United States Patent

[11] **3,581,864**

[72] Inventor **Walter D. Landgraf**
9628 S. Kildare Ave., Oak Lawn, Ill. 60453

[21] Appl. No. **785,935**
[22] Filed **Dec. 23, 1968**
[45] Patented **June 1, 1971**

[54] **RIBBON LOCK FOR TYPEWRITER SPOOLS**
1 Claim, 6 Drawing Figs.

[52] **U.S. Cl.** **197/175,** 197/151
[51] **Int. Cl.** **B41j 35/00,** B41j 33/14
[50] **Field of Search** 197/175, 151

[56] **References Cited**

UNITED STATES PATENTS

3,094,204	6/1963	Landgraf	197/151
3,151,724	10/1964	Ross et al.	197/151
3,195,828	7/1965	Kuckhoff et al.	244/74.1
3,260,344	7/1966	Doyle	197/151
3,425,532	2/1969	Dannatt	197/151

Primary Examiner—Ernest T. Wright, Jr.
Assistant Examiner—Stephen C. Pellegrino
Attorney—Hurvitz, Rose & Greene

ABSTRACT: A typewriter ribbon spooling arrangement comprising two spools joined by an open bridging channel through which the ribbon passes, and which can be broken to enable installation of the spools in a typewriter, wherein integral hinged covers are provided for the channels, which prevent transverse emergence of the ribbon from the channels.

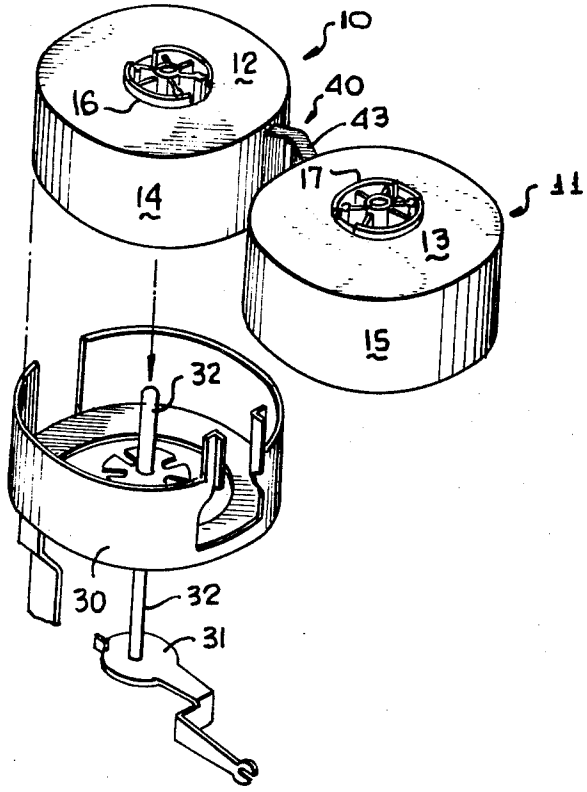


FIG.1

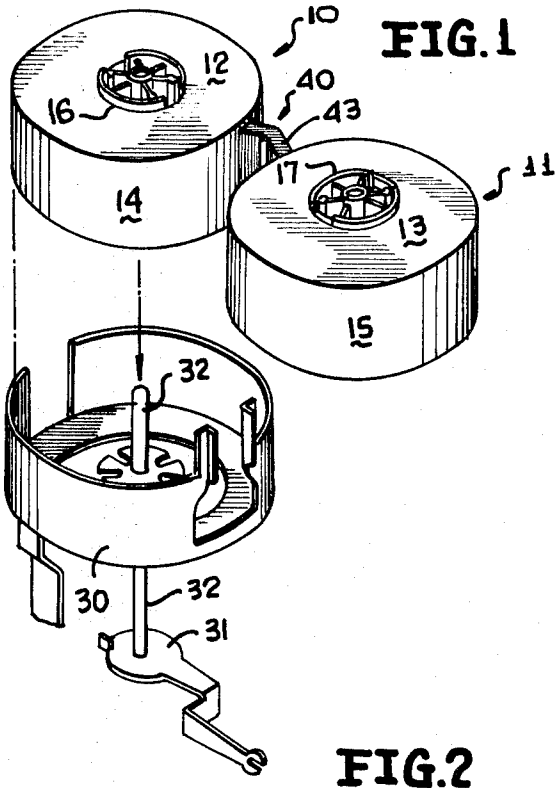


FIG.4

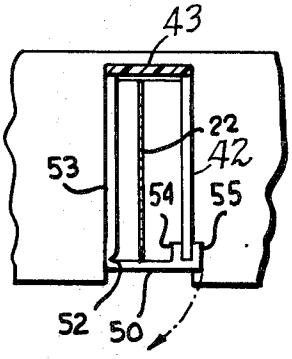


FIG.5

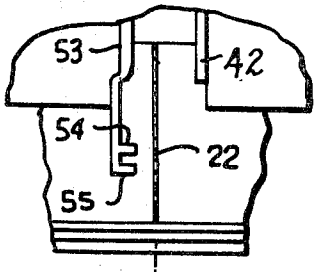


FIG.2

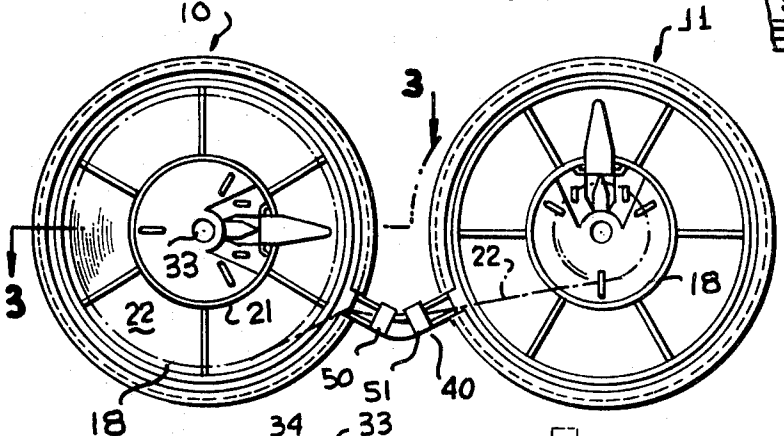
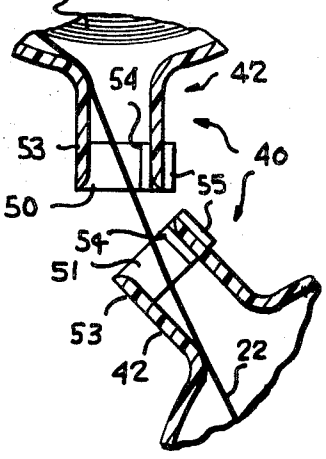


FIG.6



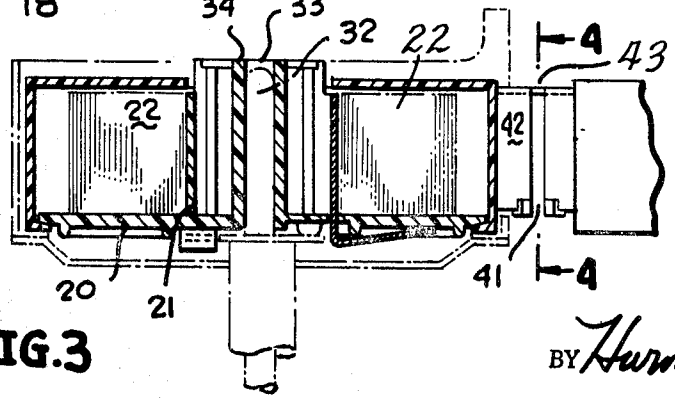


FIG.3

INVENTOR
WALTER D. LANDGRAF

BY Hurwitz, Rose & Greene

ATTORNEYS

RIBBON LOCK FOR TYPEWRITER SPOOLS

BACKGROUND OF THE INVENTION

In my prior U.S. Pat. No. 3,093,231, issued June 11, 1963, I have disclosed a double spool and cup arrangement in which two spools are joined by an elongated member providing a channel, open on one side, which join the two spools. It is requisite that the channels be open to permit threading of ribbons, but it is desirable that there be provided means for retaining the ribbon in the channel when such retention is desired. No device for this purpose has heretofore been available. I have devised a simple hinged channel cover, fabricated of the same plastic material as is the spool and its cups and formed integrally therewith, the hinge joint being provided as a thinned portion of the material of the hinge.

SUMMARY OF THE INVENTION

A hinge and cover for a channel made of resinous or moldable plastic material, the hinge and cover being integral with the channel and made wholly of the same material as the channel.

BRIEF DESCRIPTION OF THE DRAWING

FIG. 1 is a view in perspective of a spool arrangement to which the hinge of this invention is applied;

FIG. 2 is a bottom view in plan of a preferred embodiment of the invention;

FIG. 3 is a sectional view taken on the line 3–3 of FIG. 2;

FIG. 4 is a view in section taken on the line 4–4 of FIG. 3, with the hinge closed;

FIG. 5 is a view taken on the line 4–4 of FIG. 3, but showing the hinge open; and

FIG. 6 is a view in plan showing two separated spools and the relation of the hinges thereto.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to the drawing, the reference numeral **10** denotes one cup and the reference numeral **11** another cup of a twin cup inked ribbon cartridge. The cups **10** and **11** each include bases **12, 13**, cylindrical walls **14, 15**, and axial openings **16, 17**, in the bases respectively.

The spool elements **18** include disc-shaped flanges **20** (FIG. 3) acting as cover plates which have slightly smaller diameters than the inner diameters of cylindrical walls **14, 15**, and hence fit closely, but rotationally therein. Extending centrally from each flange **20** is a walled hub **21**, on which may be wound a ribbon **22**.

The ribbon spools of the present invention are adapted to be inserted in the ribbon wells **30** of certain commercial typewriters, to which are secured mechanisms **31** for actuating the spools when the typewriter keys are actuated and the carriage feeds. The latter mechanism includes a pin **32** which extends into a mating opening **33** in a boss **34** located interiorly of hub **21**.

The above-described structure, lines **2—20** is conventional and is fully described and illustrated in my prior U.S. Pat. No. 3,093,231.

The cups **14, 15** are joined by an elongated bridging element **40**, which provides a narrow channel, open at its bottom, which guides the ribbon **22** in passing from one spool **18** to the other. In order to install the spools **18** and cups **10, 11** in a typewriter, the bridging element **40** is separated at a point centrally of the bridging element **40**, at which portions **41** of the sidewalls **42** are removed, leaving only the top wall **43** of the channel, and thereby providing a weak spot, easily broken away.

It is then desired that a removable closure **50** be provided for the channel **40**, to support the ribbon **22** at the underside of the channel **40**. The closure **50** may be removed or opened to permit threading of replacement ribbons **22**, but otherwise can remain closed. This provision constitutes the essence of the invention.

Two hinged closures are provided, one on either side of opening **41**, as at **50, 51**. Each closure **50, 51** is hinged by providing a thinned or weakened portion of the hinge material at its junction with a wall **53** of channel **41** (FIG. 4). The closure **50, 51** extends across the open channel and terminates in two parallel walls **54, 55**, extending perpendicularly of the main body of the closure **50, 51** and separated by a distance slightly less than the thickness of a channel wall **42**, and positioned to straddle the channel wall **42** (FIG. 6) when the closures **50** or **51** is in closed condition. It is then found that the closure **50** or **51** lock tight, but can be readily opened by using the fingernails, when the open condition is required.

I claim:

1. A typewriter ribbon spool and cup arrangement including a pair of cups having a ribbon extending between said cups,

a channel for said ribbon extending between said cups and including two sidewalls and a top wall, leaving an open bottom,

a closure for said open bottom having a closure wall extending between said sidewalls at the bottom of said channel, said closure being integral with one of the sidewalls and fabricated of the same material as said one of said sidewalls, said closure at said one of said sidewalls being weakened to provide a hinge, said closure at the other of said sidewalls having two parallel legs extending at right angles to said closure wall and separated by a distance arranged and adapted to only frictionally engage said other of said sidewalls.