D. CROWTHER & N. C. HARDY.

TYPE WRITING MACHINE.

APPLICATION FILED MAR. 31, 1913.

1,091,122.

Patented Mar. 24, 1914.

2 SHEETS—SHEET 1.

Fig. 1.

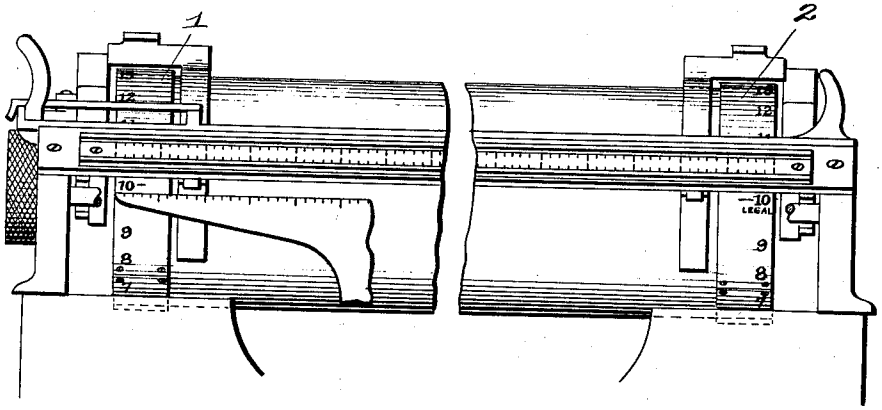


Fig. 2.

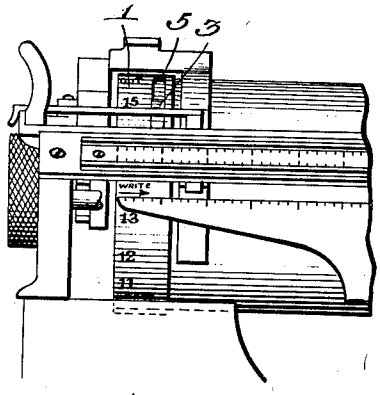


Fig. 3.

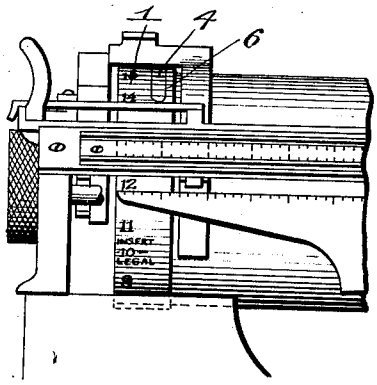
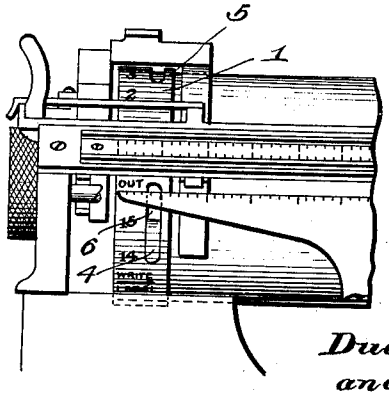


Fig. 4.



Witnesses

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2 SHEETS—SHEET 2.

FIG. 5.

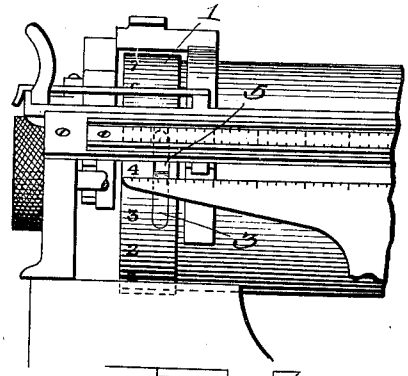
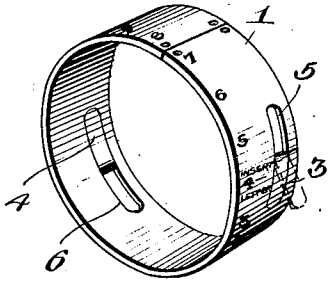
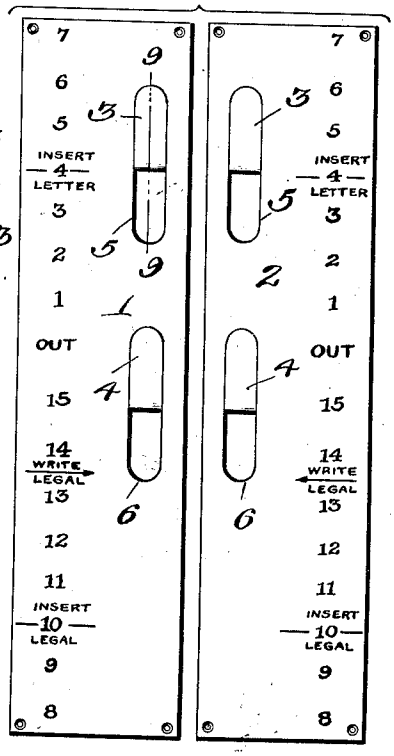


FIG. 7.

FIG. 8.

FIG. 6.





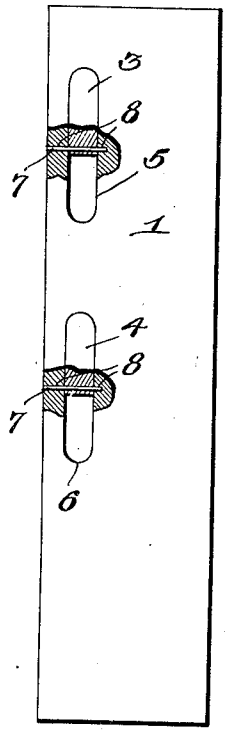
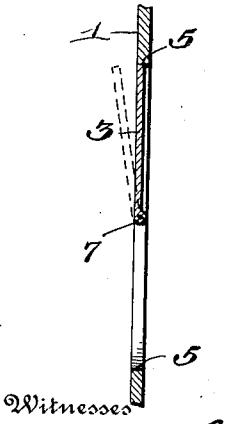


FIG. 9.



Witnesses

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TYPE-WRITING MACHINE.

1,091,122. Specification of Letters Patent. Patented Mar. 24, 1914.

Application filed March 31, 1913. Serial No. 758,027.

To all whom it may concern:

Be it known that we, DUDLEY CROWTHER and NED C. HARDY, citizens of the United States, residing at Great Falls, in the county of Cascade and State of Montana, have invented certain new and useful Improvements in Type-Writing Machines; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in typewriting machines and particularly to improvements in line indicating attachments therefor.

One object of the invention is to provide a line indicating attachment for typewriting machines whereby the position or line for starting the page of writing is indicated and whereby the approach of the end of the page being written upon is also indicated so that all of the typewritten pages will be uniform and will contain the same number of lines.

Another object is to provide an attachment of this character which will indicate, after the sheet is half filled, the number of lines that can be written before the end of the sheet is reached thus enabling the operator to determine with accuracy how much more matter can be written on the sheet.

A further object is to provide a line indicating attachment for typewriters having means whereby the end of the paper is automatically gripped and securely held at the exact position on the roller where the paper is inserted thus obviating any tendency of the paper to slip or of the roll to turn without carrying the paper therewith.

With these and other objects in view, the invention consists of certain novel features of construction, and the combination and arrangement of parts as will be more fully described and claimed.

In the accompanying drawings: Figure 1 is a front view of the platen roller and adjacent parts of a typewriter illustrating the application of the attachment, the latter being shown as indicating the position for inserting a sheet of legal size paper; Fig. 2 is a similar view of one end of the roller and adjacent parts of the machine showing the position of the attachment for indicating the place for beginning the writing; Fig. 3 is a similar view showing the position of the attachment after the first half of the page has been written and wherein the number of lines which may be written on the lower portion of the page is indicated; Fig. 4 is a similar view showing the position of the attachment when the same indicates that the bottom of the sheet has been reached and that the sheet should be taken out; Fig. 5 is a view similar to Fig. 1 showing the position of the attachment when adjusted to the proper place for inserting a sheet of letter size paper; Fig. 6 is a perspective view of one of the attachments removed from the roller; Fig. 7 is a plan view of the attachments for each end of the roller laid out flat; Fig. 8 is a similar view of the reverse side of one of the attachments with parts broken away and in section; Fig. 9 is an enlarged longitudinal sectional view through one of the attachments taken on the line 9—9 of Fig. 7.

Our improved line indicating attachment preferably comprises two members 1 and 2 one of which is arranged on each end of the platen roller of the type-writing machine to which the attachment is applied. The members 1 and 2 may be constructed of any suitable material but are preferably formed of thin sheet metal cut into strips of suitable width and of a length sufficient to encircle the roller which is preferably reduced at its ends the thickness of the metal of which the members are constructed so that when said members are applied to the roller the outer surfaces thereof will be flush with the surfaces of the roller.

Arranged on the strips 1 and 2 adjacent to their outer edges are series of numbers which are here shown as beginning with 7 at one end of the strips and as decreasing in value to the numeral 1 after which the word "Out" is arranged in line with numerals. After the word "Out" the numerals begin again with 15 and decrease in value toward the opposite end of the strips and terminate at said ends with the numeral 8. The purpose of arranging the numerals in the manner described will hereinafter appear. The spacing of the numerals is governed by the spacing of the machine to which the attachments are applied and as this spacing varies to a greater or less extent in different makes of machines it will be understood that the spacing of the numerals for each make of machine to which the attachments are applied will be arranged to correspond with the spacing of the machine. It will be also

understood that while 15 numerals are shown in the present instance that the strips may contain any number according to the number of lines the sheets or pages to be written on will contain. In the present instance the strips 1 and 2 are shown as arranged for use on the roller of an Underwood typewriting machine.

In addition to the numerals the strips 1 and 2 also have thereon certain designating lines and words which indicate the positions of the roller for inserting different sizes or lengths of paper and for indicating the place where the writing on the sheets should begin. In the present instance the position for inserting a sheet of legal size paper is at the numeral 10 on the strips and this numeral is preferably of a different color from the other numerals and has on each side thereof a dash or line. Above the numeral 10 on the strips is placed the word "Insert" while below the numeral 10 is placed the word "Legal". Between the numerals 13 and 14 on the strips is placed an arrow or a line above which is arranged the word "Write" and below which is arranged the word "Legal". On each side of the numeral 4 on the strips are arranged lines or dashes. Above the numeral 4 on the strips is arranged the word "Insert" while below the numeral 4 is arranged the word "Letter". Also on the strips between the numerals 1 and 15 is arranged the word "Out" as hereinbefore mentioned, the word "Out" being spaced below the numerals 1 to a distance corresponding with the spaces between the numerals as shown. The words "Out" are also preferably of a different color from the numerals. The various markings and words on the strips as herein shown and described are designed to indicate in conjunction with the scale bar of the machine the position for inserting legal and letter size sheets of paper, the position for beginning the writing on the sheets and when the sheets are to be taken out or when the proper number of lines have been written thereon.

In Fig. 1 of the drawings the attachment is shown in position for indicating when a sheet of legal size paper is to be inserted in the machine which position, as hereinbefore stated, is indicated by the numeral 10 on the attachments, said numeral being differentiated from the other numerals in color as well as having the lines and wording applied thereto in the manner described. In adjusting the attachment to this position the roller is turned until the number 10 on the strips at the opposite ends of the roller come opposite or adjacent to the scale bar of the machine as shown. After the sheet of legal size paper has been inserted at this point the roller should be turned and the paper fed into the machine until the lines or arrows between the numerals 13 and 14 appear opposite or adjacent to the scale bar which will indicate the proper position of the sheet for beginning the writing thereon. In thus adjusting the sheets the writing thereon will be started at the same place or on the same line in each sheet thus providing a uniform space or margin at the top of the typewritten pages. When adjusted in the manner described the typewritten lines will come between the numerals on the strips during the writing of the first half of the sheet and no attention need be paid to the indicating mechanism. After the first half of the sheet has been written the typewritten lines will come opposite to the numbers on the attachment which will indicate exactly how many more lines remain or may be written on the remaining space or lower portion of the sheet, thus enabling the operator to ascertain with accuracy just how much more matter can be written on the sheet. For instance, assuming that line 12 is being written as shown in Fig. 3 of the drawings, the operator will know that there can be eleven more lines written on the sheet before the word "Out" appears above the scale bar as shown in Fig. 4 of the drawings and which indicates that the bottom of the page has been reached and that the sheet should be removed, after the page has been numbered, if the latter is desired.

In Fig. 5 of the drawings the attachment is shown as adjusted to bring the numeral 4 thereon above the scale bar of the roller, said numeral having the designating marks and wording hereinbefore described. This adjustment of the attachment indicates the position for inserting a letter size sheet of paper. After the paper has been inserted the roller is turned to bring the paper around to whatever point it is desired to begin the letter on the sheet, the position of starting being preferably between two of the numerals on the attachment. After thus being adjusted and the writing started the latter is continued until the word "Out" appears as hereinbefore described.

In order to prevent the paper from slipping or entering the machine unevenly and to prevent the roller from turning without carrying the sheet therewith, the strips 1 and 2 are provided with paper gripping tongues 3 and 4 which are located adjacent to the inner edges of the strips and in approximately the same positions indicated in the drawings. In applying the tongues 4 to the strips the latter have formed therein at about the positions shown slots or elongated apertures 5 and 6, said slots or apertures being twice the length of the tongues 3 and 4 which are respectively arranged therein and are hingedly connected at their inner ends to the strips midway between the ends of the slots as shown.

The tongues 3 and 4 may be hingedly at-

tached to the strips in any suitable manner, said tongues, however, being here shown and are preferably hinged to the strips by short transversely disposed pintles or pivot rods 7 the ends of which are engaged with sockets 8 formed in the strips at diametrically opposite points midway between the ends of the slots 5 and 6. The inner ends of the tongues are hingedly fastened to the transverse pintles or pivot rods 7 preferably by turning the ends of the tongues around said pintles or rods as shown. In thus hingedly attaching the tongues to the strips it will be seen that the tongues may be swung in either direction toward the strips or into the opposite ends of the slots 5 and 6.

The tongues 3 when placed approximately in the positions indicated will be in the proper place to receive and grip the end of the paper when the roller has been turned to bring the numeral 10 on the attachment in line with the scale bar as shown in Fig. 1 so that the moment the platen roller is turned to feed the paper into the machine the tongues will immediately close against or grip the paper as said tongues and paper pass between the platen roller and the feed rollers of the machine thereby causing the paper to be positively moved with the platen roller and obviating any danger of the latter turning without the paper after the same has been properly applied thereto. In the same manner when the roller and the attachments thereon have been adjusted to the position for inserting letter paper the tongues 4 on the strips will be in position to receive and grip the ends of the sheet when inserted. By hingedly attaching the tongues 3 and 4 and arranging the slots 5 and 6 so that said tongues will spring in either direction it will be seen that if for any reason it should be desired while writing to turn the platen roller backward, the tongues will swing around in the proper direction to permit the same to readily pass between the platen roller and the feed rollers when turned or moved in this reverse direction thus obviating any danger of the tongues forming obstructions or interfering in any way with the reverse movement of the platen roller and paper.

As hereinbefore stated the strips 1 and 2 may be of any suitable width to accommodate the row of numerals and the paper gripping tongues and said strips are of such length that when engaged with the reduced ends of the platen roller the ends of the strips will abut. The strips may be secured to the ends of the platen roller in any suitable manner and are here shown as being fastened by short brads driven through the strips and into the roller at suitable points. By providing an indicating strip at each end of the roller it will be seen that should the paper be of such width or placed in the machine in such position as to cover the strip at one end of the roller, the strip at the opposite end thereof will indicate the positions and other information hereinbefore described.

From the foregoing description taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of the claimed invention.

Having thus described our invention what we claim is:

1. A line indicating attachment for typewriters comprising strips of material having thereon numerals and indicating characters and adapted to be secured to the platen roller of a typewriting machine, and paper gripping tongues carried by said strips and adapted to grip the sheets of paper when inserted in the machine, whereby the slipping of the paper or the turning of the roller without the paper is obviated.

2. A line indicating attachment for typewriters comprising strips of material having thereon a plurality of numerals and indicating characters and adapted to be secured in position on the ends of the platen roller of the machine, and automatically operated paper gripping tongues carried by said strips adapted to grip the ends of the sheets of paper when inserted in the machine thereby preventing the slipping of the paper or the movement of the roller without the paper.

3. A line indicating attachment for typewriter machines comprising strips of suitable material having thereon series of numerals and indicating characters arranged in line or one above the other and adapted to indicate the position for inserting a legal or letter size sheet of paper, the place for beginning the writing on the sheet and the place for concluding the writing and removing the paper, said strips being adapted to be secured to the ends of the platen roller of the machine, and paper gripping tongues carried by said strips and adapted to grip the ends of the sheets of paper when inserted in the machine thereby preventing the paper from slipping or the movement of the roller without the paper.

4. A line indicating attachment for typewriters comprising strips of suitable material adapted to be engaged with the ends of the platen roller of the machine, said strips having thereon indicating numerals and characters arranged to designate the position for inserting legal or letter size sheets of paper, the place for beginning the writing on said sheets and the place where the

writing is to be concluded and the sheets removed and having therein longitudinally disposed slots, paper gripping tongues hingedly connected at their inner ends in said slots midway between the ends thereof, whereby said tongues are permitted to swing in opposite directions and to grip the ends of the sheets of paper when inserted in the machine, whereby said sheets are held against slipping and whereby the roller is prevented from turning without carrying the sheets around therewith.

5. A line indicating attachment for typewriter machines comprising strips of suitable material having thereon series of numerals and indicating characters arranged in line or one above the other and adapted to indicate the position for inserting a legal or letter size sheet of paper, the place for beginning the writing on the sheet, the place for concluding the writing and removing the paper, and which after the first half of the page has been written will indicate how many more lines remain or may be written on the remaining space or lower portion of the sheet, said strips being adapted to be secured to the ends of the platen roller of the machine, and means to prevent the slipping of the paper or movement of the roller without the paper.

In testimony whereof we have hereunto set our hands in presence of two subscribing witnesses.

DUDLEY CROWTHER.
NED C. HARDY.

Witnesses:
BYRON DEFOREST,
HOWARD G. BENNET.