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RIBBON GUIDE FOR TYPEWRITERS OR LIKE MACHINES

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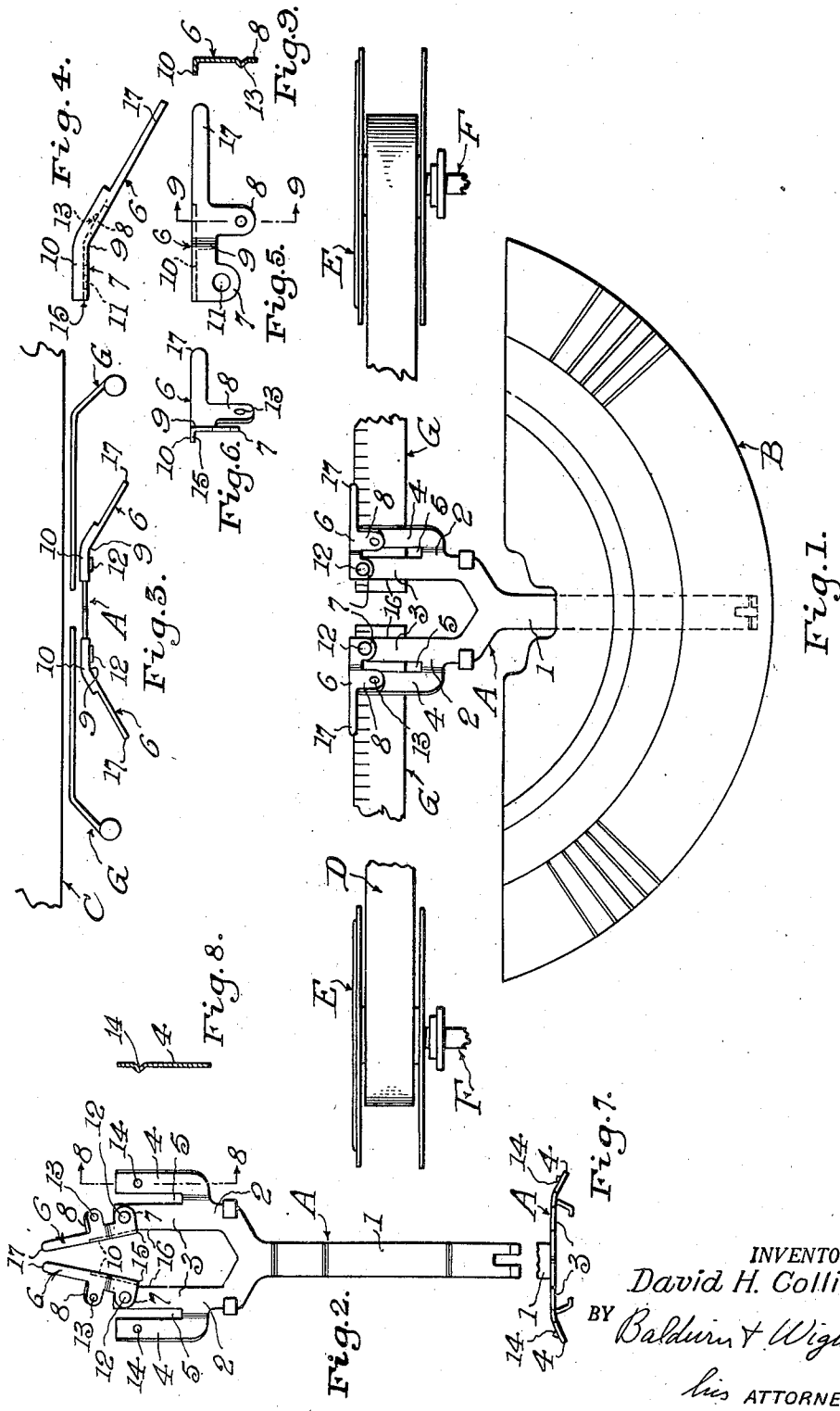


Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.

Fig. 5.

Fig. 6.

Fig. 7.

Fig. 8.

Fig. 9.

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## RIBBON GUIDE FOR TYPEWRITERS OR LIKE MACHINES

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Application May 2, 1946, Serial No. 666,742

7 Claims. (Cl. 197—170)

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This invention relates to ribbon guides for typewriter or like machines, and more particularly to guides of the class referred to which are constructed or equipped to facilitate introducing a ribbon into the guide.

It is well known that commonly used conventional typewriter ribbon guides, for example those embodied in ribbon vibrators, are so constructed as to require the ribbon to be threaded lengthwise through the guide opening or to be slipped edgewise through a narrow entrance slot leading to the guide opening. This requires rather awkward fingering and handling of the ribbon with consequent loss of time and soiling of the operator's fingers. The same difficulties are encountered in removing an old ribbon.

An object of the present invention is to provide a ribbon guide of the general class referred to including improved means such as a latch or retainer for holding the ribbon against displacement from the guide slot, and which may be moved relatively to the other guide part or parts so as to facilitate inserting a ribbon in or removing it from the guide slot.

Another object of the invention is to provide a guide of the character stated in which the latch or retainer is of improved construction, and is so related to other parts of the guide as to be movable between two definite limit positions determined by stops to prevent damaging of the parts, which otherwise could occur if the latch or retainer were inadvertently to be forced beyond its normal range of movement.

A further object of the invention is to provide a ribbon guide of the kind described including simple and effective means for releasably holding the latch or retainer in closed position.

Other objects will become apparent from a reading of the following description, the appended claims, and the accompanying drawing, in which:

Figure 1 is a fragmentary front elevational view showing the improved ribbon guide embodied in a typewriter ribbon vibrator, and showing the relation of these parts to certain conventional parts of a typewriter, ribbon latches or retainers being shown in closed position;

Figure 2 is a front elevational view of the ribbon vibrator, with the ribbon latches or retainers being shown in open or raised position

Figure 3 is a top plan view of the ribbon vibrator, and an associated guide scale and printing cylinder or platen;

Figure 4 is a top plan view of a ribbon latch or retainer, shown on an enlarged scale;

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Figure 5 is a front elevational view of the latch or retainer shown in Figure 4;

Figure 6 is an elevational view of the latch or retainer as seen from the left of Figure 5;

Figure 7 is a top plan view of a ribbon vibrator with latching or retaining fingers omitted;

Figure 8 is a section on the line 8—8 of Figure 2; and

Figure 9 is a section on the line 9—9 of Figure 5.

Ribbon guides having some features in common with the guide disclosed herein are disclosed in the co-pending applications of Arthur E. Davis, Ser. No. 666,743, filed May 2, 1946; Lewis C. Myers and William Graepel, Ser. No. 666,744, filed May 2, 1946; and Lewis C. Myers, Ser. No. 692,971, filed August 26, 1946.

A preferred form of improved ribbon guide constructed in accordance with the invention is shown in Figures 1 and 2 as being embodied in a ribbon vibrator A mounted for vertical reciprocation with respect to a conventional type bar segment B and printing cylinder or platen C. A typewriter ribbon D is shown as extending between ribbon spools E—E mounted respectively on shafts F—F; and a card guide scale is shown at G.

With the exception of the ribbon guide means with which it is provided, the ribbon vibrator A is of the form employed in Royal Standard typewriters, but it may be of other form or construction and it will be understood that guide means constructed in accordance with the invention may be embodied in typewriter parts other than ribbon vibrators and may be used in typewriters of different makes or constructions.

The ribbon vibrator A includes a lower stem portion 1 and two guide proper portions generally designated 2—2 spaced from each other above the stem portion 1 and being disposed in front of the writing line of the platen C. Each guide portion 2 comprises two mutually spaced upstanding finger parts 3 and 4 between which is an open top ribbon guiding slot 5. In use, the ribbon D extends in front of the outer fingers 4—4 through the slots 5—5, and behind the inner fingers 3—3.

The tops of the slots 5—5 may be closed by ribbon latches or retainers 6—6 when a ribbon is in place and the machine is conditioned for operation. Each latch 6 preferably is formed of sheet metal cut and bent or pressed to the novel form shown in detail in Figures 4, 5 and 6. Each latch comprises a plate formed with two spaced depending ears 7 and 8 on opposite sides of an

angle bend 9 shown in Figure 4. A flange 10 extends rearwardly toward the platen C.

The ear 7 is apertured at 11 to receive a pin 12 by which the latch 6 is pivotally mounted at the top of one of the inner fingers 3 so that the latch 6 may be moved selectively to the closed or ribbon-retaining position shown in Figure 1, or to the open position shown in Figure 2. The ear 8 is formed with a button 13 adapted to interengage frictionally in a depression 14 in the associated outer finger 4 of the ribbon vibrator A. The latch 6 is thus releasably held in operative or closed position by the surface catch means 13—14.

The laterally projecting flange 10 serves both to stiffen the latch 6 and as a stop engageable with the top of the associated finger 4 positively to limit closing movement of the latch 6 and prevent its being forced below its proper closed position, which might damage the parts and which also would shorten the slot 5 and interfere with free feeding of the ribbon D. Movement of the finger 6 to open position is limited by engagement of the extreme laterally projecting inner end edge 15 of the flange 10 with the vertical edge 16 of the associated vibrator finger 3, as shown in Figure 2.

The two ribbon latches are of the same construction, with the exception of being reversed as to right and left hand, and each preferably is formed with a finger piece 17 for convenience in manipulation. When a latch 6 is in closed position, the associated finger piece 17 extends away from the guide part 3 and beyond the guide part 4 so as to be disposed outwardly of the guide proper 2 in readily accessible position.

In use, when it is desired to insert a ribbon in the guide slots 5—5, the latches 6—6 are swung to the open positions shown in Figure 2 in which the tops of the slots 5—5 are open and the ears 8—8 are disposed completely out of the lines of the respectively associated slots 5—5. The ribbon D can then be easily inserted in the slots by a downward movement, after which the latches are moved to the closed or retaining positions shown in Figure 1.

It will be seen that the latches 6—6 are of simple form and may easily and economically be manufactured from sheet metal. The limiting stops provided by flanges 10 provide a safeguard against straining or damaging the parts by careless handling. Furthermore, the stops 15 definitely determine the amount of opening movement of the latches needed to swing the ears 8—8 out of the lines of the ribbon slots 5—5 so that the ribbon may be inserted in the slots without encountering the ears 8—8.

The construction disclosed embodies the invention in its preferred form, but it will be understood that changes may be made without departing from the invention as defined in the claims.

I claim:

1. In a ribbon guide for a typewriter or like machine, a guide proper comprising two spaced parts forming the sides of an intervening guide slot; a ribbon latch; means pivotally mounting said latch on one of said parts adjacent an end of said slot to swing to open position leaving said end of the slot substantially unobstructed and to a ribbon-retaining position in which said latch extends across said end of the slot, a lateral projection on said latch engageable with one of said guide proper parts for positively limiting the movement of the latch to closed position; a laterally projecting surface on said latch engageable with the guide proper for limiting the opening movement of said latch; and a finger piece on said latch and which, when said latch is in closed position, extends away from said one of said parts and beyond the other of said parts and is disposed outwardly of the guide proper in readily accessible position.

2. In a ribbon guide for a typewriter or like machine, a guide proper comprising two spaced parts forming the sides of an intervening guide slot; a ribbon latch; means pivotally mounting said latch on one of said parts adjacent an end of said slot to swing to open position leaving said end of the slot substantially unobstructed and to a ribbon-retaining position in which said latch extends across said end of the slot; a laterally projecting surface on said latch engageable with the guide proper for limiting the opening movement of said latch; and a finger piece on said latch and which, when said latch is in closed position, extends away from said one of said parts and beyond the other of said parts and is disposed outwardly of the guide proper in readily accessible position.

3. In a ribbon guide for a typewriter or like machine, a guide proper comprising two spaced parts forming the sides of an intervening guide slot; a ribbon latch; means pivotally mounting said latch on one of said parts adjacent an end of said slot to swing to open position leaving said end of the slot substantially unobstructed and to a ribbon-retaining position in which said latch extends across said end of the slot; and a laterally projecting flange on said latch extending from the pivoted end of the latch across and beyond said slot, said flange having a surface engageable with the end of the other of said parts for positively limiting movement of said latch to closed position, and having an end surface adjacent the pivoted end of the latch engageable with said one of said parts for positively limiting opening movement of said latch.

4. In a ribbon guide for a typewriter or like machine, a guide proper comprising two spaced parts forming the sides of an intervening guide slot; a ribbon latch; means pivotally mounting said latch on one of said parts adjacent an end of said slot to swing to open position leaving said end of the slot substantially unobstructed and to a ribbon-retaining position in which said latch extends across said end of the slot; interengaging surface catch means on the latch and the other of said parts for releasably holding the latch in closed position; and a laterally projecting flange on said latch extending from the pivoted end of the latch across and beyond said slot, said flange having a surface engageable with the end of the other of said parts for positively limiting movement of said latch to closed position, and having an end surface adjacent the pivoted end of the latch engageable with said one of said parts for positively limiting opening movement of said latch.

5. In a ribbon guide for a typewriter or like machine, a guide proper comprising two spaced fingers forming the sides of an intervening guide slot; a ribbon latch; means pivotally mounting said latch on one of said fingers adjacent an end of said slot to swing to open position leaving said end of said slot substantially unobstructed and to a ribbon-retaining position in which said latch extends across said end of the slot; an ear on said latch projecting alongside said slot and overlapping the other of said fingers when said latch is in closed position; interengaging surface catch means on said ear and said other of said fingers for releasably holding said latch in closed

position; and a laterally projecting surface on said latch adapted to engage the edge of said one of said fingers remote from said slot when said latch has been swung to a position in which the entire latch, including said ear thereon, is completely out of the line of said slot.

6. In a ribbon guide for a typewriter or like machine, a guide proper comprising two spaced fingers forming the sides of an intervening guide slot; a ribbon latch; means pivotally mounting said latch on one of said fingers adjacent an end of said slot to swing to open position leaving said end of said slot substantially unobstructed and to a ribbon-retaining position in which said latch extends across said end of the slot; an ear on said latch projecting alongside said slot and overlapping and frictionally engaging the other of said fingers when said latch is in closed position for releasably holding said latch in closed position; and a laterally projecting surface on said latch adapted to engage the edge of said one of said fingers remote from said slot when said latch has been swung to a position in which the entire latch, including said ear thereon, is completely out of the line of said slot.

7. In a ribbon guide for a typewriter or like machine, a guide proper comprising two spaced fingers forming the sides of an intervening guide slot; a ribbon latch; means pivotally mounting said latch on one of said fingers adjacent an end of said slot to swing to open position leaving said



end of said slot substantially unobstructed and to a ribbon-retaining position in which said latch extends across said end of the slot; an ear on said latch projecting alongside said slot and overlapping the other of said fingers when said latch is in closed position; interengaging surface catch means on said ear and said other of said fingers for releasably holding said latch in closed position; and a laterally projecting flange on said latch extending from the pivoted end of the latch across and beyond said slot, said flange having a surface engageable with the end of said other of said fingers for positively limiting movement of said latch to closed position, and having an end surface adjacent said pivotal mounting adapted to engage the edge of said one of said fingers remote from said slot when said latch has been swung to a position in which the entire latch, including said ear thereon, is completely out of the line of said slot.

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