US 20030052028A1

(19) United States

(12) Patent Application Publication (10) Pub. No.: US 2003/0052028 A1

Lei (43) Pub. Date: Mar. 20, 2003

(54) FLAT PACKAGE FOR FIBER

(75) Inventor: I-Shun Lei, Shih-Chih City (TW)

Correspondence Address:
BACON & THOMAS, PLLC
625 SLATERS LANE
FOURTH FLOOR
ALEXANDRIA, VA 22314

(73) Assignee: FiberCom Optics Communication Corp., Taipei Hsien (TW)

(21) Appl. No.: 09/903,540

(22) Filed: Jul. 13, 2001

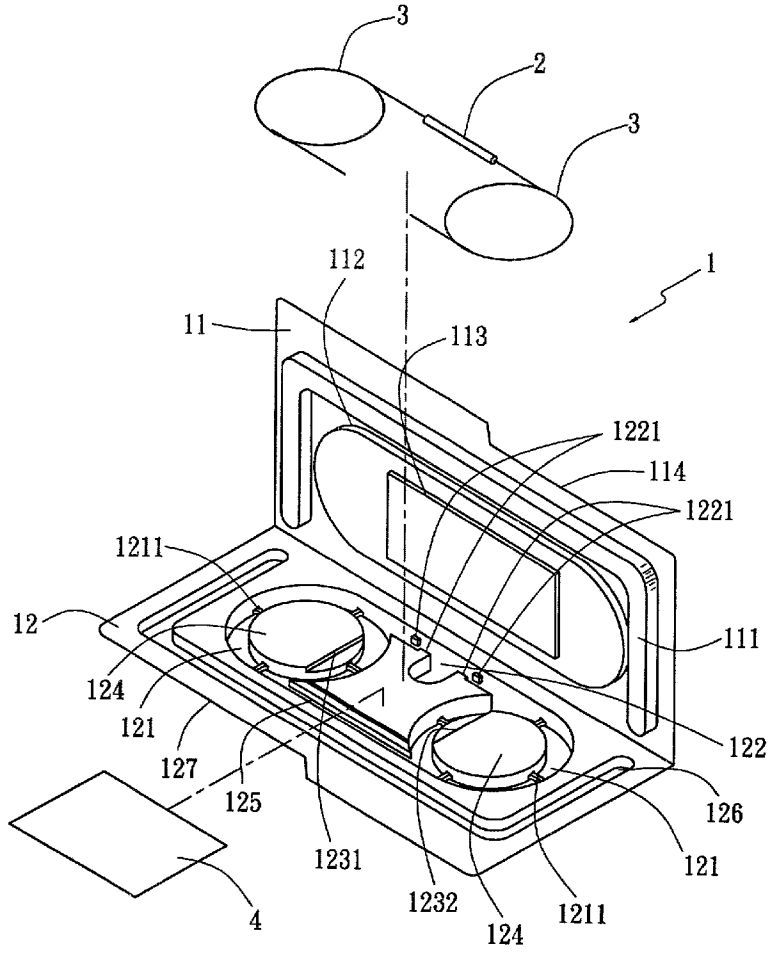
Publication Classification

(51) Int. Cl.[7] B65H 54/46; B65D 85/00

(52) U.S. Cl. 206/388

(57) ABSTRACT

The present creation provides a flat package for fiber made of a transparent material, in which a lateral groove is provided for accepting a fiber tube, and two ring grooves are provided for accepting the winding fiber; the end of the fiber can be put in another lateral groove for preventing from being cut when the package is closed; a specification sheet can be put in the center of the package before the package is closed; a flange and a groove are provided respectively on the upper cover and the lower cover for closing of the package.



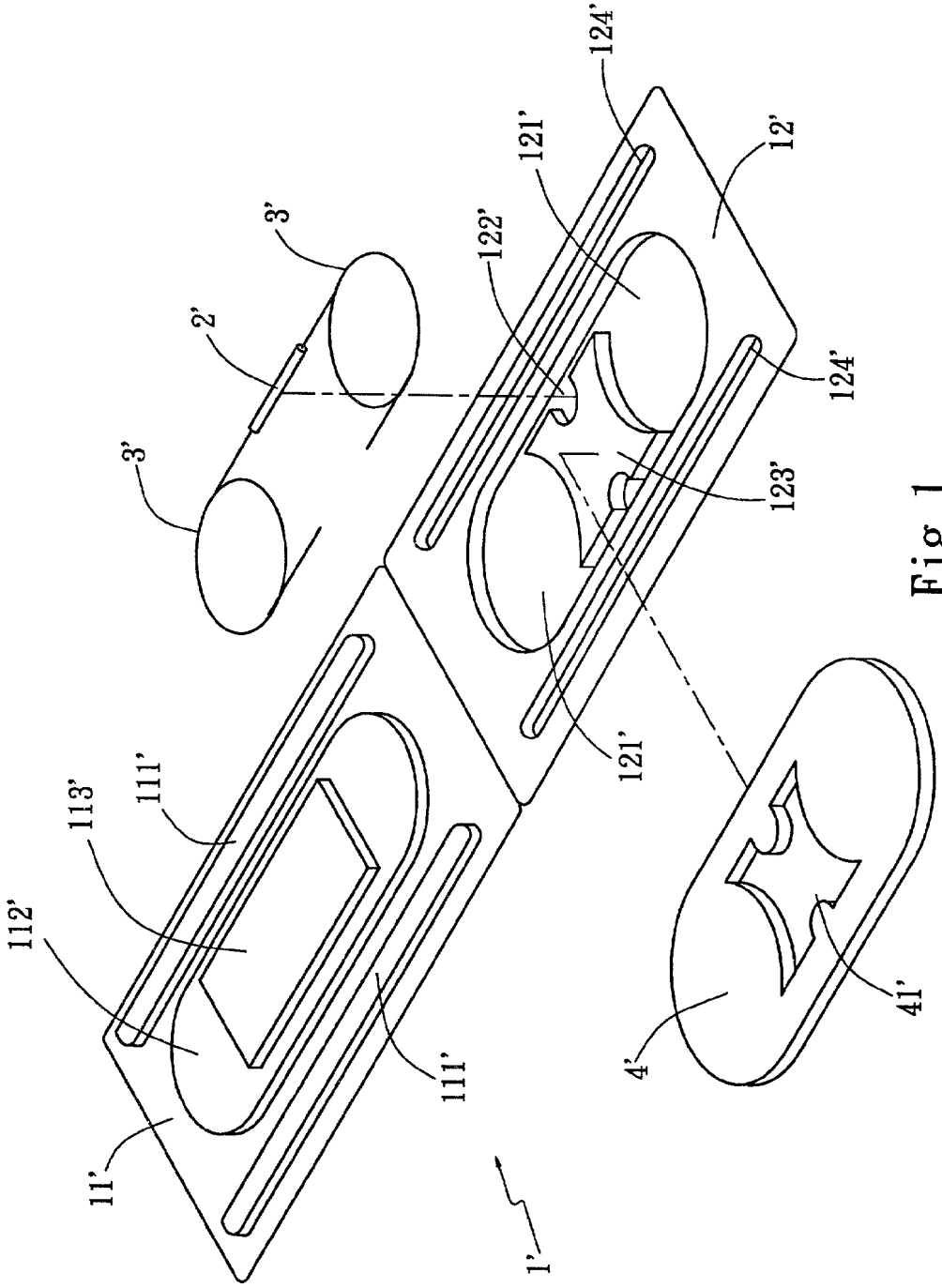


Fig. 1

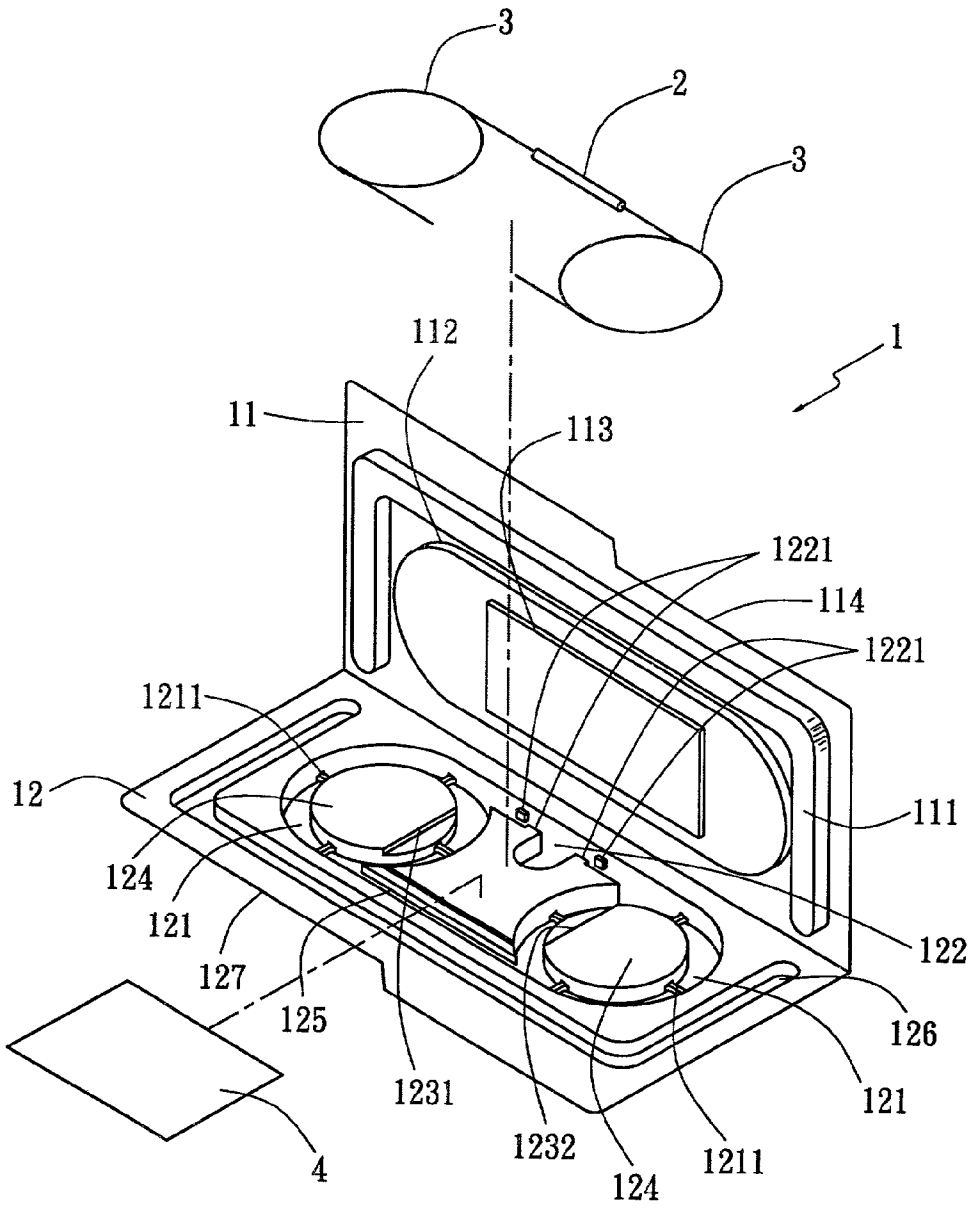

3
2
3
112
1
11
113
1221
114
1221
1211
12
111
124
121
122
127
125
126
121
1231
1232
124
1211
4

Fig. 2

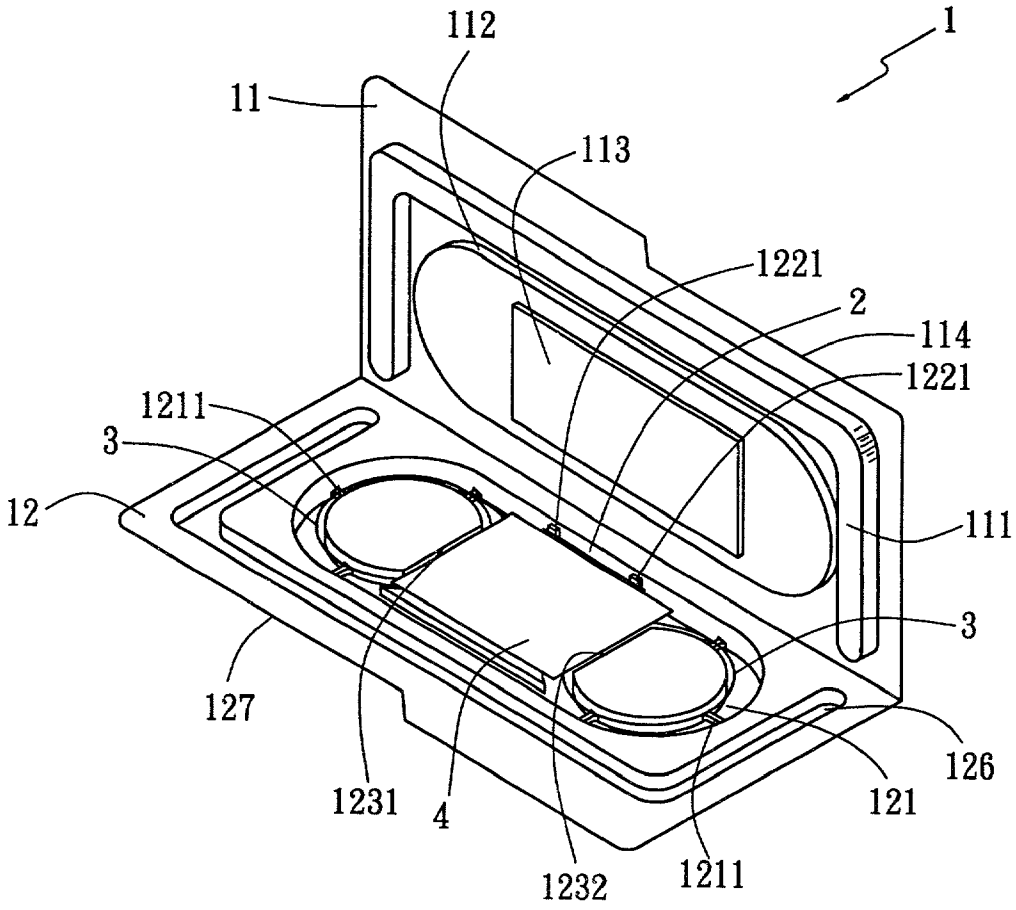

1
112
11
113
1221
2
114
1221
1211
3
12
111
3
127
126
1231
4
121
1232
1211

Fig. 3

FLAT PACKAGE FOR FIBER

FIELD OF THE INVENTION

[0001] The present invention relates to a flat package for fiber, and more particularly to a flat package for fiber that a lateral groove is provided for accepting a fiber tube.

BACKGROUND OF THE INVENTION

[0002] A conventional package for fiber is shown in **FIG. 1**, in which a rectangular package **1'** for fiber is made of a transparent plastic material, having an upper cover **11'** and a lower cover **12'** to be formed integrally. Two concave circular disks **121'** are formed on the lower cover **12'**, and a groove **122'** is formed between the two concave circular disks **121'** on the top. Two concave troughs **124'** are formed respectively at each side of the lower cover **12'**.

[0003] The groove **122'** is used for accepting a fiber tube **2'**. The fiber **3'** extended out from the fiber tube **2'** is wound around to be disposed in the two concave circular disks **121'**.

[0004] In order to fix the fiber tube **2'** and the fiber **3'**, a cover sheet **4'** made of foam plastic is used to cover the two concave circular disks **121'** and the groove **122'**.

[0005] Two longitudinal convex flanges **111'** are formed respectively at each side of the upper cover **11'**, an oval convex disk **112'** is formed in the middle of the upper cover **11'**. A rectangular concave disk **113'** is formed in the middle of the convex disk **112'**. When closing of the upper cover **11'** and the lower cover **12'**, the two convex flanges **111'** will be inserted respectively into the two concave troughs **124'** so as to press the cover sheet **4'** to fix the fiber tube **2'** and the fiber **3'**. The opening **41'** in the middle of the cover sheet **4'** is for accepting the convex part **123'** in the middle of the lower cover **12'**. The oval convex disk **112'** is compatible with the two concave disks **121'** of the lower cover **12'**. A specification sheet can be put into the rectangular concave disk **113'**.

[0006] The package **1'** for fiber has several disadvantages as below:

[0007] 1. The fiber tube **2'** in the groove **122'** is not fixed, and will sway during transportation.

[0008] 2. The fiber **3'** is wound around to be disposed in the two concave circular disks **121'**, and will also sway during transportation, and may be loose to mess up.

[0009] 3. The cover sheet **4'** is pressed to fix the fiber tube **2'** and the fiber **3'**, but it would sometimes hurt the fiber **3'**.

OBJECT OF THE INVENTION

[0010] It is therefore an object of the present invention to provide a package for fiber, in which a lateral groove is provided for accepting a fiber tube, and two ring grooves are provided for accepting the winding fiber; the end of the fiber can be put in another lateral groove for preventing from being cut when the package is closed; a specification sheet can be put in the center of the package before the package is closed; a flange and a groove are provided respectively on the upper cover and the lower cover for closing of the package, so as to make the storage, transportation and use of a fiber product conveniently and perfectly.

BRIEF DESCRIPTION OF THE DRAWINGS

[0011] **FIG. 1** shows schematically the perspective view of a conventional package for fiber.

[0012] **FIG. 2** shows schematically the perspective view of a package for fiber according to the present invention.

[0013] **FIG. 3** shows schematically how to use the package for fiber according to the present invention.

DETAILED DESCRIPTION OF THE INVENTION

[0014] Referring to **FIG. 2**, which shows schematically the perspective view of a package for fiber according to the present invention. A rectangular package **1** for fiber is made of a transparent plastic material by mold pressing, having an upper cover **11** and a lower cover **12** to be formed integrally. Two ring grooves **121** are formed on the lower cover **12**, and a lateral groove **122** is formed between the two ring grooves **121** on the top.

[0015] The lateral groove **122** is used for accepting a fiber tube **2**. In order to clip the fiber tube **2**, convex buttons **1221** are formed along the lateral groove **122**, extending inwardly to narrow the width of the lateral groove **122**. When a fiber tube **2** is to be put into the lateral groove **122**, the fiber tube **2** has to be pressed so as to be jammed into the lateral groove **122**. Since the plastic material of the package **1** for fiber is elastic, it is very easy to pull out the fiber tube **2**. This is the key point of the present invention.

[0016] The fiber **3** extended out from the fiber tube **2** is wound around to be disposed in the two ring grooves **121**, as shown in **FIG. 2**. A convex mound **1211** is provided in the ring groove **121** per 90°, so there are four convex mounds **1211** in the ring groove **121**. The convex mound **1211** is used to separate the fiber **3** and the lower cover **12** to prevent the fiber **3** from being rubbed by the lower cover **12**.

[0017] A rectangular area **123** (not easy to be shown) is formed in the middle of the lower cover **12**, having a left side **1231** and a right side **1232** thereof to be located respectively on the round pedestals **124** in the middle of the ring grooves **121**. The rectangular area **123** is a little lower than the round pedestal **124**, and can be put in with a fiber specification sheet **4**.

[0018] The end of the fiber **3** is put in another lateral groove **125**. The lateral groove **125** is in the opposite side of the lateral groove **122**, and no convex button **1221** is formed therein.

[0019] In order to close the upper cover **11** and the lower cover **12**, a "⊔" type groove **126** is formed along the peripheral of the lower cover **12**, and a "⊓" type flange **111** is formed along the peripheral of the upper cover **11**. When the "⊓" type flange **111** is jammed into the "⊔" type groove **126**, the closing of the upper cover **11** and the lower cover **12** is achieved. An oval covex disk **112** and a rectangular convex disk **113** are formed in the middle of the upper cover **11** to match with the ring grooves **121** and the rectangular area **134**, so that the upper cover **11** and the lower cover **12** can be attached together when closing.

[0020] In order to open the upper cover **11** and the lower cover **12** conveniently, the right half of the long edge of the upper cover **11** is cut a little inward, while the left half of the

long edge of the lower cover **12** is cut a little inward, so that there is a little difference along the long edge between the upper cover **11** and the lower cover **12**, and is very convenient to open the upper cover **11** and the lower cover **12**.

[**0021**] **FIG. 3** shows that the fiber tube **2** is put in the lateral groove **122** (it was covered by the fiber specification sheet **4**), and fiber **3** is wound around to be disposed in the two ring grooves **121**, the fiber specification sheet **4** is put between the left side **1231** and the right side **1232** of the rectangular area **123**.

[**0022**] The advantages of the present invention are as follows:

[**0023**] 1. The fiber tube **2** is clipped firmly in the lateral groove **122**, and is very easy to pull out.

[**0024**] 2. The fiber **3** is wound around to be disposed in the two ring grooves **121**, and will not be loose to mess up. The four convex mounds **1211** provided in the ring groove **121** are used to separate the fiber **3** and the lower cover **12** to prevent the fiber **3** from being rubbed by the lower cover **12**.

[**0025**] 3. The conventional cover sheet **4'** made of foam plastic is omitted to save the cost.

[**0026**] 4. The "Π" type flange **111** is jammed into the "Ш" type groove **126** to achieve the closing of the upper cover **11** and the lower cover **12** firmly. The oval covex disk **112** and the rectangular convex disk **113** are formed in the middle of the upper cover **11** to match with the ring grooves **121** and the rectangular area **123**, so that the upper cover **11** and the lower cover **12** can be attached together to press the fiber specification sheet **4** when closing.

[**0027**] 5. Since there is a little difference along the long edge between the upper cover **11** and the lower cover **12**, it is very convenient to open the upper cover **11** and the lower cover **12**.

[**0028**] The spirit and scope of the present invention depend only upon the following claims, and are not limited by the above embodiment.

What is claimed is :

1. A flat package for fiber, comprising a rectangular package made of a plastic material by mold pressing, having an upper cover and a lower cover to be formed integrally, two ring grooves being formed on the lower cover, and a lateral groove being formed between the two ring grooves on the top; convex buttons being formed along the lateral groove, extending inwardly to narrow the width of the lateral groove.

2. A flat package for fiber according to claim 1, wherein convex mounds being provided in the ring groove.

3. A flat package for fiber according to claim 1, wherein a rectangular area being formed in the middle of the lower cover, having a left side and a right side thereof to be located respectively on a round pedestal in the middle of each of the ring grooves, the rectangular area being a little lower than the round pedestal, and can be put in with a fiber specification sheet.

4. A flat package for fiber according to claim 1, wherein another lateral groove being formed in the opposite side of said lateral groove for putting in with the end of the fiber, and no convex button being formed therein.

5. A flat package for fiber according to claim 1, wherein a "Ш" type groove being formed along the peripheral of the lower cover, and a "Π" type flange being formed along the peripheral of the upper cover, when the "Π" type flange being jammed into the "Ш" type groove, the closing of the upper cover and the lower cover is achieved.

6. A flat package for fiber according to claim 1, wherein an oval covex disk and a rectangular convex disk being formed in the middle of the upper cover to match with the ring grooves and the rectangular area, so that the upper cover and the lower cover can be attached together when closing.

7. A flat package for fiber according to claim 1, wherein the right half of the long edge of the upper cover being cut a little inward, while the left half of the long edge of the lower cover being cut a little inward, so that there is a little difference along the long edge between the upper cover and the lower cover, and is very convenient to open the upper cover and the lower cover.

8. A flat package for fiber according to claim 1, wherein the plastic material is transparent or translucent.

* * * * *