

Feb. 16, 1926.

E. W. FORNEY

1,573,237

COPYHOLDER

Filed April '25, 1924

3 Sheets-Sheet 1

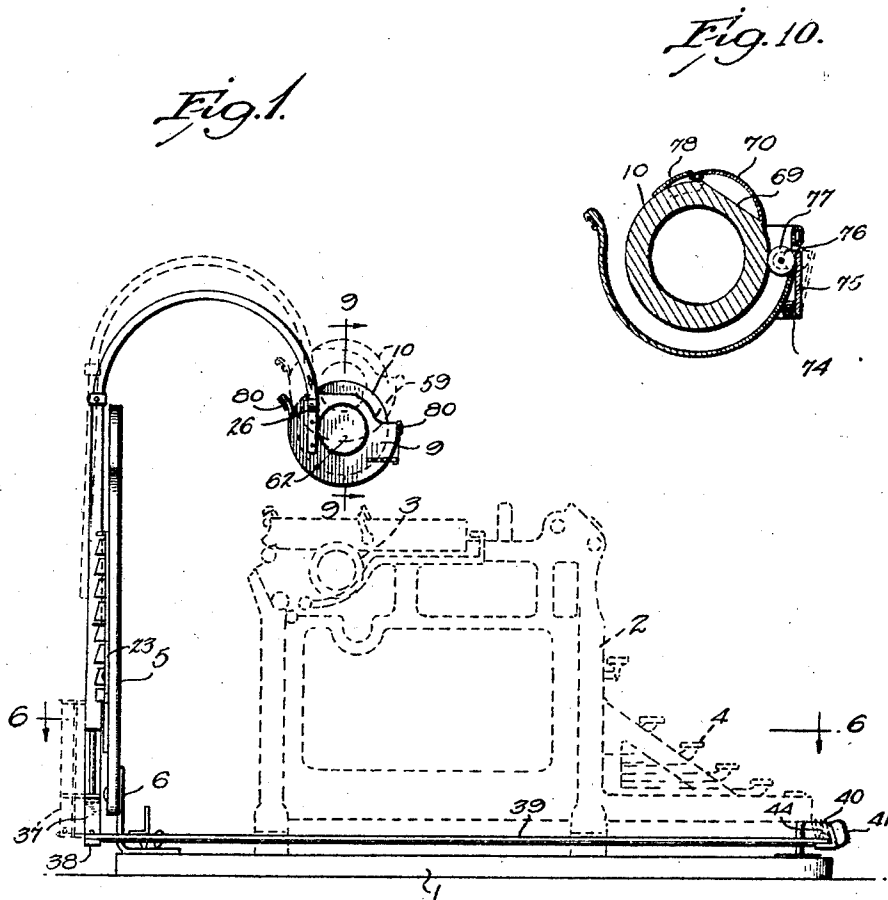
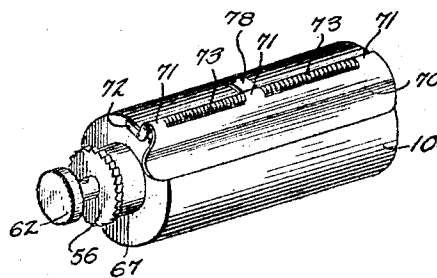


Fig. 11.

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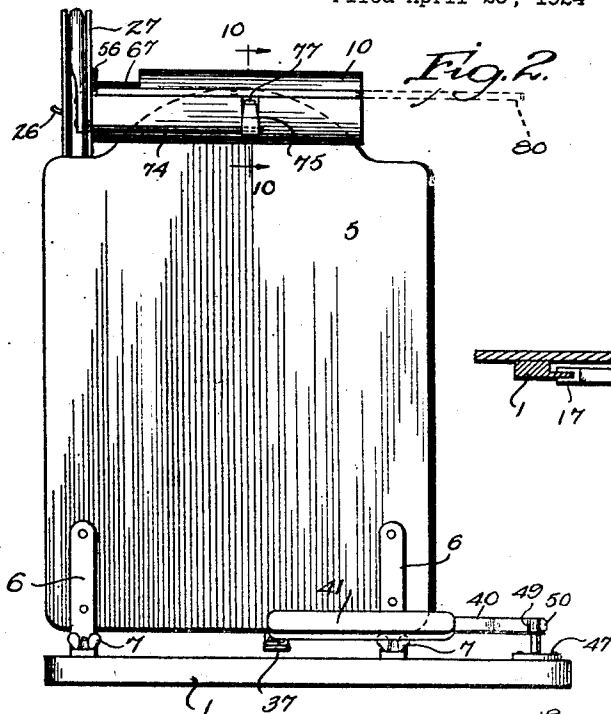
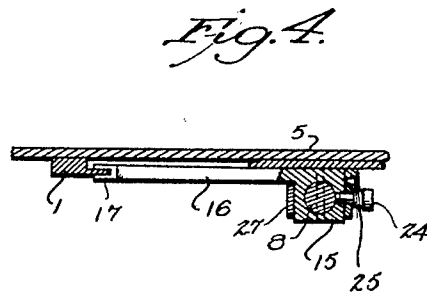
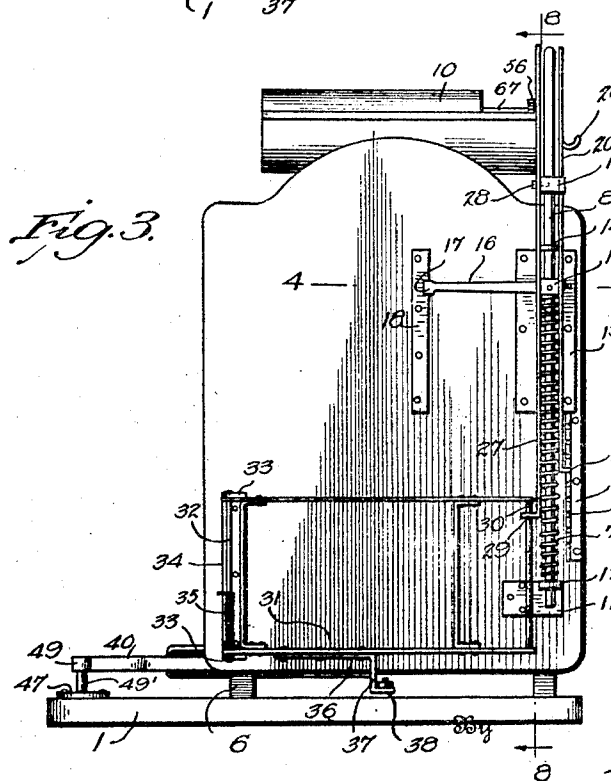
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COPYHOLDER

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3 Sheets-Sheet 2



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COPYHOLDER

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3 Sheets-Sheet 3

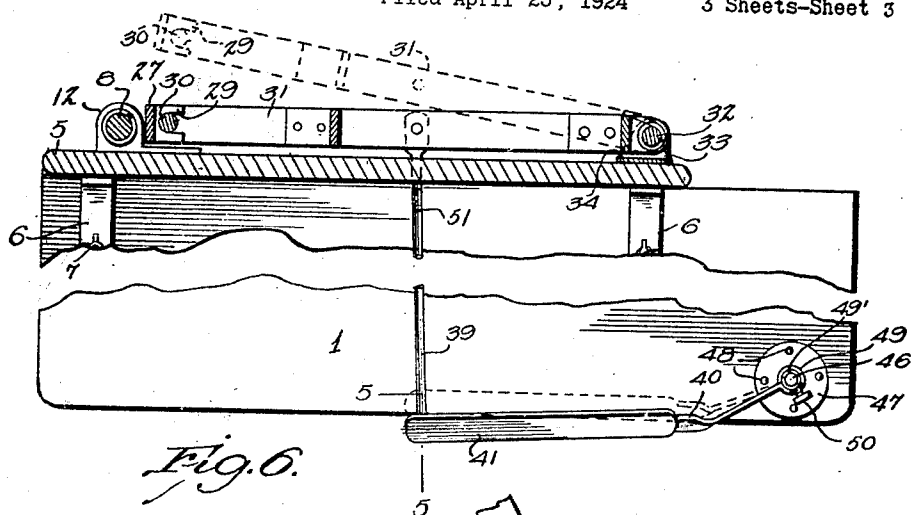


Fig. 6.

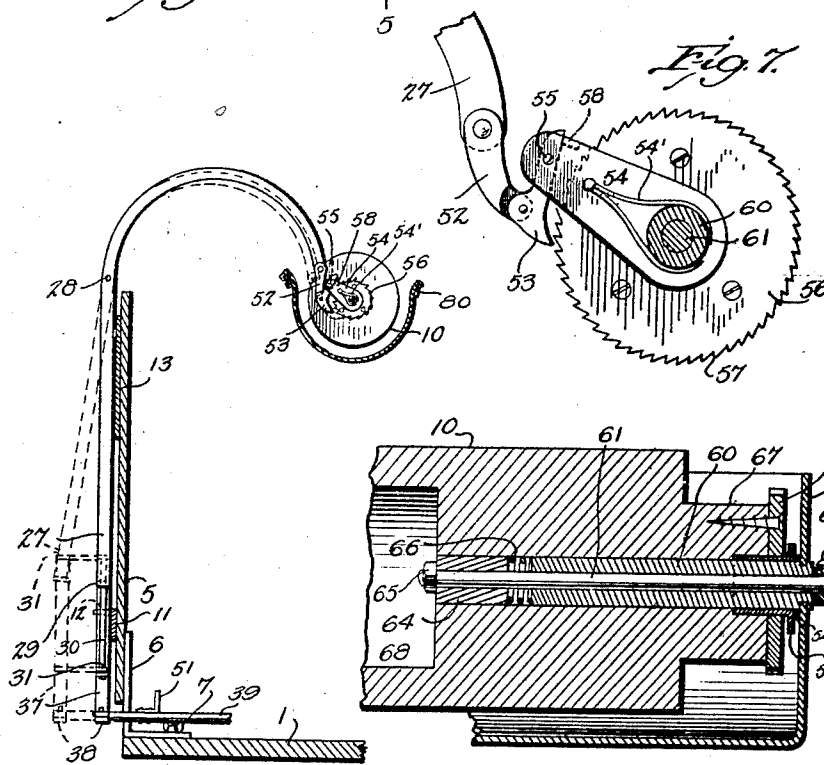


Fig. 7.

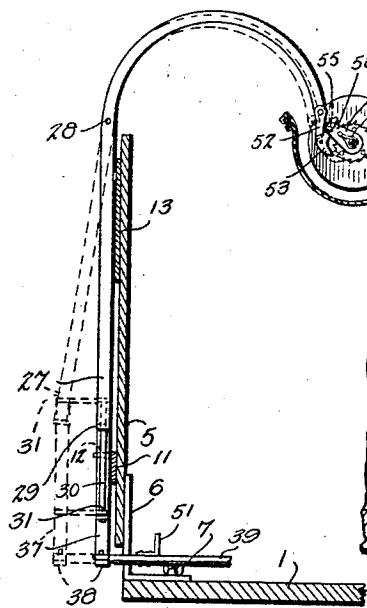


Fig. 8.

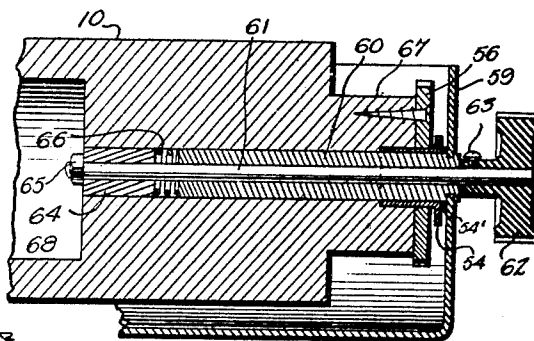


Fig. 9.

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UNITED STATES PATENT OFFICE.

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COPYHOLDER.

Application filed April 25, 1924. Serial No. 709,053.

To all whom it may concern:

Be it known that I, ELWOOD W. FORNEY, a citizen of the United States, residing at Joplin, in the county of Jasper and State of Missouri, have invented certain new and useful Improvements in Copyholders, of which the following is a specification.

This invention relates to typewriter attachments, and more particularly to copy holders therefor.

An object of the invention is the provision of a copy holder in which the page being copied may be advanced line by line, as desired.

A further object is to provide a copy holder in which the page being copied is supported in a convenient position from the carriage and to provide suitable control arranged at the front of the support adjacent the key board.

A further object of the invention is to provide means for adjusting the position of the supporting member and permit it to be arranged at a desired elevation.

In the accompanying drawings, I have shown one embodiment of the invention. In this showing:

Figure 1 is a side elevation showing, in dotted lines, the position of a typewriter,

Figure 2 is a front elevation,

Figure 3 is a rear elevation,

Figure 4 is a horizontal sectional view on line 4—4 of Figure 3,

Figure 5 is a detail sectional view on line 5—5 of Figure 6,

Figure 6 is a horizontal sectional view on line 6—6 of Figure 1, with the typewriter removed.

Figure 7 is a detail view of a pawl and ratchet mechanism,

Figure 8 is a vertical sectional view on line 8—8 of Figure 3,

Figure 9 is a detail sectional view on line 9—9 of Figure 1,

Figure 10 is a vertical sectional view on line 10—10 of Figure 2, and,

Figure 11 is a perspective view of the roll or cylinder on which the page or book is supported.

Referring to the drawings, the reference numeral 1 designates the usual foot board upon which a typewriter is supported. In Figure 1, I have shown in dotted lines, a typewriter 2, having the usual carriage 3

and key board 4. The device forming the subject-matter of the invention consists of a vertical board 5 arranged at the back of the foot board and supported thereon in any suitable manner. As shown, angular clips 6 may be secured to the back wall and these clips are provided with slots (not shown), adapted to receive bolts mounted in the foot board. The vertical wall is retained in position by means of wing nuts 7, to permit ready removal of the device.

A rod 8 is adjustably mounted on the rear of the supporting member and this rod is adapted to support a trough 9 in which a roll 10 is mounted. As shown, the plate 11 is arranged adjacent the bottom of the supporting member 5 and this plate is provided with an ear 12 having an opening therein through which the lower end of the rod passes. Similarly, a plate 13 is mounted adjacent the upper edge of the supporting member and this plate is provided with a similar ear 14. The upward movement of the rod is limited by means of a block 15, secured thereto and this block carries a laterally projecting arm 16, having a bifurcated end 17, adapted to ride on the edge of a guide 18. The downward movement of the rod is limited by means of a similar block 19, arranged above the ear 14. An arm 20 is arranged on one side of the rod, the upper end of the arm being curved similarly to the curved portion of the rod, as shown. The lower end of this arm is provided with a finger 21 adapted to engage teeth 22, formed on the inner edge of a plate 23. This retains the rod in the desired adjusted position. The arm 20 is pivotally mounted on a pin 24, carried by the block 15 and is normally forced in a counter clockwise direction to retain the finger 21 in engagement with one of the teeth 22 by means of a spring 25, surrounding the pin (see Figure 4). The arm passes through a slot in the block 19 and is provided with a curved end 26, to permit release of the finger 21 when the operator desires to adjust the roll 10 vertically with respect to the typewriter. An arm 27 is mounted on the opposite side of the rod and pivotally supported on a pin 28, carried by the block 19. The lower end of this rod is provided with an angular extension 29, adapted to receive a vertical arm 30, car-

ried by a frame 31. A pivot 32 is arranged at the opposite end of the frame and this pivot is supported in ears 33, formed on the upper and lower ends of a plate 34. A spring 35 surrounds the pivot and is adapted to retain the free end of the frame in a position adjacent the supporting member 5. An arm 36 is secured to the frame and this arm is provided with a downwardly projecting portion 37 extending beneath the bottom of the supporting plate and provided with a horizontally extending terminal 38 arranged above the foot board of the typewriter. A link 39 is connected to the terminal 38 and extends forwardly beneath the typewriter to the front of the machine, as shown in Figures 1 and 6 of the drawings. This link is connected to an operating bar 40 to swing the frame on its pivot when the bar is actuated by the user of the machine. As shown, (see Figure 5) a plate 41 is secured to the face of the operating bar, the plate being formed of hard rubber or similar material and being adapted to be grasped by the operator in actuating the bar. A clip 42 is secured to the rear face of the operating bar and this clip is provided with a horizontal arm 43, having an upwardly extending pin 44 adapted to be received in an opening in the end of the link. The upper and lower faces of the link are flattened, as at 45, adjacent its end. The operating bar is mounted on a vertical pivot consisting of a post 46 carried by a plate 47, adapted to be secured to the forward right hand corner of the foot board by means of suitable fastening elements 48. As shown, the end of the operating bar is curved to form a sleeve 49. A bearing sleeve 49' is loosely mounted on the post 46. A suitable set screw 50 is passed through the sleeve 49 to engage the bearing sleeve 49' and permit vertical adjustment of the bar. Adjacent its rear end, the link is provided with a stop, consisting of a clip 51 extending upwardly and adapted to engage the front face of the supporting member. As stated, the arm 27 is pivoted on the pin 28 and when the operating bar is actuated, the free end of the frame 30 is moved outwardly, as indicated in dotted lines in Figure 6 of the drawings, and this arm is swung on its pivot to depress the forward curved end. A link 52 is pivotally mounted on the free end of the arm. This link is connected to a pawl 53, carried by an arm 54 freely mounted on one end of the roller 10 and the pawl is pivoted to the arm, at 55, whereby it will be depressed when the arm 27 is actuated. A disk 56 having ratchet teeth 57 is carried by the roll, as shown in Figure 11 of the drawings, and the pawl is adapted to engage the ratchet teeth to give a step by step movement to the roll. The arm 54 is pro-

vided with a lug 58 arranged adjacent the rear end of the pawl to limit its movement in the opposite direction.

The detail construction of the roll is shown in Figures 9 to 11 of the drawings. The trough surrounding the roll is slightly spaced therefrom, as shown in Figure 10 of the drawings, and is provided with an end wall 59 at the left side but is open at the right side, as shown in Figures 8 and 10 of the drawings, to permit the copy holder to be used with sheets of paper of greater width than the length of the roll. A bearing member 60 is mounted on the end plate 59 and extends longitudinally of the trough. A spring 54' is mounted on the arm 54 and engages the bearing member to place a tension thereon. A shaft 61 extends through the bearing member and the outer end of the shaft projects through the end wall 59. A handle 62 is mounted on the outer end of the shaft and secured thereto by means of a set screw 63 to permit manual operation of the shaft. A tubular member 64 is mounted on the inner end of the shaft and a nut 65 is arranged adjacent this tubular member. Between the tubular member and the bearing member, there is provided a coil spring 66 surrounding the shaft. The roll 10 is of substantially the same diameter through the greater portion of its length, and is provided with a reduced end 67 on which the ratchet wheel 56 is arranged. The right end of the roll is hollow, as indicated at 68, and the roll is secured to the shaft to revolve therewith by means of the tubular member 64, which is snugly received in the opening in the center of the roll.

The face of the roll is provided with a flattened portion 69 (see Figure 10) and a clamping element 70 is arranged adjacent this flattened portion. As shown, the clamping element consists of a curved plate having bearing portions 71 formed at opposite ends and at the center. These bearing portions are adapted to receive a pin or shaft (not shown) which is pivotally mounted in clips or plates 72, arranged on the opposite ends of the roll. Coil springs 73 are arranged on this pin to normally retain the clamping element in operative position. An arm 74 is secured to the end plate 59 and extends along the bottom of the trough. A plate 75 is pivotally mounted on this arm and is normally forced toward the trough by a coil spring (not shown). The front of the trough is provided with an opening 76, adjacent the end of this plate and the plate carries a roller 77 extending through the opening and adapted to engage the sheet of paper. The surface of the roll is further provided with an inclined plate 78, arranged longitudinally in alignment with the roller 77 and at the rear

of the clamping element over which the roller passes.

In operation, the copy holder is assembled on the foot board of the typewriter and the trough 9 and roll 10 are vertically adjusted to suit the desires of the user of the machine by means of the arm 20. By depressing the finger piece 26, the finger 21 may be released from the tooth 22 and the rod 8, which supports the trough and roller, vertically adjusted. As stated, the spring 25 normally retains the finger 21 in engagement with one of the teeth 22. When the device is adjusted, the end of the arm 16 rides on the guide 18. The vertical movement of the rod 8 is limited by the blocks 15 and 19. A coil spring 79 is arranged on the rod 8 between the ear 12 and the block 15 and this spring is adapted to force the rod 8 and its associated parts upwardly a sufficient distance to cause the finger 21 to engage the next tooth 22.

The sheet to be copied is placed in the roll by lifting the free end of the clamp 70 and inserting the upper edge of the sheet between the clamp and the roll. A pair of arms 80 are slidably mounted in the guides adjacent the upper edges of the trough and may be arranged in the extended position shown in Figure 2 of the drawings serve as a line indicator in copying or transcribing. After the sheet has been placed in the roll, the line to be copied is arranged in alignment with the edge of the trough by revolving the roll. This is accomplished by swinging the operating bar 40 on its pivot, which moves the frame 30 to the dotted line position shown in Figure 6 of the drawings, and swings the operating arm 27 on its pivot, as indicated in Figure 8 of the drawings. This depresses the pawl 53, causing it to engage one of the ratchet teeth 57 and revolve the shaft and roll. As soon as the operating bar is released, the spring 35 returns the frame and operating arm 27 to their normal positions. As each line is completed, the roll is revolved in a step by step movement by depressing the pawl through the mechanism just described and when the bottom of the sheet is reached, a new sheet is inserted. The spring 66 prevents accidental rotation of the roll.

Particular attention is called to the arrangement of parts which places the sheet to be copied in a most convenient place above the carriage and the operating bar at the front of the machine, near the bottom of the key board. The link 39 is so arranged that it will extend under any of the standard makes of typewriters without interfering with the operating mechanism of the typewriter.

It is to be understood that the form of my invention herewith shown and described is to be taken as a preferred example of the

same, and that various changes in the shape, size, and arrangement of parts may be resorted to without departing from the spirit of the invention or the scope of the subjoined claims.

I claim:

1. In a device of the character described, a supporting member adapted to be secured to the foot board of a typewriter, said supporting member comprising a vertically disposed plate, a rod mounted on the rear of said supporting member, said rod being provided with an arcuate shaped upper end extending forwardly of said supporting member, a roll carried by said rod and adapted to receive a sheet to be copied, an operating bar arranged at the front of the foot board, and connections between said bar and said roll to rotate said roll upon actuation of said operating bar.

2. In a device of the character described, a supporting member adapted to be secured to the back of the foot board of a typewriter, said supporting member comprising a vertically disposed plate, a rod mounted on the rear of said supporting member, said rod being curved forwardly at its upper end, a roll carried by said rod and disposed over the carriage of a typewriter arranged on said foot board, an operating bar arranged at the front of the foot board, and connections between said bar and said roll to rotate said roll when the lever is actuated.

3. In a device of the character described, a supporting member adapted to be secured to the foot board of a typewriter, said supporting member comprising a vertically disposed plate, a rod carried by said supporting member, said rod being curved forwardly at its upper end, a roll carried by said rod and disposed over the carriage of a typewriter arranged on said foot board, a frame pivotally mounted on the rear of said supporting member, a vertical arm connected to said frame, means controlled by said arm for rotating said roll, an operating bar at the front of the typewriter, and connecting means between said bar and said frame to swing said frame on its pivot to rotate said roll upon actuation of said bar.

4. In a device of the character described, a supporting member adapted to be secured to the foot board of a typewriter, a rod carried by said supporting member, said rod being curved forwardly at its upper end, a roll carried by said rod and disposed over the carriage of a typewriter arranged on said foot board, means for vertically adjusting said roll and said bar, a frame pivotally mounted on said supporting member, a vertical arm connected to said frame and adapted to rotate said roll, an operating bar at the front of said typewriter, and connecting means between said bar and said frame to

swing said frame on its pivot and rotate said roll upon actuation of said bar.

5 5. A device constructed in accordance with claim 4 wherein means are provided for locking said bar and said roll in adjusted position.

6. In a device of the character described, a supporting member adapted to be secured to the foot board of a typewriter, a rod carried by said supporting member, said rod being curved forwardly at its upper end, a roll carried by said rod and disposed over the carriage of a typewriter arranged on said foot board, a frame pivotally mounted on said supporting member, a vertical arm connected to said frame, a pawl adapted to be actuated by said arm, a ratchet wheel mounted on said roll and coacting with said pawl, and an operating bar mounted at the front of said typewriter and operatively connected to said frame to rotate said roll upon actuation of said bar.

7. In a device of the character described, a supporting member, adapted to be secured to the foot board of a typewriter, a rod carried by said supporting member, said rod being curved forwardly at its upper end, a trough shaped member mounted on the curved end of said rod, a bearing member arranged therein, a roll rotatably supported in said bearing member and disposed over the carriage of a typewriter mounted on said foot board, a frame pivotally mounted on said supporting member, a vertical arm connected to said frame, and an operating bar arranged at the front of the typewriter and operatively connected to said frame to rotate said roll upon actuation of said bar.

8. In a device of the character described,

a supporting member adapted to be secured to the back of the foot board of a typewriter, said supporting member comprising a vertically disposed plate, a curved rod mounted on the rear of said supporting member, a roll carried by said rod and disposed over the carriage of a typewriter arranged on said foot board, an operating lever arranged at the front of the foot board, an operating arm pivotally mounted on said curved rod and operatively connected to said operating bar, a ratchet wheel carried by said roll, and a pawl carried by said operating arm and adapted to engage the teeth of said ratchet wheel.

9. In a device of the character described, a supporting member adapted to be secured to the foot board of a typewriter, a curved rod carried by said supporting member, a trough mounted on the end of said rod, one end of said trough being closed, a roll rotatably mounted in said trough, and a guide secured to the rear upper edge of said trough and adapted to be arranged in an extended position to support a sheet of paper of greater width than the length of said trough.

10. In a device of the character described, a supporting member adapted to be secured to the foot board of a typewriter, a curved rod carried by said supporting member, a trough mounted on the end of said rod, one end of said trough being closed, a roll rotatably mounted in said trough, and a guide secured to the front upper edge of said trough and adapted to be arranged in an extended position to serve as a line indicator.

In witness whereof, I affix my signature.

ELWOOD W. FORNEY.