Aug. 30, 1938. G. WHELAN 2,128,510

TYPEWRITER RIBBON GUIDE

Filed June 8, 1937

Fig. 1.

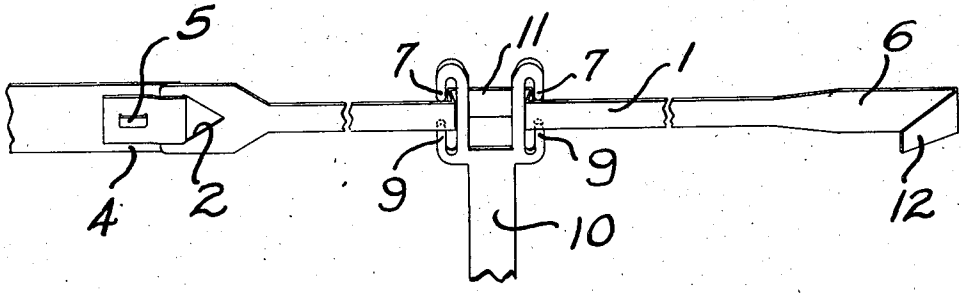
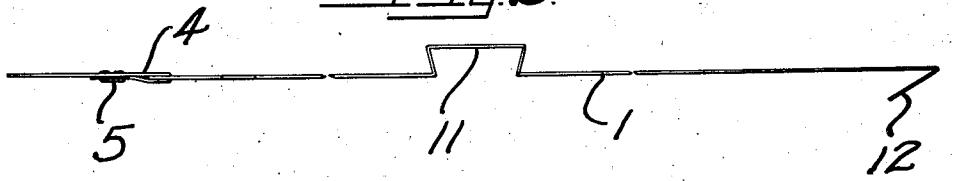


Fig. 2.



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TYPEWRITER RIBBON GUIDE

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7 Claims. (Cl. 197—172)

My invention relates to means for inserting inked ribbons in the ribbon guides of typewriters and similar machines without soiling the hands.

Preferably, as to apparatus, the invention lies in the use of a celluloid strip attached to one end of the ribbon, the strip being of the same width as that of the ribbon at the point of attachment, but being narrowed down for the remainder of its length to a width substantially less than that of the free opening in a ribbon guide, and bent in such a way as to most easily fit the curved path followed by the ribbon therethrough.

In the appended drawing, my celluloid strip is shown attached to the typewriter ribbon ready for insertion in a typewriter or similar device.

I am aware that a number of devices have been patented previously by means of which typewriter ribbons could be inserted in a typewriter without too great soiling of the fingers. Notable among these is the typewriter ribbon disclosed by R. G. Hopkins in United States Patent No. 622,361, wherein is shown a ribbon having at one end a tab formed of cloth or other suitable material sewed directly to the ribbon, and having at the opposite end a second tab cemented thereto by means of which the ribbon might be handled without direct contact with the inked portion. Such a method, however, has the disadvantage of adding an undesirable bulk to the ribbon as it is wound about the ribbon spool, and, more important, has the additional disadvantage common to the insertion of the ribbon itself in the ribbon guide, namely, that the width of tab is too great to be slipped into the guide without bending, which requires manipulation by the operator and further opportunities for soiling the hands. In addition, the bending of the tab may result in such a twisting of the ribbon that it does not pass smoothly and in a single flat layer through the guide.

Another form of guide is that disclosed by Philip Mannino in his United States Patent No. 2,020,152, wherein a strip of cloth at the end of the ribbon is left uninked, and a strip of waxed or otherwise suitably treated paper is wound with the ribbon about the final or outer layer of ribbon upon the spool so that the uninked portion of the ribbon does not come into contact with the inked portion. This form is again subject to the objection of excessive added bulk, and is uneconomical, in that a length of six to eight inches of the ribbon fabric cannot be utilized for typing purposes. In addition, it is necessary to remove the waxed paper separator after partial insertion in the machine, providing an opportunity for the soiling of the typist's fingers.

My invention, however, avoids these difficulties by providing a celluloid segment of such width that it may be inserted in the ribbon guide aperture without bending or otherwise distorting. The celluloid portion is so pre-formed that it is automatically shaped to conform with the path in the ribbon guide through which the ribbon must travel. The flexibility of the celluloid portion permits it to be drawn through the ribbon guide without difficulty after it has been placed in position, and the free end is provided with a hooked portion adapted to engage the empty ribbon spool. In consequence, the celluloid strip may be inserted and the ribbon may be wound upon the free spool without contact of the fingers with the inked portion, and, since there is no necessity for bending the celluloid strip laterally, there is no possibility of the ribbon becoming twisted or caught on the ribbon guide mechanism. In addition, the length of the celluloid strip makes it possible to utilize the inked ribbon for typing purposes within an inch of its end, thereby adding about six inches to the usable portion as compared with an ordinary ribbon, in which approximately that much of the ribbon is never used.

Thus the objects of my invention include the more economical use of the typewriter ribbon by reason of using that portion which heretofore has been wasted, and include also the insertion of new typewriter ribbons within a minimum of trouble and without dirtying the hands of the person inserting the same.

My invention possesses numerous other objects and features of advantage, some of which, together with the foregoing, will be set forth in the following description of specific apparatus embodying and utilizing my novel method. It is therefore to be understood that my method is applicable to other apparatus, and that I do not limit myself, in any way, to the apparatus of the present application, as I may adopt various other apparatus embodiments, utilizing the method, within the scope of the appended claims.

For a more detailed description of my invention reference may be made to the drawing, wherein Fig. 1 shows in perspective my celluloid strip attached to a ribbon for threading through the ribbon guide and Fig. 2 shows a plan view.

At one end of my celluloid strip 1, I have provided a large aperture 2 through which the inked ribbon end 4 is passed and secured back upon itself by a staple 5 or other suitable means. My celluloid strip is of width equal to that of the ribbon in the portion having the aperture 2 formed therein. The opposite end portion 6 may be of

any convenient width equal to or less than that of the inked ribbon 6.

The main body of the strip 1, however, is narrowed to about one-third the width of the end portion through which the aperture 2 is formed, in order that the strip may pass freely between the oppositely positioned prongs 7 and 9 of a typical ribbon guide 10. Ribbon guide 10 serves to direct the ribbon into proper position for the striking thereon of the typewriter keys, in order that inked images of the type faces may be impressed upon paper supported therebehind by the usual platen, not shown in the drawing. This construction is conventional, and my guide strip may be adjusted for use with any comparable mechanism.

I have said that my strip 1 is to be made of celluloid, but any material having similar properties in regard to elasticity and tensile strength may be used as fully equivalent.

Having made strip 1 of the proper width, I then pre-form the strip by creasing the material beyond its elastic limit to create an offset portion 11, parallel to but displaced from the main body of the strip by about $\frac{1}{16}$ of an inch. The free end 6 of the strip may also be creased back upon itself to form a hook 12, which may be inserted in a slot or hole such as is commonly provided in the central hub of ribbon spools. To insert strip 1 in the ribbon guide, it is only necessary to hold one end in one hand and the other end in the other hand, with the offset portion 11 held toward the platen side of the ribbon guide, into which it may then be easily inserted in the position shown in Fig. 1. The hook end 12 may be then connected to the empty ribbon spool and the celluloid ribbon wound thereabout, drawing the ribbon into position for typing. The elasticity of the celluloid strip is such as to cause it to straighten out as soon as tension is supplied by the winding mechanism of the machine, so that no obstacle is interposed to the smooth passage of the guide and ribbon through the machine, yet the permanent deformation will cause it to return to the proper position for subsequent insertions when the tension is removed.

The essential elements in the invention as I have described it are: first, that the celluloid strip be of the same width as the ribbon at their point of juncture so that there may be a smooth line of contact between them, and no protrusions may be left such as would interfere with the passage through the ribbon guide and associated mechanism; second, that the central portion of the strip shall be so narrow as to be freely insertible into the ribbon guide without the necessity of bending or twisting the strip except in that portion which is pre-formed; third, the offset portion must be so shaped in the preforming that it will conform to the shape of the passage through the ribbon guide mechanism which the ribbon is called upon to follow as it passes therethrough, while stretching out under tension to permit being freely drawn through the guide and wound about the empty spool.

It will be apparent from the foregoing description that I have invented a device for inserting inked ribbons in typewriters, adding machines, bookkeeping machines, and others of similar type, without soiling the hands.

By reason of its special shape, it overcomes the necessity for threading the ribbon through the ribbon guide, yet adds no appreciable bulk to the ribbon rolled upon a spool, and does not interfere with the free movement of the ribbon through the guide.

Finally, it permits more economical use of the ribbons, by virtue of permitting use to the ends.

The term "celluloid" as used in this specification and claims includes materials such as "Xylonite," "cellulose acetate," and other materials having approximately the same physical characteristics of moldability and resiliency as celluloid.

I claim:

1. Means for directing an inked ribbon through guides disposed in typewriters and similar devices, comprising a flexible strip fixed to one end of said ribbon, said flexible strip being substantially narrower than said ribbon and having therein an offset portion.

2. Means for threading an inked ribbon through ribbon guides in typewriters and similar devices, comprising a thin flexible strip having an end portion of width equal to that of said ribbon and a main portion substantially narrower, said main portion having a section thereof offset from the remainder.

3. Means for threading inked ribbon through guides provided therefor in typewriters and similar devices, comprising a strip of resilient material having an end portion of width equal to that of said inked ribbon and attached thereto, and a main portion of width substantially less than that of said end portion, said main portion having a segment thereof offset.

4. Means for threading inked ribbon through guides provided therefor in typewriters and similar devices, comprising a strip of resilient material having an end portion of width equal to that of said inked ribbon and attached thereto, a main portion substantially narrower than said end portion, an offset formed in said main portion by permanent deformation thereof, and a hooked portion formed by permanent deformation of the strip in the end opposite that attached to said ribbon.

5. Means for threading an inked ribbon in ribbon guides provided therefor in typewriters and the like, comprising a strip of celluloid having one end attached to and of the same width as said ribbon, having the remainder of said strip substantially narrower, and having a permanently formed offset in said narrow portion so shaped as to fit into said ribbon guides without further bending, said offset portion being temporarily removable by tension in said strip.

6. A device for threading inked ribbon through offset ribbon guides in typewriters and similar machines, comprising a strip of flexible material having formed permanently therein an offset section congruent to the path through said ribbon guides to be followed by said inked ribbon, said shaped section being temporarily restorable to uniplanarity under longitudinal tension in said strip.

7. A device for threading inked ribbon through offset ribbon guides in typewriters and similar machines, comprising a strip of flexible material permanently offset to fit said ribbon guides in the portions thereof through which said inked ribbon is to be threaded, and capable of freely bending to permit passage through said guides, under longitudinal tension applied thereto.

GEORGE WHELAN.