Aug. 17, 1926. **1,595,985**

E. E. BARNEY

TYPEWRITING MACHINE

Filed Jan. 12, 1926 2 Sheets-Sheet 1

Fig. 1

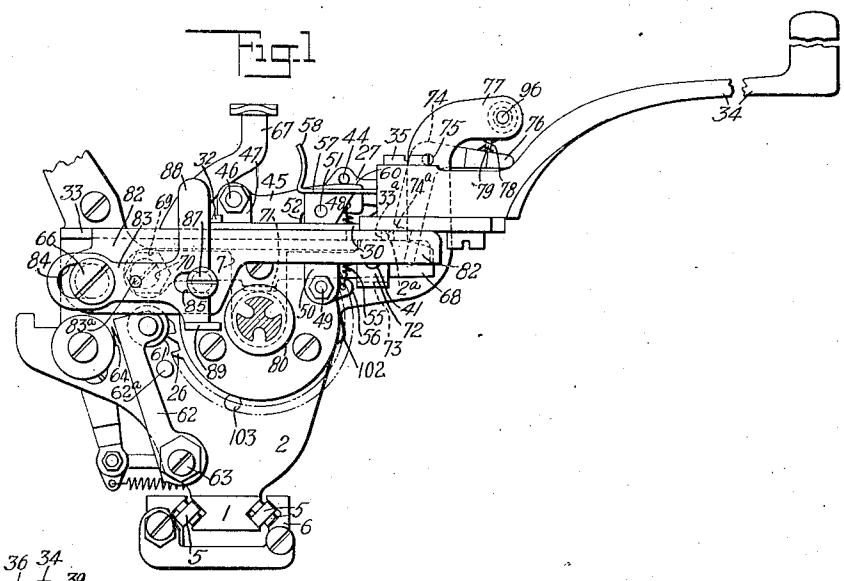
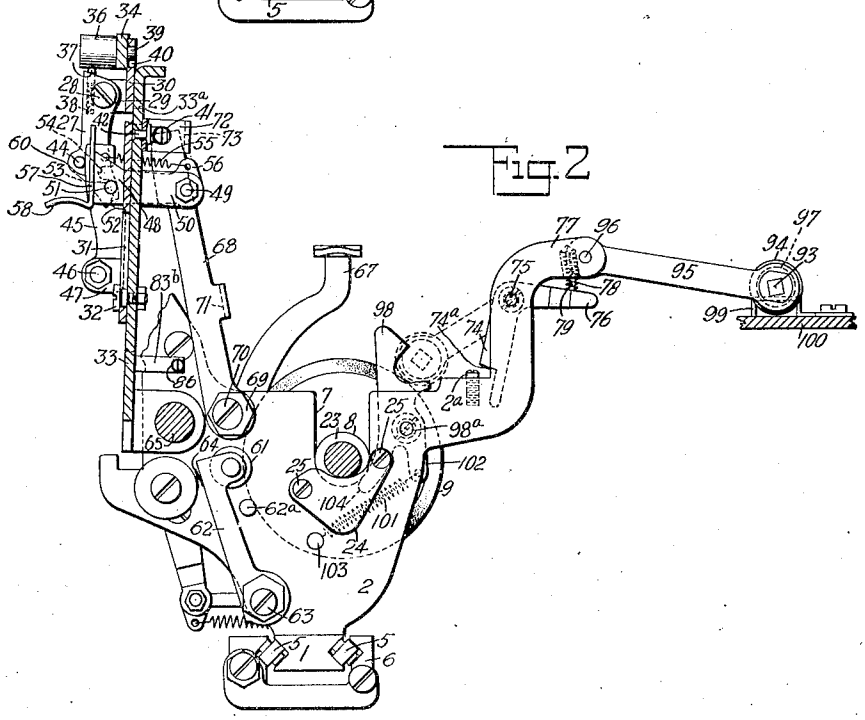


Fig. 2



WITNESSES

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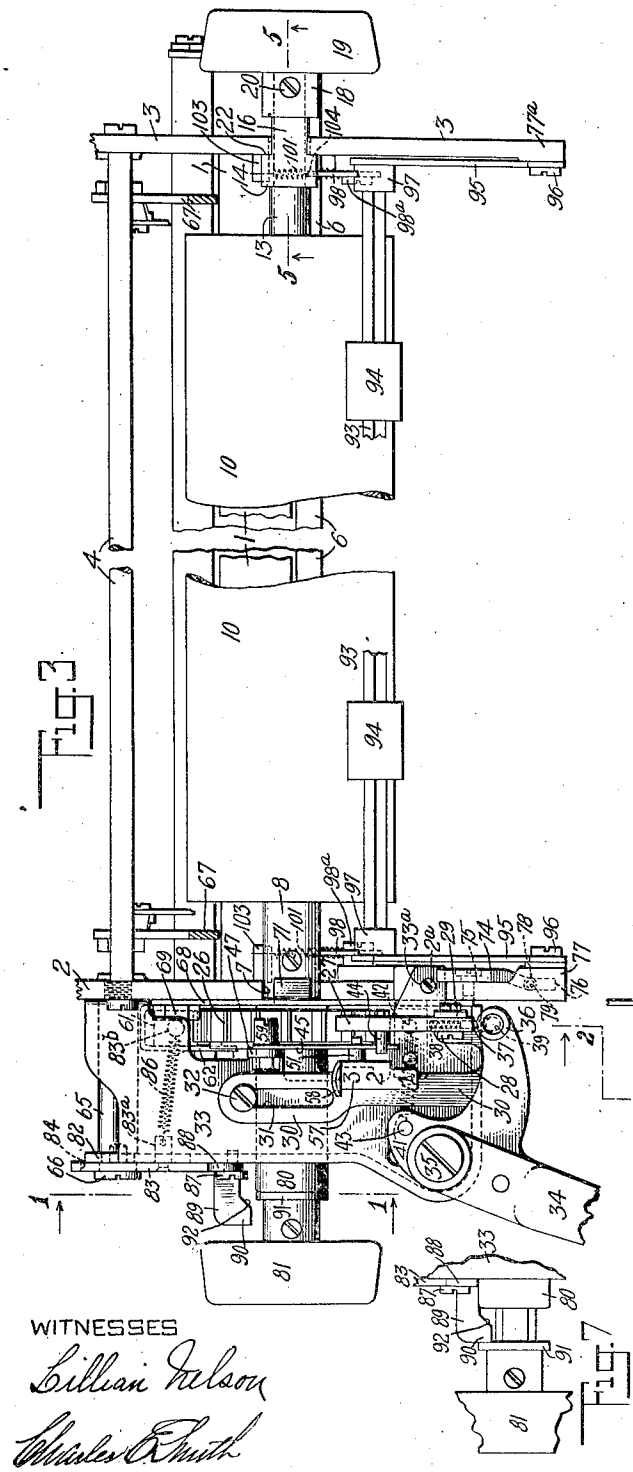


Fig. 3

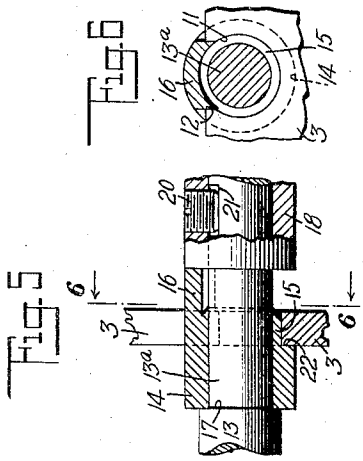


Fig. 5

Fig. 6

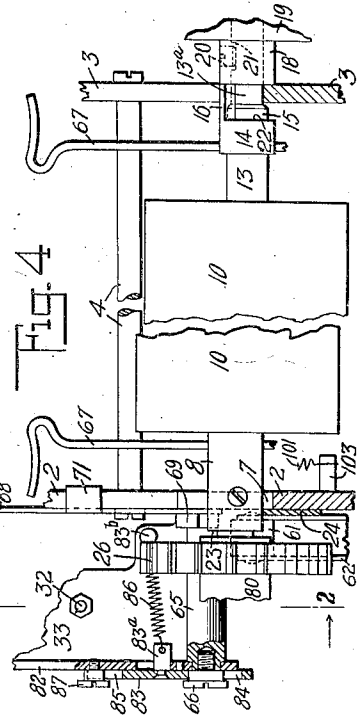


Fig. 4

Fig. 7

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UNITED STATES PATENT OFFICE.

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TYPEWRITING MACHINE.

Application filed January 12, 1926. Serial No. 80,751.

My invention relates to typewriting machines and more particularly to improved means for detachably mounting the platen in its platen frame or carriage.

One object of the present invention is to provide improved means that will enable a platen of one character, say, a hard, metal platen to be readily replaced by a comparatively soft rubber platen, or vice versa, without interference from the line space mechanism and associated parts.

A further object of my invention is to provide a construction of the character specified above which may be employed in existing machines, and in connection with existing line space mechanism, without modifying, or materially modifying, such line spacing mechanism and other associated parts.

To the above and other ends which will hereinafter appear my invention consists in the features of construction, arrangements of parts and combinations of devices set forth in the following description and particularly pointed out in the appended claims.

In the accompanying drawings wherein like reference characters designate corresponding parts in the different views:

Fig. 1 is a left-hand end view of the carriage with parts sectioned away on the line 1—1 of Fig. 3 and looking in the direction of the arrows at said line; the view illustrating the line spacing mechanism, etc., in normal or operative position.

Fig. 2 is a transverse sectional view of the same taken on the line 2—2 of Fig. 4 and looking in the direction of the arrows at said line; this view illustrating the line spacing mechanism, etc., disposed in the abnormal or ineffective position and when the platen is free to be removed from the platen frame or carriage.

Fig. 3 is a fragmentary top plan view of the carriage with the line spacing mechanism shown in the normal position.

Fig. 4 is a front elevation of the carriage with parts in section, and showing the line spacing mechanism elevated and the platen partly displaced from its bearings and about to be removed.

Fig. 5 is an enlarged detail fragmentary vertical sectional view of the platen bearing at the right-hand end of the carriage and some of the associated parts, the section being taken longitudinally of and through the axis of the platen on the line 5—5 of Fig. 3 and looking in the direction of the arrows at said line.

Fig. 6 is an enlarged detail transverse sectional view of the same taken on the line 6—6 of Fig. 5 and looking in the direction of the arrows at said line.

Fig. 7 is a fragmentary detail front elevation showing platen clutch locking device in effective position, together with some of the associated parts.

I have shown my invention, in the present instance, embodied in a No. 6 Remington-noiseless machine, in which it may be readily incorporated with but little change in the existing structure of such machine. It should be understood, however, that the invention is not restricted in its embodiment in any particular make of machine, but is of general application and may be used wherever found available.

The line spacing mechanism proper shown in the present instance is similar to that disclosed in the application of George G. Going, Serial No. 15,475 filed March 14, 1925. The platen clutch employed may be similar to that disclosed in the application of George G. Going, Serial No. 19,204 filed March 30, 1925, although in the present construction I have provided different coacting clutch locking means from those disclosed in my application Serial No. 743,199 filed Oct. 13, 1924. The paper feed bail shown in the present instance is similar to that disclosed in the application of George G. Going, filed Jan. 14, 1925, Serial No. 2,422.

In the #6 Remington-noiseless machine the line spacing mechanism, (other than the line spacing wheel) and the supporting bracket which carries such mechanism, overlie the axis of the platen and parts connected with the latter, and the platen cannot be removed without detaching said bracket and disconnecting parts, which in use are attached to the platen. This renders the removal of the platen difficult, thus

interfering with the ready substitution of a hard platen for a soft platen or vice versa by the operator.

One of the purposes of the present invention is to construct and mount the line spacing mechanism and platen so that, when desired, the bracket, line spacing mechanism and associated parts carried thereby may be readily shifted from a normal or operative obstructing position overlying parts connected with the platen, to an unobstructing abnormal position where the bracket line spacing mechanism, etc., will not interfere with the ready removal, as a single unit, of the platen and the parts carried thereby from the platen bearings and if desired another platen of a different character may be readily substituted for that ordinarily employed in the machine.

A further object of the invention is to provide a construction of the character specified above without materially modifying the line spacing mechanism, platen clutch, etc., ordinarily employed.

As disclosed in the drawings the platen frame or carriage of the No. 6 Remington-noiseless machine comprises an oppositely grooved supporting rail or traction bar 1 to which are attached end plates 2, 3 further united by cross-bars, one of which is indicated at 4. The traction bar 1 is supported by crossed bearing rollers 5 received in oppositively grooved bearings of a shift rail 6.

In the preesnt construction the end plate 2 of the carriage or platen frame is provided with a substantially U-shaped, open-mouth platen bearing 7, that opens upwardly as shown in Fig. 2 and receives at its lower bearing end the hub or hollow spindle 8 at the end of the platen 9 or 10. In Figs. 1 and 2 the platen 9 is indicated as a rubber covered comparatively soft platen, whereas, in Figs. 3 and 4 the platen 10 is represented as the metal platen usually employed in the No. 6 Remington-noiseless machines. But aside from this it will be understood that the equipment of the platen in both instances is the same and that the two platens are interchangeable in the machine. The other end plate 3 of the carriage is provided with an open-mouth platen bearing 11 (see Fig. 6) of key hole variety in which the upper open mouth 12 of the bearing is of smaller compass than the main bearing portion. The mouth 12 thus forms a constricted opening or passage through which the reduced portion 13^a of the platen spindle 13, at the opposite end of the platen, may be displaced laterally when the parts are in the position shown in Fig. 4. Surrounding the reduced portion 13^a of the spindle, and loosely disposed thereon is a sleeve 14. This sleeve has a reduced end portion 15 of an outer diameter that corresponds substantially to, and is adapted to be received in, the enlarged portion of the bearing 11, as shown in Figs. 5 and 6. The sleeve 14 is also formed with an endwise extending locking projection or finger 16 of a width sufficient to be received and fit within the constricted outlet 12 of the bearing opening, as shown in Fig. 6. When the finger 16 is received in said constricted opening it will hold the sleeve 14 against rotation in the bearing opening of the end plate 3, whereas the platen spindle 13 is free to rotate with the platen in said sleeve 14. It will be seen that the spindle 13 and sleeve 14 are prevented from relative axial displacement by a shoulder 17 on the spindle engaging the sleeve 14 at one end thereof, and by the inner end of the hub 18 of the right-hand finger wheel 19 engaging the outer end of the finger 16. The finger wheel 19 is attached to the spindle 13 by a set screw 20 that extends through a tapped opening in the hub 18 and bears at its inner end against a cut-out flattened face 21 on the spindle.

It will be observed, moreover, that when the platen is properly supported in its bearing in the right-hand end plate 3 of the carriage, as shown in Figs. 3 and 5, a shoulder 22 in the sleeve 14 will bear against the inner face of the end plate 3 and limit a longitudinal displacement of the platen to the right. However, so far as the features thus far described are concerned the platen is free to be displaced axially to the left.

It will be understood that a bodily longitudinal displacement of the platen from right to left will move the parts from the position indicated in Figs. 3 and 5, to that indicated in Fig. 4. In this last mentioned position the part 15 of the sleeve is withdrawn from its bearing 11, and the reduced part 13^a of the spindle is free to be displaced upwardly through the constricted mouth 12 of the bearing 11, enabling the platen to be lifted up out of its bearings 7 and 11 in the end plates and removed from the carriage. However, in order to effect a longitudinal displacement of the platen from right to left as has been described, it is necessary to first slightly lift the left-hand end of the platen in its bearing 7. This results in releasing circumferential groove 23 (Figs. 2 and 4) from edgewise engagement therein of a locking plate 24, secured by screws 25 to the outer side of the end plate 2. In Fig. 2 the parts are shown with the plate 24 seated in the groove 23 and the hub 8 resting in its bearing 7, thus preventing a longitudinal displacement of the platen either to right or left. When, however, the left end of the platen is lifted slightly to free the groove 23 from the plate 24, then the platen may be shifted longitudinally to the left, as indicated in Fig. 4. At this time the platen is

free to be removed from its bearings if the line spacing bracket, with the parts carried thereby, has first been moved to the Fig. 2 position, in a manner which will now be set forth.

As previously indicated, the line spacing mechanism is similar to that disclosed in the above mentioned application of George G. Going, Sr. No. 15,475 and comprises a line spacing wheel 26 operatively connected to the platen. A line spacing pawl 27 overlies the line spacing wheel and is pivoted at one end, as at 28, to an upright ear or lug 29 formed on a slide or plate 30, mounted for operating movement fore and aft of the machine. This slide 30 is slotted at 31 to receive the stem of a headed guide screw 32 received at its threaded end in a sheet metal supporting bracket 33, which in normal or effective position extends fore and aft of the machine and overlies the axis of the platen and parts carried by the platen. A line spacing handle or lever 34 is pivoted at 35 on the bracket 33 to swing in its operating movement from left to right thereon, or in the general direction of the return of the carriage. Operative connection between this lever 34 and the slide 30 is effected as follows: A pin 36 extends upwardly from the line spacing lever and engages the free end of a sliding pin 37 carried by the line spacing pawl 27 above its pivot 28. The pin 37 is pressed forwardly to the limit of its movement by a spring 38 housed within an opening in the pawl. The pin 36 has a downward extension or pin 39 which projects below the lever 34 (see Fig. 2) and is received in a short slot 40 in the slide 30. This provides a slight lost motion between the line spacing lever and slide, but nevertheless effects an operative connection between the two so as to transmit motion to the slide from said lever, as will hereinafter more clearly appear. From an inspection of Fig. 3 it will be seen that a coiled contractile spring 41 is anchored at one end to a depending pin 42 on the bracket plate 33, whereas, the opposite end of said spring is connected to a depending pin 43 on the line spacing lever 34. This spring is effective to return the line spacing lever and the parts connected therewith to normal position, shown in Fig. 3.

In order to regulate the extent of line spacing movement transmitted to the platen, there is employed, in the present instance, a laterally projecting pin 44 on the line spacing pawl which overlies and is adapted to ride on the upper edge of a controlling plate or member 45. This plate is pivoted at its rear end, at 46, to an ear 47 that projects upward from the bracket plate 33. A line space regulating device or arm 48 is pivoted at 49 to a depending arm 50 on the bracket plate 33. A laterally projecting pin 51 on the regulating arm 48 extends beneath the lower edge of the plate 45 where it is provided with three notches 52, 53 and 54 as indicated in Fig. 2. The pin 51 may be seated in any one of these notches to hold the plate 45 at any one of three different elevations. This determines the point in the throw of the line spacing pawl 27 where it engages the teeth of the line spacing wheel 26, and thus regulates the mechanism to turn the platen a distance corresponding to one, two or three teeth of the line spacing wheel.

A contractile spring 55 is connected at its lower end to an off-set ear 56 on the regulating device 48, and at its upper end to the controlling plate 45. The power of the spring 55 is thus exerted to maintain an engagement between the pin 51 and the notch in the plate 45 in which it is seated, in order to act as a detent to maintain both members 45 and 48 against accidental displacement from their positions of relative adjustment. The upper end of the regulating device 48 is turned outwardly to provide a flange 57, on the upper face of which is inscribed suitable indices, as "1", "2" and "3". One or another of these indices register with the laterally projecting pin 44 on the line spacing pawl, depending on the setting of the device 48 to line space one, two or three teeth of the line spacing wheel. One end of the flange 57 is upturned to provide a finger piece 58 by which the regulating device 48 may be readily adjusted.

The pivot 46 of the controlling plate 45 is extended to the right beyond the bracket arm or ear 47, and overlies the line spacing wheel and forms a stop pin 59, as shown in Fig. 3. This stop pin is in the path of the line spacing pawl and engages the upper inclined edge 60 (Fig. 2) thereof to lock the nose of the pawl in engagement with the teeth of the line spacing wheel and limit the throw of the pawl, thereby preventing overthrow of the line spacing wheel and platen.

A platen roller-detent 61 is carried by an arm 62 pivoted at 63 to the end plate 2 of the carriage. The arm 62 is pressed towards the line spacing wheel by a spring 64, causing the roller-detent 61 to bear against the teeth of the line spacing wheel 26. A stop pin 62^a projecting from the end plate 2 extends in the path of the arm 62 and limits the motion of said arm towards the axis of the platen when the platen is removed, as will hereinafter more clearly appear.

The line spacing mechanism as thus far described is substantially the same as that disclosed in the hereinbefore mentioned application of Going, Serial No. 15,475, except for certain changes which will hereinafter appear.

From the foregoing description it will be seen that as the parts appear in Figs. 1 and

3 the bracket 33, the line spacing pawl 27, the stop pin 59, the regulator or controlling member 45, the slide 30, etc., either cross over the axis of the platen or overlie parts carried by the platen, and ordinarily would interfere with the removal of the platen and the parts carried thereby as a single unit, as in the construction disclosed in said last mentioned Going application. In order to overcome this difficulty I construct and arrange the parts as follows:

The supporting bracket 33 which carries the entire line spacing mechanism proper, except the line spacing wheel, is pivoted at its rear end on a spindle or stub shaft 65 which is fixed at one end to the end plate 2 of the carriage. A shouldered headed screw 66 is received in a tapped opening in the end of the spindle 65 and holds the bracket against removal from the spindle. The bracket is thus mounted to swing fore and aft of the machine towards and from the axis of the platen and upwardly and rearwardly from its normal position, shown in Fig. 1, where the line spacing mechanism is effective, to the abnormal or ineffective position, as shown in Fig. 2, where the bracket with the parts carried thereby remain substantially in an upright position rearwardly of the platen. It will be seen that in this last named position the platen, together with the parts carried thereby, may be displaced as hereinbefore described and removed from the carriage, the usual carriage releasing arms 67 at opposite ends of the carriage being slightly modified to facilitate such removal.

In order to firmly hold the platen in its bearings when the bracket 33 is down in normal position, I mount a locking arm or platen retaining member 68 on the hub of a nut 69 eccentrically supported for rotative adjustment on a binding screw 70. The arm 68 has a laterally projecting bearing or holding lug or member 71, bent from the lower edge thereof. When the parts are moved to the normal position shown in Fig. 3, this lug 71 enters downwardly through the open mouth of the bearing 7 and overlies and contacts with the upper side of the hub 8 on the platen. This effectively holds the left-hand end of the platen down in its bearing, and it is necessary to first release this lug before the platen can be bodily displaced in any direction.

In order to automatically move the lug 71 into and out of locking position by a swinging movement of the bracket 33, I operatively connect the free end of the arm 68 to the bracket. This is attained, in the present instance, by extending the free end of the arm to a point where it will coact at its upper edge with the bottom of the bracket 33 near the forward end thereof, causing the arm 68 to swing down to effective position with the bracket. Secured to the bracket 33 is a sheet metal bracket arm 72 which carries a laterally projecting lug 73 at the depending end thereof. This lug underlies the forward end of the arm 68 and causes the latter to swing backward to the Fig. 2 position with the bracket 33. In this manner the holding lug 71 is moved respectively into and out of effective position as the bracket 33 is moved to the Figs. 1 and 2 positions.

In order to lock the bracket 33 against accidental displacement I provide a suitable catch or latch. Thus, in the present instance I pivot a latch 74 at 75 to the end plate 2 of the carriage. This latch is in the nature of an angular lever, one arm 76 of which is outwardly off-set to underlie an arm 77 on the end plate 2, and constitutes a finger piece by which the latch may be released. An expansion spring 78 is received at one end in an opening in the bottom of the arm 77, whereas the opposite end of the spring surrounds a pin 79 on the finger piece and bears downwardly against the latter. The latch 74 has a locking shoulder 74ª adapted to overlie the front end of the bracket 33, as shown in Fig. 3, and firmly hold the forward end of said bracket down against the top of the end plate 2. As the bracket 33 is moved down to effective position it will coact with and cam the lower end of the latch forward until the top edge of the bracket registers with the shoulder 74ª when the latter will be forced by the spring 78 to overlie the front edge of the bracket and thus lock it against accidental displacement. Pressure exerted on the finger piece 76 will release the latch and enable the bracket to be swung back to Fig. 2 position for removal of the platen.

When the bracket 33 is swung down to effective position it is further held firmly connected at its forward end to the end plate 2 of the carriage by a dowel pin 2ª which projects upward from the top edge of the end plate and is received in a registering hole 33ª in the bracket 33, as shown in Figs. 1 and 3.

The platen and line spacing wheel are connected to turn together by a suitable clutch, such for example as that shown in the hereinbefore mentioned application of Going, Serial No. 19,204. In said construction the clutch is contained within the line spacing wheel, and within the sleeve 80 connected therewith. The clutch is released by a movement of the left-hand finger wheel 81 of the platen from the Fig. 3 to the Fig. 7 position. A suitable latch, such as is indicated in my said application Serial No. 743,199, was formerly employed to hold the finger wheel 81 in its released, Fig. 7 position. In the present instance I provide a different locking latch for this purpose, which is carried wholly by the bracket 33

and may be swung therewith back and forth from the Fig. 1 to the Fig. 2 position, and will not interfere with such swinging movement of the bracket, or the ready removal of the platen. With these ends in view I provide a depending apron or flange 82 on the bracket 33, and mount thereon a slide 83. This slide is provided with slots 84 and 85 which receive the shouldered stems of headed screws 66 and 87 respectively, in order that the member 83 may slide freely fore and aft of the machine. A finger piece 88 extends upwardly from the slide to facilitate manipulating it. The lower end of the slide carries an outwardly bent arm 89 that terminates in an engaging member 90. When the slide 83 is shifted forward and the bracket 33 is in the normal position, the member 90 is adapted to engage the right-hand face of a circular flange 91 on the hub of the finger wheel 81, if the latter be drawn out, as shown in Fig. 7. Should the operator inadvertently shift the slide 83, to effective position while the finger wheel 81 is in normal position, then the flange 91, coacting with the cam 92 on the latch, will force the latter back from obstructing position from which it may be shifted forwardly to lock behind the flange 91, as shown in Fig. 7. The slide 83 is rather loose on its supporting screws 66 and 87, and in order that there may be sufficient friction to hold the slide in either position to which it may be set, I connect a light spring 86 to a pin 83[a] that projects from the slide through an opening in the apron 82 on the bracket 33. The opposite end of the spring 86 is anchored to a pin 83[b] depending from the bottom side of the bracket 33. This spring creates sufficient friction between the slide and the outer face of the flange or apron 82 to hold the slide in the position to which it is set.

It will be understood of course that when a platen is removed from the carriage the platen wheel, platen clutch and all other parts connected therewith, or carried thereby, are removed with the platen without effecting a disconnection between any of such parts.

There is employed in the No. 6 Remington-noiseless machine a paper feed bail, such as is disclosed in the hereinbefore mentioned Going application 2,422. This bail comprises a cross bar 93 carrying longitudinally adjustable feed rollers 94, and is carried at its ends by arms 95 pivoted at 96 to the bracket arms 77 and 77[a] on the end plates 2 and 3 respectively. Each arm 95 has a hub 97 where it receives an end of the cross bar 93, and a spring-pressed pivoted engaging or retaining member 98 engages each hub 97 and cause the feed rollers 94 to bear with a spring pressure against the platen, or the paper thereon, when the bail is in the operative position, shown in dotted lines in Fig. 2. If desired the bail may be swung against the restraint of the retaining devices 98 to the full line ineffective position, shown in Fig. 2, where it rests on a bracket 99 secured to the top plate 100 of the machine.

In the present construction I have modified the retaining devices 98 so that they will not interfere with the removal from or insertion of the platen in the machine. Each retaining device is pivoted at 98[a] to an end plate of the carriage and has a depending arm 102 connected to one end of a contractile spring 101. The opposite end of each spring is connected to a pin 103 projecting inward from the associated end plate 2 or 3. These springs exert their force through the retaining devices 98 to hold the feed roller against the platen. A second depending arm 104 is pivoted on each retaining device 98. One arm 104 is adapted to bear on the hub or hollow spindle 8 of the platen, and the other arm is adapted to bear on the sleeve 14, to limit the forward motion of the upper end of each device 98. In this manner each device 98 is held in position where it will properly coact with the companion hub 97 when the bail is moved from the full to the dotted line position in Fig. 2, and will not be moved forward beyond such position. When the platen is removed the arms 104 on the retaining devices 98 will be moved to inclined positions, each across its respective companion bearing opening in the end plate. However, when the platen is again introduced into place the downward movement of the hub 8 and sleeve 14 will displace the arms 104 and cause the retaining devices to automatically assume proper position, as shown in Fig. 2, where they can effectively coact with the bail when the latter is swung against the platen to dotted line position.

In practice I prefer to make the detent roller 61 wider than the one usually employed, in order that the corners of the teeth of the line spacing wheel will not catch on the detent roller and interfere with the slight longitudinal displacement of the platen from the Fig. 4 position required to seat the platen properly in its bearings.

From the foregoing description it will be seen that by pivoting the bracket 33 at a point 65 remote from the axis of the platen, I am enabled to swing said bracket, together with the line spacing devices carried thereby, from a normal position overlying said axis and parts carried by the platen, away therefrom to the Fig. 2 position. This is in order that the bracket and line spacing devices may be carried out of cooperative relation with the platen and the

parts carried by it, to an unobstructing position where there will be no interference with the ready removal of the platen from the carriage and the substitution of a different platen therefor.

During the line spacing operation the pressure of the spring pressed pin 37 tends to hold the pin 44 on the line spacing pawl down on the member 45. When, however, the pawl reaches the locking pin 59 the plunger or pin 37 will be compressed against its spring and the lost motion connection 39, 40 will be taken up, thus forming a positive line of connections from the line spacing handle to the pawl 27 in order to effectively lock the line spacing wheel and platen against overthrow.

In accordance with the present invention I am enabled, by a comparatively simple construction, to make provision for readily substituting one platen for another in the No. 6 Remington-noiseless machine, without modifying, or materially modifying, the existing structural features of the line spacing mechanism and platen equipment of said machine, and without the necessity of disconnecting from the platen any of such platen equipment.

Various changes may be made without departing from my invention as it is defined in the accompanying claims.

What I claim as new and desire to secure by Letters Patent, is:—

1. In a typewriting machine, the combination of a platen frame having an open-mouth platen bearing, a platen detachably mounted in said bearing, a bracket maintained and mounted on the platen frame for movement towards and from the axis of the platen, means controlled by the movement of the bracket towards the axis of the platen and to normal position for closing the open mouth of said bearing and preventing a removal of the platen therefrom and for releasing the platen for removal from its bearing when the bracket is moved away from the axis of the platen to abnormal position, and line spacing devices carried by said bracket.

2. In a typewriting machine, the combination of a platen frame having an open-mouth platen bearing, a platen detachably mounted in said bearing, a bracket maintained and mounted on the platen frame for movement towards and from the axis of the platen, releasable means for locking said bracket firmly in normal position to the platen frame where it interferes with the removal of the platen, means controlled by the movement of the bracket towards the axis of the platen and to normal position for closing the open mouth of said bearing and preventing a removal of the platen therefrom and for releasing the platen for removal from its bearing when the bracket is moved away from the axis of the platen to abnormal position, and line spacing devices carried by said bracket.

3. In a typewriting machine, the combination of a platen frame having an open-mouth platen bearing, a platen detachably mounted in said bearing, a bracket maintained and mounted on the platen frame for movement towards and from the axis of the platen, means controlled by the movement of the bracket towards the axis of the platen and to normal position for closing the open mouth of said bearing and preventing a removal of the platen therefrom and for releasing the platen for removal from its bearing when the bracket is moved away from the axis of the platen to abnormal position, a line spacing wheel operatively connected with the platen, and line spacing devices including a line spacing pawl, said pawl being moved into cooperative relation with said line spacing wheel by a movement of the bracket to normal position and moved out of cooperative relation with said wheel by a movement of the bracket to abnormal position.

4. In a typewriting machine, the combination of a platen frame having an open-mouth platen bearing, a platen detachably mounted in said bearing, a bracket normally extending longitudinally fore and aft of the machine above the axis of the platen and pivoted to the platen frame at a point remote from the axis of the platen for movement away from such axis to substantially an upright unobstructing position where it will not interfere with the removal of the platen from said bearing, and line spacing devices carried by said bracket.

5. In a typewriting machine, the combination of a platen frame having an open-mouth platen bearing, a platen detachably mounted in said bearing, a line spacing ratchet wheel operatively connected with the platen, a bracket normally extending longitudinally fore and aft of the machine above the axis of the platen and pivoted to the platen frame at a point remote from the axis of the platen for movement away from such axis to substantially an upright unobstructing position where it will not interfere with the removal of the platen from said bearing, and line spacing devices carried by said bracket and including a line spacing handle and pawl the latter of which is carried out of cooperative relation with the line spacing wheel and away from an obstructing position when the bracket is moved to the substantially upright unobstructing position.

6. In a typewriting machine, the combination of a platen frame having an open-mouth platen bearing, a platen detachably

mounted in said bearing, a bracket normally extending longitudinally fore and aft of the machine above the axis of the platen and pivoted to the platen frame at a point remote from the axis of the platen for movement away from such axis to substantially an upright unobstructing position where it will not interfere with the removal of the platen from said bearing, line spacing devices carried by said bracket, and a pivoted platen retaining member controlled in its movement by said bracket, the retaining member being moved to an obstructing position across the open mouth of said bearing when the bracket is moved to normal position and moved to an unobstructing position away from the open mouth of the bearing when the bracket is moved to an unobstructing position.

7. In a typewriting machine, the combination of a platen frame having an open-mouth platen bearing, a platen detachably mounted in said bearing, a bracket normally extending longitudinally fore and aft of the machine above the axis of the platen and pivoted to the platen frame at a point remote from the axis of the platen for movement away from such axis to substantially an upright unobstructing position where it will not interfere with the removal of the platen from said bearing, line spacing devices carried by said bracket, and a hand released spring-pressed lock for holding said bracket in its normal position.

8. In a typewriting machine, the combination of a plate frame having a platen bearing, a platen detachably mounted in said bearing, a bracket normally extending fore and aft of the machine above the axis of the platen and pivoted at its rear end to the platen frame at a point remote from the axis of the platen for upward and backward movement away from such axis to substantially an upright unobstructing position where it will not interfere with a removal of the platen from said bearing, and line spacing devices carried by said bracket and movable therewith from a position where they form an obstruction to the removal of the platen to a position where the platen may be removed from its bearing.

9. In a typewriting machine, the combination of a platen frame having an open-mouth platen bearing, a platen detachably mounted in said bearing, a bracket maintained and mounted on the platen frame for movement towards and from the axis of the platen, means controlled by the movement of the bracket towards the axis of the platen and to normal position for closing the open mouth of said bearing and preventing a removal of the platen therefrom and for releasing the platen for removal from its bearing when the bracket is moved away from the axis of the platen to abnormal position, a line spacing wheel operatively connected with the platen, a line spacing pawl carried by said bracket and overlying the line spacing wheel when the bracket is in normal position, and a line spacing regulating device carried by said bracket, the pawl and regulating device being moved with the bracket to an unobstructing position to permit the removal of the platen when the bracket is moved to abnormal position.

10. In a typewriting machine, the combination of a platen frame having an open-mouth platen bearing, a platen detachably mounted at one end in said bearing, means for preventing a longitudinal displacement of the platen when it is seated in said bearing but permitting such longitudinal displacement when the platen is unseated from such bearing, a second bearing at the opposite end of the platen in which the latter is held seated by a longitudinal movement of the platen in one direction and from which the platen may be removed by a preliminary longitudinal movement thereof in the opposite direction, and releasable means for holding the platen against displacement from said first mentioned open-mouth bearing in the platen frame.

11. In a typewriting machine, the combination of a platen frame having an open-mouth platen bearing, a platen detachably mounted at one end in said bearing, means for preventing a longitudinal displacement of the platen when it is seated in said bearing but permitting such longitudinal displacement when the platen is unseated from such bearing, a second bearing at the opposite end of the platen in which the latter is held seated by a longitudinal movement of the platen in one direction and from which the platen may be removed by a preliminary longitudinal movement thereof in the opposite direction, a bracket movably mounted on the platen frame, and a holding member connected with said bracket and closing the open mouth of said first mentioned bearing when said bracket is in normal position but freeing the platen for removal when the bracket is in abnormal position.

12. In a typewriting machine, the combination of a platen frame having an open-mouth platen bearing, a platen detachably mounted at one end in said bearing, means for preventing a longitudinal displacement of the platen when it is seated in said bearing but permitting such longitudinal displacement when the platen is unseated from such bearing, a second bearing at the opposite end of the platen in which the latter is held seated by a longitudinal movement of the platen in one direction and from which the platen may be removed by a preliminary longitudinal movement thereof in

the opposite direction, a bracket movably mounted on the platen frame, a holding member connected with said bracket and closing the open mouth of said first mentioned bearing when said bracket is in normal position but freeing the platen for removal when the bracket is in abnormal position, a releasable latch for locking the bracket to the platen frame and against movement from its normal position thereon, and line spacing devices carried by said bracket and movable therewith to a position where they will not obstruct or interfere with the removal of the platen.

13. In a typewriting machine, the combination of a platen frame having an open-mouth bearing and including a plate for retaining the platen against longitudinal displacement when it is seated in said bearing, a platen having a spindle at one end thereof detachably mounted in said bearing and having a circumferential groove therein in which said retaining plate is received when the spindle is seated in said bearing but from which the retaining plate is displaced when the spindle is displaced from its seat in the bearing, whereby the platen will be held against longitudinal displacement when the spindle is seated in its bearing but may be shifted longitudinally when the spindle is displaced from the seat in said bearing, a second spindle at the opposite end of the platen, a second bearing in the platen frame in which said second spindle may be detachably seated, a longitudinal displacement of the platen in one direction holding the second spindle against removal from its bearing and a longitudinal displacement of the platen in the opposite direction freeing the second spindle so that it may be removed from its bearing, and releasable means for holding the first mentioned spindle from being unseated from its bearing.

14. In a typewriting machine, the combination of a platen frame having an open-mouth bearing and including a plate for retaining the platen against longitudinal displacement when it is seated in said bearing, a platen having a spindle at one end thereof detachably mounted in said bearing and having a circumferential groove therein in which said retaining plate is received when the spindle is seated in said bearing but from which the retaining plate is displaced when the spindle is displaced from the seat in the bearing, whereby the platen will be held against longitudinal displacement when the spindle is seated in its bearing but may be shifted longitudinally when the spindle is displaced from the seat in said bearing, a second spindle at the opposite end of the platen, a second bearing in the platen frame in which said second spindle may be detachably seated, a longitudinal displacement of the platen in one direction holding the second spindle against removal from its bearing and a longitudinal displacement of the platen in the opposite direction freeing the second spindle so that it may be removed from its bearing, and releasable means for holding the first mentioned spindle from being unseated from its bearings, such releasable means comprising a bracket mounted on the platen frame for movement into and out of normal holding position, releasable locking means for holding the bracket in said last named position, and line spacing devices carried by said bracket and movable therewith to a position where they will form no obstruction to the removal of the platen from the platen frame.

15. In a typewriting machine, the combination of a platen frame; a platen; means for detachably mounting the platen in said frame comprising a supporting bracket mounted for movement on the platen frame from normal position where it constitutes an obstruction that prevents the removal of the platen to an unobstructing position; line spacing devices carried by said bracket; a platen clutch releasing spindle carried by the platen; and a latch carried by said bracket and movable thereon into locking relation with said spindle when the bracket is in normal position.

16. In a typewriting machine, the combination of a platen frame, a platen, and means for detachably mounting the platen in said frame comprising a key-hole open-mouth bearing in the platen frame, and a sleeve mounted on a spindle at one end of the platen and in which the spindle turns freely but is fixed against relative longitudinal movement, said sleeve having a reduced portion that fits within the relatively larger opening of the key-hole bearing and also having a finger or projection that fits within the constricted open mouth of the bearing to prevent the sleeve from turning in the bearing.

17. In a typewriting machine, the combination of a platen frame, a platen, and means for detachably mounting the platen in said frame comprising a key-hole open-mouth bearing in the platen frame, a sleeve mounted on a spindle at one end of the platen and in which the spindle turns freely but is fixed against relative longitudinal displacement, said sleeve having a reduced portion that fits within the relatively larger opening of the key-hole bearing and also having a finger or projection that fits within the constricted open mouth of the bearing to prevent the sleeve from turning in the bearing, and releasable means at the opposite end of the platen which normally prevent a longitudinal shifting of the platen and thus maintain the parts of the first mentioned bearing in cooperative relation, said releasable means permitting when de-

sired a slight preliminary longitudinal shifting of the platen to release said sleeve from the key-hole bearing in order to permit a removal of the platen.

18. In a typewriting machine the combination of a platen frame, a platen detachably mounted therein, a paper feeding bail movable into and out of cooperative relation with the platen, spring-pressed retaining devices for holding the bail in its effective position, and means controlled by the detachable platen for shifting said retaining devices to and maintaining them in position where they may coact with said bail when the platen is introduced into the platen frame.

Signed at the borough of Manhattan, city of New York, in the county of New York and State of New York, this 11th day of January, A. D. 1926.

EDWIN E. BARNEY.