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(54) **Packaging Assembly and Packaging Structure Thereof**

(57) A packaging structure (1) is provided, including a bottom plate (10), an arching roof (20), and a bent portion (40). The arching roof connects to the bottom plate

and forms a first curved surface (70). An opening (50) is formed between the first curved surface and the bottom plate. The bent portion is connected to the bottom plate and is adjacent to the opening.

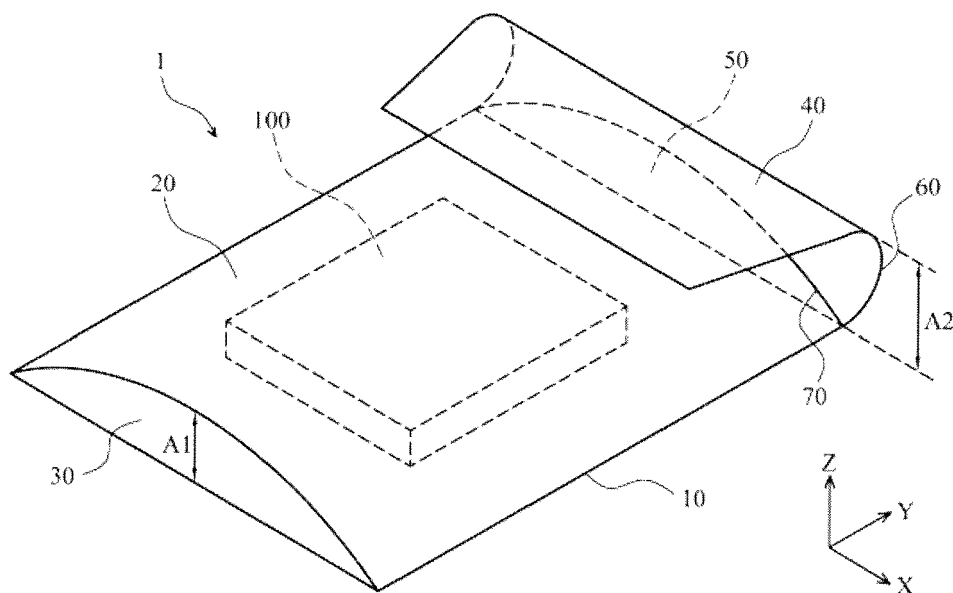


FIG. 1

Description

CROSS REFERENCE TO RELATED APPLICATIONS

[0001] This Application claims priority of Taiwan Patent Application No. 101104290, filed on February 10, 2012, the entirety of which is incorporated by reference herein.

BACKGROUND OF THE INVENTION

Field of the Invention

[0002] The application relates in general to a packaging assembly and packaging structure thereof and in particular to a packaging structure having a curved surface.

Description of the Related Art

[0003] Conventional electronic devices, such as notebooks or tablet personal computers, are usually packaged in cartons, wherein foaming materials such as Expandable Polyethylene, PEP or Expandable Polystyrene, wherein EPS is disposed in the packaging structure to protect the electronic devices. Owing to the popularization of the concept of environmental protection and recycling, corrugated paper or other paper materials are widely used in packaging structures. However, the elasticity, tenacity and hardness of paper materials have its limitation. It is therefore an object of the invention to improve the design of the packaging structure.

BRIEF SUMMARY OF INVENTION

[0004] An embodiment of the invention provides a packaging structure, comprising a bottom plate, an arching roof, and a bent portion. The arching roof connects to the bottom plate and forms a first curved surface. An opening is formed between the first curved surface and the bottom plate. A first height of the opening is measured along a first direction, wherein the first direction is perpendicular to the bottom plate. The bent portion is connected to the bottom plate and is adjacent to the opening. A second height of the bent portion is measured along the first direction, wherein the second height is larger than the first height.

BRIEF DESCRIPTION OF DRAWINGS

[0005] FIG. 1 is a perspective diagram of a packaging structure according to an embodiment of the invention;
 [0006] FIG. 2 is a lateral view of a packaging structure according to an embodiment of the invention;
 [0007] FIG. 3 is a perspective diagram of a packaging structure and a container according to an embodiment of the invention; and
 [0008] FIG. 4 is a sectional view of a packaging assembly according to an embodiment of the invention.

DETAILED DESCRIPTION OF INVENTION

[0009] Referring to FIGs. 1 and 2, an embodiment of a packaging structure 1 primarily comprises a bottom plate 10, an arching roof 20, a side plate 30, and a bent portion 40. The packaging structure may be made of corrugated paper or other paper materials. As shown in FIGs. 1 and 2, the bottom plate 10 is substantially parallel to the X-Y plane, and the arching roof 20 connects to the bottom plate 10 to form a first curved surface 70. An electronic device 100, such as a notebook or a tablet personal computer, can be disposed between the bottom plate 10 and arching roof 20. An opening 50 is formed between the first curved surface 70 and the bottom plate 10, having a first height A1 along the Z axis (the first direction). In this embodiment, the side plate 30 is disposed on a side of the packaging structure 1 opposite to the opening 50 and connects the bottom plate 10 with the arching roof 20.

[0010] Referring to FIGs. 1 and 2, the bent portion 40 is connected to the bottom plate 10 and is adjacent to the opening 50, and the arching roof 20 and the bent portion 40 are disposed on the same side of the bottom plate 10. Specifically, the bent portion 40 has a second height A2 along the Z axis, and the second height A2 exceeds the first height A1, as shown in FIG. 2. Additionally, the bent portion 40 forms a second curved surface 60, wherein the second curved surface 60 can cover the opening 50.

[0011] An opening 50 can be covered by the bent portion 40, so that the electronic device 100 is prevented from sliding out of the packaging structure 1. During transportation, the bottom plate 10 and the first curved surface 70 on the arching roof 20 can absorb vertical impact (along the Z axis in FIG. 1). The side plate 30 and the second curved surface 60 on the bent portion 40 can absorb horizontal impact (along the Y axis in FIG. 1). The bottom plate 10 and the first curved surface 70 on the arching roof 20 can absorb another horizontal impact (along the X axis in FIG. 1). As mentioned above, the packaging structure 1 and the corrugated paper can provide cushioning properties to protect the electronic device 100 therein.

[0012] Referring to FIGs. 3 and 4, an embodiment of a packaging assembly primarily comprises the packaging structure 1 and a container 2. The container 2 comprises a top cover 110, a box 80, and a cushioning structure 90, wherein the container 2 may be made of corrugated paper or other paper materials. The cushioning structure 90 is disposed in the box 80, and the packaging structure 1 is disposed on the cushioning structure 90 during assembly. The cushioning structure 90 may directly connect to the bottom plate 10 of the packaging structure 1, and the top cover 110 may close the container 2 to fix the packaging structure 1 in the container 2.

[0013] Specifically, the box 80 and the top cover 110 can absorb the impact from all directions, and the cushioning structure 90 in the box 80 can support the bottom plate 10 of the packaging structure 1 during transporta-

tion. As shown in FIG. 4, the packaging structure 1 is disposed on the cushioning structure 90, thus forming a suspension system to absorb the impact. With the cushioning properties of the packaging structure 1, the packaging assembly can safely protect the electronic device 100 therein.

[0014] The invention provides a packaging assembly and packaging structure thereof, wherein the packaging structure may be disposed in a container to protect the electronic device in the packaging structure. The packaging structure may form a curved surface to absorb the impact from all directions. When combining the packaging structure with the container, a packaging assembly can be formed to protect the electronic device.

[0015] While the invention has been described by way of example and in terms of preferred embodiment, it is to be understood that the invention is not limited thereto. To the contrary, it is intended to cover various modifications and similar arrangements (as would be apparent to those skilled in the art). Therefore, the scope of the appended claims should be accorded the broadest interpretation to encompass all such modifications and similar arrangements.

Claims

1. A packaging structure, comprising:

a bottom plate; 30
 an arching roof, connected to the bottom plate and forming a first curved surface, wherein an opening is formed between the first curved surface and the bottom plate, and the opening has a first height in a first direction perpendicular to the bottom plate; and 35
 a bent portion, connected to the bottom plate and adjacent to the opening, wherein the bent portion has a second height in the first direction, and the second height exceeds the first height. 40

2. The packaging structure as claimed in claim 1, wherein the packaging structure further comprises a side plate connecting the bottom plate with the arching roof. 45

3. The packaging structure as claimed in claim 1, wherein the bent portion forms a second curved surface for covering the opening. 50

4. The packaging structure as claimed in claim 1, wherein the packaging structure is formed of corrugated paper.

5. The packaging structure as claimed in claim 1, wherein the bent portion and the arching roof are on the same side of the bottom plate. 55

6. A packaging assembly, comprising:

a packaging structure as claimed in claim 1; and
 a container, comprising:

a box, wherein the packaging structure is disposed therein; and
 a cushioning structure, disposed in the box and connected to the bottom plate of the packaging structure. 10

7. The packaging assembly as claimed in claim 6, wherein the packaging structure further comprises a side plate connecting the bottom plate with the arching roof. 15

8. The packaging assembly as claimed in claim 6, wherein the bent portion forms a second curved surface for covering the opening.

9. The packaging assembly as claimed in claim 6, wherein the packaging structure and the box are formed of corrugated paper.

25 10. The packaging assembly as claimed in claim 6, wherein the bent portion and the arching roof are on the same side of the bottom plate.

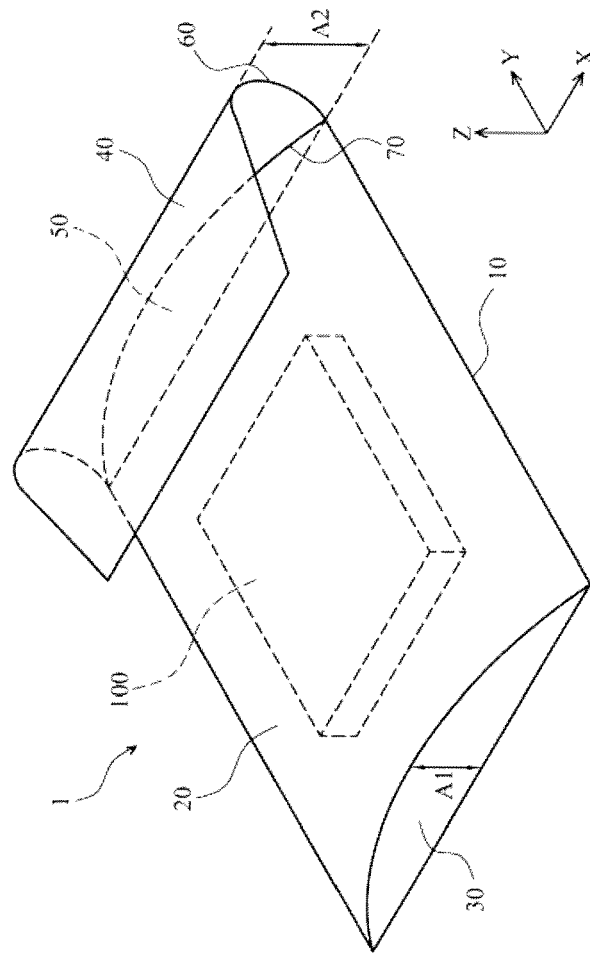


FIG. 1

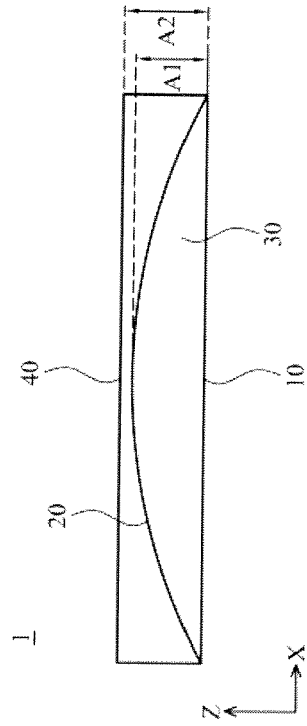
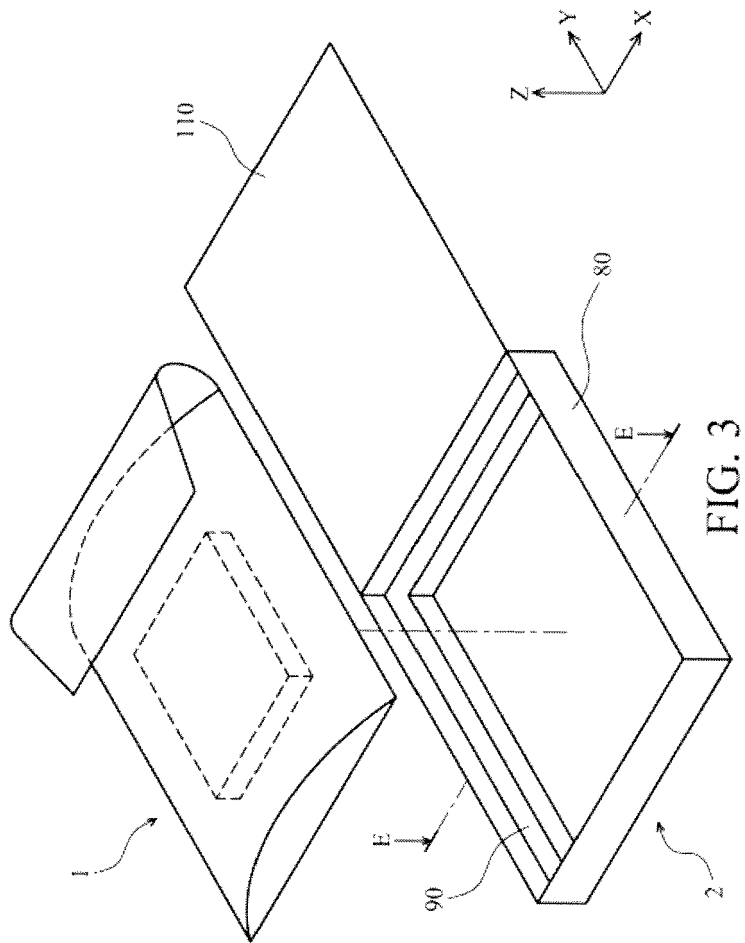


FIG. 2



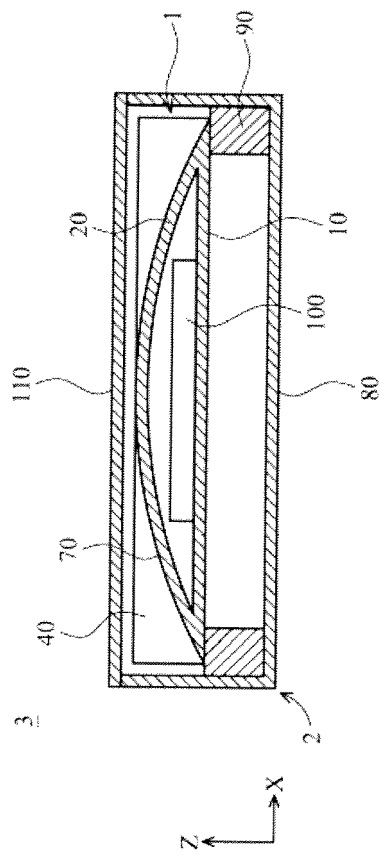


FIG. 4

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- TW 101104290 [0001]