Dec. 27, 1955

F. C. WENDT

2,728,441

PAGE END INDICATOR MECHANISM FOR TYPEWRITERS OR LIKE MACHINES

Filed Jan. 19, 1953

4 Sheets-Sheet 1

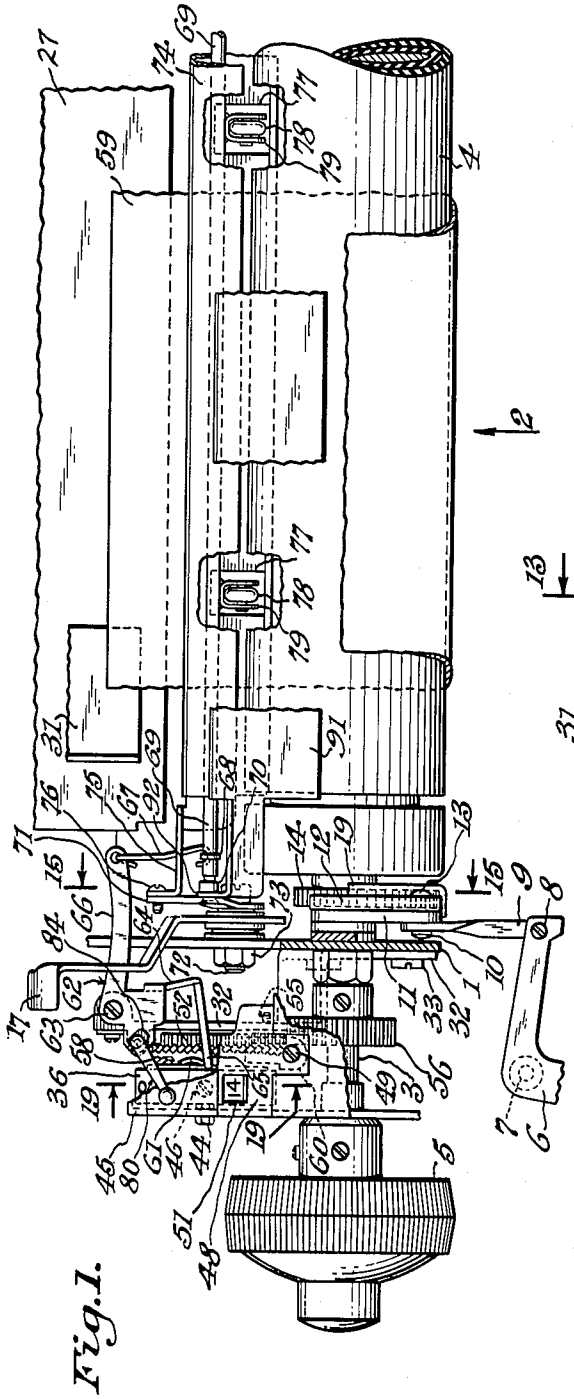


Fig. 1.

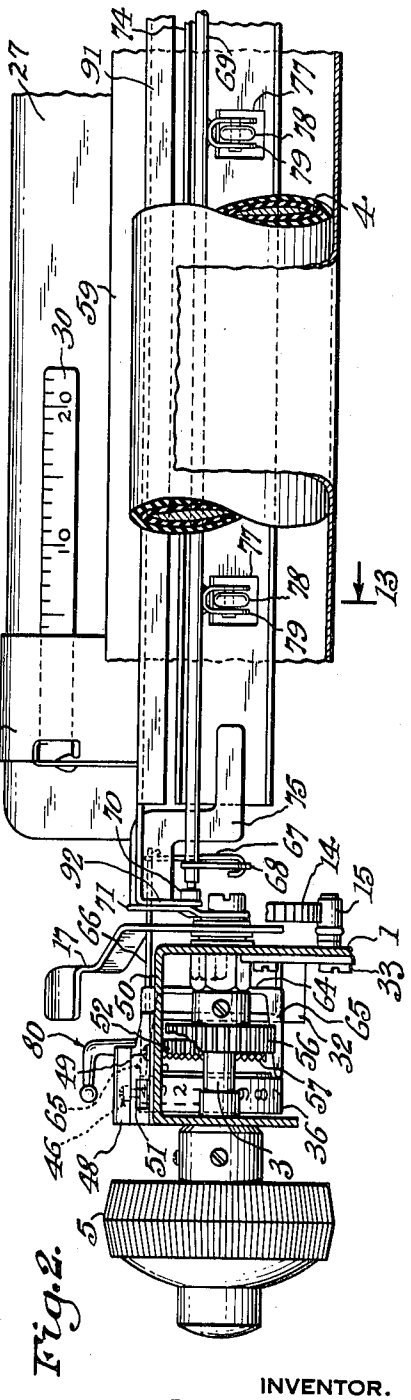


Fig. 2.

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PAGE END INDICATOR MECHANISM FOR TYPEWRITERS OR LIKE MACHINES

Filed Jan. 19, 1953 4 Sheets-Sheet 2

Fig. 7.

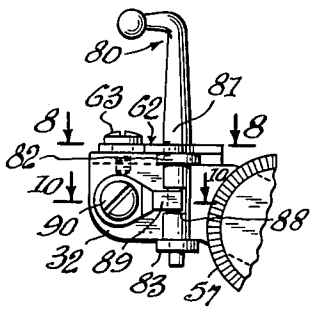


Fig. 8.

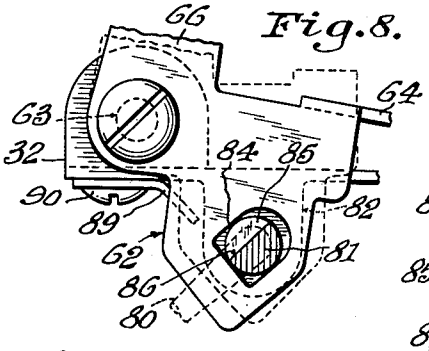
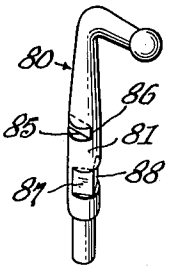


Fig. 12.



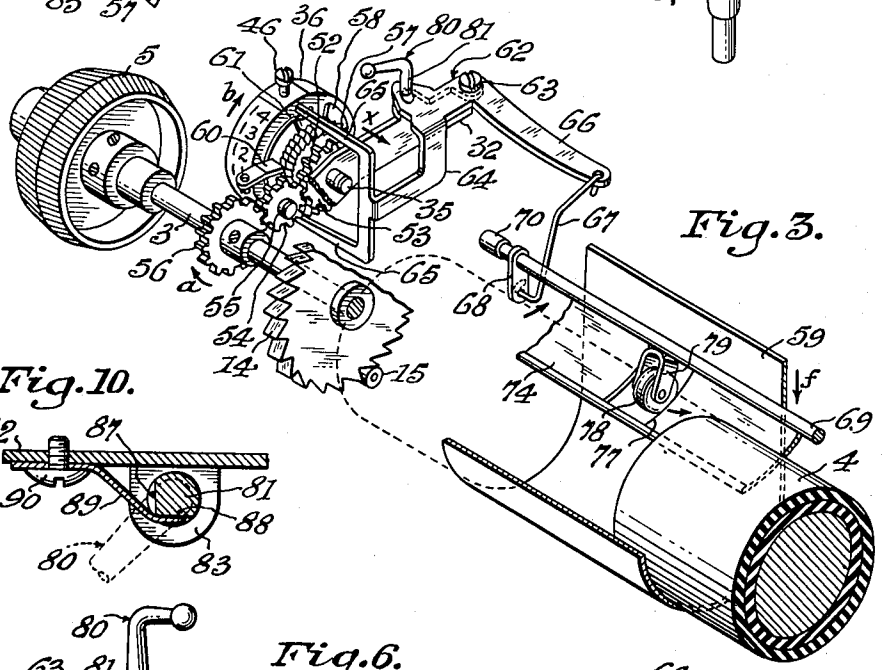


Fig. 3.

Fig. 10.

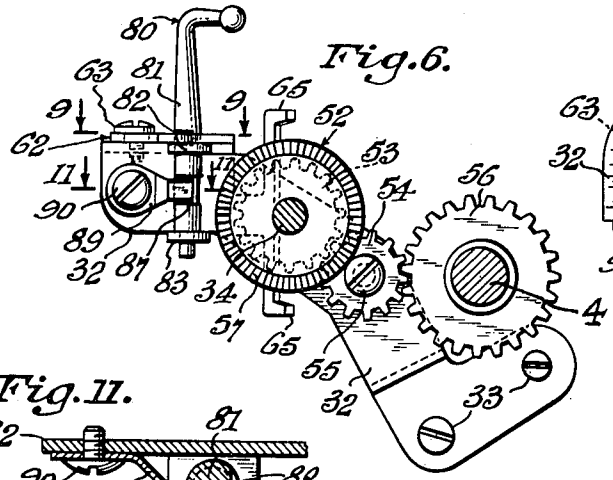


Fig. 6.

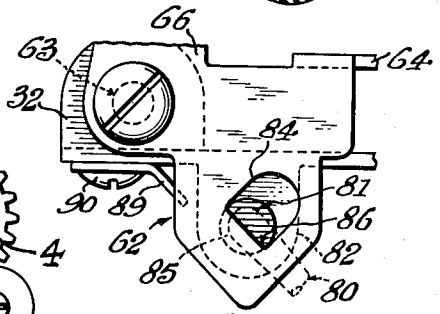
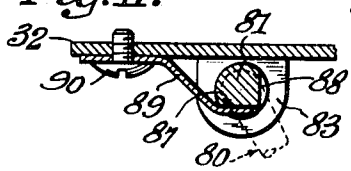


Fig. 9.

Fig. 11.



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PAGE END INDICATOR MECHANISM FOR TYPEWRITERS OR LIKE MACHINES

Filed Jan. 19, 1953 4 Sheets-Sheet 3

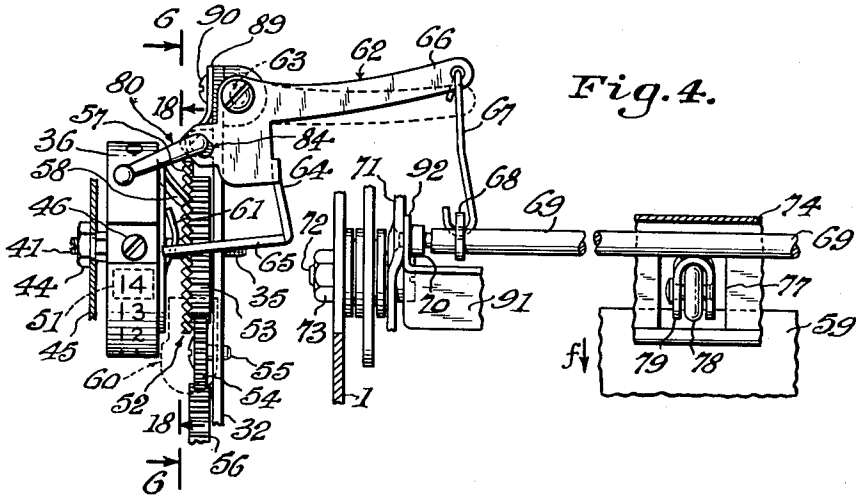


Fig. 4.

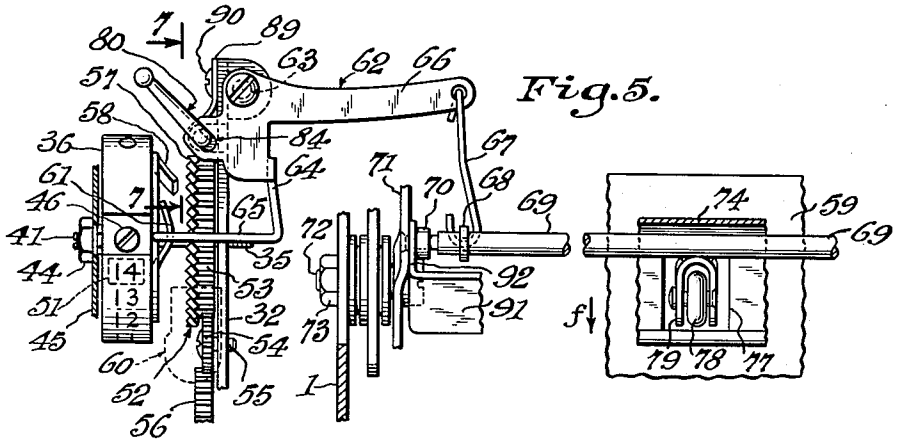


Fig. 5.

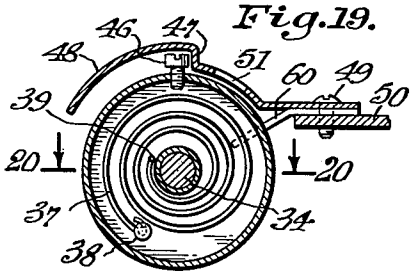


Fig. 19.

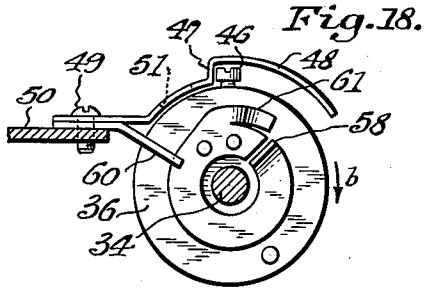


Fig. 18.

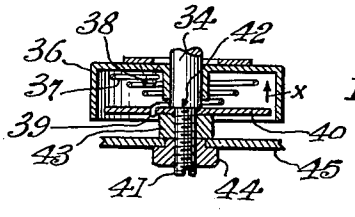


Fig. 20.

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PAGE END INDICATOR MECHANISM FOR TYPEWRITERS OR LIKE MACHINES

Filed Jan. 19, 1953 4 Sheets-Sheet 4

Fig. 13.

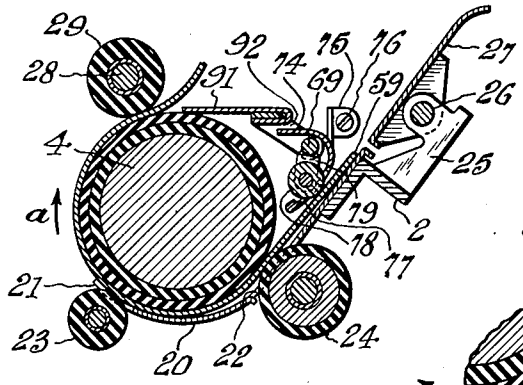


Fig. 14.

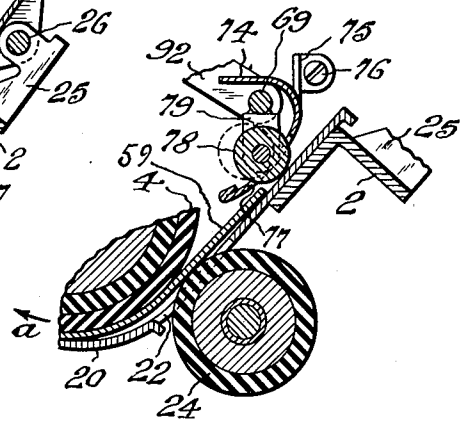


Fig. 15.

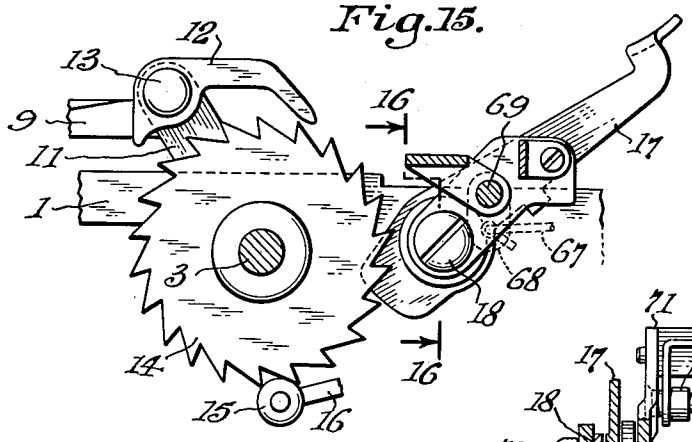


Fig. 16.

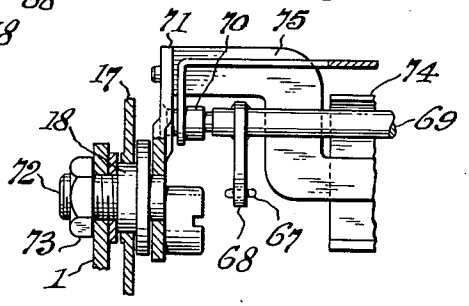
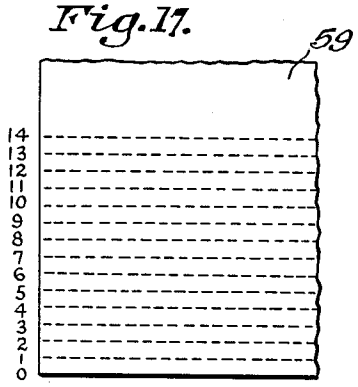


Fig. 17.



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United States Patent Office 2,728,441 Patented Dec. 27, 1955

2,728,441

PAGE END INDICATOR MECHANISM FOR TYPEWRITERS OR LIKE MACHINES

Frederick C. Wendt, Farmington, Conn., assignor to Royal McBee Corporation, a corporation of New York

Application January 19, 1953, Serial No. 331,888

19 Claims. (Cl. 197—189)

This invention relates to page end indicator mechanisms for typewriters or like machines. More particularly, the invention relates to indicator mechanisms of the class referred to in which the driving of an indicator device, e. g. a drum bearing indicia, is controlled by the position of a work sheet relative to a sheet feeding cylinder, the arrangement being such that as the bottom end or edge of the sheet approaches typing position during line-feeding of the sheet, the indicia will move successively to a registering position to enable the operator to determine, at a glance, how many more lines may be typed before the sheet area available for typing has been filled.

In accordance with the invention, mechanism of the character outlined above, and of improved construction includes means controlled by a sheet in feeding relation to a sheet feeding cylinder and within a predetermined range of positions relative to the cylinder for maintaining inoperative a mechanism which transmits drive from the cylinder to the indicator device, the control means being responsive to feeding of the sheet through a predetermined, e. g. the last position at one end of the range of positions, for effecting operative driving connection of the cylinder to the indicator device, thereby to effect rotation of the indicator device conjointly with further sheet feeding rotation of the cylinder.

An object of the invention is to provide mechanism of the kind referred to which is of improved construction and is adapted to be incorporated in known typewriter or like constructions without requiring extensive changes in the known parts.

Another object of the invention is to provide a mechanism of the kind referred to in which the indicator device is constituted by a drum bearing indicia and being mounted both to rotate so as to cause the indicia to register, and to move longitudinally of its axis so as to be selectively coupled to and uncoupled from mechanism driven by the cylinder.

Another object of the invention is to provide mechanism of this kind including a single spring, loaded both torsionally and axially for effecting rotative and longitudinal movements of the drum.

Another object of the invention is to provide such mechanism in combination with means for preventing over-driving, or reverse driving of certain of the parts, and thus preventing damage which might otherwise result from incorrect manipulation by the operator.

A further object of the invention is to provide mechanism for disabling the indicator mechanism irrespective of the position of a work sheet relative to the cylinder.

Other objects of the invention will become apparent from a reading of the following description of a representative embodiment of the invention, the appended claims, and the accompanying drawings, in which:

Figure 1 is a fragmentary, top plan view of mechanism embodying the invention, some parts being broken away and a carriage end plate being shown in horizontal section, a work sheet being shown in feeding relation to a sheet-feeding cylinder, and an indicator device being shown uncoupled from operating mechanism therefor;

Figure 2 is a fragmentary, front, elevational view of the construction shown in Figure 1 as it appears when looking in the direction of the arrow **2** in Figure 1, a carriage end plate being shown in vertical section;

Figure 3 is a perspective view showing only certain parts of the mechanism;

Figure 4 is a detail top plan view on an enlarged scale showing only certain parts of the indicator mechanism, the parts illustrated being shown in the relative positions they occupy when an indicator drum is coupled to driving mechanism therefor, certain parts being shown in section;

Figure 5 is a view similar to Figure 4 but showing the parts in the positions they occupy when a disabling lever has been operated to disconnect the indicator drum from the driving mechanism;

Figure 6 is a detail vertical section on the line **6—6** of Figure 4, with some parts shown in elevation;

Figure 7 is a fragmentary, end, elevational view on the line **7—7** of Figure 5, showing a disabling lever in the position it occupies when it is set to disconnect the indicator drum from the driving mechanism;

Figure 8 is a detail horizontal sectional view on the line **8—8** of Figure 7, the disabling lever being shown here, also, in its disabling position;

Figure 9 is a horizontal sectional view on the line **9—9** of Figure 6, showing the disabling lever in its enabling position;

Figure 10 is a horizontal section on the line **10—10** of Figure 7, the parts being shown in the positions occupied when the indicator mechanism is disabled;

Figure 11 is a horizontal sectional view on the line **11—11** of Figure 6, showing the parts in the positions they occupy when the mechanism is enabled;

Figure 12 is a perspective view of the disabling lever;

Figure 13 is a vertical section on the line **13—13** of Figure 2, showing a feeler roller in the position it occupies when engaged by a work sheet;

Figure 14 is a view similar to Figure 13 but drawn on an enlarged scale and showing the feeler roller in the position it occupies after the bottom edge of a work sheet has passed beyond the roller;

Figure 15 is a fragmentary vertical sectional view on the line **15—15** of Figure 1, with some parts omitted;

Figure 16 is a fragmentary vertical sectional view on the line **16—16** of Figure 15;

Figure 17 is a fragmentary plan view of a work sheet on which the dotted lines indicate the spacing of lines to be typed near the end of the work sheet as correlated to numerals or indicia on the indicator drum;

Figure 18 is a fragmentary vertical sectional view on the line **18—18** of Figure 4;

Figure 19 is a fragmentary vertical sectional view on the line **19—19** of Figure 1; and

Figure 20 is a detail horizontal sectional view on the line **20—20** of Figure 19.

Mechanism embodying the invention may be incorporated in typewriters or like machines of various kinds. For the purposes of illustration, a preferred form of mechanism constructed in accordance with the invention is shown as being embodied in a typewriter having many of the conventional parts of the known Royal standard typewriter. The known typewriter construction shown includes a carriage mounted to travel on a stationary frame (not shown), the carriage itself comprising a frame including two end plates one of which is shown at **1**, and parts connecting the end plates including a bar **2** illustrated in Figures 13 and 14. The carriage end plates rotatably support a shaft **3** on which is mounted a sheet-feeding cylinder **4**, the shaft **3** being equipped with finger

knobs one of which is shown at 5, by which the cylinder 4 may conveniently be rotated to feed a work sheet in the direction of the arrows *f* in Figures 3, 4, and 5. The cylinder 4 may also be rotated by a combined carriage-returning and line-spacing lever 6 pivoted on the carriage at 7, and being pivoted at 8 to a link 9, the rear end of which is pivoted at 10 to an arm 11 mounted to rock on the shaft 3. A pawl 12 pivoted at 13 on the arm 11 is adapted to cooperate with a ratchet wheel 14 secured to the shaft 3 for imparting incremental sheet-feeding movements to the cylinder 4 when the line-spacing and carriage-returning lever 6 is operated. A detent roller 15 carried on an arm 16 is urged by a spring (not shown) into engagement with the teeth on the ratchet wheel 14 for determining definite line-spacing positions of the cylinder 4. A lever 17 pivoted at 18 on the carriage frame may be connected by known means (not shown) to the spring-urged arm 16 for displacing the roller 15 from engagement with the ratchet wheel 14. A shield 19 partially enshrouds the ratchet wheel 14, and is adjustable about the axis of the shaft 3 for varying the effective stroke of the pawl 12 while engaging the ratchet wheel 14, and thus providing for single or multiple line-spacing of the cylinder 4 in response to a single movement of the lever 6.

The carriage frame bar 2 supports a paper pan 20 which extends under the cylinder 4 as shown in Figures 13 and 14. The paper pan 20 is formed with front and rear cutouts 21—22 adapted respectively to accommodate front and rear pressure rolls 23 and 24 cooperable with the cylinder 4 for feeding a work sheet in a known manner. Brackets, one of which is shown at 25 on the frame bar 2, carry pivots 26 for mounting a rear paper table 27. A front paper bail bar 28 mounted on the carriage frame in the usual manner carries rollers one of which is shown at 29 for engaging the portion of the work sheet which extends upwardly in front of the cylinder 4. The paper table 27 is shown as being equipped with a sheet edge aligning scale 30 and a cooperating guide 31.

The parts described above are generally of known construction and arrangement, and do not in themselves constitute the invention claimed herein. The invention is embodied in other parts to be described, and in the combination of such other parts with each other and with the known parts referred to above.

The page-end indicator mechanism illustrated includes a bracket 32 secured to the carriage end plate 1 by screws 33, and a shaft 34 having its inner or right hand end 35 threaded into the bracket 32. An indicator drum device 36 is mounted for both axial shifting or sliding movement on and for rotation about the shaft 34. Housed within the drum 36 is a coiled spring 37 having one of its ends anchored at 38 to the drum, and having its other end anchored at 39 to a disk 40 fitted over and secured to the threaded outer or left end 41 of the shaft 34. As shown in Figure 20, the disk is clamped against a shoulder 42 on the shaft 34 by a spacer 43 and a nut 44 having threaded engagement with the shaft end part 41. The nut 44 and spacer 43 also serve to mount a cover 45.

The spring 37 is loaded both torsionally and axially, the torsional loading tending to turn the drum 36 to a predetermined starting position in which a stop screw 46 on the drum engages an offset stop face 47 on a top cover plate 48 secured by a screw 49 to an upper ledge 50 forming part of the carriage end plate 1. When the drum 36 is in the starting position referred to, the numeral "14" of a series of numerals "1–14" will be disposed directly under and will be visible through a window 51 formed in the top cover plate 48.

The axial loading of the spring 37, in the form shown, the spring being under compression, urges the drum toward the right, or in the direction of the arrows *x* in Figures 3 and 20 for cooperation with indicator driving mechanism, the arrangement being such that, when a work sheet has been fed to a predetermined position, leaving a predetermined bottom part of the sheet still to be typed, the driving mechanism will rotate the drum 36 conjointly with the cylinder 4, so that the numerals "13–12" and so on will appear successively through the window 51, thereby to indicate that space remains available for typing thirteen, fourteen, and so on, lines before the end of the sheet is reached.

The mechanism for driving the indicator drum 36 includes a coupler disk device 52 mounted to turn freely on the shaft 34 and having a toothed gear part 53 meshing with a pinion 54 rotatable on a shaft 55 secured to the bracket 32. The pinion 54 in turn meshes with a gear 56 fixed to the cylinder shaft 3. The coupler device 52 is also formed, on its face adjacent the drum 36, with serrations 57 having radially extending working faces engageable by the end of a tongue or projection 58 secured to the indicator device 36. The arrangement is such that, when the tongue engages the working face of a serration 57 and the cylinder 4 is turned in the sheet-feeding direction, that is, clockwise as viewed in Figures 3, 13 and 14 and as indicated by the arrows *a*, a work sheet 59 will be fed from the rear underneath and thence upwardly over the cylinder 3, and the coupler disk 52 will be conjointly rotated in the same direction, that is, clockwise as viewed in Figure 3. Because of the engagement of the tongue 58 with a serration 57, the drum 36 will be turned clockwise or in the direction of the arrows *b* in Figures 3 and 18, so that the numerals on the drum 36 will be displayed at the window 51 in descending order, thus progressively indicating to the operator how much area remains available for typing before the end of the work sheet is reached.

When the drum 36 is rotated by the driving mechanism as described above, the torsional loading of the spring 37 is increased. In order to prevent breakage of the parts in the event the cylinder 4 is rotated further after the drum 36 has been turned through the complete range of its indicating numerals, mechanism is provided for disengaging or uncoupling the drum 36 from the coupler device 52 when the cylinder 4 is given one additional increment of rotation in the sheet-feeding direction after the numeral "1" has been displayed at the window 51. In the form shown, this disengaging mechanism includes a fixed cam part 60 secured to the top ledge 50 of the end plate 1 by the screw 49, and a cam part 61 carried by the drum 36. The cam part 61 may conveniently be formed as part of the same element as that on which the tongue 58 is formed, as shown in Figure 18. When the drum 36 has been moved to such a position that the numeral "1" thereon is displayed at the window 51, the cam part 61 will have moved into or nearly into contact with the fixed cam part 60. If, then, the cylinder 4 is given a further increment of rotation in the sheet-feeding direction, the conjointly rotating coupler disk 52 will drive the drum 36 sufficiently far to cause the drum cam part 61 to press against the fixed cam part 60, whereupon the drum 36 will be cammed toward the left so as to disengage the tongue 58 from the working face of the serration 57, thus interrupting the drive from the coupler disk 52 to the drum 36. The torsional loading of the spring 37 will then rotate the drum 36 reversely, that is, counterclockwise as viewed in Figures 3 and 18, just enough to disengage the cam part 61 from the cam part 60, thereby enabling the axial loading of the spring 37 to move the drum 36 toward the right and thus again to bring the tongue 58 into engagement with a serration on the disk 52. The indicating numeral "1" will then still appear through the window 51. If the cylinder 4 is rotated through a plurality of line-spacing increments after the numeral "1" has been brought into registration with the window 51, there will be a succession of disengaging and re-engaging movements of the tongue 58 with respect to the disk 52. Either a single disengaging and re-engaging movement or a plurality of such movements will give an audible signal to inform the operator that the end of the effective typing-receiving area of the sheet has been reached, even though the operator

may not have been watching the numerals appearing at the window 51.

Control or feeler mechanism is provided for maintaining the drum 36 uncoupled from the disk 52 until the work sheet 59 has passed through a predetermined position relative to the cylinder 4, and for automatically effecting coupling of the drum 36 to the disk 52 when the work sheet passes beyond this predetermined position. In the form shown, a control lever 62 is pivoted at 63 on the mounting bracket 32, and is formed with an arm 64 which is forked to provide parts or tines 65—65 engaging the drum 36 on opposite sides of its axis of rotation, the space between the tines 65—65 being greater than the diameter of the coupler disk 52, so that the tines span or extend across the disk 52 without engaging it. The lever 62 is formed with another arm 66 which is connected by a link 67 to an arm 68 secured to a rock shaft 69 mounted on the carriage frame. The left end of the shaft 69 is supported in a bearing 70 carried by a bracket 71 secured to the end plate 1 by a screw 72 and nut 73. The right end of the shaft 69 is similarly mounted on the carriage right end plate, not shown. A shield 74 partially covering the shaft 69 is provided with mounting ears, one of which, shown at 75, is secured to the bracket 71 by a screw 76. The shield 74 is provided with openings 77 which accommodate feeler parts or rollers 78 carried, respectively, by clevis arms 79 secured to the rock shaft 69 and spaced equidistantly from the longitudinal center of the cylinder and on opposite sides thereof.

When the work sheet 59 is in the position shown in Figures 1, 2, 3, and 13, it is engaged by the feelers 78 so that the shaft 69 is held in such a rocked position that the link 67 and lever 62 are in the positions shown in Figures 1, 2, and 3 with the tines 65 pressing against the drum 36 and holding the latter displaced from the coupling disk 52 against the axial urge of the spring 37. The tongue 58 on the drum 36 will then be disengaged from the coupling disk 52, so that the disk 52 will not drive the drum 36 against the torsional urge of the spring 37. When the sheet 59 passes beyond a predetermined position, for example, passes beyond a position in which space remains for the typing of fifteen more lines before the end of the sheet is reached, the bottom edge of the sheet will pass beyond the feeler rollers 78 so as to permit the latter to drop by gravity to the position shown in Figure 14, thereby rocking the shaft 69 counterclockwise to thrust the link 67 rearwardly and rock the lever 62 counterclockwise as viewed in Figure 3. This will displace the tines 65 toward the right or away from the drum 36, and will enable the spring 37 to push the drum toward the coupler disk 52 so as to bring the tongue 58 into engagement with a serration 57 on the disk 52. Further sheet-feeding rotation of the cylinder 4, with conjoint rotation of the disk 52, will rotate the drum 36 so as to bring successive numerals in descending order into registration with the window 51.

Manually operable mechanism is provided for disabling the driving connection between the disk 52 and the drum 36 irrespective of the position of the work sheet 59 with respect to the feeding cylinder 4. A manually manipulatable disabling lever 80 has a pivot shank 81 mounted in ears 82—83 on the bracket 32. The lever shank 81 extends through an opening 84 in the control lever 62, and is formed with a notch 85 which provides a cam part 86. When the parts are in the positions shown in Figures 1, 2, 3, 4, 6, 9, and 11, the flat side of the opening 84 in the lever 62 engages the root of the notch 85, so that the axial thrust of the spring 37 can press the drum 36 toward the right to bring the tongue 58 into engagement with the disk 52, providing the lever 62 is not held by the feeler mechanism in a position in which its tines 65 are in operative pressing or holding engagement with the drum 36. If the disabling lever 80 is turned to the position shown in Figures 5, 7, 8, and 10, the cam part 86 on the lever shank 81 engages the flat side of the opening 84 in the lever 62, and rocks the lever 62 clockwise as viewed in Figure 3 so as to cause the tines 65 to press the drum 36 to the left irrespective of whether or not the work sheet 59 is in engagement with the feeler rollers 78. For holding the lever 80 in either its disabling or its enabling position, it is formed with detent faces 87 and 88 selectively cooperable with a spring clip detent 89 secured to the bracket 32 by a screw 90.

In order to avoid accidental insertion of a work sheet in front of the feeler rollers 78, a guard plate 91 provided with ears 92 is pivoted on the shaft 69, and normally occupies the position in Figures 1, 2, and 13. The guard plate 91 may be tipped upwardly to permit inspection of the rollers 78 and other parts of the feeler mechanism.

Operation

In operation, when a work sheet 59 is first inserted under the feeding cylinder 4 and feeler rollers 78, the latter will be raised so as to rock the lever 62 clockwise as viewed in Figure 3, and thus to move the drum 36 to the left and uncouple the tongue 58 from the disk 52. This will permit the spring 37 to return the drum 36 to its predetermined starting position by moving it clockwise as viewed in Figure 19 and counterclockwise as viewed in Figures 3 and 18 until it is arrested by engagement of the stop element 46 with the stop element 47. During typing and intermittent feeding rotation of the cylinder 4, the drum 36 will remain uncoupled from the disk 52, and the drum therefore will remain in its starting position as long as the sheet 59 is located in feeding relation to the cylinder 4 and is within the predetermined range of positions in which the sheet also engages the rollers 78 of the indicator driving mechanism control means. When the feeding of the sheet has progressed to an extent such that space remains for typing only a predetermined number of additional lines, for example, fourteen, the bottom edge of the sheet will pass through the last position in the aforementioned range of positions and beyond the rollers 78, permitting the latter to drop so as to rock the shaft 69 counterclockwise as viewed in Figure 3. This will rock the lever 62 so as to move the tines 65 toward the right, and thus enable the spring 37 to shift the drum 36 axially until its tongue 58 engages a serration 57 on the disk 52. Thereafter, during further feeding movement of the cylinder 4, the disk 52 will rotate conjointly with the cylinder 4 and will drive the drum 36 through the tongue 58 so as successively to move the drum indicia into registration with the window 51 in descending order. This will enable the operator to determine, from line to line, how much more space remains on the sheet.

If rotation of the cylinder 4 is continued after the sheet end has been reached or after the numeral "1" has registered with the window 51, the drum 36 will be uncoupled from the disk 52 by cooperation of the cam parts 60 and 61, thus avoiding straining or breaking of the parts, and also giving an audible signal.

If the cylinder 4 is rotated reversely, that is, counterclockwise as viewed in Figure 3, when the drum 36 is coupled to the disc 52 and is in starting position with the stop 46 engaging the stop 47, the faces of the serrations opposite their working faces will merely slip by the inclined tongue 58, repeatedly camming the latter and the drum axially away from the disk 52, so that the parts will not be strained or broken.

If, because of unusual conditions, it is desired not to use the page-end indicator mechanism, it may be completely disabled by turning the disabling lever 80 to the position shown in Figures 5, 7, 8, and 10, thus causing the drum 36 to remain uncoupled from the disk 52 irrespective of the position of the feeler rollers 78.

The mechanism disclosed embodies the invention in a preferred form, but it is intended that the disclosure be illustrative rather than definitive. The invention is defined in the appended claims.

I claim:

1. In a page end indicator for a typewriter or like machine having a frame and a sheet feeding cylinder rotatably mounted on said frame, the combination of an indicator device; a coupler device; means mounting said indicator device for rotation on said frame and mounting said coupler device coaxially with said indicator device and for rotation on said frame conjointly with said cylinder; spring means urging one of said devices along its axis of rotation into coupling engagement with the other of said devices and urging said indicator device to rotate to a predetermined starting position; and means controlled by a sheet located in feeding relation to said cylinder and within a predetermined range of positions relative to said cylinder and comprising spaced parts engaging said one of said devices on opposite sides of its axis of rotation for holding said one of said devices out of coupling engagement with said other of said devices, said sheet controlled means being responsive to feeding of the sheet through a predetermined position at one end of said range of positions for enabling said one of said devices to be moved by said spring means into coupling engagement with said other of said devices, thereby to effect rotation of said indicator device conjointly with further sheet feeding rotation of said cylinder.

2. In a page end indicator for a typewriter or like machine having a frame and a sheet feeding cylinder rotatably mounted on said frame, the combination of an indicator device; a coupler device; means mounting said indicator device for rotation on said frame and mounting said coupler device coaxially with said indicator device and for rotation on said frame conjointly with said cylinder; spring means urging one of said devices along its axis of rotation into coupling engagement with the other of said devices and urging said indicator device to rotate to a predetermined starting position; means controlled by a sheet located in feeding relation to said cylinder and within a predetermined range of positions relative to said cylinder and comprising spaced parts engaging said one of said devices on opposite sides of its axis of rotation for holding said one of said devices out of coupling engagement with said other of said devices, said sheet controlled means being responsive to feeding of the sheet through a predetermined position at one end of said range of positions for enabling said one of said devices to be moved by said spring means into coupling engagement with said other of said devices, thereby to effect rotation of said indicator device conjointly with further sheet feeding rotation of said cylinder; and a manually operable mechanism for holding said one of said devices out of coupling engagement with said other of said devices, irrespective of the position of the sheet with respect to said cylinder.

3. In a page end indicator for a typewriter or like machine having a frame and a sheet feeding cylinder rotatably mounted on said frame, the combination of an indicator device; a coupler device; means mounting said indicator device for rotation on said frame and mounting said coupler device coaxially with said indicator device and for rotation on said frame conjointly with said cylinder; spring means urging one of said devices along its axis of rotation into coupling engagement with the other of said devices and urging said indicator device to rotate to a predetermined starting position; means controlled by a sheet located in feeding relation to said cylinder and within a predetermined range of positions relative to said cylinder for holding said one of said devices out of coupling engagement with said other of said devices and being responsive to feeding of the sheet through a predetermined position at one end of said range of positions for enabling said one of said devices to be moved by said spring means into coupling engagement with said other of said devices, thereby to effect rotation of said indicator device conjointly with further sheet feeding rotation of said cylinder; a cam operable for holding said one of said devices out of coupling engagement with said other of said devices irrespective of the position of the sheet with respect to said cylinder; a manually manipulatable lever for operating said cam; and a detent for releasably holding said lever selectively in its manipulated or its non-manipulated position.

4. A construction as set forth in claim 3 in which said manually manipulatable lever comprises a pivot shank, and in which said cam and a part of said detent are formed by surfaces on said pivot shank.

5. In a page end indicator for a typewriter or like machine having a frame and a sheet feeding cylinder rotatably mounted on said frame, the combination of an indicator device; a coupler device; means mounting said indicator device for rotation on said frame and mounting said coupler device for rotation on said frame conjointly with said cylinder; a single coiled spring loaded both torsionally and axially and being connected to one of said devices, the axial loading of said spring urging said one of said devices along its axis of rotation into coupling engagement with the other of said devices and the torsional loading of said spring urging said indicator device to rotate to a predetermined starting position; and means controlled by a sheet located in feeding relation to said cylinder and within a predetermined range of positions relative to said cylinder for holding said one of said devices out of coupling engagement with said other of said devices and being responsive to feeding of the sheet through a predetermined position at one end of said range of positions for enabling said one of said devices to be moved by said spring into coupling engagement with said other of said devices, thereby to effect rotation of said indicator device conjointly with further sheet feeding rotation of said cylinder.

6. In a page end indicator for a typewriter or like machine having a frame and a sheet feeding cylinder rotatably mounted on said frame, the combination of an indicator device; a coupler device; means mounting said indicator device for rotation on said frame and mounting said coupler device coaxially with said indicator device and for rotation on said frame conjointly with said cylinder; serrations and a projection respectively on said devices engageable with each other for coupling said devices to rotate conjointly; spring means urging one of said devices along its axis of rotation into coupling engagement with the other of said devices and urging said indicator device to rotate to a predetermined starting position; and means controlled by a sheet located in feeding relation to said cylinder and within a predetermined range of positions relative to said cylinder for holding said one of said devices out of coupling engagement with said other of said devices and being responsive to feeding of the sheet through a predetermined position at one end of said range of positions for enabling said one of said devices to be moved by said spring means into coupling engagement with said other of said devices, thereby to effect rotation of said indicator device conjointly with further sheet feeding rotation of said cylinder.

7. A construction as set forth in claim 6 in which said coupler device comprises a serrated disk and said indicator device has a tongue, the end of which is engageable with the disk serrations.

8. A construction as set forth in claim 6 in which said serrations have radially extending working faces and cam faces, and in which said projection is adapted to have face-to-face contact with said working faces when said cylinder is rotating in the sheet feeding direction, said projection being adapted to be relatively shifted axially by said cam surfaces when said cylinder is rotated reversely and said indicator device is in its said starting position.

9. In a page end indicator for a typewriter or like machine having a frame and a sheet feeding cylinder rotatably mounted on said frame, the combination of an indicator device; a coupler device; means mounting said

indicator device for rotation on said frame and mounting said coupler device coaxially with said indicator device and for rotation on said frame conjointly with said cylinder; spring means urging one of said devices along its axis of rotation into coupling engagement with the other of said devices and urging said indicator device to rotate to a predetermined starting position; a feeler; means movably mounting said feeler on said frame to engage a sheet located in feeding relation to said cylinder and within a predetermined range of positions relative to said cylinder, said feeler being adapted to be held in a first position by said sheet when engaging the latter and being movable to a second position when it becomes disengaged from said sheet by feeding of said sheet out of said range of positions; and means including a control lever operatively connected to said feeler and having two tines engaging said one of said devices respectively on opposite sides of its axis of rotation for maintaining said one of said devices uncoupled from said other of said devices when said feeler is in its said first position and for effecting coupling of said one of said devices to said other of said devices when said feeler is in its said second position.

10. A construction as set forth in claim 9 in which said feeler comprises a shaft rockably mounted on said frame; an arm on said shaft and a sheet-engaging roller rotatably mounted on said arm.

11. A construction as set forth in claim 9 in which said feeler comprises a shaft rockably mounted on said frame and extending parallel to said cylinder; two arms on said shaft spaced substantially equidistantly from the longitudinal center of said cylinder and being on opposite sides thereof, and sheet engaging parts on said arms.

12. A construction as set forth in claim 9 in which the means operatively connecting said feeler to said one of said devices comprises a pivoted lever having a forked end including two tines respectively engageable with said one of said devices on opposite sides of the axis of rotation thereof.

13. A construction as set forth in claim 12 including a cam operable upon said lever for moving the latter in a direction to cause said tines to press against said one of said devices and hold the latter out of coupling engagement with said other of said devices irrespective of the position of said feeler; and a manually manipulatable lever for operating said cam.

14. In a page end indicator for a typewriter or like machine having a frame and a sheet feeding cylinder rotatably mounted on said frame, the combination of an indicator drum; a coupler disk; means mounting said indicator device for rotation on said frame and mounting said coupler disk for rotation on said frame conjointly with said cylinder; a single coiled spring housed within and connected to said indicator drum and being loaded both torsionally and axially, the axial loading of said spring urging said indicator drum along its axis of rotation into coupling engagement with said coupler disk and the torsional loading of said spring urging said indicator drum to rotate to a predetermined starting position; and means controlled by a sheet located in feeding relation to said cylinder and within a predetermined range of positions relative to said cylinder for holding said indicator drum out of coupling engagement with said coupler disk and being responsive to feeding of the sheet through a predetermined position at one end of said range of positions for enabling said indicator disk to be moved by said spring into coupling engagement with said coupler disk, thereby to effect rotation of said coupler disk conjointly with further sheet feeding rotation of said cylinder.

15. A construction as set forth in claim 14 including a cam cooperable with said indicator drum for shifting it axially to uncouple it from said coupler disk when said indicator drum has turned a predetermined amount during said further sheet feeding rotation of said cylinder.

16. A construction as set forth in claim 14 including cooperating stop elements on the frame and said indicator drum respectively for limiting the rotation of said indicator drum under the urge of said spring thereby to determine said predetermined starting position of said drum.

17. A construction as set forth in claim 14 in which said coupler disk has a serrated surface adjacent to said indicator drum, and said indicator drum has a projection engageable with the coupler disk serrations.

18. A construction as set forth in claim 17 including a cam cooperable with said indicator drum for shifting it axially to disengage said projection from said coupler disk serrations when said indicator drum has turned a predetermined amount during said further sheet feeding rotation of said cylinder.

19. In a page end indicator for a typewriter or like machine having a frame and a sheet feeding cylinder rotatably mounted on said frame, the combination of an indicator device; a coupler device; means mounting said indicator device for rotation on said frame and mounting said coupler device for rotation on said frame conjointly with said cylinder; spring means urging one of said devices along its axis of rotation into coupling engagement with the other of said devices and urging said indicator device to rotate to a predetermined starting position; means controlled by a sheet located in feeding relation to said cylinder and within a predetermined range of positions relative to said cylinder for holding said one of said devices out of coupling engagement with said other of said devices and being responsive to feeding of the sheet through a predetermined position at one end of said range of positions for enabling said one of said devices to be moved by said spring means into coupling engagement with said other of said devices, thereby to effect rotation of said indicator device conjointly with further sheet feeding rotation of said cylinder; and a cam cooperable with said indicator device for uncoupling said devices when said indicator device has turned a predetermined amount during said further sheet feeding rotation of said cylinder.

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