the carriage, whereby, when the carriage is moving in one direction, past one extreme point of arrest, when being removed, a hook on the frame will catch the button and release it from the carriage-supported hook, and 30 when the carriage is replaced, its hook will catch the button and release it from the frame-supported hook.

35 In the accompanying drawings, Figure 1 is a perspective view of the frame of an Underwood writing machine equipped with the invention, parts being omitted and broken away to better disclose the construction. Fig. 2 is a detail side view partly in section, showing the carriage tension strap and the hooks on the frame and on the carriage, respectively, the strap being connected to the carriage. Fig. 3 is a detail plan view of the tension strap and carriage-supported hook, showing the latter freed from the strap, and of the stop which normally prevents the removal of the carriage, said stop being in idle or ineffective position. Fig. 4 is a detail plan view showing the stop and its connected parts in normal position. 55 Fig. 5 is an end view of the machine, partly

in section, showing the stop in idle position. Fig. 6 is a detail plan view showing the groove in the cross bar extending to one end thereof.

The frame 1 of an Underwood typewriting machine is provided with a rear carriage rail 2 extending across the machine and supported near its opposite ends by brackets 3 projecting from the frame. A front rail 4 is mounted at its ends in brackets 5. The usual carriage 6 is equipped with hooks or ears 7 to engage the rear rail, and with a wheel 8 running on the front rail 4. The ears 7 are split, as at 9, to enable them to pass the brackets 3 when placing the carriage on or removing it from the frame.

A shoe 10, projecting from the front of the carriage, engages a cam 11 to depress the latter and operate the lever 12 of the signal and line-locking mechanism usually provided on the Underwood machine. The cam 11 is rigidly secured to a margin gage 13, adjustable along a gage-supporting rod 14 extending across the machine, said gage connected by a pawl 15, with a rack 16 to 80 retain the gage where adjusted. The shoe takes under a cross bar 17, and may be provided with a pin 18 traversing a groove 19 formed in the under face of the cross bar, to prevent the carriage from jumping.

85 Heretofore, the cam has terminated in a stop 20, lying in the path of the carriage, to prevent its removal from the machine; but to effect the removal and replacing of the carriage with ease and despatch, I have arranged the stop to be shiftable into and out of the path of the carriage, to which end, said stop is carried by a base 21 mounted on the margin gage and guided in its movement back and forth by the left-hand end of the cam 11 and a guide 22 on the gage, between which the base is fitted. A spring 23 normally urges the stop into the path of the carriage, an abutment 24 against which the stop strikes, preventing overthrow of the 100 stop.

The base 21 of the stop may be slotted, as at 26, to accommodate a check 27, preferably in the form of a headed screw, the head of which overlies the base to prevent upward 105 movement of the stop relative to the gage, the check also operating to secure the stop to the margin gage. More than one screw 27 may be employed, if desired.

To enable the carriage to be disengaged 110

from the frame, the stop is first moved backward to its idle position, shown in Fig. 3, where it is held until the shoe 10 passes the stop, as the carriage is drawn endwise away from the frame. One of the cross-bar supporting brackets 5 may be cut away, as at 25, to enable the shoe to clear the frame when placing and removing the carriage, and the groove 19 in the cross bar is extended to one end of said bar, as shown in Fig. 6, to enable the pin 18 to be removed from and inserted in said groove. Upon releasing the stop, the spring returns it to normal position (Figs. 1 and 5), and when the carriage is replaced, the shoe engages the outer beveled face 28 of the stop (which projects above the abutment 24) to move the stop aside until the shoe has passed, after which the stop resumes its effective position. The carriage is urged in letter spacing direction by the usual spring 29 having a strap 30 connected to the carriage. This connection of the band to the carriage can be automatically picked up as the carriage is slid onto the frame, and released as the carriage is detached. The free end of the band carries a button 31 having a head 32 projecting above the stop to be caught by a cleft hook or fork 34 secured to the carriage, said button also having a head 33 projecting below the band to be similarly engaged by a hook or fork 35 mounted on the frame in the same vertical plane with the carriage-supported hook. Prior to placing the carriage on the frame, the button is held by its head 33 in the fork 35 on the frame. As the carriage is slid onto the frame, the carriage-supported hook 34 engages the upper head 32 of the button, (see Fig. 1), and thereafter slides the lower head 33 out of the frame-supported hook 35. The removal of the carriage operates to enter the lower head 33 of the button in the frame-supported hook 35, as the carriage-supported hook 34 passes said frame-supported hook, the carriage-supported hook thereafter releasing itself from the upper head 32 of the button. The carriage is preferably removed and replaced from the left side of the frame to facilitate the automatic release and engagement of the carriage drive mechanism relative to the carriage.

It will be evident that no dismantling of other parts of the machine is necessary, when removing the carriage from the frame or in replacing the same, and that its detachment from and attachment to the frame is readily accomplished without injuring or straining the parts.

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 com-

bination with a frame and a detachable carriage movable back and forth thereon, of a stop on the frame normally preventing the removal of the carriage from the frame, and shiftable out of the path of the carriage to enable its detachment from the frame without dismantling the frame, guides in which said stop is slidable out of the path of the carriage, and a lug to hold the stop when struck by said carriage; said stop adjustable along the carriage.

2. In a typewriting machine, the combination with a frame and a detachable carriage movable back and forth thereon, of a spring-pressed stop on the frame normally preventing the removal of the carriage from the frame, and shiftable out of the path of the carriage to enable its detachment from the frame without dismantling the frame, guides to prevent displacement of the shiftable stop, and a lug against which the stop normally rests; said stop adjustable along the carriage.

3. In a typewriting machine, the combination with a frame and a detachable carriage movable back and forth thereon, of a margin gage on the frame having a way thereon, a slide fitted in the way and bearing a stop normally lying in the path of movement of the carriage, the stop being shiftable out of the path of the carriage to enable the detachment of the carriage from the frame without dismantling the frame.

4. In a typewriting machine, the combination with a frame and a detachable carriage movable back and forth thereon, of a margin gage on the frame having a way thereon, a spring-pressed slide fitted in the way and carrying a stop normally lying in the path of the carriage, the stop being shiftable out of the path of the carriage to enable the detachment of the carriage from the machine without dismantling the frame, and an abutment to arrest the stop and slide.

5. In a typewriting machine, the combination with a frame, a detachable carriage movable back and forth thereon, a motor, and a flat strap to connect the motor and carriage, of a button fixed to a flat plate forming an extension of the strap, and flat cleft holders on both the frame and carriage closely adjacent said strap to catch and remove the button as one of the holders passes the other in either direction.

6. In a typewriting machine, the combination with a frame and a carriage movable back and forth thereon, of a shiftable stop normally lying in the path of the carriage to arrest the latter at one end of a line, a support on which the stop is mounted, guides to control the direction of movement of the stop, and abutments to confine the throw of the shiftable stop in either direction.

7. In a typewriting machine, the com-

nation with a frame having a cross-bar, of a carriage movable back and forth on the frame and a carriage-drive mechanism on the frame detachably connected with the carriage, of a shoe on the carriage taking under the cross-bar to prevent upward swinging of the carriage, a shiftable stop on the frame normally lying in the path of the carriage, and a release device to disconnect the carriage-drive mechanism from the carriage, after the latter has been moved past the shiftable stop, the cross-bar being cut away at one end to enable the carriage shoe to enter and escape therefrom without dismantling the frame.

8. In a typewriting machine, the combination with a frame and a carriage movable back and forth thereon, of a spring-pressed stop normally lying in the path of the carriage to prevent its removal from the frame, an abutment to arrest the shifting movement of the stop, the outer face of which stop is beveled to be engaged by the carriage and displaced against the tension of its spring when the carriage is replaced on the frame.

9. In a typewriting machine, the combination with a traveling carriage, of a tappet on the carriage, a stop on the main frame movable by said tappet, and an abutment movable on said stop arranged normally to arrest said carriage.

10. In a typewriting machine, the combination with a traveling carriage, of a tappet on the carriage, a stop on the main frame movable by said tappet, an abutment movable on said stop arranged to be struck by said tappet to arrest said carriage, a spring holding said abutment positioned, and a guide for said abutment in which it may be moved against said spring.

11. In a typewriting machine, the combination with a traveling carriage, of a tap-

pet on the carriage, a rack pivoted on the main frame of the machine, a stop adjustable along said rack and arranged to move it when struck by said tappet, an abutment on said stop arranged to positively arrest said carriage, a guide for said abutment, and a spring holding said abutment positioned.

12. In a typewriting machine, the combination with a frame, a carriage movable back and forth thereon and an adjustable margin gage to arrest the carriage at different points in its path of movement, of a stop on the gage to prevent the removal of the carriage from the frame, said stop being shiftable into and out of the path of the carriage to enable its removal without dismantling the frame, and a spring holding it normally in locking position.

13. In a typewriting machine, the combination with a traveling carriage, of a margin gage for said carriage, a rack bar along which said margin gage is settable, a lug slidably mounted on said margin gage, a tappet for arresting said carriage by co-operation with said lug, and a spring normally holding said lug in the path of said tappet.

14. In a typewriting machine, the combination with a frame and a detachable carriage movable back and forth thereon, of a tappet for arresting said carriage, a rack bar, a margin gage settable along said rack bar, a lug slidably mounted on said gage, an abutment on said gage against which said lug normally bears to positively arrest the lug when struck by said tappet, and a spring holding said lug in its effective position.

CORNELIUS B. CORCORAN.

Witnesses:

K. FRANKFORT,
C. RIPLEY.