No. 774,346. PATENTED NOV. 8, 1904.

E. YATES & L. A. SOMMERS.

TYPE WRITING MACHINE.

APPLICATION FILED JULY 30, 1903.

NO MODEL. 2 SHEETS—SHEET 1.

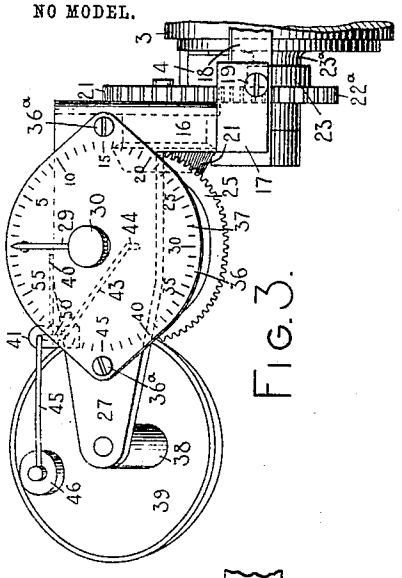


FIG. 3.

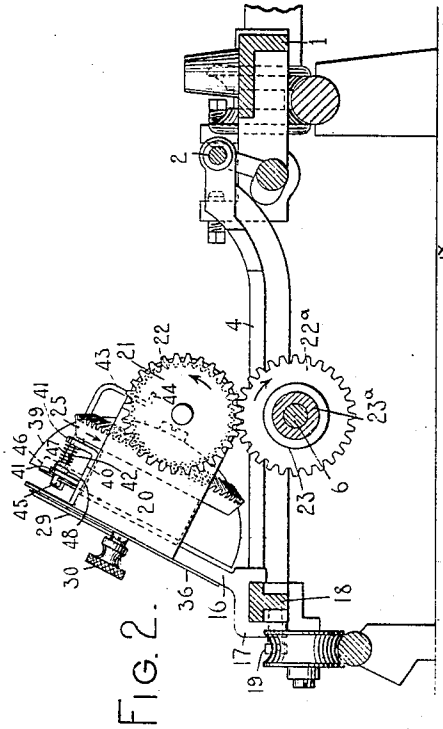


FIG. 2.

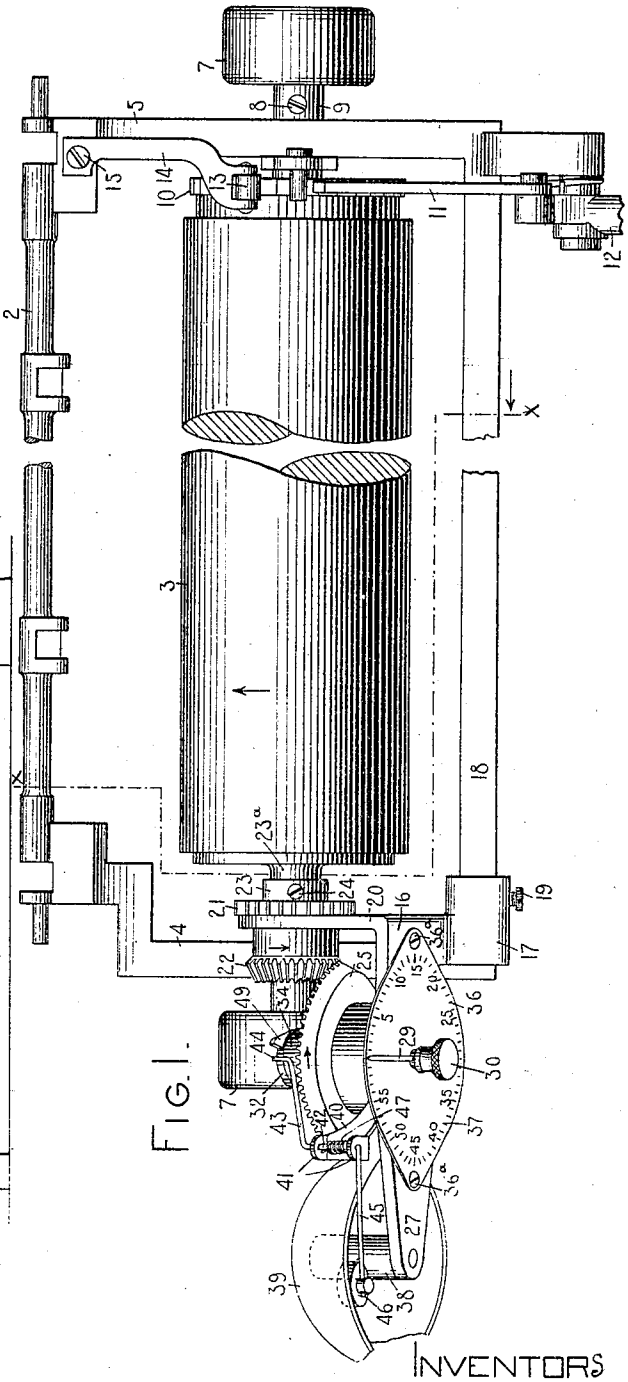


FIG. 1.

WITNESSES.

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NO MODEL. 2 SHEETS—SHEET 2.

FIG. 6

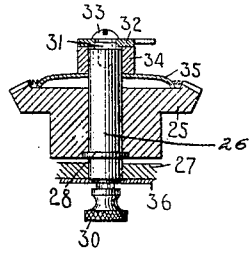


FIG. 5.

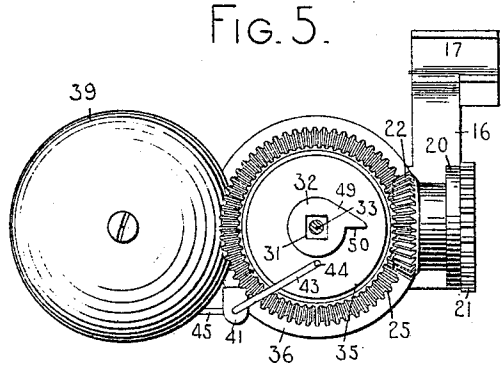
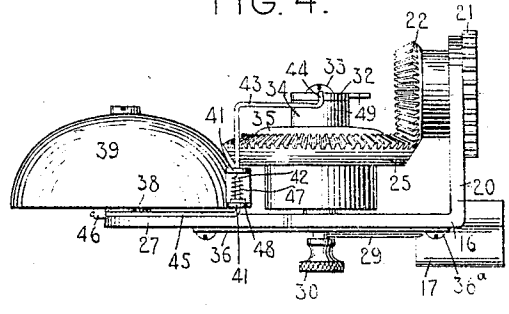


FIG. 4.



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No. 774,346. Patented November 8, 1904.

UNITED STATES PATENT OFFICE.

EDGAR YATES, OF EVERETT, AND LOUIS A. SOMMERS, OF BOSTON, MASSACHUSETTS, ASSIGNORS TO WYCKOFF, SEAMANS & BENEDICT, OF ILION, NEW YORK, A CORPORATION OF NEW YORK.

TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 774,346, dated November 8, 1904.

Application filed July 30, 1903. Serial No. 167,585. (No model.)

To all whom it may concern:

Be it known that we, EDGAR YATES, a resident of Everett, Middlesex county, and LOUIS A. SOMMERS, a resident of Boston, Suffolk county, State of Massachusetts, citizens of the United States, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a specification.

Our invention relates to type-writing machines, and has for its object to provide a line counter or indicator by which the operator of the machine may at all times know what line is being written and when the bottom of a page or any predetermined point or line on the page has been reached; and a further object of the invention is to provide alarm mechanism to notify the operator when a predetermined line or the bottom of the page is reached.

Our invention consists in certain features of construction and combinations of parts, which will be fully described herein, and particularly pointed out in the appended claims.

Our invention is illustrated in the accompanying drawings, in which—

Figure 1 is a top plan view, partly broken away, of a platen-frame and platen of the well-known No. 6 Remington type-writer with our improvements attached thereto. Fig. 2 is a vertical front to rear sectional view through the entire carriage, the view being taken on the line *x x* of Fig. 1 and looking in the direction of the arrow in said figure. Fig. 3 is a front elevation showing the end of the platen and our device attached thereto. Fig. 4 is a detail top view of our device. Fig. 5 is a rear view of our device with the head of the screw 33 sectioned away. Fig. 6 is a central section of a bevel-gear and its connections.

The same reference characters are used to designate the same parts in the several views of the drawings.

We have shown our device as an attachment clamped to the platen-frame of a Remington No. 6 type-writing machine, though obviously the device may be employed in other characters of type-writing machines. This Remington machine comprises a carriage-truck 1, having a platen-frame 2 connected thereto, the truck and platen-frame constituting a paper-carriage. The platen 3 is secured to a platen-shaft 6, which is journaled in end bars 4 and 5 of said platen-frame. Finger-wheels 7 are secured to the shaft by means of set-screws 8, that extend through threaded openings in hubs 9 of said finger-wheels and bear at their inner ends against the shaft 6. A line-space ratchet-wheel 10 is fastened to the right-hand end of the platen and is engaged by the usual feed-pawl 11, connected to the usual line-spacing lever 12. The line-space wheel is also engaged by the usual detent-roller 13, carried on a spring 14, fastened to the platen-frame at 15. Our indicator has a frame 16, which is formed at 17 to fit over the front bar 18 of the platen-frame, to which it is clamped by means of a screw 19. Said frame has an arm or extension 20, in which is journaled a shaft or spindle having on one end thereof and on the side of the arm 20 nearest the platen a spur-gear 21 and on the other end and on the other side of the arm 20 the beveled pinion 22. The spur-gear 21 meshes with a spur-gear 22^a, having a hub 23, through which passes the platen-shaft 6. The hub 23^a of the left-hand platen-head likewise passes into the hub 23 of the gear 21 and constitutes a bearing therefor and to which the hub 23 is secured by a set-screw 24, that takes into a threaded opening in the hub 23 and bears at its inner end against the hub 23^a on the platen-head. The pinion 22 meshes with a beveled gear 25, journaled on a spindle 26, (see Fig. 6,) whereas the spindle 26 passes loosely through an arm 27 of the frame 16, which arm extends substantially at right angles to the arm 20. Said spindle 26 has an annular flange or shoulder 28, (see Fig. 6,) which prevents it from moving endwise through said arm 27 in one direction, and it is held against movement in the other direction by an index-finger or line-indicator 29, removably connected to said spindle, preferably by being tightly seated in a hole therethrough. The end of the spindle 26, which carried the index-finger 29, has threaded thereon a milled head 30, and said spindle at its

opposite end is squared, as shown at 31, to receive a cam disk or trip 32, having a square opening at its center and held firmly on the squared portion 31 of said spindle by a headed screw 33, threaded into the end of the spindle. The head of said screw 33 is sectioned away in Fig. 5 to show the shape of the squared end of the spindle. Adjacent to said cam disk or trip 32 the spindle 26 carries a washer or sleeve 34, which presses at one end against the cam and at the other end against a cup-spring 35, which in turn presses against the face of the beveled gear 25 and presses the same against the flange 28. It will be seen that the gear 25, the cup-spring 35, and the washer 34 are spring-pressed between the flange 28 on the one side and the cam or trip 32 and headed screw 33 on the other, thus constituting a frictional connection between said spindle and gear. The construction is such that when the platen 3 is turned to feed the paper by operating the line-space lever 12 or otherwise the gear 25 is turned through the pinion 22 and the spur-gears 21 and 22[a], and the spindle 26 is turned with the gear 25; but said spindle may be turned independently at any time by manipulation of the milled head 30, or the gear 25 and its connections to the platen may turn independently of the spindle, as will hereinafter more clearly appear.

A scale plate or dial 36 is attached to the frame-arm 27 by screws 36[a] and has graduations 37 and indicating-numerals, the graduations being so disposed that the index-finger 29 is moved the distance of one space on the scale when the line-space wheel 10 is turned the distance of one tooth of the ratchet. We have shown the scale divided into sixty divisions, though obviously it may be otherwise divided. For instance, the graduations may be spaced apart, so that a line-spacing movement of the platen through two teeth of the ratchet-wheel 10 will cause the pointer to travel from one graduation to another on the scale, and the index-numerals may be changed accordingly.

To the end of the arm 27 of the frame 16 is secured a post 38, which carries a suitable alarm device, preferably a bell 39. The frame 16 has a branch 40, formed with ears 41, through which passes an arbor 42, having a crank-arm 43, bent, as shown at 44, to coöperate with the cam 32. The arbor has a second crank-arm 45, that carries at its end a hammer 46 for the bell 39. A spring 47 is coiled around the arbor 42 and is connected at one end to one of the ears 41 and at the other to an annular flange 48 of the arbor 42. The spring tends to press the end 44 of the arm 43 against the cam disk or trip 32. Said trip is formed with a cam portion 49 and a drop 50. In the operation of the machine and when the platen is feeding the paper forwardly the end 44 on the cam 43 is cammed up by the cam portion 49 of the trip 32 until the drop 50 is reached, when the spring 47 suddenly restores the parts and throws the hammer 46 against the bell. The cam-disk 32 and the pointer 29 are so related that the bell rings just before the pointer has reached the sixtieth graduation on the scale 35. The construction is such, however, that the alarm may be sounded after any desired number of lines have been written in accordance with the predetermined setting of the pointer and trip afforded by the frictional connection between the spindle 26 and its driving-gear 25. Thus if a sheet is of such length that sixty lines spaced apart according to the teeth of the line-spacing ratchet-wheel may be written before the end of the sheet or page is reached then the paper is inserted in the machine, and when so positioned that the first line may be written the pointer is turned to the first graduation to the right of the "0" on the dial 36, and as each successive line is brought to the printing-point its number will be automatically indicated by the pointer on the dial, and just before the pointer reaches the "0" or sixtieth position the alarm will be sounded, indicating that the last line has been reached and that no additional lines can be written on the page. If, on the other hand, the sheet is of a length to receive but, say, thirty lines, then the pointer will be set at "30" on the dial, when the paper is positioned to receive the first line of writing, and the alarm will be automatically sounded when the last line is about to be reached and just before the pointer reaches the "0" on the dial.

It should also be understood that the device can be set so as to sound the alarm at any desired point on the page of writing whether or not the end of the page is approached. Thus, for instance, suppose that the operator desires to sound an alarm after thirty lines of a sixty-line page has been written in order not to write beyond the thirtieth line on the page it is merely necessary to set the pointer at "30" on the scale or dial, and just before the thirtieth line is written the alarm will be sounded, thereby warning the operator that the last line is about to be written.

When the platen is moved two teeth of the line-spacing ratchet-wheel at each actuation of the line-space pawl, the pointer will move two graduations at each line-space movement of the platen, and the operator will understand that when the pointer reaches the numeral "10" on the dial the platen has moved but five line-spaces, and so on, though, as before stated, the numerals or indices on the dials may be made for half-spacing, full-spacing, or double-line spacing, as desired, or the knurled head 30, pointer 29, and screws 36[a] may be removed and a dial with one character of indices substituted for another dial having indices of a different character thereon.

It will be seen that by reason of the fric-

tional connection between the cam or trip 32 and the driving-gear 25 therefor no obstruction is offered to turning the platen backward to any desired extent to remove the paper or for any other purpose. In this backward movement of the platen the cam 32 will rotate backwardly with the gear 25 until the abutment formed by the drop 50 in the cam comes into contact with the part 44 of the arm 43 and is arrested thereby. The frictional connection will, however, enable the gear 25 to continue its rotation, so as to afford a further movement of the platen and enable the paper to be withdrawn.

From the foregoing it will be seen that the friction connections between the platen and bell-trip and between the platen and pointer afford an independent movement between the platen and the bell-trip and its connected pointer without disconnecting the parts, so that the platen may receive a continued backward movement after the bell-trip and pointer have been arrested by the part 44 of the bell-hammer and so that an adjustment of the pointer and bell-trip may be effected relatively to the platen after the same has been turned to properly position the paper to receive the first or any desired line of writing and without first effecting a disconnection between the parts.

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

1. In a type-writing machine, the combination with a platen, of a line-counter having a frictional connection with said platen, whereby said line-counter is normally moved with the platen but said counter and platen may be moved one independently of the other.

2. In a type-writing machine, the combination of a rotatable platen, and a rotatable line-counter, frictional connections between the platen and counter for normally turning the counter when the platen is rotated and for affording a movement of the platen independently of the counter and for affording a manual adjustment of the pointer independently of the platen.

3. In a type-writing machine, the combination with a platen, of a bell; a hammer for said bell; a trip for said hammer; and a frictional connection between said trip and said platen, whereby the trip is normally moved when the platen is rotated but may be manually adjusted independently thereof.

4. In a type-writing machine, the combination with a platen, of an indicating device, a bell-hammer, a spindle controlling said indicating device and bell-hammer; and a frictional connection between said platen and spindle, whereby the spindle is normally turned with the platen but the spindle and platen may turn independently one of the other.

5. In a type-writing machine, the combination of a platen; a wheel geared to said platen, a spindle on which said wheel is journaled; a frictional connection between said wheel and spindle, whereby said spindle normally turns with said wheel but the spindle and wheel may be moved independently one of the other; and indicating means connected to said spindle.

6. In a type-writing machine, the combination with a platen; of a line-indicator having a frame; a spindle journaled in said frame and having a shoulder, a wheel journaled on said spindle and geared to said roller, a spring pressing said wheel against said shoulder whereby the wheel is frictionally connected to the spindle; and indicating means connected to said spindle.

7. In a type-writing machine, the combination of a platen, and alarm mechanism mechanically connected to said platen to automatically sound the alarm when a predetermined line on the page is reached and for affording automatically a relative backward rotation of the platen for any desired distance independently of the alarm-actuating mechanism.

8. In a type-writing machine, the combination of a platen, an alarm device, a trip for actuating said alarm device, and mechanical connections between said trip and platen and which afford a relative movement between the trip and platen without disconnecting said parts.

9. In a type-writing machine, the combination of a platen, a line-indicating device, and intermediate mechanical connections between said platen and indicating device and which normally causes the indicating device to move with the platen but which is effective to afford a relative movement between the indicating device and platen without disconnecting said parts.

10. In a type-writing machine, the combination of a platen, a line-indicating device, and intermediate mechanical connections between said platen and indicating device and which normally causes the indicating device to move with the platen but which is effective to afford a manual adjustment of indicating devices relative to the platen without disconnecting the parts and to enable a backward rotation of the platen to take place independently of the indicating device and without disconnecting the platen from the indicating device.

11. In a type-writing machine, the combination of a carriage, a rotatable platen carried thereby, a line-indicating pointer, a dial with which said pointer coöperates, and intermediate mechanical connections between said pointer and platen and which normally effect a movement of the pointer when the platen is turned but which affords a relative movement between the platen and pointer without disconnecting the parts.

12. In a type-writing machine, the combination of a rotatable platen, an alarm-bell, a trip for sounding said alarm-bell, and intermediate connections between said platen and trip and

which are effective to normally cause the trip to move as the platen is rotated but which afford a relative movement between the trip and platen without disconnecting the parts.

13. In a type-writing machine, the combination of a rotatable platen, an alarm device, a line-indicating pointer, a dial with which said pointer coöperates, and intermediate connections between the alarm device, trip and platen, and which cause the trip and pointer to move as the platen is rotated but which afford a relative movement between the trip and platen and between the pointer and platen without disconnecting the parts.

14. In a type-writing machine, the combination of a carriage, a rotatable platen carried thereby, a bell, a hammer therefor, a trip for said bell-hammer, a line-indicating pointer, a dial with which said pointer coöperates, and intermediate frictional connections between the bell-trip and platen and between the pointer and platen to normally cause the trip and pointer to move as the platen is rotated but which affords a relative movement between the trip and platen and between the pointer and platen, whereby the pointer and trip can be adjusted relatively to the platen and the platen can be rotated backward for any desired distance independently of the bell-trip and pointer and after the same have been arrested.

Signed at Boston, in the county of Suffolk and State of Massachusetts, this 23d day of July, A. D. 1903.

EDGAR YATES.
LOUIS A. SOMMERS.

Witnesses:
JAMES R. FLANAGAN,
EDWARD E. ROWLAND.