Aug. 19, 1947. J. R. GESER 2,425,794

AUXILIARY RIBBON FEED DEVICE FOR TYPEWRITERS

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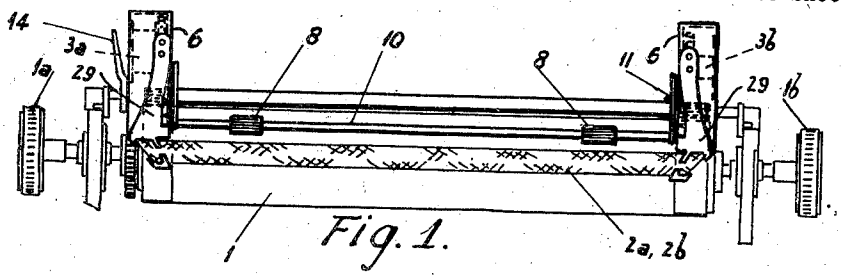

Fig. 1.

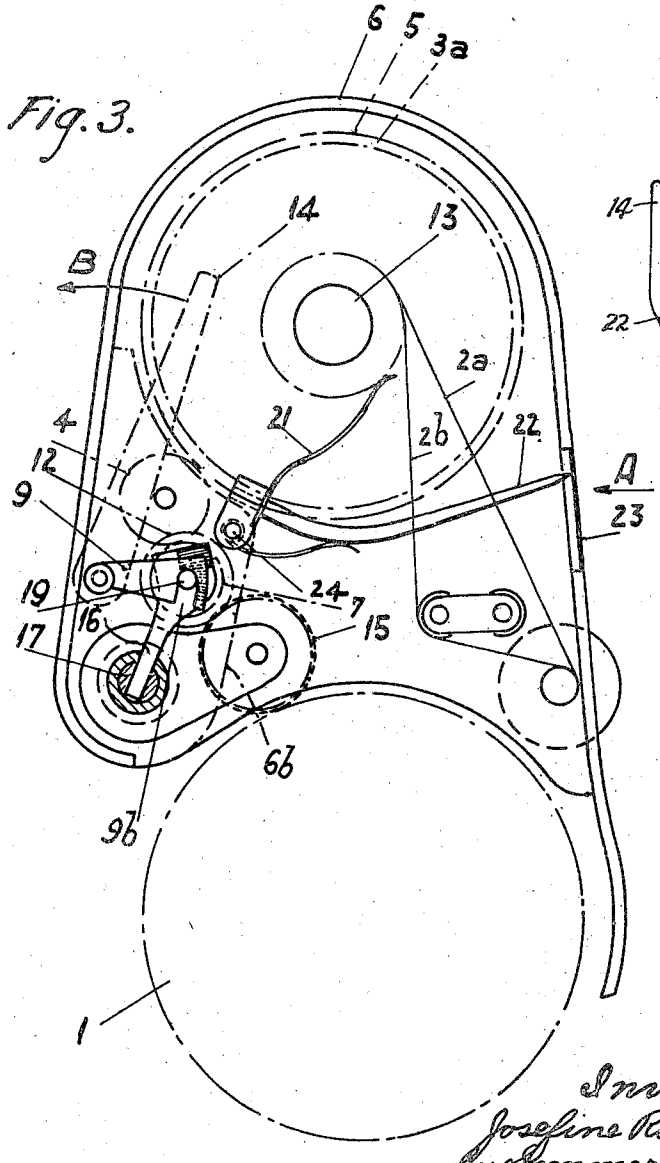

Fig. 3.

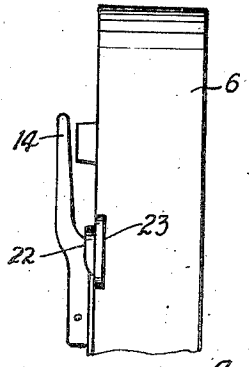

Fig. 4.

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Fig. 2

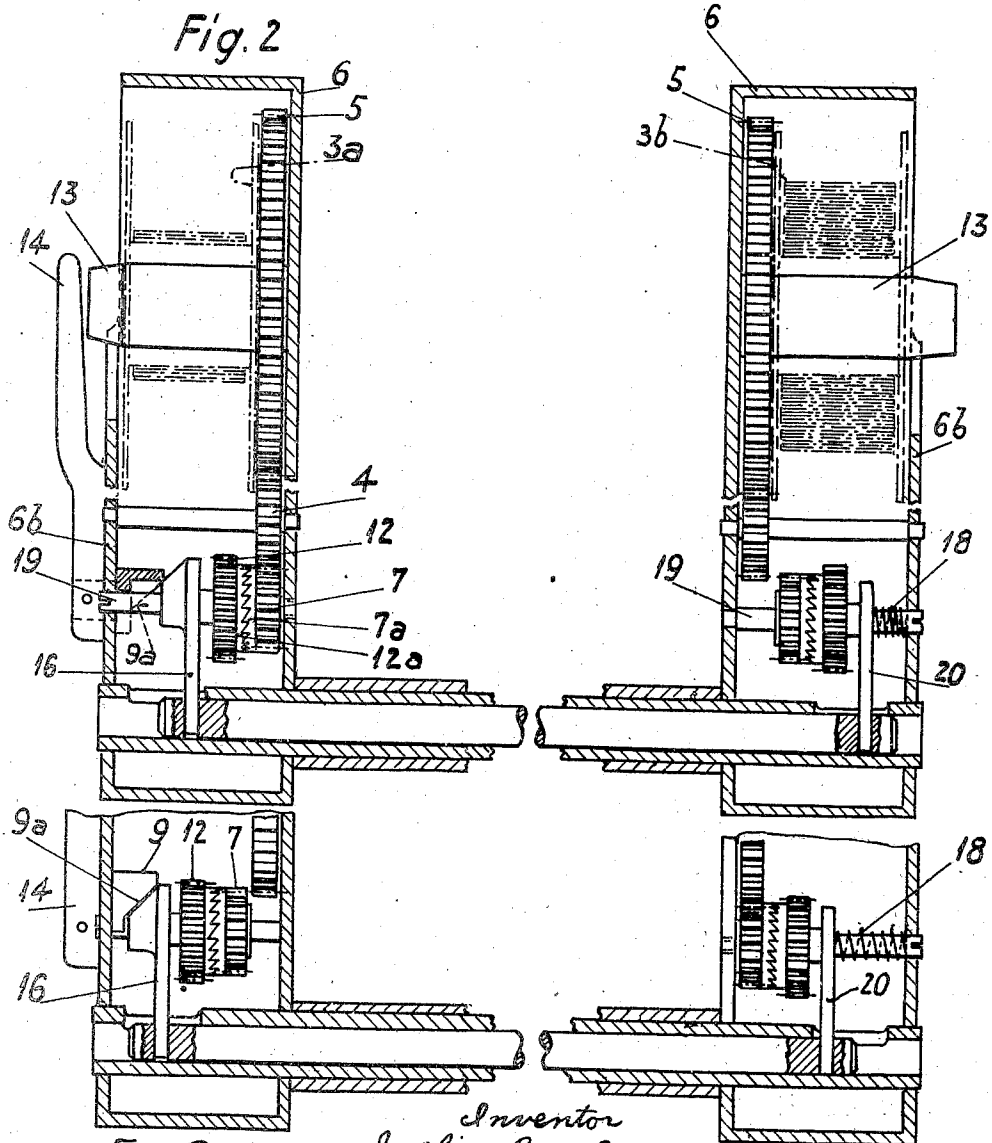

Fig. 2a

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AUXILIARY RIBBON FEED DEVICE FOR TYPEWRITERS

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In Switzerland May 26, 1944

3 Claims. (Cl. 197—153)

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The present invention relates to an attachment for typewriters for producing additional copies without the use of carbon paper, said device being provided with at least one supplementary ribbon that is moved past the platen and adapted to be swung out of writing position. The device is also provided with means for reversing the travel of the supplementary ribbon, said means comprising the usual elements including an axially movable reversing rod and a clutch-actuating member engaging at each end thereof.

In accordance with the invention the movement of the reversing rod used for alternately coupling the ribbon spools with the drive means is effected by at least one manually operated actuating member by means of which the ribbon spool at one side of the device is coupled with the drive means and the ribbon spool at the other side disengaged from the drive means through action of the reversing rod and the clutch-actuating member disposed at that point, whereas when the actuating member is moved in the reverse direction the aforesaid engaging and disengaging procedure is effected in the opposite direction by means of spring power.

The actuating member may be constituted as a lever having an oblique surface that cooperates with the clutch-operating member at the side facing the actuating lever in such fashion that when the actuating member is manipulated, the oblique surface serves to move the clutch-operating member, which is resiliently pressed thereagainst, axially to an extent corresponding to the degree of angularity of said surface so as to effect the engagement or disengagement. The spring which, during the opposite movement of the actuating member, serves to effect the engagement or disengagement, may be disposed on the shaft of the clutch-operating member that lies opposite the clutch-operating member provided with the oblique surface.

The device moreover may be provided with an indicating arrangement adapted to indicate the wound or unwound condition of the ribbon on the spools at any instant so that the person using the device will be reminded in proper time to operate the actuating member.

The indicating arrangement is preferably constituted as a contactor that bears against the ribbon rolled up on one of the two spools and a pointer readily visible to the operator as well as suitable indicia disposed on the side of the ribbon housing facing the typist.

It is of course obvious that the indicating arrangement may be disposed on both sides of the apparatus.

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In lieu of using an indicating arrangement, the approach of the end of the ribbon could also be announced by means of an audible signal.

It is also possible to omit the spring used for reversing and to effect said reversing in either direction by means of a lever.

An illustrative embodiment of the invention is shown in the drawing, where:

Fig. 1 is a complete front view of the device;

Fig. 2 is an enlarged section through the two ribbon housings and through the reverse rod guide tube, the left-hand housing showing the ribbon spool engaged with the drive means, whereas in Fig 2*a* the right-hand housing shows the ribbon spool engaged with the drive means;

Fig. 3 is a side view of the left-hand ribbon housing; and

Fig. 4 shows the indicating arrangement viewed in the direction of the arrow A of Fig. 3.

In the following description of the mechanism only the parts of one side of the device will be described, the parts on the other side of the central plane passing through the device being symmetrical mirror images of the other.

In the drawing, numeral 1 denotes the platen of the typewriter to which the device is applied. The ends of the platen carry turning knobs 1*a* and 1*b*. The reference characters 2*a* and 2*b*, for example, designate the two supplementary ribbons of the device beneath each of which a piece of paper is placed for typewriting operations, these ribbons being superposed and fed back and forth between ordinary ribbon spools 3*a* and 3*b*. The numeral 8 denotes two paper guide rollers which are adapted to be moved axially along a rod 10 in the usual manner. The rod 10 is carried at its ends by arms 11 pivotally supported in the end walls of the housings 6. The drive means for each of the ribbon spools consists of a gear 5 which is driven by means of intermediate gears 4, 7 and 12 and the friction gear roller 15 in engagement with the platen. The side cover plates of the housings 6 are indicated by 6*b* and the ribbon deflector plates by 29. The numerals 12*a* and 7*a* designate the cooperating halves of a dog-clutch disposed intermediate the gears 12 and the gears 7. The function of the dog-clutch 7*a*, 12*a* is to prevent the ribbons 2*a*, 2*b* from becoming slack when the platen 1 is turned in the backward direction. In such case the teeth of the clutch will move relative to each other and change their relative positions.

The actuating member 14 in the embodiment illustrated is pivotally mounted on the side cover plate 6b of the left-hand housing 6, and it has a lug portion 9 having an oblique surface 9a.

In the position of the lever 14 shown in Figs. 2 and 3 the oblique surface 9a of the lug has moved against the clutch-operating member 16 and has moved the latter and hence also the the reversing rod 17 to the right against the force of spring 18 (see right-hand housing). As a result, in the left-hand housing the gear 5 has become engaged with the drive means, and in the right-hand housing the gear 5 located in the latter has become disengaged from the drive means.

If the lever 14 is moved in the direction of arrow B (Fig. 3), the clutch-actuating member 16, urged by the force of spring 18, will move to the left over the oblique surface 9a of the lug 9 causing the clutch to operate in the opposite direction (see Fig. 2a). The lug 9 is provided with a notch 9b, Fig. 3, which, when the reversing rod 17 is moved to the right, abuts against rods 19 and thus arrests the pivotal movement of the lever 14. The right-hand clutch-operating member is indicated by numeral 20.

An indicating arrangement is disposed in the left-hand housing 6 in the embodiment shown, said arrangement comprising a contactor 21, Fig. 3, that bears against the ribbon 2a wound on spool 3a, a pointer 22, and the indicia 23 provided on housing 6. The contactor 21 and the pointer 22 are pivotally mounted on the side of housing 6 by the stud 24. When the ribbon is nearly unwound or nearly wound up, the pointer 22 will occupy one of the terminal positions on the indicia 23 and the operator will be apprised that it is necessary to initiate reversal of the travel of the ribbon by means of the lever 14.

I claim:

1. An attachment for typewriting machines having platens, for producing additional copies of the writing comprising, at least one ribbon, a pair of ribbon spools on which said ribbon is wound and between which the ribbon extends, drive means connected with the platen for moving said ribbon past the platen, means for reversing the direction of movement of the ribbon, said reversing means comprising an axially movable rod, actuating members for moving said rod in opposite directions, one of said actuating members being manually operable and the other spring operated, and means including said rod for drivingly connecting the respective drive means with one or the other of said spools alternately to effect the reversal of the direction of movement of the ribbon.

2. An attachment for typewriting machines having platens for producing additional copies of the writing, comprising, means for rotatably mounting a pair of ribbon spools, a ribbon wound on and extending between said spools, means for guiding said ribbon over the platen, separate drive means for said spools engaging said platen to be driven thereby, means for alternately connecting and disconnecting the drive means with the respective spools for reversing the direction of travel of the ribbon, said means comprising a pair of clutches, an axially movable rod, means connecting the end portions of said rod with elements of said clutches, and a pair of oppositely acting clutch-actuating means for moving said rod axially and connecting and disconnecting the clutch elements respectively, one of said clutch-actuating means being a pivoted lever having an inclined face for pressing the clutch elements and connecting rod in one direction when the lever is pivotally moved in actuating direction, and the other clutch-actuating means comprising a spring for pressing the clutch elements and connecting rod in the opposite direction when the manually operable lever is moved in the opposite direction.

3. An attachment for typewriting machines according to claim 1, and in which the drive means includes a pair of clutches adapted to be alternately engaged and disengaged respectively, and in which the manually operable member is provided with an inclined surface and the other actuating member comprises a spring disposed on a shaft connected with part of the clutch opposite the manually operable actuating member.

JOSEFINE ROSA GESER.

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