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P. J. SCHULZ ET AL
TYPEWRITER RIBBON ATTACHMENT

2,552,222

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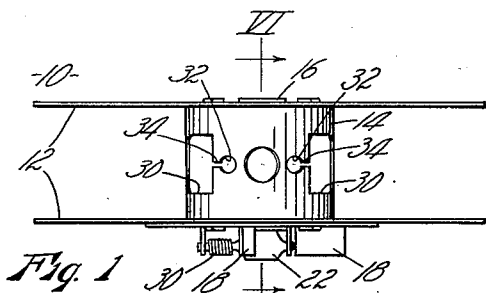


Fig. 1

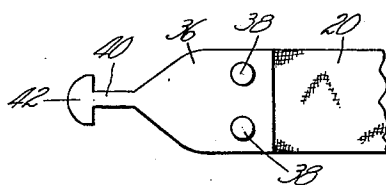


Fig. 2

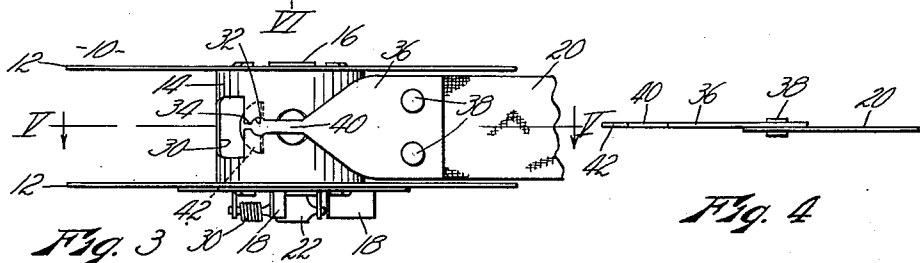


Fig. 3

Fig. 4

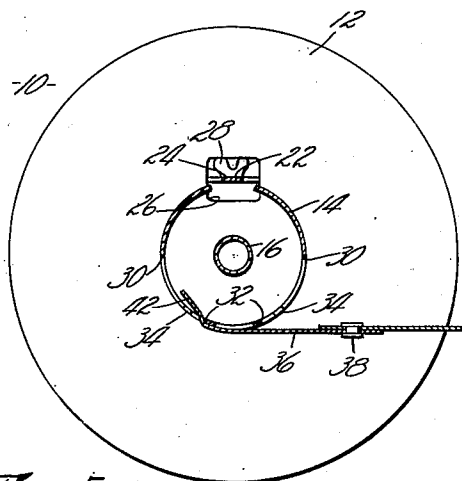


Fig. 5

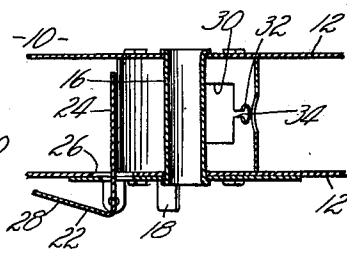


Fig. 6

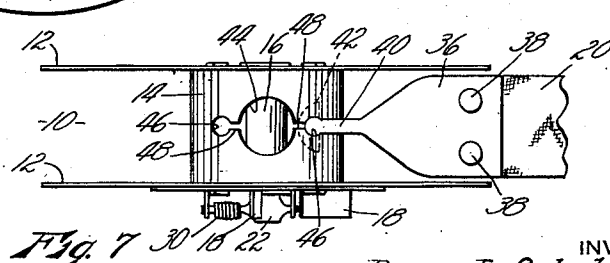


Fig. 7

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TYPEWRITER RIBBON ATTACHMENT

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3 Claims. (Cl. 242—74)

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This invention relates to new and useful improvements in an attaching means for releasably securing a typewriter ribbon to the ribbon spool of a typewriter for reeling thereon, and has as its principal object the provision of a metallic tab adapted to be fixed to the end of the ribbon, said tab having a longitudinally extending portion of relatively narrow width and an enlarged portion at the end of said narrow portion, said enlarged portion being adapted to be releasably engaged in a hole provided therefor in the hub portion of the spool.

Another object is the provision, in a device of the character described, of means for attaching a typewriter ribbon to a ribbon spool for winding about said spool in either direction.

Other objects are simplicity and economy of construction, ease and convenience of operation, and adaptability for use in a wide variety of typewriter ribbon spools.

With these objects in view, as well as other objects which will appear during the course of the specification, reference will now be had to the drawing, wherein:

Figure 1 is an edge view of a typewriter ribbon spool of standard design adapted to receive a ribbon attachment embodying the present invention.

Fig. 2 is a fore view of the end portion of a typewriter ribbon showing the attaching tab secured thereto.

Fig. 3 is an edge view of the ribbon spool showing the ribbon attached thereto.

Fig. 4 is an edge view of the parts shown in Figure 2.

Fig. 5 is a horizontal section taken on line V—V of Figure 3.

Fig. 6 is a fragmentary vertical section taken on line VI—VI of Figure 1.

Fig. 7 is an edge view of a typewriter ribbon spool showing a modified form of ribbon attachment.

Like reference characters apply to similar parts throughout the several views, and the numeral 10 applies to a typewriter ribbon spool of a standard type having spaced apart circular flanges 12 and a substantially tubular hub 14 extending concentrically between said flanges and rigidly attached thereto. A bearing tube 16 of smaller diameter than hub 14 extends concentrically through said hub and is rigidly fixed at its ends to flanges 12. Tube 16 may be rotatably mounted on a spindle of the typewriter. Lugs 18 carried by one of flanges 12 are engaged by the typewriter mechanism to turn the spool.

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Since two spools are normally used in a typewriter, the inked ribbon 20 being simultaneously unwound from one spool and wound on the other spool, means must be provided to reverse the rotation of the spools when the ribbon is unwound completely from either spool. In the spool shown, this is accomplished by a bell crank lever 22 hingeably carried at the outer surface of one of flanges 12. One leg 24 of said lever extends through a hole 26 in said flange and is adapted to be held by the ribbon wound around hub 14 against said hub. When the ribbon is unwound, leg 24 is moved away from hub 14 by spring 30, thus positioning leg 28 of the lever to trip the typewriter mechanism to reverse the rotation of the spools. The specific structure so far disclosed is illustrative only, the only essential element so far as this invention is concerned being a spool having a substantially tubular hub.

The attaching means of the present invention includes a pair of relatively large spaced apart holes 30 extending through the wall of hub 14. In the wall portion between said holes, a hole 32 of relatively small diameter is provided through hub 14 adjacent each of holes 30. A narrow slit 34 is cut in the wall of the hub to connect each of holes 30 with the adjacent hole 32, as shown in Figure 1. Holes 30 and 32, and slits 34, are substantially centered between flanges 12.

A thin, flexible metallic tab 36 is adapted to be attached to the end of an inked ribbon 20 to be wound on spool 10, by rivets 38 or other suitable means. Said tab is provided with an extension 40 of a width less than the diameter of holes 32, and an enlarged head 42 having a width greater than the diameter of the hole 32, but less than the width of holes 30.

The attaching means is used as follows: Grasping tab 36 at its base, the operator inserts head 42 of the tab between flanges 12 and through one of holes 30. Tab 36 is turned so that its plane is parallel to flanges 12, and reduced portion 40 is passed through slit 34 into hole 32. Tab 36 is then turned to move reduced portion 40 out of alignment with slit 34. The tab is then securely attached to the hub, and is prevented from pulling out by the engagement of head 42 with the wall of hub 14 adjacent hole 32. The ribbon may then be wound around hub 14, the pull preferably being away from slit 34. When it is desired to wind the ribbon about the spool in the opposite direction, the other hole 30, slit 34, and hole 32 may be used.

Tab 36 may be sufficiently long that the above described attachment may be made without in-

serting the fingers between flanges, an awkward and troublesome necessity in the commonly used means of attachment. The tab is sufficiently flexible that it may easily be wound about the drum. The operation of the reversing lever 22 is in no way hampered.

In the modified form shown in Figure 7, there is a single hole 44 of relatively large diameter formed through the tubular wall of hub 14, with a hole 46 of smaller diameter provided through said wall at either side of hole 44 and connected therewith by means of a slit 48. The method of attaching tab 36 in holes 46 is identical to that used in the preferred form.

What we claim as our invention is:

1. In a device of the character described, a spool having a substantially tubular hub and radial flanges, said hub having a hole of relatively large size and a hole of relatively small size extending through the wall thereof in spaced apart relation, said wall having a slit formed therein connecting said holes, and a planar tab secured to the end of a ribbon to be wound on said spool, said tab being thinner than said slit and having an enlarged head having a neck adapted to pass through said smaller hole but wider than said slit, and said head being dimensioned to pass through said hole of larger size but not to pass through said hole of smaller size.

2. In a device of the character described, a spool having a substantially tubular hub and radial flanges, said hub having two holes of relatively large size formed through the wall thereof in spaced apart relation, a hole of relatively small size formed through said wall adjacent each of said larger holes and disposed between said larger holes, said hub wall having slits formed therein connecting each of said larger holes with the adjacent smaller hole, and a planar tab thinner than said slits secured to the end of an

inked ribbon to be wound on said spool, said tab having an enlarged head at the end of an axially projecting neck portion, said neck portion being adapted to pass through either of said smaller holes but being wider than the associated slit, and said head being dimensioned to pass through said larger holes but not to pass through said smaller holes.

3. In a device of the character described, a spool having a substantially tubular hub and radial flanges, said hub having a relatively large hole formed through the wall thereof, a relatively small hole formed through said wall at either side of said larger hole, and a slit connecting said larger hole with each of said smaller holes, and a planar tab thinner than said slits secured to the end portion of a ribbon to be wound on said spool, said tab having a longitudinally projecting enlarged head dimensioned to pass through said larger hole but not to pass through said smaller holes, and said head being disposed at the end of a neck portion adapted to pass through said smaller holes but being wider than said slits.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
427,355	McLaren	May 6, 1890
2,032,214	Howell	Feb. 25, 1936

FOREIGN PATENTS

Number	Country	Date
14,997	Great Britain	July 2, 1906
137,136	Austria	Apr. 10, 1934
613,149	Germany	May 13, 1935