Oct. 6, 1964 F. C. WENDT 3,151,723

INKED RIBBON PACKAGE

Filed Feb. 5, 1962 2 Sheets-Sheet 1

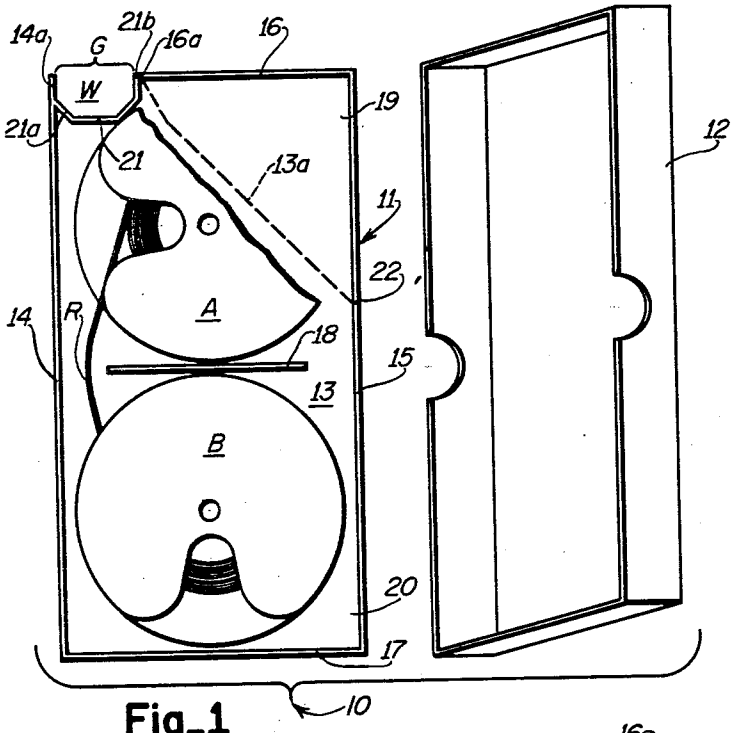


Fig_1

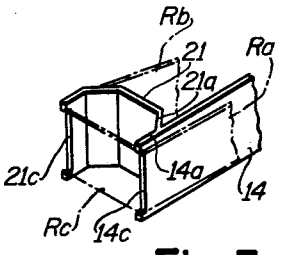


Fig_3

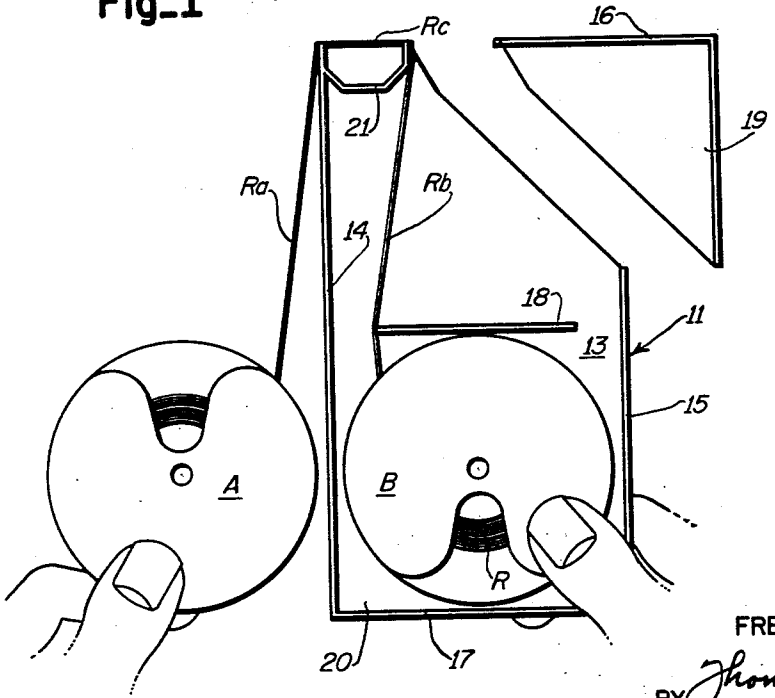


Fig_2

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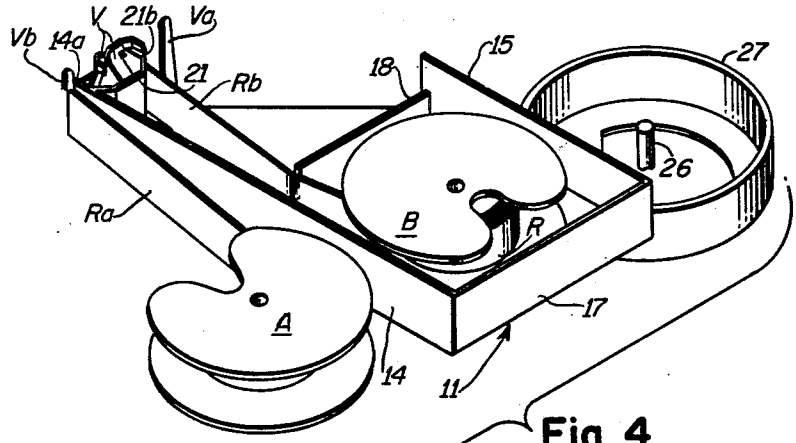
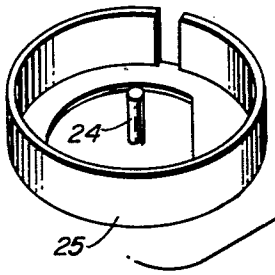


Fig_4



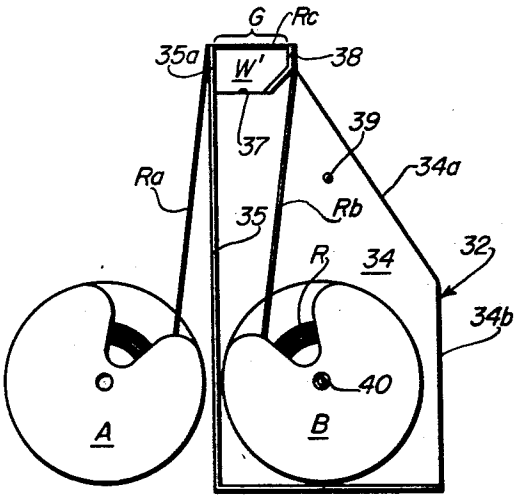


Fig_6

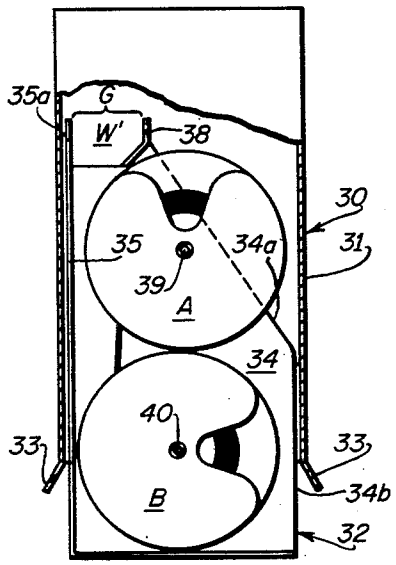


Fig_5

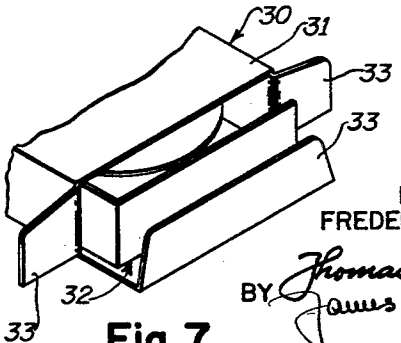


Fig_7

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3,151,723

INKED RIBBON PACKAGE

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Filed Feb. 5, 1962, Ser. No. 171,203
4 Claims. (Cl. 197—151)

This invention relates to an improved inked ribbon package for a typewriter or other types of printing machines.

Ribbon packages of this nature have been in substantial commercial use for some time and are presently available in various forms. All packages of which I am aware have the common and highly desirable characteristic of permitting installation of the ribbon in or removal thereof from the machine without the necessity of the operator's fingers touching the inked ribbon. There are, however, certain disadvantages inherent in these packages. In one form, it is necessary to install those portions of the package, i.e the containers in which the spools are disposed, in the machine when the ribbon spools are mounted on their respective spindles or drive shafts thus, in effect becoming a part of the machine. The containers must be contoured to fit in the permanent spool cups in the machine and thus increase the cost of the package. Also, because of liberal tolerances in the spool drive shaft bearings, it occasionally happens that a spool flange may lose its concentricity with respect to the spool container resulting in the edge of the flange rubbing against the adjacent container wall with sufficient force to cause the spool to bind and thus cause premature operation of the ribbon reversing mechanism in the machine. A package or cartridge of this nature is shown in U.S. patent to Lambert 2,825,450.

In another form of cartridge, a pair of standard spools are co-axially disposed in separable cup-like containers with a portion of the ribbon extending through the container walls to form a loop. The installing operation is effected by first dropping the loop over the ribbon vibrator arms and then separating the containers. In this condition the spools lie in open cups wherein they are retained by pressing the cup walls inwardly against the spool flanges. With the spools so retained they may be moved to position for mounting on the spool drive shafts by releasing the pressure on the cup walls. The great disadvantage inherent in this form of package lies in the result of premature release of pressure on either or both of the cup walls. As the cups must be held with their open ends down, any such premature pressure release permits the spool to drop out of its cup onto the floor or elsewhere with obvious results. A cartridge of this nature is shown in U.S. patent to Holden, 2,999,578.

In the use of either two forms of cartridge referred to above, it is customary, when the spool containers are separated to form a loop to be dropped over the vibrator arms. While it is not particularly difficult to form such a loop, maintaining it is another matter as the ribbon is quite limp so that the loop tends to sag, making it difficult to thread the vibrator arms through it.

It is, accordingly, an object of the invention to provide a ribbon package or cartridge that overcomes the above mentioned disadvantages in a thoroughly practical, efficient and economic manner. Other objects will be in part apparent and in part pointed out hereinafter.

In the drawing wherein I have shown two embodiments of my invention and wherein similar reference characters refer to similar parts throughout the several views:

FIGURE 1 is a top plan view of one form the ribbon package with the top open;

FIGURE 2 is a top plan view of the package illustrative of its condition just before the ribbon is installed on the typewriter ribbon vibrator;

FIGURE 3 is a fragmentary isometric rear view of the upper left corner of the package as shown in FIGURE 2;

FIGURE 4 is an isometric view of the package illustrative of its condition at the time of ribbon installation on the ribbon vibrator;

FIGURE 5 is a top plan view of another form of my ribbon package, portions thereof being broken away and shown in section;

FIGURE 6 is a view similar to FIGURE 2 of this form of the package; and

FIGURE 7 is a fragmentary isometric view of the package in open condition.

With reference to FIGURE 1, the package is generally indicated at **10** and includes a box or container generally indicated at **11**, a pair of ribbon spools A and B preferably disposed therein and a removable top **12** therefor. Spools A and B may be of any well known type and have respectively attached thereto the ends of an inked ribbon R which is preferably partially wound on each of the spools when the package is assembled. Box **11** and top **12** may be made of any suitable non-absorbent material such as coated cardboard or a plastic.

Box **11** includes a bottom **13**, a pair of side walls **14** and **15** and end walls **16** and **17**. If desired, the box may be provided with a center partition **18** which divides the box into two spool compartments **19** and **20** for the reception of spools A and B respectively. Where the spools are loosely disposed in **11**, partition **18** usefully prevents interengagement of the spool with possible resultant damage thereto during handling and shipping.

Wall **16** is foreshortened as at its edge **16***a*, which edge together with the end **14***a* of side wall **14** forms a gap G. Gap G provides an entrance or opening for a well W which is formed interiorly of compartment **19** by a partition **21** suitably secured to or integral with box bottom **13**. One end **21***a* of this partition is suitably secured to or integral with wall **14** at a point short of its end **14***a*, the other end **21***b* of the partition being separably attached in any suitable manner to the end **16***a* of wall **16**. Well W is of sufficient width and depth to receive the vibrator arms and associated parts of a typewriter when the ribbon is being installed as will be pointed out in greater detail hereinafter.

Bottom **13** of box **11** is scored or otherwise weakened along the line **13***a* as is wall **16** at the point of its attachment to partition **21**. Wall **15** is similarly scored or weakened along a vertical line **22**. Thus the entire upper right hand corner of box **11**, as viewed in FIGURE 1, comprising a portion of bottom **13**, wall **16** and the upper portion of wall **15** may be bent or broken away from the rest of box **11**. In either event the edge of end **21***b* of well partition **21** is exposed to provide one abutment or support for ribbon R during its installation, wall end **14***a* affording another support for the ribbon, all as will be more fully described below. It should be noted, with reference to FIGURE 3, that wall end **14***a* is provided with a notch **14***c* while partition end **21***b* has a notch **21***c*, these two notches being slightly wider than ribbon R and comprising a guide and support for the ribbon during its installation back of the vibrator arms, all as will be given a more detailed description hereinbelow.

It will now appear that box **11** as constituted by its several component parts provides a simple, inexpensive and relatively rugged container for the ribbon spools and, as will now be described comprises an applicator for quickly installing the inked ribbon on the vibrator mechanism without the operator's fingers touching the ribbon.

When it is desired to install the inked ribbon, top **12** is removed to expose the inside of box **11** and permit access to box corner **19** (FIGURE 2). The box corner

is then broken away from the box along lines **16***a* and **22** and either bent or preferably broken away from box bottom **13** along line **13***a*, in either event exposing the edge of partition end **21***b*. With the box in this condition the operator grasps the bottom of the box and the top of spool B between thumb and fingers of the right hand and, with his left hand, removes spool A from the box to the position shown. In so doing he trains ribbon R over the well opening G into notches **21***c* and **14***c* and against partition and wall ends **21***a* and **14***a* respectively, thus spanning gap G which forms the opening to well W. With both spools thus grasped a loop is formed comprising runs R*a*, R*b* and end R*c*, these three portions of the loop being in a taut condition that permits quick and easy installation.

With spools A and B so held and the loop so formed, box **11** becomes, in effect, an applicator for placing the ribbon loop over the vibrator arms V as shown in FIGURE 4. Thus the operator moves box **11** and the loop toward and over the vibrator arms and then lowers it so as to insert the ribbon behind the arms with the loop runs or sides R*a* and R*b* extending through the vibrator eyes V*a* and V*b*. During this operation, vibrator arms V extend into well W which is of sufficient depth to accommodate the arms. Furthermore, this operation is easily and quickly effected because the looped ribbon is in taut condition rather than the limp drooping condition which characterizes the loop in the use of the above mentioned patented packages and because the ribbon is supported against vertical movement relative to the box by virtue of its disposition in notches **21***c* and **14***c* (FIGURE 3).

With the ribbon loop so installed, the operator next places spool A on its drive shaft **24** in spool cup **25**. He then removes spool B from box **11** in any convenient manner and mounts it on its drive shaft **26** in spool cup **27**. The ribbon is thus completely installed in a quick and stainless manner. The box or applicator can be discarded or reloaded and reused as desired.

In the form shown in FIGURES 5, 6 and 7 the package is generally indicated at **30** and comprises a box **31** which slidably receives and contains a spool holder and ribbon applicator generally indicated at **32**. Box **31** is preferably of the conventional end opening type and is accordingly provided with the usual closing flaps **33** (FIGURE 7).

Applicator **32**, which may be a stamping, molding or formed from cardboard or other suitable material, includes a bottom **34**, a side wall **35** and an end wall. The inner end of bottom **34** is cut away to form a recess **37** and an upwardly projecting wall or partition **38** integral with bottom **34** is provided adjacent the recess. Wall **38** and the inner end **35***a* of wall **35** thus form a well W′ which is identical in purpose to well W in box **11** (FIGURE 1). The ends of walls **35** and **38** are provided with notches (not shown) which are similar in form and in purpose to notches **14***c* and **21***c* (FIGURE 3).

As shown in FIGURE 6, applicator bottom **34** preferably and conveniently is trapezoidal in form thus having an angled edge **34***a* extending from wall **38** to side **34***b* of bottom **34** which, in effect, provides a cut-out at the inner right hand corner of the applicator which permits ready and easy access to spool A (see FIGURE 5) after the applicator **32** has been completely withdrawn from its box **31**. If desired, a pair of posts **39** and **40** projecting from bottom **34** may be provided to receive and hold spools A and B in place on the applicator.

It may now be seen that after the applicator has been removed from its box, spool A may be removed from its FIGURE 5 position to that shown in FIGURE 6 in the same manner as that described in connection with box **11** (FIGURE 2) so that ribbon R tautly spans the gap G at the entrance to well W′. Thereafter the ribbon is applied to the vibrator V (FIGURE 4) in exactly the same manner as hereinabove described.

It will now appear that I have provided an inked ribbon package for a typewriter or the like that attains the objects set forth above in a thoroughly practical, efficient and economical manner.

The foregoing is, of course, to be interpreted as illustrative and not in a limiting sense, the scope of the invention being defined in the appended claims.

I claim:

1. An inked ribbon package for installing a ribbon on the vibrator arms of a typewriter without finger-touching the ribbon, in combination,

a disposable container for releasably retaining a pair of ribbon spools, each having a portion or ribbon wound thereon and lying adjacent one another with their axes parallel,

means at one end of said container forming a well the sides of which lie in parallel planes parallel to the vertical plane passing through the axes of said spools, said well sides defining a gap whose width is in excess of that of said vibrator arms, and

means forming a displaceable corner on said container at the end thereof opposite said well thereby to permit ready access to one of said spools for manual removal thereof without touching the inked ribbon wound thereon so that the ribbon may be trained across the well sides and tautened thereover to form a loop which may be installed in the vibrator arms.

2. A package according to claim 1 including means forming a partition in said container to divide said container into two compartments for respectively receiving said spools.

3. A package according to claim 1 wherein the outer ends of said well sides are each provided with a guide notch slightly wider than the ribbon trained across said gap.

4. A package according to claim 1 wherein said container is open on one side and removable means to close said open side.

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