

L. P. CARHART AND S. SHAUGHNESSY,
 LINE INDICATING DEVICE FOR TYPEWRITERS,
 APPLICATION FILED APR. 18, 1917.

1,346,115.

Patented July 13, 1920.

2 SHEETS—SHEET 1.

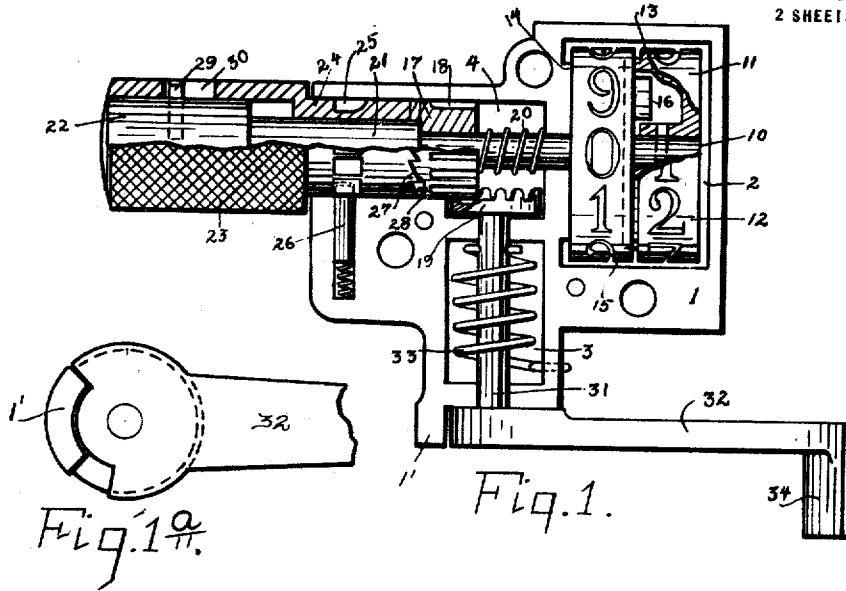
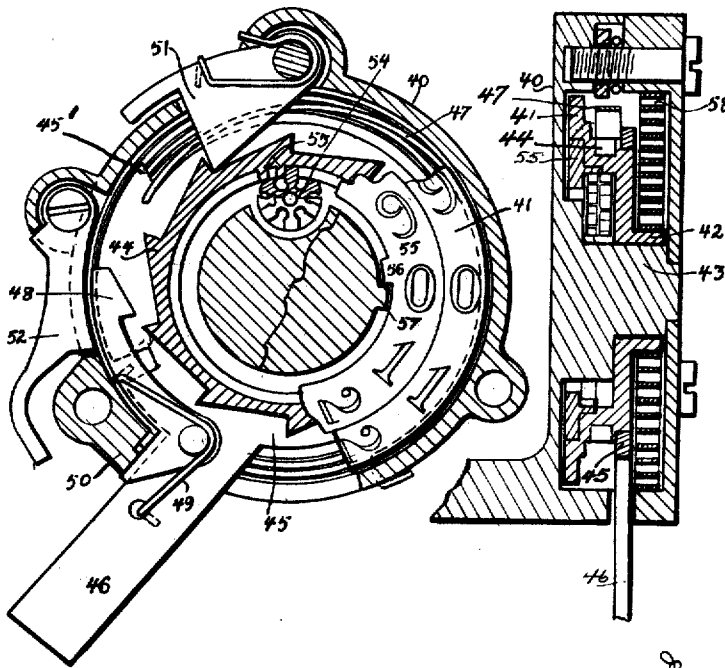


Fig. 2.

Fig. 3.



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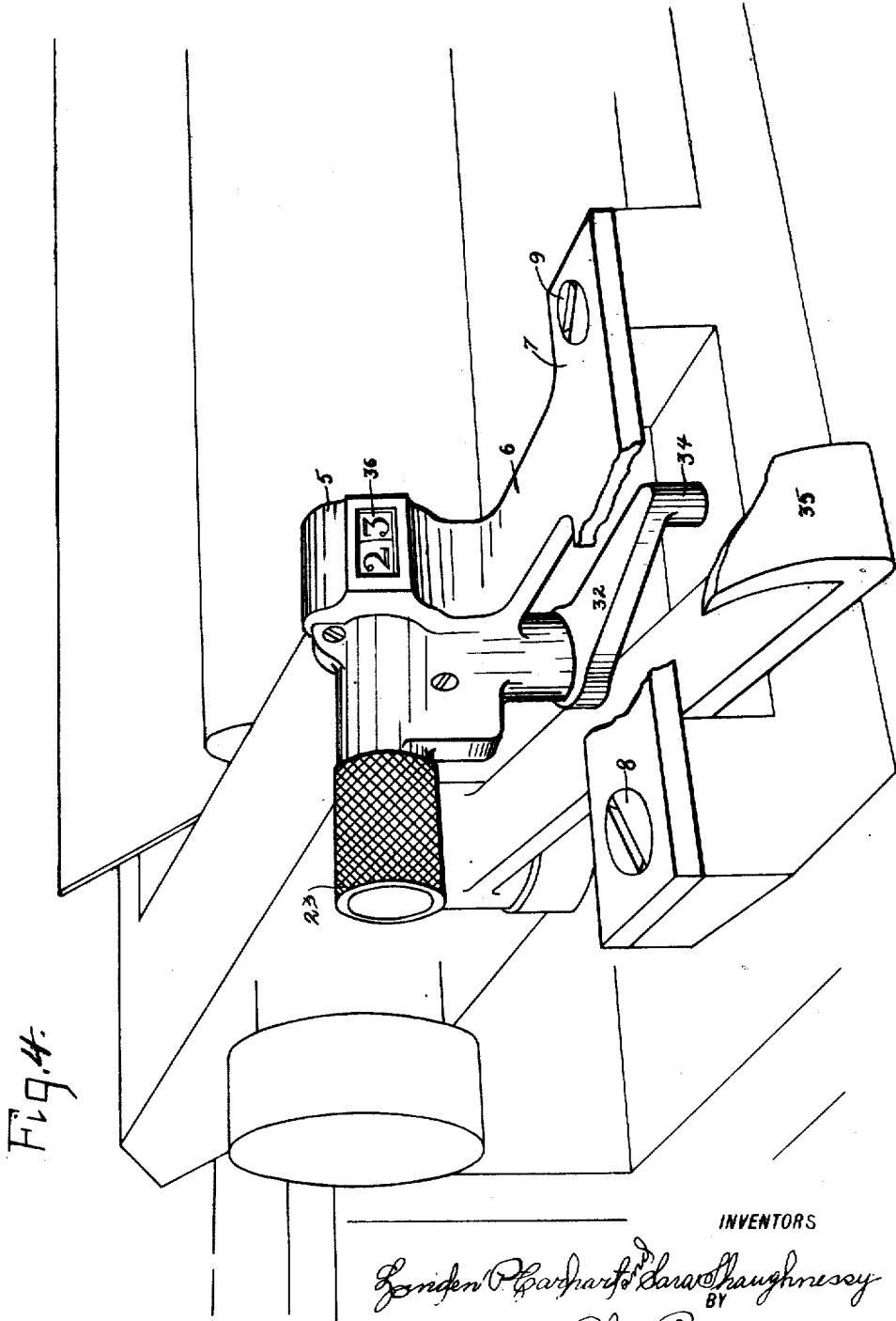
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UNITED STATES PATENT OFFICE.

LINDEN PETER CARHART, OF BROOKLYN, NEW YORK, AND SARA SHAUGHNESSY,
OF JERSEY CITY, NEW JERSEY.

LINE-INDICATING DEVICE FOR TYPEWRITERS.

1,346,115.

Specification of Letters Patent.

Patented July 13, 1920.

Application filed April 18, 1917. Serial No. 162,855.

To all whom it may concern:

Be it known that we, LINDEN PETER CARHART and SARA SHAUGHNESSY, citizens of the United States, and residents of the borough of Brooklyn, county of Kings, city and State of New York, and county of Hudson, city of Jersey City, State of New Jersey, respectively, have invented certain new and useful Improvements in Line-Indicating Devices for Typewriters, of which the following is a specification.

The device which we are about to describe is intended as an attachment for typewriters for the sole purpose of indicating by number, the written lines upon a sheet.

As the device is an attachment it is not necessary to modify or change the construction of the typewriter or in any way modify or change the operation of the machine.

The presence of the indicator may be unknown to the operator, and the ordinary operation of the machine will cause the indicator to operate automatically, and without special attention being given thereto.

When writing long pages, and particularly pages of legal matter where it is sometimes desirable that the lines or folios be numbered so that reference may be readily made to them, our device demonstrates its greatest utility and importance. As the writing progresses the device will indicate the number of lines of writing on the page as they are produced and a corresponding number placed adjacent a line will indicate the number of the line.

As the device is automatic in operation it may be used on or employed with any typewriter, and even though attached may not be referred to if its use is not desired.

The construction and method of operation of two forms of our invention will be fully described as the specification progresses.

The following is what we consider a good means for carrying out our invention and the accompanying drawings should be referred to for a complete understanding of the description which follows.

In the drawings:—

Figure 1 shows a view in side elevation, partly in section, a portion of the casing of this device being removed to disclose the interior mechanism.

Fig. 1^a is an end elevation of the lever, and support therefor.

Fig. 2 is an elevation and partial section of a different form of device.

Fig. 3 is a sectional view of the device shown in Fig. 2.

Fig. 4 shows the device shown in Fig. 1, attached to an ordinary typewriter.

Similar reference numerals indicate like parts in all of the figures where they appear.

The casing for our indicator is formed in 2 parts, and is provided with suitable projections, and chambers or recesses. A portion of the casing shown in Fig. 1 is indicated at 1. This portion, indicated at 1, may be considered as half of the casing, and as certain of the parts in the casing are cylindrical, it is obvious that the other half of the casing must be provided with the other half of a chamber 2, for the reception of the numbering mechanism, a chamber 3 for the reception of the spring and shaft, and chamber or recess 4 for the reception of parts to be later described. At 5, in Fig. 5 we show the other half of the casing, and it will be noted that this portion 5 is provided with an arm 6, having a T shaped extension 7, perforated, and provided to receive securing screws 8 and 9, already found upon a typewriter of the class shown in Fig. 5.

Extending through the chamber 4, and into the chamber 2, is a shaft 10, and upon the right end of which is secured a wheel 11, carrying a series of numerals 12. The numerals, as in ordinary indicating devices, will probably extend from 0 to 9, inclusive.

This wheel 11 has a one in ten connection of any well known type with a second wheel 15 freely surrounding the shaft 10, whereby the wheel 15 is advanced one-tenth of a revolution at every complete revolution of the wheel 11. This second wheel 15 also carries a series of numbers from 0 to 9 inclusive. I have not deemed it necessary to describe in detail the connection between the wheels 11 and 15 since the method of making such one in ten connections is well known to the art.

Upon the shaft 10 is a pinion 17, having elongated slots 18, which serve as teeth for a crown gear 19. This pinion 17 may move upon the shaft 10, and rotates independently of the shaft by which it is supported. The movement of the pinion 17 toward the number wheels is controlled by a spring 20, and in the opposite direction the pinion should not be allowed to move.

The shaft 10 extends, by two enlargements 21 and 22, exterior to the casing 2, and upon this shaft we arrange a knurled thimble 23, having an extension 24, provided with recesses 25, adapted to receive a spring operated pin 26. The inner end of the reduced portion 24 of the thimble 23 is provided with ratchet teeth 27, which engage ratchet teeth 28 on the pinion 17.

A pin or screw 29 passes through a recess 30, in the thimble 23, and into the largest portion 22 of the shaft 10.

At right angles to the shaft 10 is a second shaft 31, provided with a crank lever 32, and secured to this shaft 31 is a crown gear 19, previously referred to. This shaft 31 is capable of a partial revolution only, and when so partially revolved is returned to its normal position by a spring 33 shown secured to the shaft 31, and to the casing 1.

Now let us consider the operation of this device, and in the description of the operation we will refer to the reference characters thus far employed:

Our device is attached to a typewriter when fully assembled by the means shown in Fig. 5, and the crank 34, of the lever 32 is arranged in position to be met by the shift lever 35 of a typewriter.

Consider that the 23rd line has been written as shown in Fig. 5. The lever 35 is moved to the right to advance the platen and shift the carriage. This lever engaging the crank 34, also rotates the shaft 31, moving the wheel 11 through the crown gear 19, the pinion 17, the thimble 23—24, and shaft 10—21—22, advancing the wheel 11 until the number 24 is shown. The lever 35 being released, the lever 32 and crank 34 are returned to their normal position by the spring 33, and when the next line is completed the same operation is repeated.

When it is desired to reset the indicator, as when a new sheet is inserted, the thimble 23 is first pulled outwardly to disengage the teeth 27 and 28, the pin 26 riding up the inclined inner ends of the recesses 25 and engaging the smooth adjacent surfaces of the part 21.

The thimble may now be rotated without imparting motion to the crown gear but by reason of the pin 29 engaging in slot 30 rotation will be imparted to shaft 10 and the number wheels are rotated backward until the proper number is displayed through the aperture 36 in the casing 5.

Should it be desired at any time that this device be so conditioned that it should not indicate the lines or operate in any manner, the thimble 23 is withdrawn until the pin 26 has left the apertures 25. At this time the teeth 27 and 28 will be disengaged by the teeth 27 being drawn away from the teeth 28 and the device will not operate. The pin 26 engaging in any one of the teeth 25 retains

the device in the operable position shown in Fig. 1.

As shown in Fig. 1*, we have provided a stop 1', which checks the movement of the lever 32, and prevents it from being intentionally or accidentally rotated more than the extent desired.

The device shown in Figs. 2 and 3 and the modification shown in Fig. 4 are of a somewhat different construction. The principal difference resides in the shape and in the mechanical changes necessary with the change of design.

The casing 40 is a dished casing having a central projection, and within this casing we arrange a plurality of disks.

The disk 41 carries the unit figures, and is hollowed out at the center portion, and provided with an extension 42, by means of which the disk is supported upon a projection 43, from the casing 40. The disk 41 is free to be moved or rotated upon the extension 43, and formed upon the disk 41, or attached thereto is a ratchet wheel 44, provided with a number of teeth equal to the number of units or figures upon the disk.

Surrounded and supported upon a suitable portion of the disk 41 is a second disk or ring 45, having a projecting lever 46, and a spring 47, connected with the disk or ring 45, tends to return or retain the lever 46 to the position shown in Fig. 2 by rotating the ring 45 in a reverse direction.

Pivotaly mounted upon the lever 46 is an operating dog 48 which is urged inward by a spring 49; but when the lever 46, is in the position shown a projection 50 from the casing 40 moves the dog outward against the interior portion of the casing, the position shown in Fig. 2.

A spring operated dog 51 serves as a detent, engaging the teeth of the ratchet wheel 44, and preventing a backward movement thereof until the detent 51 is disengaged. A movable and pivotaly supported dog, or abutment 52 is so arranged that it may be caused to engage the projection 45' to prevent an operation of the device when its use is not desired.

The transfer mechanism which we employ is such as is common to speedometers and numbering machines. The disk 41 is provided with an inward projection 53, which engages and rotates a small gear 54, which gear in turn, operates the second number carrying wheel 55 in a manner well understood. Any suitable and properly timed mechanism may be employed to obtain an operation of the second number carrying disk 55 from the disk 41.

The operation of this device is very similar to the operation of the device shown in Fig. 1.

The lever 46 is arranged in the path of the shift lever 35, of an ordinary type-

writer, and when this lever 35 is moved, the lever 46 is also moved. The movement of the lever 46 causes the dog 48 to engage one of the teeth on the ratchet wheel 44, carries it forward and causes one-tenth of a revolution of the disk 41. When 10 movements or one complete revolution of the disk 41 has been accomplished the disk 55 will be moved one unit by means of the gear 54.

When the shift lever 35 is released after each movement of the carriage and platen, the lever 46 will be returned by the spring 47 to its normal position, and the dog 48 will be disengaged from the teeth 44. The detent 51 will however prevent a return movement of the disk 41.

When a maximum movement of the disk 55 has been accomplished, a stop 56 on the disk 55, engaging a stop 57 formed on a suitable portion of a casing 40 will prevent a further movement of the indicating device, at which time the detent 51 should be disengaged, and the larger spiral spring 58, which has been slowly wound up by the movement of the disks will rotate the disks backward until the 0 point is reached on both disks, and the stops 56 and 57 engage one upon the other whereafter the operation may continue as before.

Having carefully and fully described our invention what we claim and desire to secure by Letters Patent is—

1. A device of the character described comprising a shaft adapted to operate an indicator, a gear loose upon said shaft, a sleeve slidably but non-rotatably mounted upon said shaft and having at one end a

ratchet face adapted to engage a ratchet face on the said gear, said sleeve having its periphery formed with a series of notches, a pin yieldingly engaging in said notches and means for rotating said gear.

2. A device of the character described comprising a shaft adapted to operate an indicator, a gear loose upon said shaft, a sleeve slidably but non-rotatably mounted upon said shaft and having at one end a ratchet face adapted to engage a ratchet face on the said gear, said sleeve having its periphery formed with a series of notches, a pin yieldingly engaging in said notches, said notches having inclined ends to permit of automatic displacement of the pin therefrom when the sleeve is moved away from the gear and means for rotating said gear.

3. A device of the character described comprising a shaft adapted to operate an indicator, a gear loose upon said shaft, a sleeve mounted to slide upon and rotate with said shaft, said sleeve adapted to be moved into and out of engagement with said gear and means retaining said sleeve against backward rotation when engaged with said gear, said means being automatically displaceable upon movement of the sleeve away from the gear.

Signed at the county of New York, State of New York, this 3d day of April, 1917.

LINDEN PETER CARHART.
SARA SHAUGHNESSY.

Witnesses:

G. E. S. MARR,
ARTHUR PHELPS MARR.