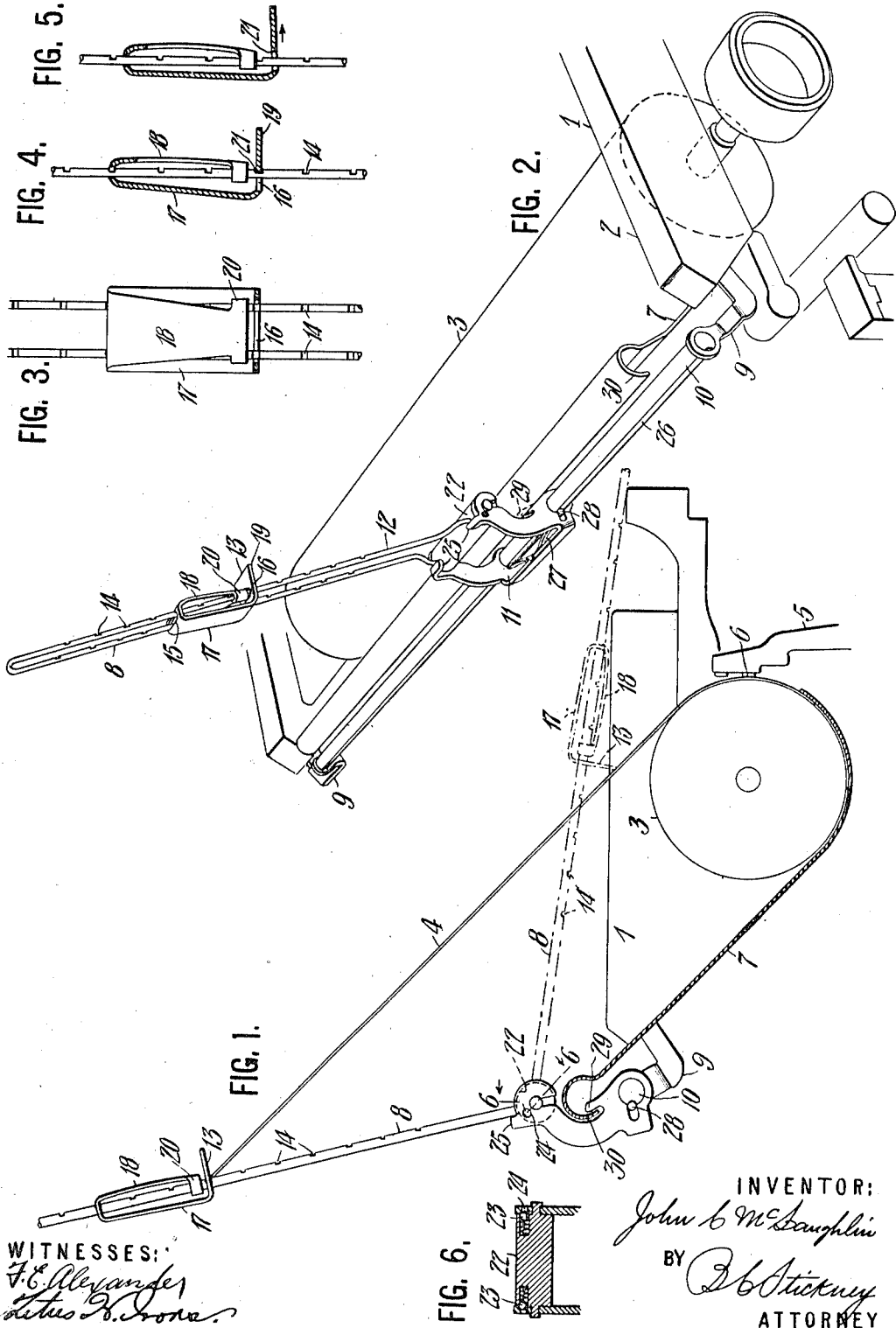


J. C. McLAUGHLIN.
TYPE WRITING MACHINE.
APPLICATION FILED APR. 3, 1912.

1,063,924.

Patented June 3, 1913.



WITNESSES:
F. C. Alexander
Arthur D. Stone

FIG. 6.

INVENTOR:
John C. McLaughlin
BY *D. B. Stickney*
ATTORNEY

UNITED STATES PATENT OFFICE.

JOHN C. McLAUGHLIN, OF JERSEY CITY, NEW JERSEY, ASSIGNOR TO UNDERWOOD TYPEWRITER COMPANY, OF NEW YORK, N. Y., A CORPORATION OF DELAWARE.

TYPE-WRITING MACHINE.

1,063,924.

Specification of Letters Patent.

Patented June 3, 1913.

Application filed April 3, 1912. Serial No. 688,331.

To all whom it may concern:

Be it known that I, JOHN C. McLAUGHLIN, a citizen of the United States, residing in Jersey City, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a specification.

This invention relates to a new and improved paper depth gage for a typewriter.

In a typewriting operation, it is often desirable to end the typewriting at a given distance from the bottom of the sheet, in order to leave an adequate bottom margin. However, inasmuch as the bottom edge of the work sheet or paper being written upon is generally concealed between the paper shelf and the platen, it is often difficult to estimate with any degree of certainty the proximity of the latest written line to the bottom of the page. The typist is, therefore, often at a loss to tell off hand when a desired limit of writing on a particular sheet has been reached, and may come short of, or over-run this limit one or more lines.

It is the purpose of this invention to enable the typist to tell at a glance how close the end of the sheet is approached and also to enable the typist to set a predetermined limit of proximity of the last line of typewriting to the end of the sheet. To accomplish this purpose, there is provided a gage with a stop which indicates that the desired limit of writing on a particular sheet has been reached, when the top edge of the sheet comes into contact with the stop. The stop is adjustable to various elevations, so as to vary the nearness of approach to the bottom edge for a certain size of sheet, and also to accommodate sheets of different sizes. The determination is a differential one, that is to say, the limit of desired printing is measured by the extent the top edge of the work sheet has passed up beyond the printing point of the typewriter, which for a given sized sheet will determine the distance still left between the printing point of the typewriter and the bottom edge of the sheet. The gage is set by trial for each different sized sheet.

In order to be out of the way when there is no desire to use it, the gage is connected to the platen frame, so that it may be shifted off to one side and swung down out of the way. Inasmuch as the gage occupies a pro-

jecting position when it is in use, it is made collapsible, so that it can be folded down to enable the typewriter to be conveniently covered.

Other features and advantages will hereinafter appear.

In the accompanying drawings, Figure 1 is a vertical section, taken from front to rear, of the top part of a typewriter or typewriting mechanism, showing in full and dotted lines the active and inactive positions of the gage, and also showing the top edge of the work sheet in engagement with the stop of the gage, indicating that the desired limit of writing on the work sheet has been reached. Fig. 2 is a fragmentary perspective view looking at the gage, as attached to the typewriter, from the rear. Fig. 3 is a fragmentary view in elevation, partly in section, showing the connection of the stop to the standard of the gage. Figs. 4 and 5 are fragmentary vertical sections, showing the relative positions of the stop to the standard of the gage when the stop is locked to the standard, and when the stop is unlocked from the standard. Fig. 6 is a detail section taken on the line 6-6 of Fig. 1, showing the means for locking the standard in its raised position.

Referring more particularly to the separate parts of this invention as embodied in the form shown in the drawing, 1 indicates the typewriter or typewriting mechanism which may be of any desired structure, and may be provided with a carriage having a platen frame 2 mounted thereon. The platen frame 2 supports the usual platen 3 on which the work sheet indicated at 4 is supported.

Type bars, indicated at 5, actuated by the usual key mechanism, strike the work sheet 4 at a point 6 which may be termed the printing point of the typewriter or typewriting mechanism. Inasmuch as it is often desirable to leave a bottom margin on the work sheet of some extent, which may be free from typewritten matter, it is necessary to know when the printing point has come to such a distance with respect to the bottom edge of the work sheet. The bottom edge of the work sheet, however, is concealed, as will be seen by reference to Fig. 1, by lying between the platen 3 and the paper shelf 7 which guides the work sheet to the platen. It is therefore evident in order to tell at a

60

65

70

75

80

85

90

95

100

105

110

glance when the desired limit of writing has been reached, that some extraneous point plainly visible must be used as a means of indication. For this purpose, instead of measuring the distance between the printing point 6 and the bottom edge of the work sheet, a differential measure is used by gaging the distance which the top edge of the work sheet has passed up beyond the printing point 6. To accomplish this, there is provided a gage 8 which is carried by the platen frame 1, so as to be movable with the platen and thus with the work sheet when the carriage travels in a letter-feeding direction, and also when the platen frame is moved for the purpose of changing the case of the characters being written, as for example in changing from small letters to capitals.

In the form used to illustrate the present embodiment of the invention, the platen frame 2 is shown to be provided with arms 9 which support a rail 10 between them. Pivotal and slidingly mounted on this rail 10, there is provided a bracket 11 which in turn supports a standard 12. Slidingly mounted on the standard 12, so as to be adjustable relative thereto, there is provided a stop 13, which indicates the limit of printing on the work sheet, when the top edge of the work sheet comes in engagement therewith.

As shown, the standard 12 is constructed from a strip of wire bent intermediate its ends to form an elongated loop, the reaches of which extend substantially parallel to each other. These reaches are provided with notches 14 on the front faces thereof, which form a part of a locking means for holding the stop 13 in its several positions of adjustment. The stop 13 is shown in this instance to be formed from a single sheet of metal having a plurality of openings 15 and 16 therein, whereby the standard 12 may extend through the stop.

The metal of the stop is bent double on opposite sides of the opening 15, so as to flank the standard 12 at the front and rear, as at 17 and 18. The portion 17 which contains the opening 16, is bent at right angles thereto, to admit of the passage of the standard 12 through the opening 16, and so that the extremity of this portion will form a projection 19 extending substantially perpendicular to the standard 12, so as to form a stopping junction between the standard and itself, with which the top edge of the work sheet 4 will readily engage. The portion 18 of the stop may be provided with oppositely extending arms 20, which can be curled around the reaches of the standard 12 to form an additional means of guiding the movement of the stop on the standard.

It will be noted that the bending double of the material of the stop gives this portion

of the stop the nature of a spring, which will cause one margin of the opening 16 indicated at 21 to tend to engage in the front notches 14 on the standard 12, as indicated in Fig. 4, but in a yielding manner, so that this margin of the opening 16 can be readily forced out of the notches 14, as indicated in Fig. 5, to enable the stop to be readily adjusted along the standard 12. There is thus embodied in the stop 13 a locking means for securing the stop in any adjusted position relative to the standard 12. The notches 14, it may be said in passing, may be spaced at such intervals from each other as to correspond to the distances between successive lines written on the work sheet 4 by the typewriting mechanism.

Inasmuch as the gage 8 occupies a projecting position when in use, it is desirable that it may be moved to a non-projecting position when it is necessary to cover the typewriter. For this purpose, the connection of the standard 12 to the bracket 11 is a hinged one, so that the standard can be swung from the full line position shown in Fig. 1, to the dotted line position shown in the same figure; that is to say, so that the standard can be retired from a projecting position to a position lying alongside of the platen frame. To accomplish this, the standard 12 is secured to a hub 22 journaled in bearings in the bracket 11, and held against accidental displacement from a raised position by a locking means shown in the form of spring pressed balls 23 located in sockets in the hub 22, and adapted to engage in locking dents or sockets 24 arranged on the facing surfaces of the bracket 11. The standard 12 is held from falling over backward by means of lugs 25 which project inwardly from opposite sides of the bracket 11 into the path of the reaches of the standard 12.

While the above takes care of the retirement of the gage when it is desired to close the typewriter, there remains the necessity of moving the gage out of the way when it is desired to use the typewriter without using the gage. It has been said before, that the bracket 11 is slidingly and pivotally mounted on the rod 10. In order to lock the bracket and thus the gage in any adjusted position on the rod 10, this rod is provided with a longitudinal groove 26, into which is pressed by a spring 27 a locking roller 28, which is carried by the bracket 11 and is movable into and out of the groove 26. The bracket 11 is provided with a lip 29 which is spaced apart from the remainder of the bracket, so as to form a groove therebetween into which the curled edge 30 of the paper shelf 7 enters, thereby disposing portions of the bracket on opposite sides of this edge, holding the bracket and thus the gage in a raised operative position. Now then, if it is desired to shift the gage to an

ineffective position, it may be slid off to one side, preferably the left-hand side of the typewriter, until the lip 29 has passed from behind the edge 30 of the shelf 7. The gage as a whole, can then be swung rearwardly and downwardly by snapping the locking roller 28 out of the groove 26.

When in use, the gage 8 occupies the position shown in Figs. 1 and 2 with the standard erect, and the bracket located substantially midway between the ends of the rail 10. In order to determine the height at which the stop 13 shall be located, a trial is first made with a sheet of paper of the size to be used in the subsequent operations. This sheet is marked in any desired manner to indicate the last line of typewriting which it is desired to have on the typewritten sheet, that is to say, a pencil mark may be drawn on the sheet at the distance from the bottom edge the last line is to be located. This sheet is then run over the platen until the mark made on the sheet comes to the printing point 6. The sheet of paper will have sufficient stiffness to project toward the gage 8 to a point where its top edge comes into contact with the standard 12. The stop 13 can then be adjusted so that the extension 19 will come into contact with the top edge of this trial sheet. It will therefore be evident that when the top edge of any subsequently used sheet of the same size is fed by the line-spacing operation of the platen to a point such that its top edge engages the juncture between the standard and the extension 19 of the stop 13, then the line being written on the work sheet, that is to say, the line at the printing point 6 will be at the required distance from the bottom edge of the paper. In other words, the gage may be set to determine the number of lines to be written on the work sheet. This means of determining when the bottom of the sheet is approaching, has the advantage of being readily visible and also does not interfere with the actual typewriting action.

In case it is desired to close up the machine for the night, and put on the cover, it is merely necessary to forcibly move the standard 12 from the full line position shown in Fig. 1 to the dotted line position, when the gage will be no longer in an inconvenient projecting position, but will be folded on top of the carriage. If it is desired to throw the gage entirely out of the way when not in use, it may be shifted sideways along the rod or rail 10 until the lip 29 passes beyond the edge 30 on the paper shelf 7, when the gage as a whole can be swung rearwardly and downwardly about the rail 10 as a pivot.

Variations may be resorted to within the scope of the inventions, and portions of the improvements may be used without others.

Having thus described my invention, I claim:

1. A paper depth gage comprising a standard formed from a strip of wire bent intermediate its ends to form an elongated loop, said wire being provided with a graduated series of notches, and a stop adjustably mounted on said loop, said stop being formed of spring metal and adapted to grip said standard at said notches to hold itself in its various positions of adjustment along said standard.

2. A paper depth gage comprising a standard having a series of notches formed therein at intervals, and a stop arranged circumjacent said standard and adjustable lengthwise thereof, said stop being formed of a strip of sheet metal having a plurality of spaced openings through which said standard passes, and being bent on itself, so that portions of said sheet metal on opposite sides of said openings will extend on opposite sides of said standard, the margin of one of said openings being arranged to engage said notches to lock said stop in several positions of adjustment.

3. A paper depth gage comprising a standard formed of a strip of wire bent intermediate its ends to form an elongated loop, the reaches of the loop extending parallel to each other, and a stop, having arms curled about said reaches, adjustable along said standard.

4. A paper depth gage comprising a standard formed of a strip of wire bent intermediate its ends to form an elongated loop, the reaches of the loop extending parallel to each other, and a stop, having arms curled about said reaches, adjustable along said standard, said stop having means for locking itself in its various positions of adjustment along said standard.

5. The combination with a typewriter, of a paper depth gage connected to said typewriter normally extending in a projecting position when in use, said gage being constructed to swing temporarily to a non-projecting position; means being provided to retain said gage in a semi-permanent inoperative position.

6. A paper depth gage comprising a standard formed from a strip of wire bent intermediate its ends to form an elongated loop and formed with a graduated series of notches, and a stop adjustably mounted on said loop and held by said notches in definite positions of adjustment.

7. The combination in a typewriter, of a platen frame, a rail on said frame, and a paper depth gage adjustable along said rail to and from a position at the end of the frame, and pivotally mounted on said rail to swing forwardly and rearwardly between operative and inoperative positions.

8. The combination in a typewriter, of a

platen frame, a rail on said frame, and a paper depth gage adjustable along said rail and pivotally mounted on said rail to swing forwardly and rearwardly between operative and inoperative positions, said gage having means for holding it in an operative position.

9. The combination with a typewriter, of a rail connected to said typewriter, a paper depth gage pivotally mounted for forward and rearward swinging movement on said rail and adjustable longitudinally thereof, means for yieldingly holding said gage against accidental longitudinal movement along said rail, and means for locking said gage against pivotal movement on said rail.

10. The combination of a typewriter having a paper shelf with a curl thereon, a paper depth gage, and a support for the gage, said gage engaging said curl to hold itself in an operative position relative to said typewriter and movable along its support to a position free of said curl.

11. The combination of a typewriting machine and a gage comprising a standard, an adjustable stop on the standard, and a support on which the standard is pivotally mounted, said support being pivotally connected to the typewriting machine to swing into and out of operative position.

12. The combination of a typewriting machine comprising a platen frame and a horizontal rod carried thereby; and a gage comprising a supporting member pivotally and slidably mounted on said rod, a standard pivoted to said member, and a stop adjustable on the standard.

13. The combination of a typewriting machine comprising a platen frame and a horizontal rod carried thereby; and a gage comprising a bracket pivotally mounted on the rod and slidable longitudinally thereon, means to yieldingly hold the bracket against pivotal movement, a standard pivoted to said bracket for swinging movement about an axis parallel to said rod, and an adjustable stop on said standard.

14. The combination of a typewriting machine having a platen frame comprising a paper shelf, a rod parallel with the edge of

said shelf, a bracket pivoted on said rod and having an interlocking slidable engagement with the edge of the paper shelf, a standard supported on said bracket, and a stop on the standard.

15. The combination of a typewriting machine comprising a platen frame, a bracket pivoted on said frame and adapted to be swung downward from operative position, a standard pivoted to the bracket and movable into and out of operative position independently of the position of the bracket, and an adjustable stop on said standard.

16. The combination of a typewriting machine having a platen frame comprising a paper shelf having a curled edge, a rod, a bracket slidable on the rod and formed with a groove or recess to receive the edge of the paper shelf, said bracket being slidable to a position beyond the paper shelf and adapted when in such position to be swung on said rod to an inoperative position, a standard carried by the bracket, and an adjustable paper stop on the standard.

17. The combination of a typewriting machine having a platen frame comprising a paper shelf having a curled edge, a rod, a bracket slidable on the rod and formed with a groove or recess to receive the edge of the paper shelf, said bracket being slidable to a position beyond the paper shelf and adapted when in such position to be swung on said rod to an inoperative position, a standard connected to said bracket by a pivot parallel with said rod, and an adjustable paper stop on the standard.

18. The combination of a typewriting machine comprising a platen frame and a platen, a rod parallel with the platen; and a gage comprising a supporting member pivotally and slidably mounted on said rod, a guide for said member to prevent pivotal movement thereof during its sliding movement, a standard pivoted to said member, and a stop adjustable on said standard.

JOHN C. McLAUGHLIN.

Witnesses:

JULIA LEVY,
C. NEWELL.