June 5, 1934. P. R. ROBINSON 1,961,455

TYPEWRITER ATTACHMENT

Filed Sept. 9, 1932

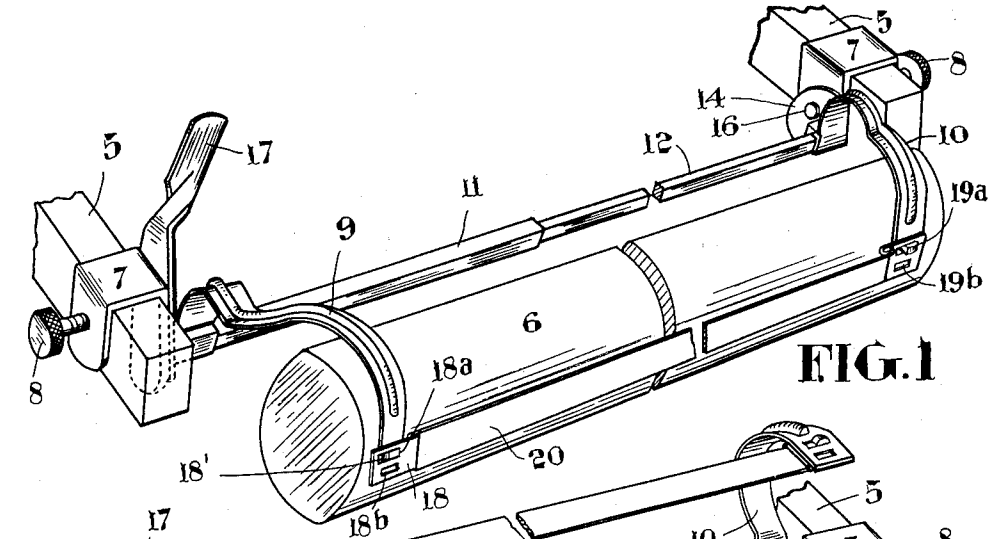


FIG. 1

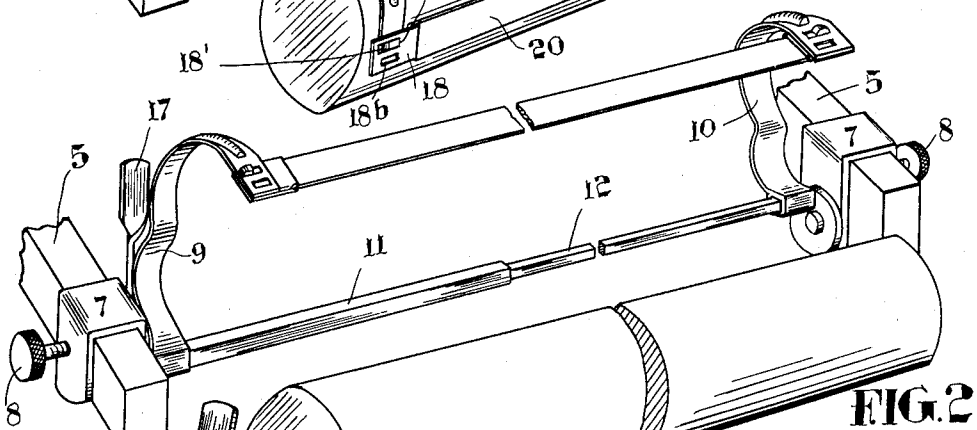


FIG. 2

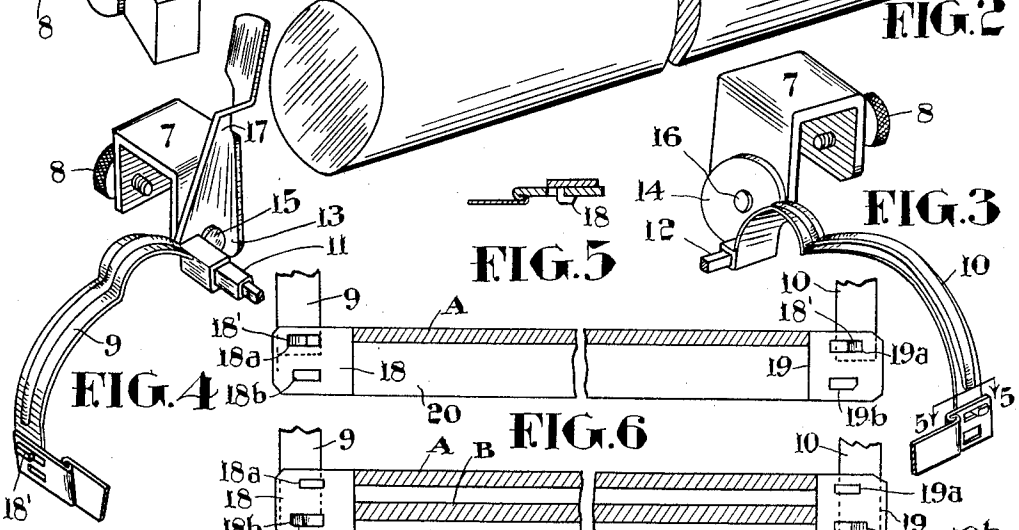


FIG. 3

FIG. 4

FIG. 5

FIG. 6

FIG. 7

FIG. 8

FIG. 9

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TYPEWRITER ATTACHMENT

Phil. R. Robinson, Montreal, Quebec, Canada

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6 Claims. (Cl. 197—153)

This invention relates to typewriters and provides an improved ribbon attachment adapted to be used in place of carbon paper for simultaneously producing two or more typed copies.

One object of this invention is to provide an improved attachment embodying means for pivotally securing the ribbon carrying frame to any standard make of typewriter so that the frame may be readily swung to an operative position in front of the platen or to an out-of-the-way position clear of the platen.

Another object is to provide an improved ribbon carrying frame comprising slidably connected sections arranged so that the length of the frame may be readily adjusted to adapt the frame for use with typewriters of different widths.

A further object is to provide improved means for attaching the ribbon to the frame so that the ribbon is reversible end for end and is adjustable on the frame to provide a greater number of typing levels than is possible with the ribbon attachments now in use.

Other objects, advantages and characteristic features of the invention will be understood from the following detailed description and accompanying drawing, in which

Figure 1 is a perspective view of the invention as it appears when operatively positioned with respect to the frame and platen of a standard typewriting machine.

Figure 2 is a perspective view similar to Fig. 1 but showing the ribbon carrying frame swung to an out-of-the-way position clear of the platen.

Figure 3 is a fragmentary perspective view showing the connection between the ribbon carrying frame and one of the supports by means of which the frame is pivotally attached to the typewriter.

Figure 4 is a fragmentary perspective view similar to Fig. 3 but showing the connection between the opposite end of the frame and the remaining typewriter engaging support.

Figure 5 is a sectional view along the line 5—5 of Fig. 3.

Figures 6 and 7 are views illustrating the manner in which the ribbon is secured in different positions of vertical adjustment on the ribbon carrying frame to provide two different typing levels.

Figures 8 and 9 are views similar to Figs. 6 and 7 but showing the manner in which two additional typing levels are provided when the ribbon is reversed end for end and secured in different positions of vertical adjustment in respect to the ribbon carrying frame.

In the drawing the invention is shown attached to the side frame members 5 of a standard Underwood typewriter, the platen of which appears at 6. As herein illustrated the invention comprises a pair of inverted U-shaped supports 7 which embrace the frame members 5 and are clamped in place by clamping screws 8 which are threaded through the outer legs of the supports. These supports carry between them a lengthwise adjustable ribbon frame including ribbon supporting arms 9 and 10 attached to the outer end portions of a pair of slidably engaged rectangular bars 11 and 12, the bar 12 being a solid bar having its inner end slidably fitted in the bar 11 which is of hollow construction. The outer ends of the bars 11 and 12 are provided, respectively, with attached plates 13 and 14 which, in turn, are pivotally secured to the inner legs of the support 7 by suitable connecting pivots appearing at 15 and 16. The plate 13 at the outer end of the bar 11 is provided with an integral handle extension 17 by means of which the bars 11 and 12, together with the ribbon supporting arms 9 and 10, may be turned from the operative position shown in Fig. 1 to the inoperative position shown in Fig. 2.

The ribbon supporting arms 9 and 10 are curved to conform to the curvature of the platen 6 which they overlie when the parts are positioned as shown in Fig. 1. The free ends of the arms 9 and 10 carry ribbon retaining hooks 18′ adapted to be engaged with suitable slots formed in the attaching plates 18 and 19 provided at opposite ends of the ribbon 20. As herein shown, the attaching plate 18 at one end of the ribbon is provided with elongated parallel slots designated 18*a* and 18*b*. Similar slots designated 19*a* and 19*b* are also formed in the plate 19 provided at the opposite end of the ribbon. This arrangement of hooks and slots for attaching the ends of the ribbon to the arms 9 and 10 permits the ribbon to be reversed end for end and arranged in different positions of vertical adjustment on the arms 9 and 10 so that four different typing levels are provided to ensure full use of the ribbon across its entire width. This will be more clearly understood by reference to Figs. 6 to 9 inclusive wherein I have illustrated the different ways in which the ribbon may be arranged with respect to the ribbon carrying arms to provide the four different typing levels. In Fig. 6 the ribbon 20 is arranged between the arms 9 and

10 so that the hook 18' of the arm 9 engages in the slot 18a of the plate 18 while the hook 18' of the arm 10 engages in the slot 19a of the plate 19. With the ribbon in this position the typing level provided is that indicated by reference character A. If the ribbon is shifted vertically so that the hooks 18' of the arms 9 and 10 are engaged in the hook receiving openings 18b and 19b the typing level provided will be that indicated at B in Fig. 7. If the ribbon is now reversed end for end and arranged so that the hook 18' of the arm 9 engages in the slot 19b of the plate 19 while the hook 18' of the arm 10 engages in the slot 18b of the plate 18, a third typing level will be provided such as that indicated at C in Fig. 8. If the ribbon is now shifted from the position shown in Fig. 8 to that shown in Fig. 9 a fourth typing level is provided as indicated at D since in this last position the hook 18' of arm 9 engages in the slot 19a of the plate 19 while the hook 18' of the arm 10 engages in the slot 18a of the plate 18.

So far as I am aware the feature of providing the ribbon and the ribbon supporting arms with interchangeable complementary fastening members permitting the ribbon to be adjusted vertically on the arms and to be reversed end for end to provide different typing levels is broadly new. This result may obviously be accomplished by the employment of various types of fastenings between the ends of the ribbon and the ribbon supporting arms of the frame or ribbon carrier and I, therefore, do not desire to be limited to the use of the specific fastening means described herein. It is also to be understood that appropriate changes may be made in the pivotal mounting of the ribbon carrying frame to suit different makes of typewriters and these and other changes falling within the scope of the appended claims are considered to be within the scope of this invention.

Having thus described my invention, what I claim is:—

1. A ribbon attachment for typewriters comprising a pair of telescoping bars, plates rigidly secured to the outer ends of said bars, means for attaching said plates to the side frame members of the typwriter, said plates being pivoted to said attaching means so as to be capable of turning movement with respect thereto, and a ribbon supporting arm attached to each bar adjacent the plate at the outer end of the bar.

2. A ribbon attachment for typewriters comprising a pair of telescoping bars, a plate rigidly secured to the outer end of each bar, a U-shaped member pivoted to each plate and adapted to embrace one of the side frame members of the typewriter, and a ribbon carrying arm attached to each bar adjacent the outer end of the bar.

3. The combination with a typewriter of a ribbon attachment therefor comprising a pair of inverted U-shaped supports embracing the side frame members of the typewriter, a pair of plates rotatably secured to the inner arms of said supports, a pair of telescoping bars extending between said plates and having their outer ends rigidly secured thereto, ribbon supporting arms attached to said bars adjacent said plates, one of said plates being provided with a handle extension.

4. The combination with a typewriter of a ribbon attachment therefor comprising a pair of inverted U-shaped supports embracing the side frame members of the typewriter, a pair of telescoping bars having their outer ends connected to and supported by the inner arms of said supports, the connections between the bars and supports being such as to support the bars for swinging movement in a circular path relative to said support, and ribbon supporting arms attached to said bars adjacent said supports.

5. A ribbon attachment for typewriters comprising a pair of opposing plates rotatably secured to the side frame members of the typewriter, a pair of bars having their inner ends telescoping one another and their outer ends rigidly secured to said plates at one side of the pivotal axis of the plates, and ribbon supporting arms attached to the outer portions of said bars at points adjacent said plates.

6. A ribbon attachment for typewriters comprising a ribbon carrying frame equipped with a pair of ribbon retaining hooks and a ribbon having a terminal plate at each end provided with a plurality of spaced parallel slots extending in the lengthwise direction of the ribbon, said hooks and slots being selectively engageable to provide for vertical adjustment of the ribbon on the frame with either longitudinal edge of the ribbon uppermost so that the ribbon may be supported on the frame at different elevations with one edge of the ribbon uppermost to provide one series of typing levels and then reversed end for end and edge for edge and re-applied to the frame in different positions of elevations to provide an additional series of typing levels.

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