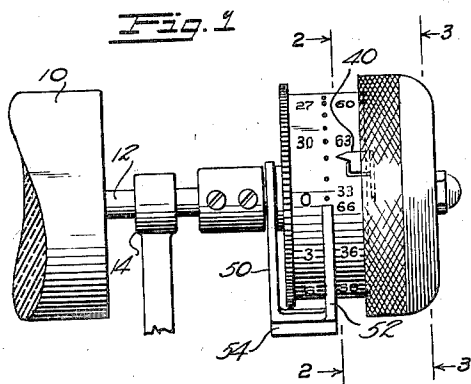
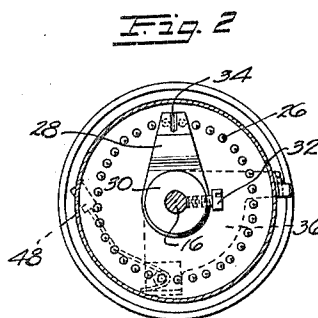
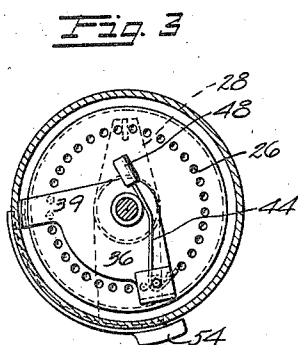
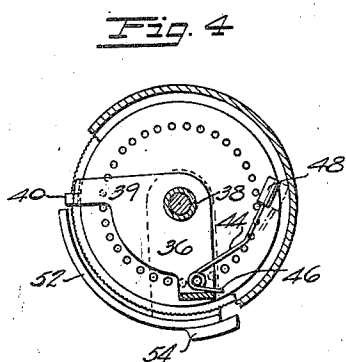
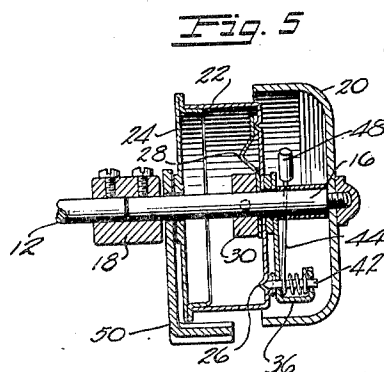


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D. MURDOCK
TYPEWRITER LINE INDICATOR
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TYPEWRITER LINE INDICATOR

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This application relates to line indicating mechanism for use on a typewriter, which also will give a signal when a given point on a page is reached. In the preferred embodiment the structure is adapted to be applied to a typewriter without making any structural changes in the latter.

In the accompanying drawings, I show an illustrative example of a device embodying my invention. In this drawing, Fig. 1 shows a front view of the device attached to a typewriter; Fig. 2 is a section on line 2—2 of Fig. 1; Fig. 3 is a section on line 3—3 of Fig. 1 with parts in slightly different position; Fig. 4 is a section on line 4—4 of Fig. 1 and Fig. 5 is a longitudinal section.

In Fig. 1 the numeral 10 represents the usual platen of a typewriter carried on a shaft 12 supported in a bearing 14. Ordinarily, the ends of the shaft 12 are supplied with knobs, either one of which is to be removed for the attachment of my device. The device has a main shaft 16 (see Fig. 5) which is a continuation of the shaft 12 and may be connected to it by the sleeve 18. A bell 20 is mounted in fixed position on the shaft 16 and has preferably a knurled face as shown in Fig. 1 so that this bell may serve for manual movement of the platen in place of the knob that is usually supplied. Pivotaly mounted on shaft 16 is a cylinder 22 which carries on its outer periphery a series of indications corresponding to the line spaces on the typewriter or the teeth of the usual ratchet that controls the rotation of the platen (not here illustrated).

As here shown, the cylinder 22 is made in the form of a dish-shaped portion with a cover plate 24. On the flat face of the dish-shaped portion of the cylinder 22 are provided a series of indentations 26, one of these indentations being formed for each line position of the platen. In other words, these indentations correspond with the line markings on the periphery of the cylinder. A spring member 28 is carried by a mounting 30 which is fixed in place on shaft 16 as by the set screw 32. Member 28 is provided with a ridge 34 which is adapted to spring into

place between two of the indentations 26 so that cylinder 22 can be rotated relative to shaft 16 but will remain in fixed position relative to this shaft during ordinary movement of the platen.

A member 36 is rotatably mounted on shaft 16. This member is preferably held in position adjacent cylinder 22 as by a sleeve 38. The member 36 carries an indicating arm 39 having a pointer 40 which extends over the face of cylinder 22. It is likewise bent as shown in Fig. 5 to form two bearings for a pin 42, the end of which is adapted to spring into one of the indentations 26 under the spring tension of member 36. Wrapped around pin 42 is a clapper arm 44. This arm is preferably made of spring metal and is provided with an extension 46 which will ordinarily keep the hammer 48 out of contact with the bell 20. The arm 44 should have enough spring to permit the hammer 48 to strike the bell 20 at an appropriate time as will hereafter be described.

The bell ringing action is dependent upon gravity. With the parts in the position shown in Fig. 4, rotation of shaft 16 in a clockwise direction which will carry with it disk 22 and member 36, will cause the hammer to rotate with the shaft and as this rotation continues, the hammer will swing back away from the bell until the arm 44 rests against shaft 16. As rotation goes further, the point will be reached where the hammer is substantially in equilibrium as shown in Fig. 3. A slight additional rotation will cause the hammer to fall away from shaft 16 and will strike bell 20. It is to be noted that this ringing position bears a fixed angular relation to arm 39 and therefore by moving the arm 39 the position at which the bell will ring relative to a given position of cylinder 22 can be adjusted.

For line counting it is necessary to have an indicating arm which will remain substantially stationary irrespective of movement of shaft 16. In order that my device may be made as a unit and may be attached to the typewriter simply by the sleeve 18, I arrange for this substantially stationary indicator to

be held in position by gravity. In the example shown the indicator comprises the member 50 which is simply hung around shaft 16 and is provided with an indicator arm 52 and a counterweight 54 to keep this arm in position. I prefer to so shape member 36 that the bell will be in ringing position when indicating point 40 is in line with the end of indicating arm 52.

10 In operating the device, the paper is inserted in place ready to start writing. Cylinder 22 is then rotated so that the indicator comes opposite the end of indicating arm 52. Each advance of the platen 10 will then be indicated by the marks on the cylinder 22, and inasmuch as an ordinary sheet of paper will be longer than the circumference of the platen, the cylinder 22 preferably bears at least two sets of figures, one indicating the lines of the first rotation and the other indicating the lines of the second rotation. The point at which the bell signal is to be given is then determined by experiment or otherwise and the indicating point 40 is moved to a position opposite the line number at which the bell is to ring. This may cause the bell to ring in the middle of the page but the operator can readily see that such ringing does not indicate the end of the page and so disregard the first signal but when the second signal has sounded the operator will know that the end of the page has been reached. If preferred, the cylinder 22 may be set at position zero as soon as the top of the paper appears from under the guide bar preparatory to being advanced into writing position. The line indicator can thus be used to give a uniform top margin and so long as one size of paper is used, the bell control mechanism will not have to be reset.

40 It is to be understood that the example given is by way of illustration only, and may be modified in many particulars without departing from the spirit of my invention.

45 What I claim is:

1. In a device of the type described, a shaft adapted to be attached to the platen shaft of a typewriter as a continuation thereof, an indicating wheel carried by said shaft and in frictional engagement therewith, and an indicating point suspended from said shaft and adapted to remain in substantially constant position by the action of gravity.

2. A typewriter line indicator attachment, comprising a shaft, an element on the shaft rotatable with the main roller of a typewriter to make a plurality of rotations according to the length of a sheet of paper, the element being journaled on the shaft for rotation with respect to the main roller to be reset to a predetermined initial position on beginning a new sheet of paper, the element having indicia to indicate the number of lines still remaining on the paper after a plurality of rotations of the element, and means freely jour-

naled on the shaft of the element, said means having its center of gravity beneath the shaft, whereby said means assumes a fixed position with the vertical, said means coacting with the element to cause the indicia thereon to indicate the rotational position of the element and the number of lines available on the paper from the starting point.

3. A typewriter line indicator attachment, comprising means rotatable with the main roller of a typewriter so as to make a plurality of rotations according to the length of a sheet of paper, said means being journaled on the shaft for rotation with respect to the main roller to be reset to an initial predetermined position on beginning a new sheet of paper, said means having fixed indicia to indicate after a plurality of rotations the number of lines still available on the paper, and a member freely swingably mounted from the axis of said means, said member having its center of gravity below the axis whereby said member assumes a fixed position with the vertical, said member coacting with the indicia to cause the indicia to indicate the rotational position of said means and the number of lines available on the paper.

4. In a device of the type described, a shaft adapted to be attached to the platen shaft of a typewriter as a continuation thereof, an indicating wheel adapted to rotate on said shaft, a series of dents in said wheel corresponding to the indications on the wheel, a spring member fixed on said shaft adapted to engage said dents to cause said wheel to rotate with said shaft, an indicating pointer adapted to remain in substantially fixed position during rotation of such shaft, a bell mounted on said shaft and bell ringing mechanism adapted to be brought into operation by rotation of said shaft, which mechanism is movable relative to said shaft but comprises resilient means to engage said dents, whereby the same may be held in a desired position relative to the indicating wheel.

5. In a device of the type described, a shaft adapted to be attached to the platen shaft of a typewriter as a continuation thereof, a bell fixed on the shaft, a mounting for a bell hammer carried by the shaft, a bell hammer carried by said mounting adapted to fall by gravity against the bell at a given position of said mounting, a line indicating disk movable on said shaft and an indication point whereby said hammer mounting may be moved on said shaft, the said bell having a knurled surface whereby it may be used as a knob for rotating the platen shaft.

DAVID MURDOCK.