

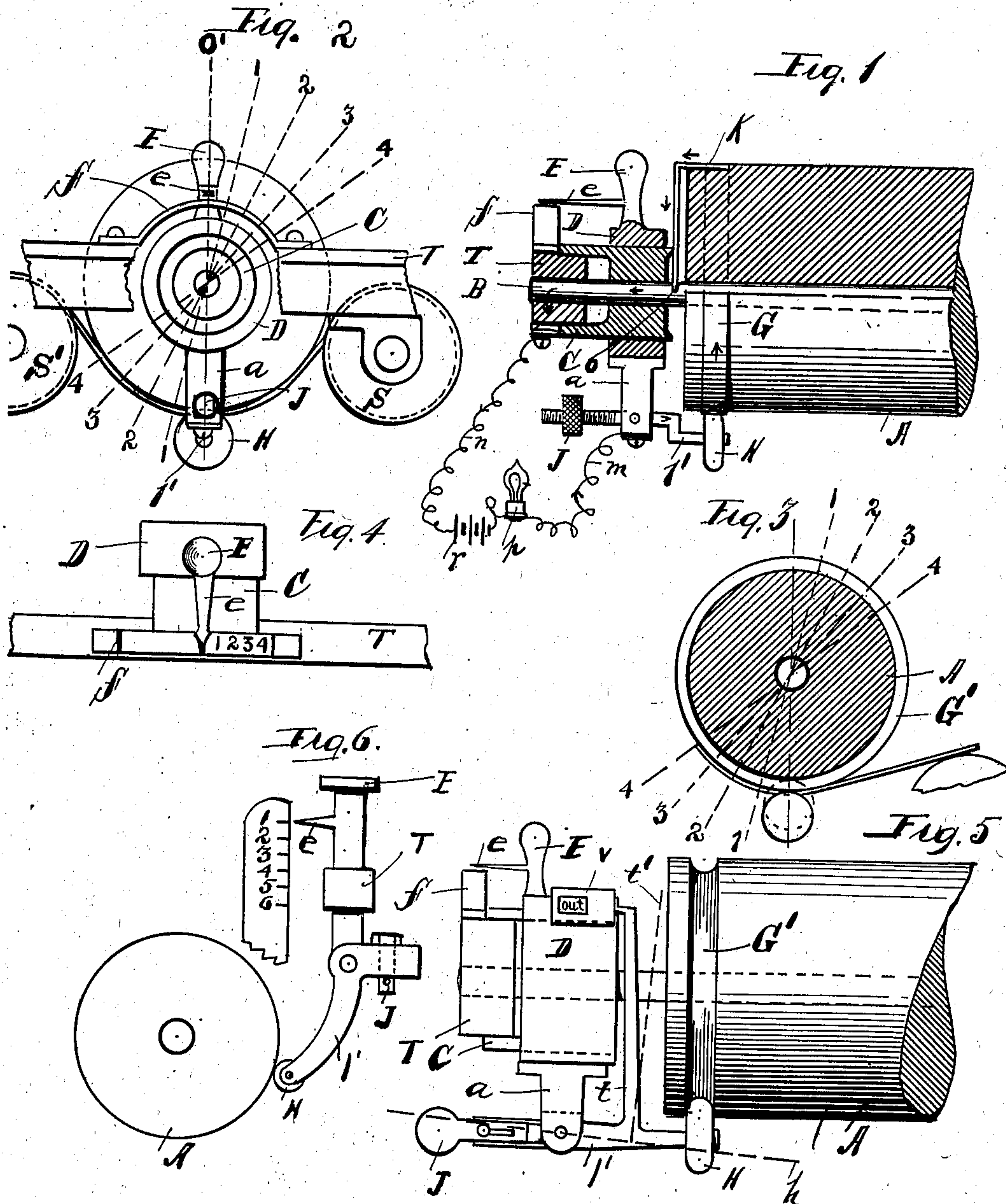
No. 815,644.

PATENTED MAR. 20, 1906.

C. A. SHEA.

ADJUSTABLE LINE PREDETERMINING DEVICE FOR TYPE WRITERS.

APPLICATION FILED MAY 21, 1904.



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# UNITED STATES PATENT OFFICE.

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## ADJUSTABLE LINE-PREDETERMINING DEVICE FOR TYPE-WRITERS.

No. 815,644.

Specification of Letters Patent.

Patented March 20, 1906.

Application filed May 21, 1904. Serial No. 209,074.

*To all whom it may concern:*

Be it known that I, CHRISTOPHER A. SHEA, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Adjustable Line-Predetermining Devices for Type-Writers, of which the following is a specification.

My invention has reference to means for adjusting a signal in a type-writer so the operator will be notified when the sheet of paper has passed a predetermined position.

The object of my invention is to relieve the operator of the mental care or tax in watching for the end of the paper sheet, or the position of the paper immediately after printing the last desired line of a page and to predetermine the position of the line with respect to the bottom of the paper sheet, as well as to vary this predetermination.

It consists, in combination of the paper-feeding roller of the machine, of a graduated indicator, a paper-contact and a hand-controlled part carrying a guide with a point to regulate the indicating. The said point is rigidly connected with the paper-contact, and it predetermines the number of line-spaces that will remain unprinted after a visual indicator has signaled the operator of the passage of the paper beyond the said contact.

In the drawings like parts are referred to by marks of a corresponding kind in the different views.

Figure 1 is a part vertical section taken longitudinally on the roller and a part side elevation of the same. Fig. 2 is an end view and part diagram. Fig. 3 is a vertical transverse section through the platen-roller of the machine. Fig. 4 is a plan of the indicator. Figs. 5 and 6 are modifications.

In Fig. 1 the signal is a glow-lamp in an electrical circuit which is controlled by the paper and predetermined by my device. In Figs. 5 and 6 the same result is accomplished by mechanical movements entirely.

A is the platen-roller of a type-writer, B the shaft that carries it.

C is an insulated shaft-encasing member held to the frame T of the machine. This frame, it will be understood, is the carriage

for the sheet-carrying mechanism of the machine.

D is a contact-controller carried by the member C circumferentially and having an oscillating motion thereon. E is an integral handle carried by this contact-controller; e, a finger carried by this handle; f, a graduated and arc-shaped indicator fixed to the frame T. This indicator carries numerals, preferably on its upper face; but they could be located on the side radially disposed.

a is a standard carried rigidly by the controller D. This standard pivotally supports the carrying-arm l' for the roller H and a counterweight J for adjustment.

In Figs. 1 and 2, S and S' are paper-feed wheels or belt-carrying wheels for paper-support, as is common in type-writers. m and n are the line conductors of an electrical circuit, r a battery, and p a glow-lamp. This lamp is located at some position where the operator can readily see it. K (shown only in Fig. 1) is a conductor leading from the metallic ring G to the shaft B and is designed to ground the circuit. The arrows indicate the flow of the current. The platen-wheel A is an insulator. The ring G is inset in the circumference of the said wheel and is a conductor. The conductor for the circuit is then made up of the roller H, ring G, shaft B, standard T, wires n and m, battery r, lamp p, and contact K. Now paper being a non-conductor as long as it is interposed between the roller H and the ring G the circuit is open and the lamp is out; but the moment the paper has passed the contact-point of the roller H with the platen A the contact is closed and the lamp is "aglow." This will at once indicate to the operator that the paper has passed its predetermined point, and therefore the operator will know how many blank lines have been left. In Fig. 2 I show a series of radial lines numbered, respectively, 1 2 3 4. These lines indicate the numerals on the face of the arc-shaped indicator f, as shown in Fig. 4. The numerals further predetermine the position of the handle E, and therefore the position for the roller H. The line O' is the type-imprinting line on the roller, and when the roller is on this line the paper is printed to its limit. When, however, it stands at line 1 the



circuit will be closed one line from the bottom of the sheet; when at 2, two lines from the bottom of the sheet; when at 3, three lines from the bottom of the sheet, and so on. As already explained, on the closing of the circuit the lamp will glow and the operator will know the sheet has passed the predetermined point.

The modification shown in Fig. 3, also 5, accomplishes the same result as that described; but instead of an electrical circuit and glow-lamp I use a shutter V, Fig. 5, only, and instead of a metallic disk G, I use a circumferential groove G' in the roller A. When the paper is in the machine, the said roller H is oscillated, so its center takes the position shown by line *h*, and the arm *t* takes the position shown by the line *t'*; but the moment the paper has passed the point predetermined by the setting of the handle E and finger *e*, as already explained, the said roller will drop into the groove G', and through the action of the weight *j* this will swing the arm *t* to the position indicated by the solid drawing Fig. 5, and in this position the indicator will show the word "out" at the shutter V. This will indicate to the operator that the predetermined point has been reached.

The modification shown in Fig. 6 contemplates a vertical movement of the indicator.

Although I show a glow-lamp, any other visual or audible signal may be used. The wheel H and counterweight J are specifically used, for the reason that there will always be an even pressure exerted on the roller H, whether one sheet of paper or several manifold sheets be passing through the rollers, the roller permitting of the several sheets to pass through evenly. If a brush-contact were used, it would hold back the last few sheets, allowing the others to go through. This would cause uneven writing.

The edges of the roller are rounded off to permit of the paper being moved sidewise in and out from under it, very often required when it is desired to place one or more letters on a line to the extreme left or right. The part C, while it encloses the shaft B, is not supposed to contact therewith. Instead of having the part C insulated I could insulate the part D or other parts of the device to attain the same end. In practice the handle E could be placed to the left of the arch, so that the entire swing of the said arch may be had, the standard A remaining as shown.

Having now described my invention, what

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

1. In a type-writing machine, the combination with a revoluble platen and a platen-frame, of a device adjustable about the platen-axis, a part pivoted upon said adjustable device and running upon the platen or paper thereon, means cooperating with said pivoted part to make a signal when said pivoted part runs off from the paper, and a scale and index, one upon the platen-frame and the other upon said adjustable part for indicating the extent of bottom margin upon the written sheet.

2. In a type-writing machine, the combination with a platen and a frame in which it is journaled, of a device adjustable concentrically with the platen and having at its lower end a pivoted finger or part for running upon the platen, and at its upper end a handle and index, means cooperating with said finger to indicate when it runs off from the paper, and a scale upon the platen-frame to cooperate with said index.

3. In a type-writing machine, the combination with a platen and a frame in which the platen is journaled, of a device adjustable about the platen-axis, a finger pivoted upon said device and running upon the platen or the paper thereon, and included in an electrical circuit, a signal also included in said circuit, a contact-strip also included in said circuit and encircling the platen so as to be engageable by said finger, an index upon said adjustable device, and a scale upon the platen-frame.

4. In a type-writing machine, the combination with a platen and a frame in which the platen is journaled, of a device adjustable about the platen-axis, a finger pivoted upon said device and running upon the platen or the paper thereon, and included in an electrical circuit, a signal also included in said circuit, a contact-strip also included in said circuit and encircling the platen so as to be engageable by said finger, an index upon said adjustable device, and a scale upon the platen-frame, a counterweight for said finger, and an antifriction-roll mounted upon said finger to run upon said contact-strip.

In testimony whereof I affix my signature in presence of two witnesses.

CHRISTOPHER A. SHEA.

Witnesses:

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