I. N. CRABB.

PLATEN LOCK FOR TYPE WRITING MACHINES.

APPLICATION FILED SEPT. 29, 1909.

981,386. Patented Jan. 10, 1911.

2 SHEETS—SHEET 1.

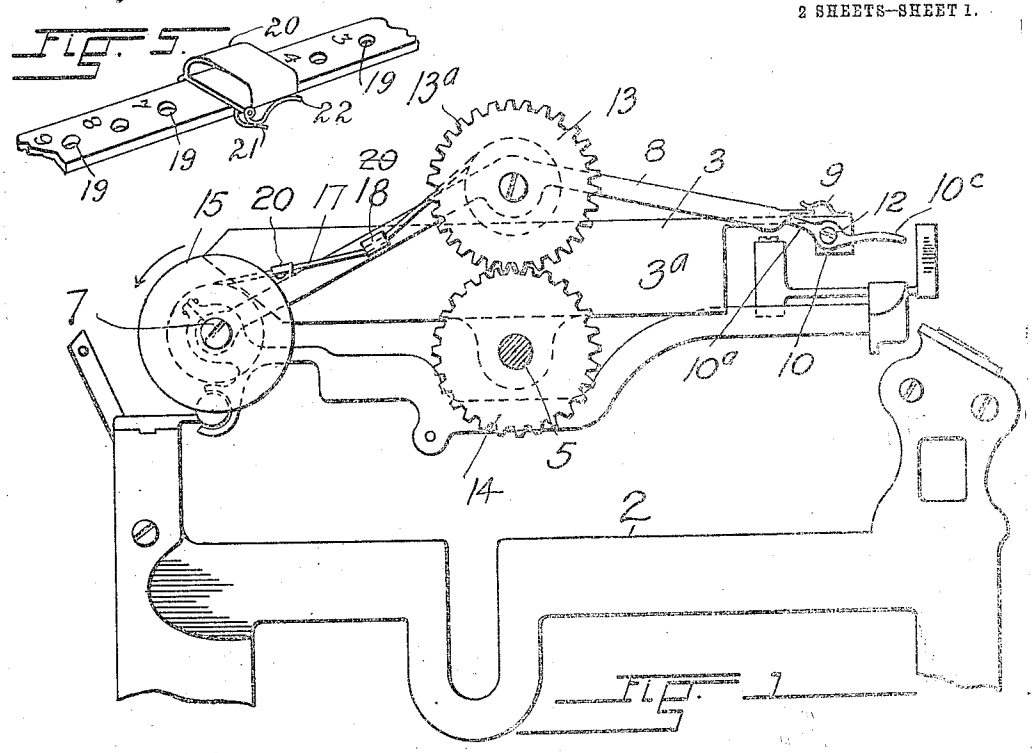


FIG. 1.

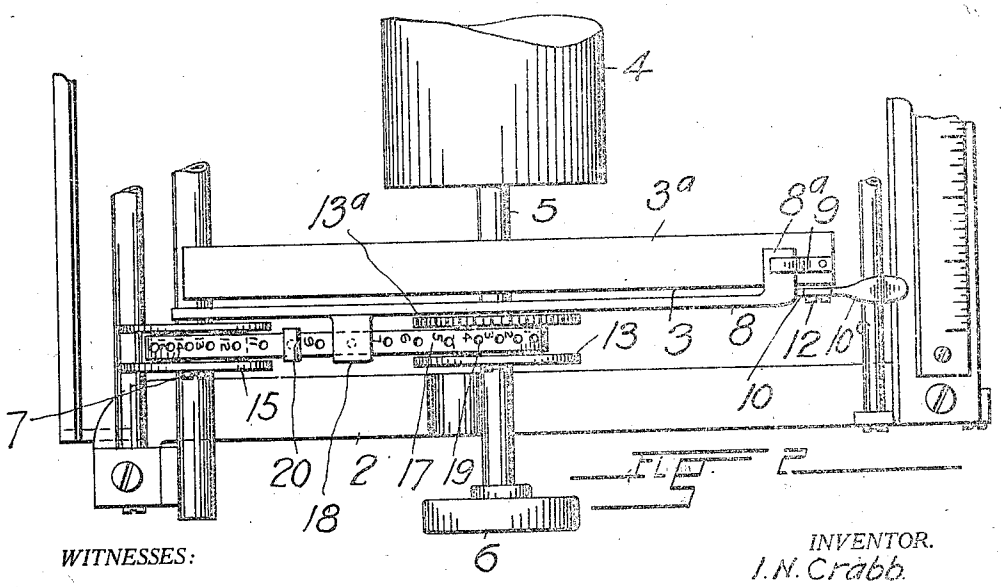


FIG. 2.

WITNESSES:

M. L. Geary.

Frank H. Cuno.

INVENTOR.

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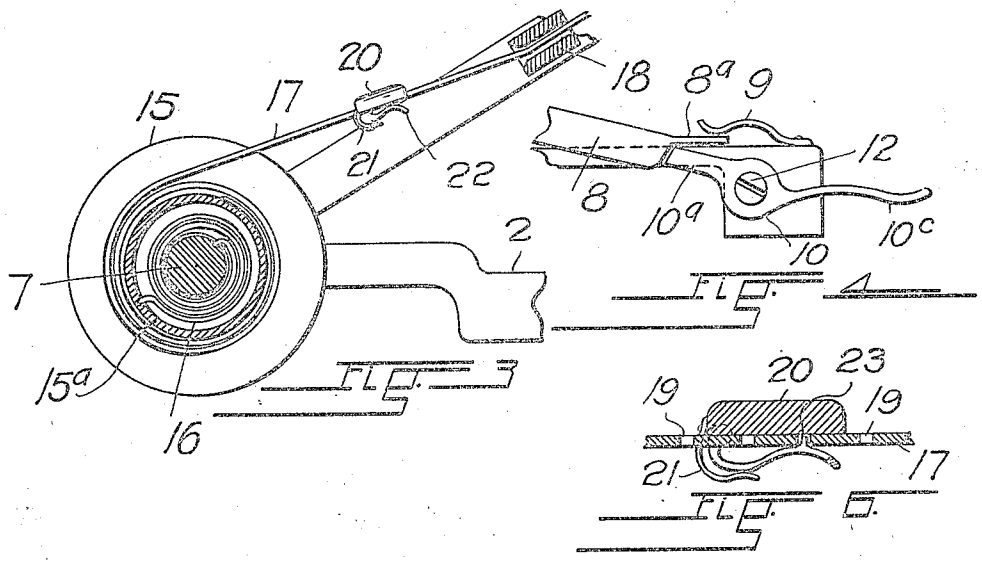


FIG. 1

FIG. 3

FIG. 4

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# UNITED STATES PATENT OFFICE.

IRA N. CRABB, OF ENGLEWOOD, COLORADO.

## PLATEN-LOCK FOR TYPE-WRITING MACHINES.

981,386. Specification of Letters Patent. Patented Jan. 10, 1911.

Application filed September 29, 1909. Serial No. 520,176.

*To all whom it may concern:*

Be it known that I, IRA N. CRABB, a citizen of the United States of America, residing at Englewood, in the county of Arapahoe and State of Colorado, have invented certain new and useful Improvements in Platen-Locks for Type-Writing Machines, of which the following is a specification.

My invention relates to attachments for type-writing machines and more particularly to stop devices by means of which the platen of the machine may be arrested at any one of a plurality of predetermined points in its rotation.

The object of my invention is to provide a device of simple construction which may be readily attached to an existing typewriter machine without material change in its regular structure and which, through the instrumentality of an adjustable member moving coincidently with the platen, will arrest movement of the latter, and in consequence of the sheet of paper carried thereby, at any selected point and for the purpose of preventing writing beyond a determinate distance from the lower edge of said sheet.

My invention, by the accomplishment of the above object, obviates the necessity of raising the platen-carriage to ascertain the position of the paper relative to the line of writing, insures uniformity in the appearance of the various pages of a manuscript, prevents writing on the platen beyond the lower edge of the paper, and, in general, saves time, labor and expense by automatically arresting the movement of the paper before its lower edge has reached the point at which the type is brought in contact therewith.

The above and other objects which will hereinafter appear, are attained by the mechanism illustrated in the accompanying drawings in the various views of which like parts are similarly designated and in which—

Figure 1, represents an end view of the upper portion of an Underwood typewriting machine with my attachment in its operative position. Fig. 2, a plan view thereof, Fig. 3, an enlarged, sectional view of the spring-controlled winding spool comprised in my invention, and adjacent parts, Fig. 4, an enlarged view of the end of the device opposite to that shown in the preceding figure, and adjacent parts of the typewriting machine, Fig. 5, a perspective view of the flexible band employed in the form shown in Fig. 1, and of the stop button associated therewith, and Fig. 6, an enlarged longitudinal section through a portion of said band and through said button.

Referring to the drawings by numerical characters, let the numeral 2 designate the stationary frame of a typewriting machine, 3 the reciprocating carriage, 4 the platen revolubly mounted upon the latter, 5 the platen-shaft and 6 the knob at one extremity thereof, by means of which the platen may be manually rotated.

My attachment as shown in the drawings, comprises an angularly bent bar 8 one end of which is pivotally secured by means of a screw 7 upon the outer surface of the end-bar $3^a$ of the carriage 3, and which, at its opposite extremity, is loosely supported upon the upper surface of the same. The bar 8 is, to this end, formed with a laterally projecting lip $8^a$ which normally rests upon the upper surface of the carriage and this lip is engaged by the free extremity of a leaf spring 9 whose opposite end is fixed upon the carriage and which serves to resiliently maintain the bar in its normal position.

A lever 10 fulcrumed at 12 upon the carrier 3, beneath the free extremity of the bar 8, is employed to move the latter about its pivot against the action of the spring 9 for a purpose hereinafter to be described and it consists, to this end, of an arm $10^a$ which engages the lower edge of the bar 8 and an arm $10^c$ which, projecting beyond the carriage is enlarged at its extremity to be pressed by the thumb of the operator.

Revolubly mounted upon the bar 8 and preferably at a point perpendicularly above the axis of the platen shaft 5, is a winding-spool 13, the inner flange $13^a$ of which is formed with peripheral teeth which, normally, mesh with a gear wheel 14 fixed on the platen shaft. A second spool 15 is rotatably mounted upon the shank of the before mentioned screw 7 which projects beyond the outer surface of the bar 8, and the barrel $15^a$ of this spool is made hollow for the reception of a coiled spring 16 the extremities

of which are respectively secured to the screw 7 and to the barrel and which, when wound up, tends to revolve the latter in the direction of the arrow in Fig. 1.

A flexible band 17, the terminal portions of which wind respectively upon the spools 13 and 15 to which its extremities are attached, projects through a correspondingly formed slot in a stop-lug 18 which projects from the bar 8 intermediate of the two spools and the said band is formed with a series of perforations 19 which are numbered consecutively as shown in Figs. 2 and 5.

A button 20 which is slidably supported upon the upper surface of the band 17 is provided with a pivoted plate 22 adapted to clampingly engage the under surface of the band, through the action of a spring 21 and this plate has an upturned detent 23 which when the button is in its adjusted position, projects into one of the perforations 19.

Having thus described the construction of my invention, its operation will be readily understood. Premising that the distances between the perforations 19 of the band 18 are proportional to the distances between the lines of writing on the paper carried by the platen or with other words to the lengths of the intermittent rotatory movements of the latter, and that the first one (1) of the consecutive numbers is adjacent the extreme end of the band secured to the spool 13, the operator having determined the number of lines to be written on the sheet, adjusts the appliance in the following manner: Having loosened the button 20 from the flexible band, the former is held in engagement with the stop-lug 18 and the platen is rotated by means of the knob 6 for the purpose of winding the band upon the spool 13. This operation is continued until the perforation 19, corresponding, numerically, with the last line to be written on the sheet, is below the button so as to receive the detent 23 on the clamp 22 when the latter is brought in engagement with the under surface of the band to firmly secure the button in position. The free end of the bar 8 is now raised by means of the thumb lever 10, to disengage the toothed flange $13^a$ of the spool 13, from the gearwheel 14, for the purpose of rewinding the tape upon the spool 15, which is automatically accomplished by action of the spring 16 which was wound up during the rotatory movement of the platen. When the entire band is thus unwound from the spool 15, the device is returned to its original position after which the sheet of paper is inserted in the machine. As the movement of the band is coincident with the intermittent movement of the platen, the button 20 will engage the stop 18 at the same time that the last line, predetermined by the operator, is written on the sheet, and it will by reason of said engagement, arrest the movement of the band and, in consequence, that of the platen and the sheet of paper carried thereon.

I wish it understood that while I have shown and described the invention in the best form now known to me, variations in the form and arrangement of the parts, necessary to render the device suitable for use on the many different writing machines at present on the market, may be resorted to without departing from the spirit of the invention.

What I claim and desire to secure by Letters Patent is:—

1. In a typewriting machine, the combination with the rotative platen, of a rotative spool coöperative therewith, a flexible band arranged to be wound on said spool during its movement in one direction, a spring actuated spool connected with the opposite end of said band and adapted to move it in the opposite direction, a stop member on said band, and a means for arresting the movement of said member at a predetermined point.

2. In a typewriting machine, the combination with the carriage and the platen rotatably mounted thereon, of a bar movably supported on said carriage, a winding spool on said bar, means for transmitting the movement of the platen to said spool, a flexible band arranged to be wound on said spool during its movement in one direction, a stop member on said band, and a means on said bar for arresting the movement of said member at a predetermined point.

3. In a typewriting machine, the combination with the carriage and the platen rotatably mounted thereon, of a bar movably supported on said carriage, a winding spool on said bar, means for transmitting the movement of the platen to said spool, a flexible band arranged to be wound on said spool during its movement in one direction, a spring actuated spool on said bar connected with the opposite end of the band and adapted to move it in the opposite direction, a stop member on said band, and a means on said bar for arresting the movement of said member at a determinate point.

4. In a typewriting machine the combination with the carriage and the platen, rotatably mounted thereon, of an element pivotally mounted at one of its ends to said carriage, its opposite end being normally held against movement beyond a predetermined point a winding spool on said element, gear wheels respectively on said spool and on the platen, which are in operative engagement while the bar is in its normal position, a flexible band arranged to be wound on said spool during its movement

in one direction, a spring-actuated spool on said bar connected with the opposite end of the band and adapted to move it in the opposite direction, a stop member on said band, and a means on said bar for arresting the movement of said member at a determinate point.

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

IRA N. CRABB.

Witnesses:
G. J. ROLLANDET,
M. L. GEARY.