

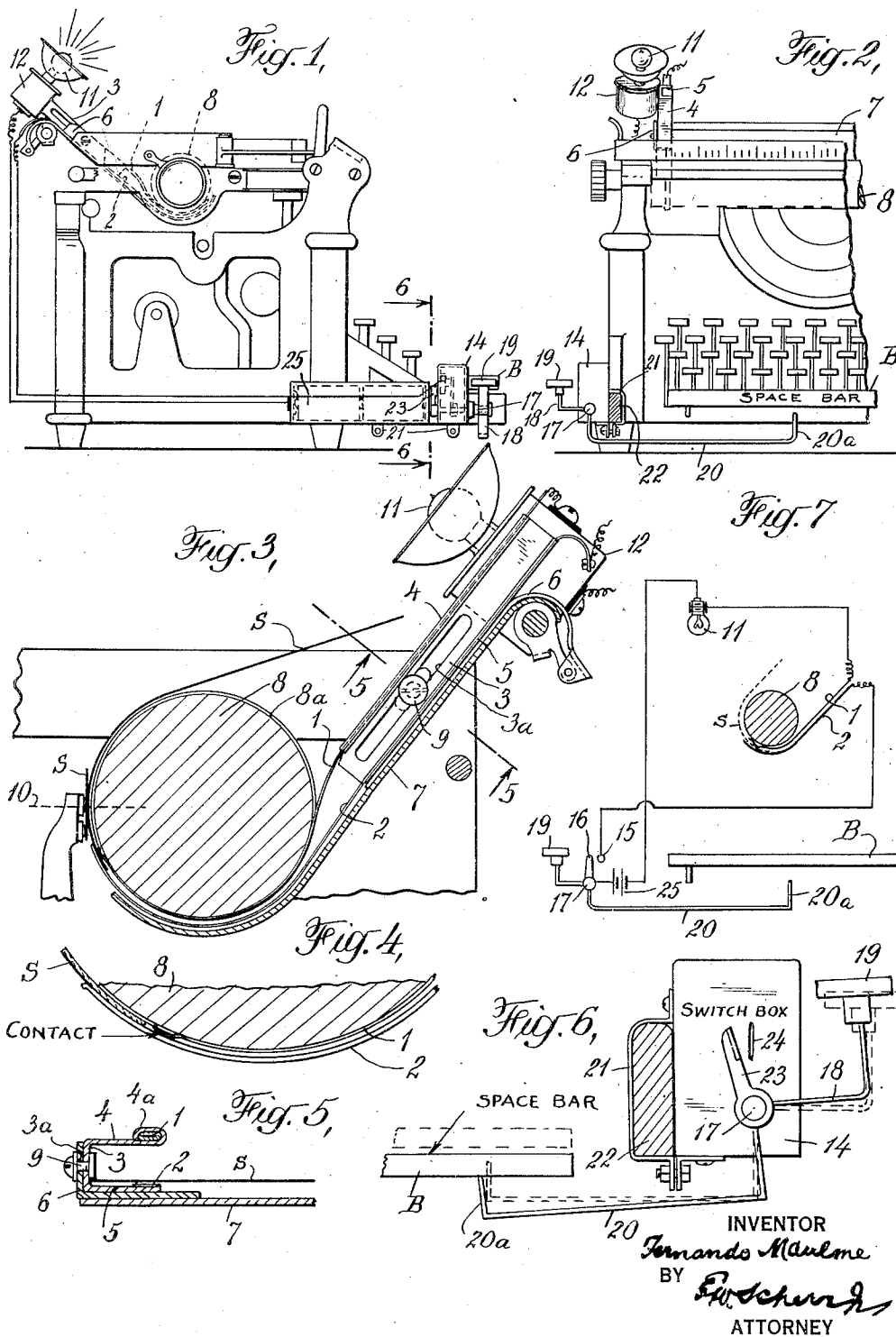
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TYPEWRITER

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TYPEWRITER.

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My present invention relates to improvements in typewriters wherein the typist is automatically notified or signaled at the end line of the page not to begin a new line but to take out the page and insert a new one. There is a capacity for adjustment in the device permitting the typist to choose the height of the bottom margin of the page beyond which the typewriting is not to go. The device once set or adjusted signals the typist when the chosen bottom margin has been reached so that the typist is thereby enabled to keep the bottom margins of all the pages uniform. The foregoing and other features and advantages of my improvements will be evident to those skilled in the art from the following description of the preferred embodiment of my invention as shown in the annexed drawings. These show the invention embodied as an attachment to an existing typewriter as distinguished from a device built into the typewriter at the time of manufacture. Obviously, however, my invention can be applied in either of said ways.

In the drawings, Fig. 1 is a side elevation of a typewriter to which my device has been applied; Fig. 2 is a front elevation of said typewriter so equipped, only the left half of the typewriter being shown, this being sufficient to show all of my device; Fig. 3 is a side elevation on an enlarged scale of the main portion of my device as viewed from the right looking toward the left in Fig. 2, the adjacent parts of the typewriter being shown some in side elevation and others in vertical fore and aft cross section; Fig. 4 is a fragmentary view on a still larger scale of the lower portion of Fig. 3 to show still more clearly the electrical contacts of my device and their cooperation with the sheet or page; Fig. 5 is a transverse section through my device on the line 5—5 in Fig. 3 looking in the direction of the arrows, said section being on an enlarged scale compared to Fig. 3; Fig. 6 shows in elevation the switch box part of my device, the view being taken on the line 6—6 in Fig. 1 looking in the direction of the arrows, the left hand bottom side rail of the typewriter being in vertical section and the rear side of the space bar being shown in elevation; and Fig. 7 is a diagrammatic view of the elements of my device and of the electrical connections between them.

Describing now the illustrated preferred embodiment of my invention, I may say at once that said embodiment consists of two main portions, an upper and a lower, the upper comprising electrical contacts and a signal lamp attachable to the upper part of the typewriter and best shown by itself in Fig. 3; and a lower part best shown by itself in Fig. 6 attachable to the lower part of the typewriter and comprising an electric switch and control key and an extension arm co-operating with the typewriter space bar, and further comprising a casing containing a small dry cell battery shown in side elevation in Fig. 1.

The upper portion of the device consists of two elongated spring metal contacts 1 and 2 lying one on top of the other and being normally kept apart during the typing of the paper sheet S by the thickness of said sheet, the springiness of said contacts causing them to spring together into electrical contact with each other as soon as the bottom edge of the sheet has been completely withdrawn from between them, this normally occurring after the typing has reached the intended bottom line of the page. These contacts extend from a trough-shaped member bent up out of sheet metal attached with its bottom 3 in a vertical plane and with its sides 4 and 5 in horizontal planes to the paper guide 6 (a part of the typewriter) (compare Fig. 5) at the left hand side of the chute 7 (part of the typewriter) for supporting and guiding the paper under the typewriter roller or platen 8. The actual attachment of the trough-like member is by means of a small bolt 9 extending through a hole in the typewriter paper guide 6 and through a longitudinally extending slot 3^a in the so-called bottom 3 of the trough-shaped member, best shown in Figs. 3 and 5, whereby said member and the contacts 1 and 2 supported thereby can be secured in any desired position of longitudinal adjustment relatively to the paper guide 6 and relatively to the horizontal line of attack of the type on the type bars of the typewriter indicated by the dotted line 10 in Fig. 3.

The upper contact 1 projects from and is clamped and supported by the folded over portion 4^a of the part 4 of the trough-shaped member, the clamped portion of said contact being surrounded by insulating material to electrically insulate the contact 1.

Preferably this contact 1 lies in a groove 8^a formed for the purpose extending circumferentially about the platen 8, the sides of this groove serving to prevent lateral displacement of the contact relatively to the platen.

The other contact 2 is directly attached preferably by soldering to the part 5 of the trough-shaped member.

11 is a miniature electric lamp with an appropriate lamp socket 12, the latter being attached by its side to the so-called bottom 3 of the trough-shaped member.

Passing now to the portion of the device shown by itself in Fig. 3 and in relation with other parts in Figs. 1, 2 and 7, 14 is a small box containing a pair of electrical contacts, namely, a fixed contact 15 and a contact 16 supported on a suitably supported rock shaft 17 to be movable to and away from said fixed contact 15, these contacts constituting an electric switch. 18 is a right angle shaped arm integral with the rock shaft 17 projecting through a vertical slot in the side of said box and provided at its free upstanding end with a button 19. 20 is another angular arm integral with the rock shaft and projecting through a slot in the bottom of the box and having upstanding end 20^a located directly under the typewriter space bar B. The box is secured by a clamp-strap 21 to the lower left hand side bar 22 of the typewriter as shown in Figs. 2 and 6.

The space bar and the button 19 are on diametrically opposite sides of the rock shaft 17 so as to have opposite effects in the operation of the electrical contacts 15 and 16, downward motion of the space bar closing said contacts, whereas downward motion of the button or key 19 opens them.

23 is an arm fixed on the rock shaft 17 outside of the switch box adapted to engage a fixed stop 24 to limit the extent of the aforesaid downward movement of the button 19 and the related parts described above. Any other form and location of stop may be employed.

The source of current consists of two small dry cells in a container 25 (Fig. 1) clamped to the lower side bar 22 of the typewriter.

Fig. 7 shows the electrical connections, the platen 8 being shown with the electrical contacts 1 and 2 extending under it held apart by the paper S, said contacts 1 and 2 being in series with the signal lamp 11 and with the electric switch contacts 15 and 16 through the battery. This diagram shows the lamp open-circuited and therefore unlighted, but the moment the space bar B is depressed, as in operating the typewriter, it swings the heretofore described arm 20 downwardly about the rock shaft 17 and moves the contact 16 into engagement with the contact 15; in other words closes the

switch. These contacts 15 and 16 thereafter remain closed during the continued operation of the typewriter, including all succeeding movements of the space bar, but it will be seen from Fig. 7 that even so the lamp 11 will remain dark as long as the electric circuit is kept open by the paper sheet S being typed, due to its being located between the contacts 1 and 2 keeping them separated by the thickness of the sheet of paper. However, when the typist has written on said sheet the last line for which my device has been adjusted or set, the succeeding act of the typist of again operating the line space lever in an attempt to write an additional line on the same sheet will result in additionally feeding the sheet around the platen and will carry the bottom of the sheet completely out from between the contacts 1 and 2 which thereupon spring together due to the inherent springiness of either one or both of them, thereby completing the electrical circuit through the lamp 11 which now lights and remains lighted as a signal to the typist not to type an additional line on that sheet since to do so will invade the space reserved for the uniform bottom margin of this and succeeding sheets typed in said machine, while the adjustment of my device remains the same.

This adjustment, it will be remembered, is readily changed by loosening the bolt 9 and retightening it after bodily sliding the trough-like member lengthwise together with the attached electric contacts 1 and 2 in one direction or the other relatively to the fixed typewriter part to which said member is attached as heretofore described. This adjustment governs the extent or depth of the blank bottom margin of the sheet which when reached in the typing is signaled to the typist by the lighting of the lamp.

The moment another sheet is inserted in the typewriter, the lamp will be extinguished because the contacts 1 and 2 will again be separated by the sheet until that page has been fully typed and its bottom edge has passed out from between the contacts. In case the typist does not immediately insert another sheet and wishes to extinguish the lamp, it is only necessary to depress momentarily the key 19 (compare Fig. 7) to rock the contact 16 away from the contact 15,—in other words, to open the switch and so open the circuit to the lamp. On the other hand, said contacts 15 and 16 will be closed the moment the space bar B is again operated in feeding the sheets through the machine in the normal operation of typewriting.

The foregoing completes the description of the device and its mode of operation which it will be seen is simplicity itself, the mere feeding of the paper sheet into the typewriter in the ordinary way serving to carry it automatically between the contacts 1 and

2, and finally out from between them when the last line has been typed that will leave the desired bottom margin.

Changes and modifications may be made in the foregoing practical embodiment of my present improvement which will nevertheless still be within the spirit of the foregoing description and within the meaning and spirit of the annexed claims and which as such are accordingly intended to be covered thereby.

What I claim is:

1. A typewriter attachment comprising electrical contacts located to be separated by the paper sheet while being passed through the typewriter until the typing nears the bottom of the sheet when the bottom edge of said sheet passes out from between the contacts and they automatically close; a signaling device in circuit with said contacts whereby the signal is operated by the closing of said contacts; and an electric switch in the aforesaid circuit, said switch being operably related to the space bar of the typewriter so as to be closed thereby and being reversely operable manually to open it.

2. A typewriter attachment comprising electrical contacts located to be separated by the paper sheet while being passed through the typewriter until the typing nears the bottom of the sheet when the bottom edge of said sheet passes out from between the contacts and they automatically close; a signaling device in circuit with said contacts whereby the signal is operated by the closing of said contacts; and an electric switch in the aforesaid circuit, said switch being operably related to the space bar of the typewriter so as to be closed thereby and being reversely operable manually to open it.

ing device in circuit with said contacts whereby the signal is operated by the closing of said contacts; and an electric switch in the aforesaid circuit, said switch being operably related to the space bar of the typewriter so as to be closed thereby, and a key connected to said switch so that downward movement given said key operates the switch to open the electric circuit through it.

3. In combination with the platen and type bars of a typewriter, two elongated electrical contact members having curved front ends extending around the under side of the platen forwardly and upwardly to the front thereof where the type bars have their point of contact, said contact members being located one above the other so that the sheet of paper to be typed extends down under the platen and up to the front thereof between said contact members, the front ends of which latter have spring tendency towards each other against the paper located between them, said front ends thereby automatically springing into electrical contact with each other as soon as the bottom edge of the paper passes out from between them; and an electrical signal and circuit controlled by said contacts to signal to the typist that the end of the sheet has been reached.

Signed at New York, in the county of New York and State of New York, this third day of August A. D. 1926.

FERNANDO MAULME.