Dec. 21, 1926. 1,611,665

L. C. MYERS

RIBBON RETAINER

Filed Nov. 25, 1925

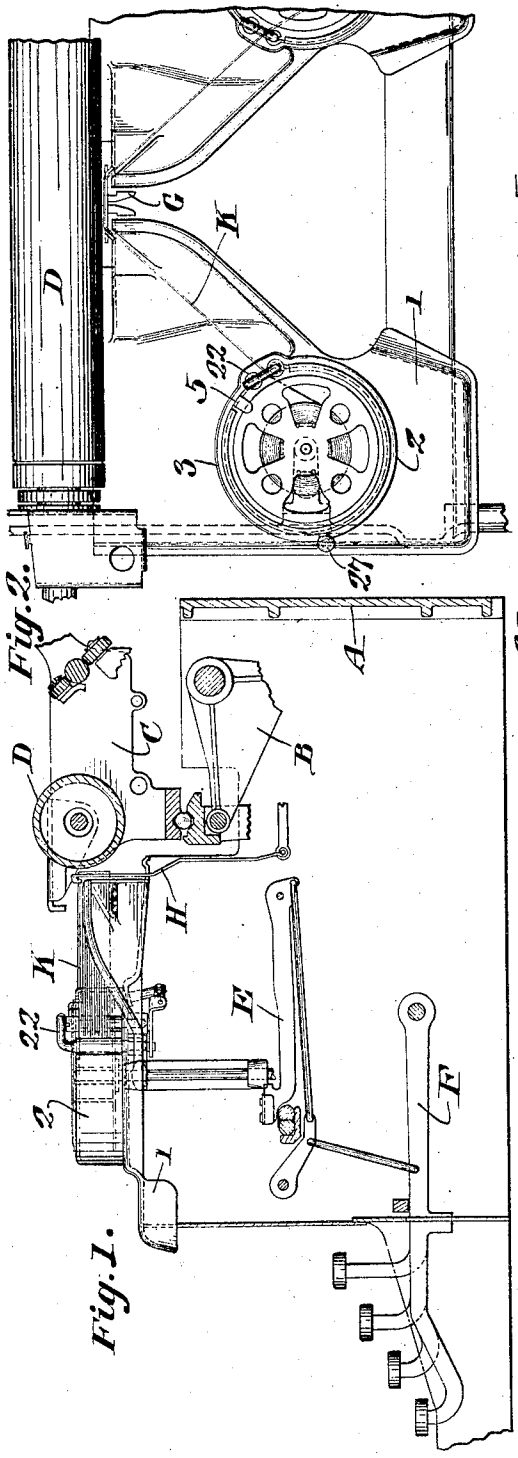

Fig. 1.

Fig. 2.

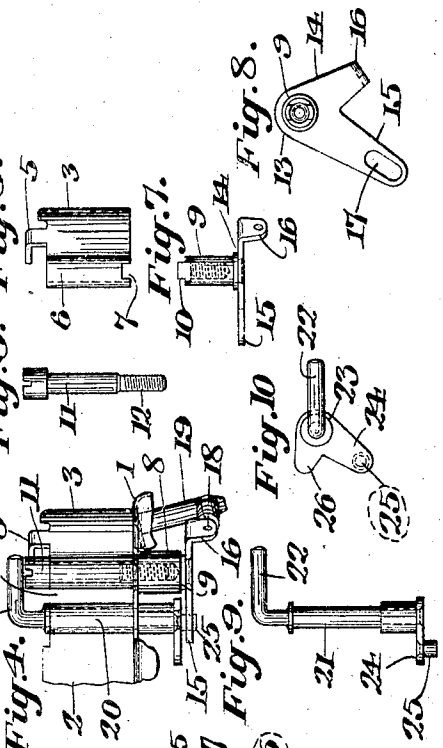

Fig. 4.

Fig. 9.

Fig. 10

Fig. 8.

Fig. 7.

Fig. 6.

Fig. 5.

Fig. 3.

Inventor
L. C. Myers
by his Attorneys
Bredow & Wright

Patented Dec. 21, 1926. 1,611,665

UNITED STATES PATENT OFFICE.

LEWIS C. MYERS, OF FREEPORT, NEW YORK, ASSIGNOR TO ROYAL TYPEWRITER COMPANY, INC., OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

RIBBON RETAINER.

Application filed November 25, 1925. Serial No. 71,390.

In some types of machines the ribbon spools are enclosed in a housing which is open at the top and has a slot at one side through which the ribbon passes from the spool to the vibrator. There is frequently danger of the ribbon becoming disarranged or being pulled from the guide slots, especially where machines are used in schools or other places where they receive rough handling.

This invention relates to simple and efficient means for preventing such disarrangement of the ribbon. Specifically it covers a member which extends across the top of the slot through which the ribbon passes to the vibrator and connections so arranged that when the usual pivoted portion of the ribbon spool housing is swung to one side for the purpose of removing the ribbon that the ribbon retainer which normally overlies the slot will be removed to a position free therefrom so that the ribbon may be readily removed.

The invention is illustrated in a Royal typewriting machine for which it is in some respects especially adapted, but it can be employed in connection with other type of machines and the showing of a specific typewriting machine is to be regarded as merely illustrative and not in any way as limiting the invention.

In the drawings—

Figure 1 is a longitudinal section through the typewriting machine.

Figure 2 is a top plan view of a portion of the same.

Figure 3 is a top plan view of the ribbon housing on a larger scale, with the ribbon spool removed, and showing the parts moved to releasing position in dotted lines.

Figure 4 is a side elevation of the ribbon retainer and operating means.

Figure 5 is a side view of the movable element of the ribbon housing.

Figures 6, 7, and 8 are detail views of the means for holding the movable part of the ribbon housing in position and a portion of the means for operating the ribbon retainer.

Figure 9 is a side elevation of the ribbon retainer alone.

Figure 10 is a top plan view of the same.

The invention is illustrated in a typewriting machine having a main frame A and shift frame B, a carriage C travelling on said shift frame and supporting a platen D, type bars actuated from key levers F through any desired formation of connections, a type guide G, a ribbon vibrator H, and a ribbon K. These parts may all be of any desired type and are illustrated merely to show the relation of the invention to the main elements of a typewriting machine.

Each portion 1 of the top cover plate has associated therewith a ribbon housing. This ribbon housing as illustrated comprises two substantially semi-circular members 2 and 3 of which the member 2 is fixed and preferably integral with the top plate 1. When in closed position these two members contact at one end but their other ends are separated by a space 4 through which the ribbon passes from the spool located in said housing to the ribbon vibrator. The movable member 3 of the ribbon housing has a bent over lug 5 at the top which retains the ribbon spool within the housing when said movable member is in closed position. One end of the movable member 3 is bent into cylindrical form 6 which has a notch 7 cut out of the bottom thereof. On the under side of the top plate 1 is a sleeve 8 which may be integral with the top plate or rigidly attached thereto in any desired fashion. A hollow stud 9 is mounted to rotate freely within the sleeve 8 and its upper end extends through the top plate and has a lug 10 which fits into the notch 7 in the cylindrical portion 6 of the movable member 3. A headed screw 11 passes through the cylindrical portion 6 and has a lower threaded portion 12 which threads into an internal thread in the member 9. This screw holds the parts 3 and 9 in assembled position.

Riveted or otherwise rigidly fastened to the lower end of the member 9 is the bell crank lever 13, the short arm 14 of which has a downturned lug 16, while the long arm 15 has an elongated slot 17 for a purpose hereinafter set forth. To the downturned lug 16 is attached one end of a spring 18, the other end of which is attached to a pin 19 depending from the under side of the top plate. When the movable portion 3 of the housing is moved to open position the bell crank lever 13 will be turned and the spring 18 and its points of attachment are so arranged relatively to the axis about which the movable section turns that this spring 18 passes from a position in which it tends to hold the movable section closed to a posi-

tion in which it tends to hold said member open.

The fixed portion 2 of the ribbon housing has one end bent to form a cylinder 20 in which is mounted a rod 21 having its upper end 22 bent at substantially right angles so that when the parts are in operative position the portion 22 will lie across the top of the opening 4 and prevent the ribbon from being accidentally moved out of this passageway. On the lower end of the rod 21 is rigidly fastened a bell crank lever 23 having a long arm 24 provided with a pin 25 which works in the slot 17 of the bell crank 13. The short arm 26 of this bell crank lever 23 acts as a stop for limiting the movement of the parts and for this purpose contacts with the sleeve 8 when the movable section is moved to its open position.

The operation of the device will be apparent from the above description. When the movable section 3 of the ribbon housing is moved from its closed position by means of the handle 27, the bell crank lever 13 is caused to turn therewith. Through the engagement of the pin 25 with the slot 17 the bell crank lever 23 is also caused to turn and this will move the rod 21 and turn the upper horizontal end 22 thereof to a position in which it is removed from the slot 4. This opening movement of the ribbon housing section also moves the lug 5 to a position free of the ribbon spool. The ribbon spool can therefore be lifted out and the ribbon can be raised through the open top of the slot 4 which is now free. When a new ribbon spool is positioned the movable section is swung back to closed position being held therein if desired by any form of latch mechanism and the end 22 overlies the slot 4 while the lug 5 overlies the ribbon spool so that both ribbon spool and ribbon are prevented from accidental disarrangement.

It will be seen that the invention provides simple and efficient means which act as a ribbon spool retainer and a ribbon retainer and whereby both of said means can be simultaneously moved to or from operative position. It is obvious that various details may be changed without in any way departing from the spirit of the invention, which is to be regarded as limited only by the scope of the appended claims.

I claim:

1. A ribbon spool housing have a passageway for the ribbon and comprising a movable section, means carried thereby for retaining the ribbon spool, and means separate from said section but operated by the movement thereof for normally retaining the ribbon against accidental displacement.

2. A ribbon spool housing comprising fixed and movable sections separated at one point to provide a passageway for the ribbon and means separate from the movable section and normally overlying the top of said passageway to retain the ribbon against accidental displacement but moved to inoperative position by the movement of the movable section.

3. A ribbon spool housing having an open top and a slot in one side for the passage of the ribbon, means normally overlying the top of said slot to prevent accidental displacement of the ribbon, and means for moving said first named means to inoperative position.

4. A ribbon spool housing having a slot in one side for the passage of the ribbon, means normally overlying the top of said slot to prevent accidental displacement of the ribbon, means preventing removal of the ribbon spool, and an actuating device for moving both of said means to inoperative position simultaneously.

5. A ribbon spool housing comprising a movable section and having a slot for the passage of the ribbon, a ribbon guard normally overlying the open top of said slot to prevent accidental disarrangement of the ribbon, and operating connections between the movable section and the ribbon guard for moving the two simultaneously.

6. A ribbon spool housing comprising a movable section and having a slot for the passage of the ribbon, a ribbon guard normally overlying the open top of said slot to prevent accidental disarrangement of the ribbon, and connections between the movable section and the ribbon guard for moving the two simultaneously, said connections including connected levers.

7. A ribbon spool housing having a passageway for the ribbon and comprising means for retaining a ribbon spool, separate means for preventing accidental displacement of the ribbon, and operative connections whereby both of said means are rendered inoperative simultaneously.

8. In ribbon mechanism, means for retaining a ribbon spool in normal position, separate means for preventing accidental displacement of said ribbon as it passes from said spool, and operative connections for moving both of said means to inoperative position simultaneously.

9. In ribbon mechanism, means for retaining a ribbon spool in normal position, means for preventing accidental displacement of said ribbon as it passes from said spool, and connections for moving both of said means to inoperative position simultaneously, said connections including two engaging levers.

In testimony whereof I have hereunto subscribed my name.

LEWIS C. MYERS.