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(54) **BACKPACK**

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(57) **ABSTRACT**

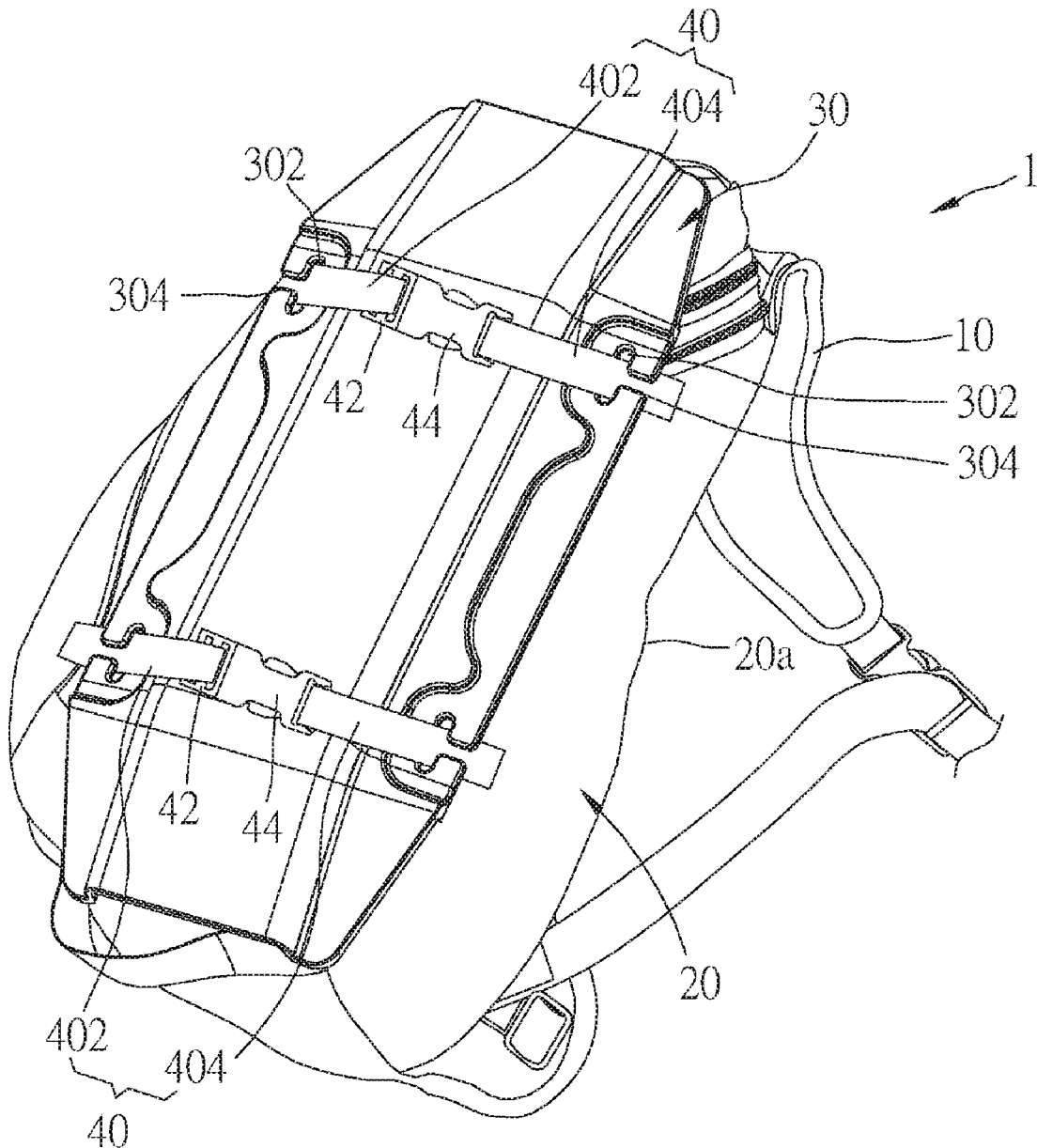
A backpack includes a bag body, two straps, and a back casing. The straps are engaged with the bag body. The bag body has an inner surface and an outer surface opposite to the inner surface. The inner surface is adapted to face a user's body. The back casing is detachably engaged with the bag body and is located outside of the outer surface. When the back casing is engaged with the bag body, the backpack could protect the bag body and a user's back. The back casing could be detached from the bag body when the back casing is not needed, providing a more flexible way for the user to use it.

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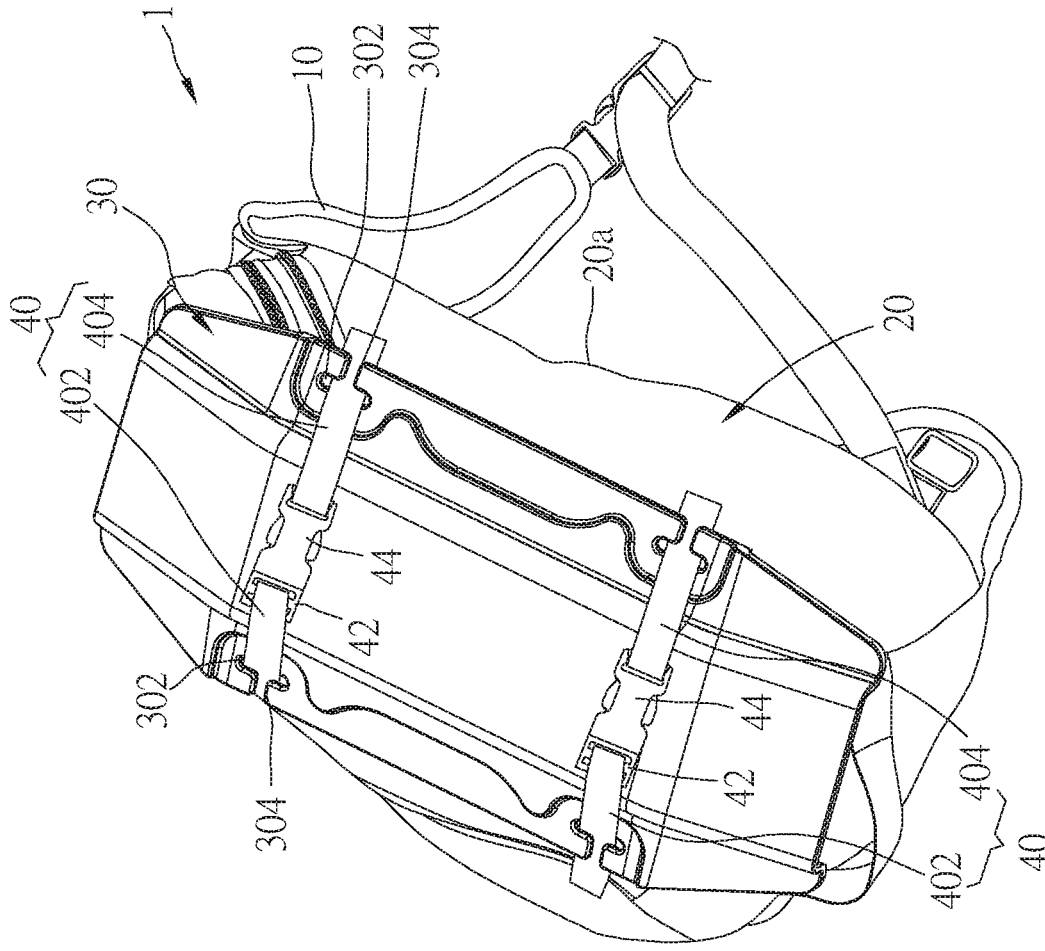


FIG. 1

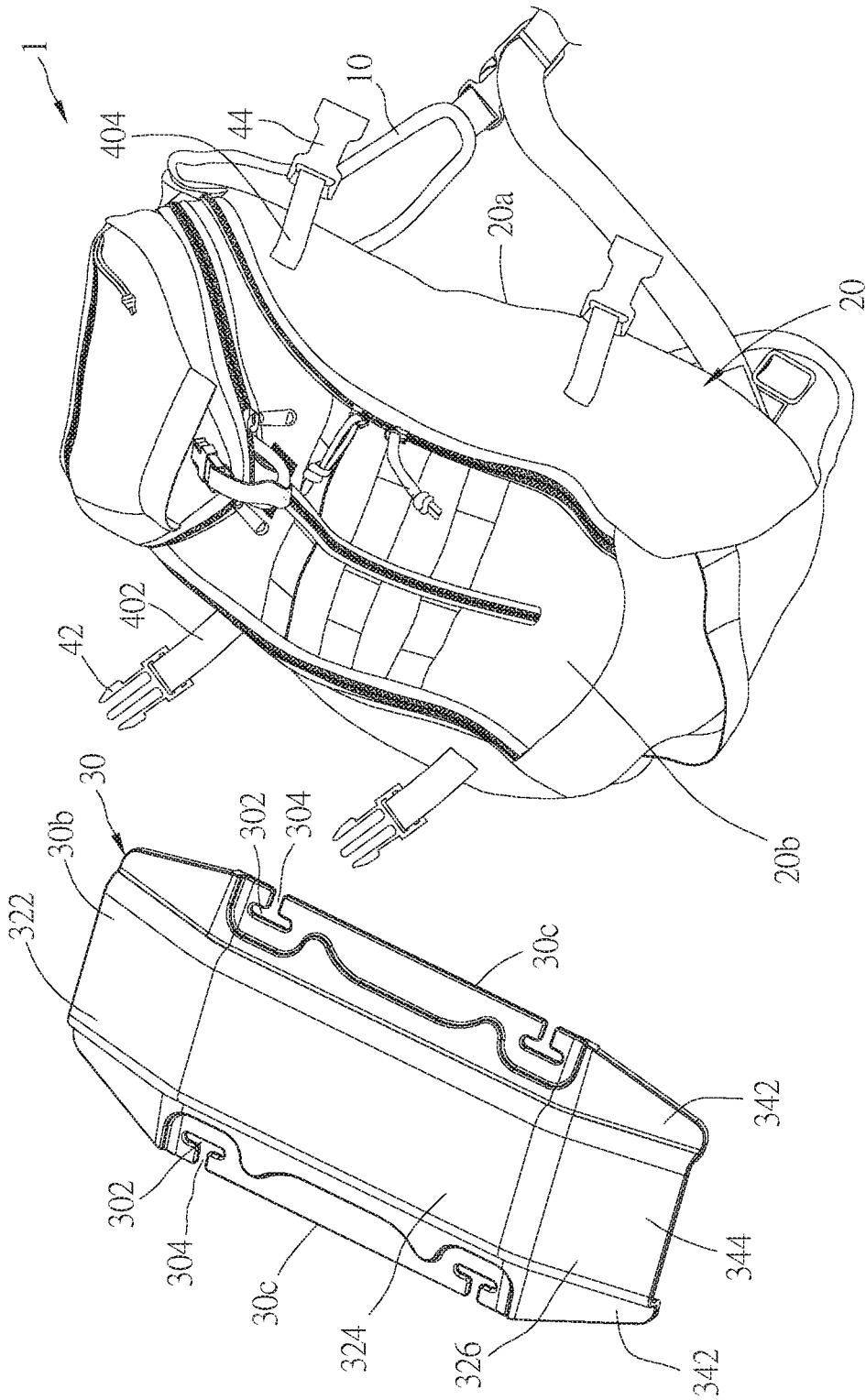


FIG. 2

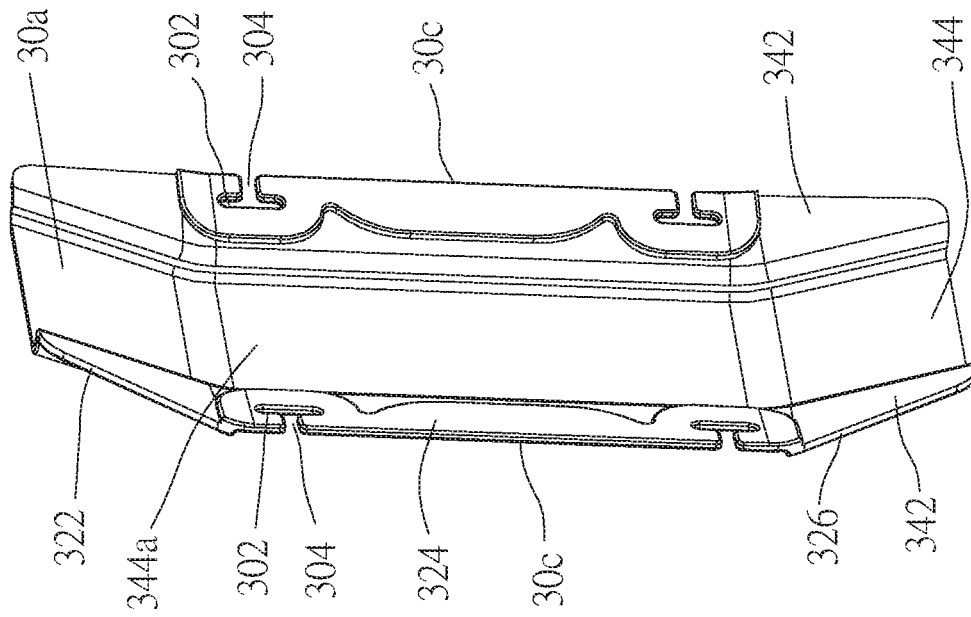


FIG. 3

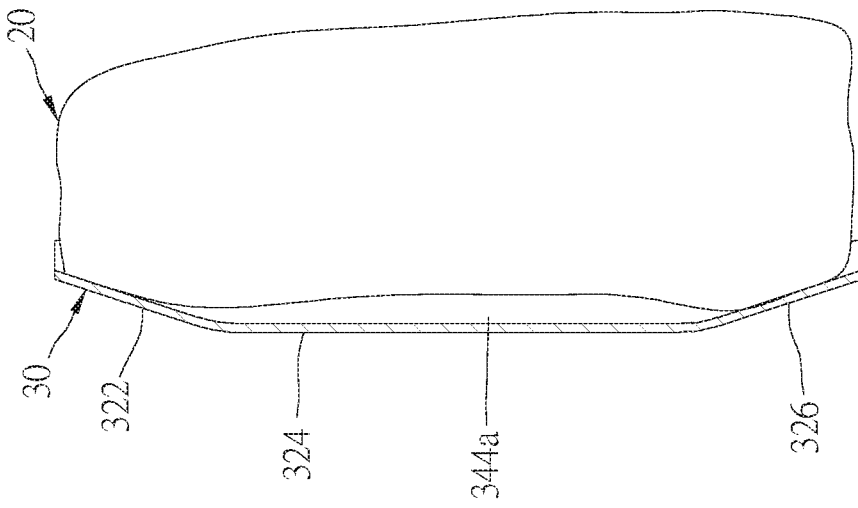


FIG. 4

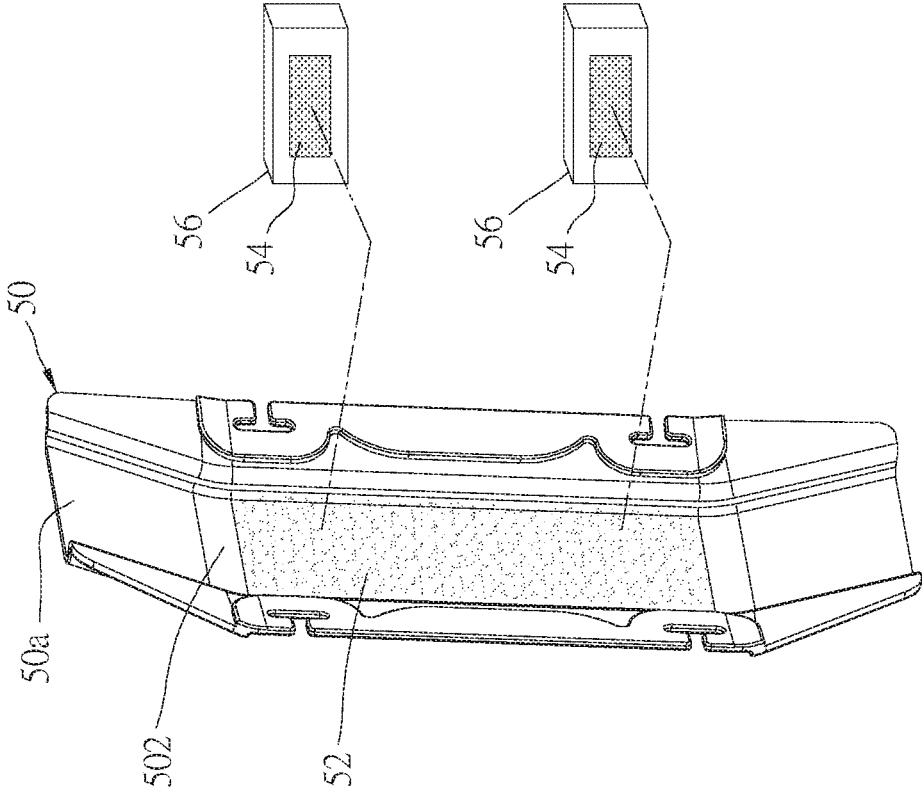


FIG. 5

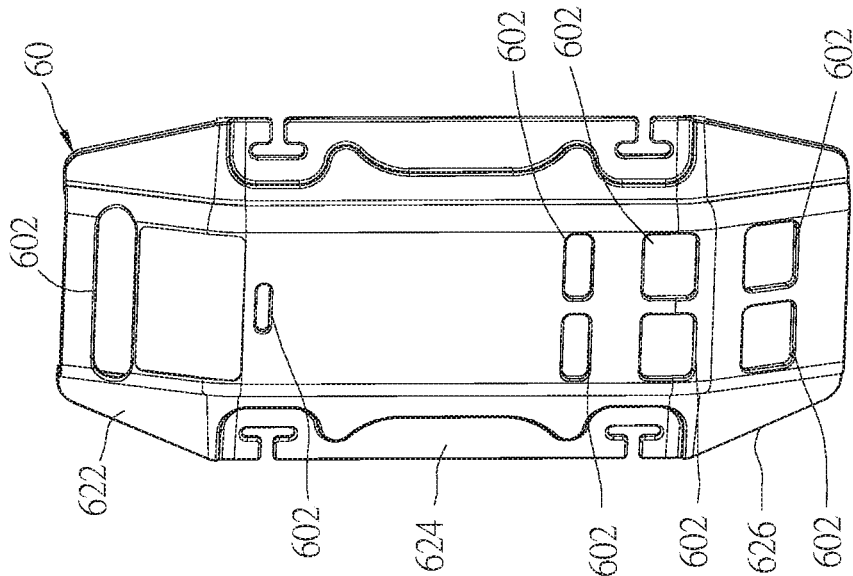


FIG. 6

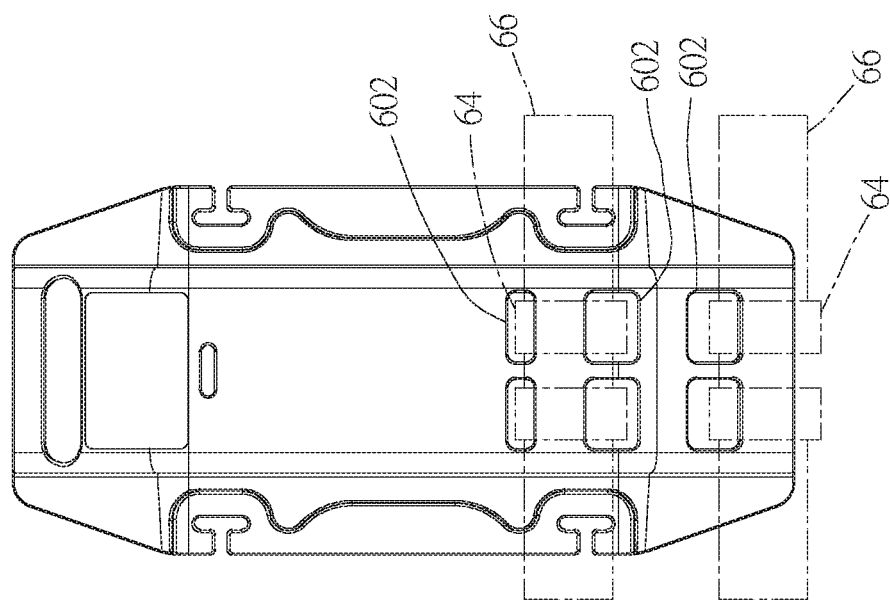


FIG. 7

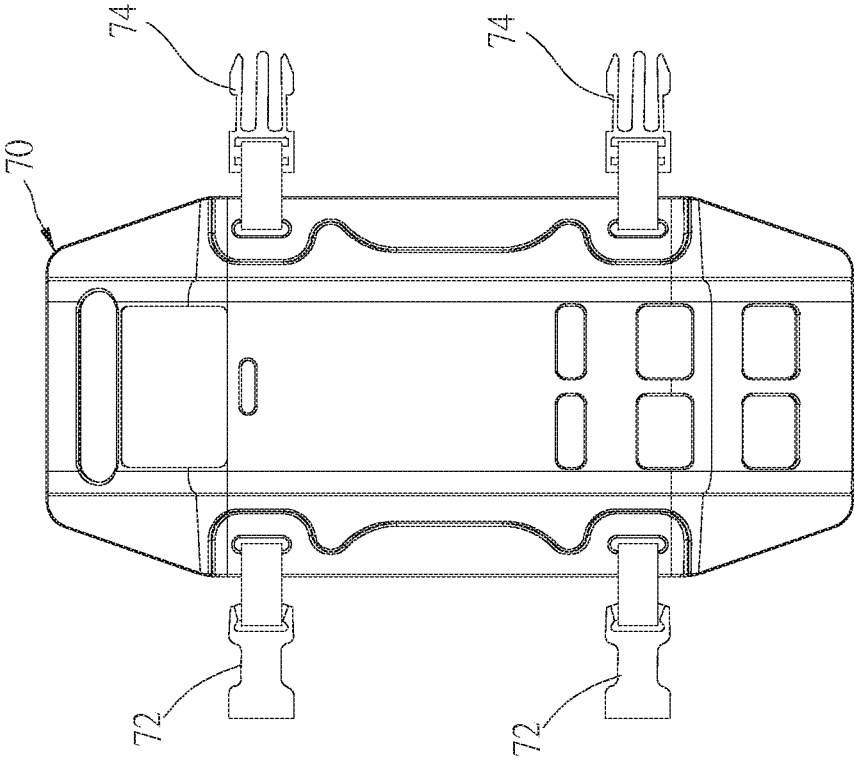


FIG. 8

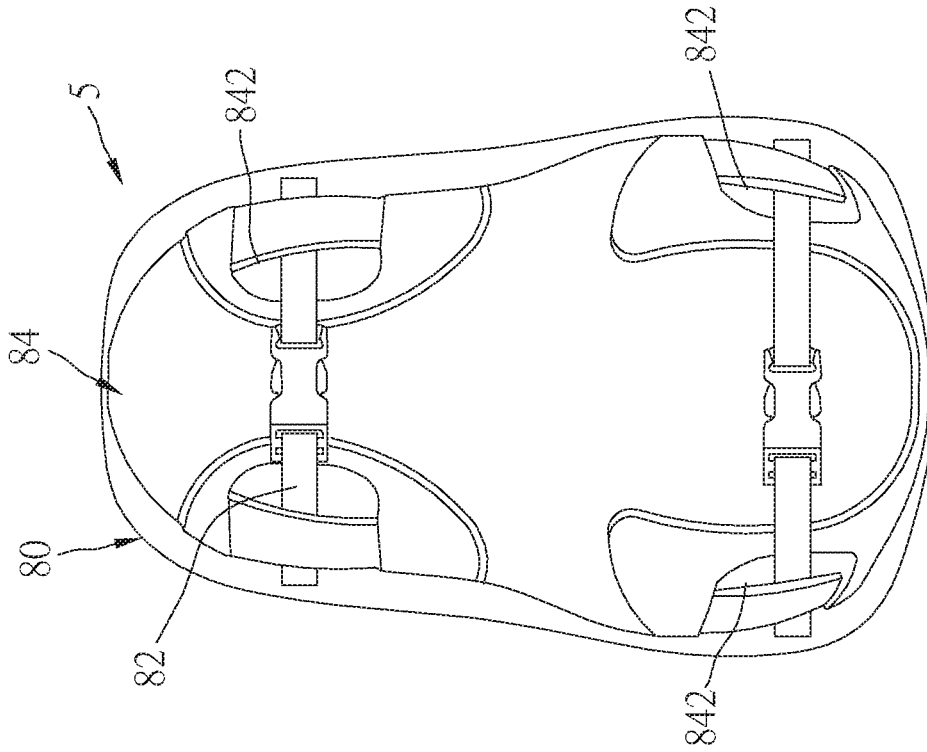


FIG. 9

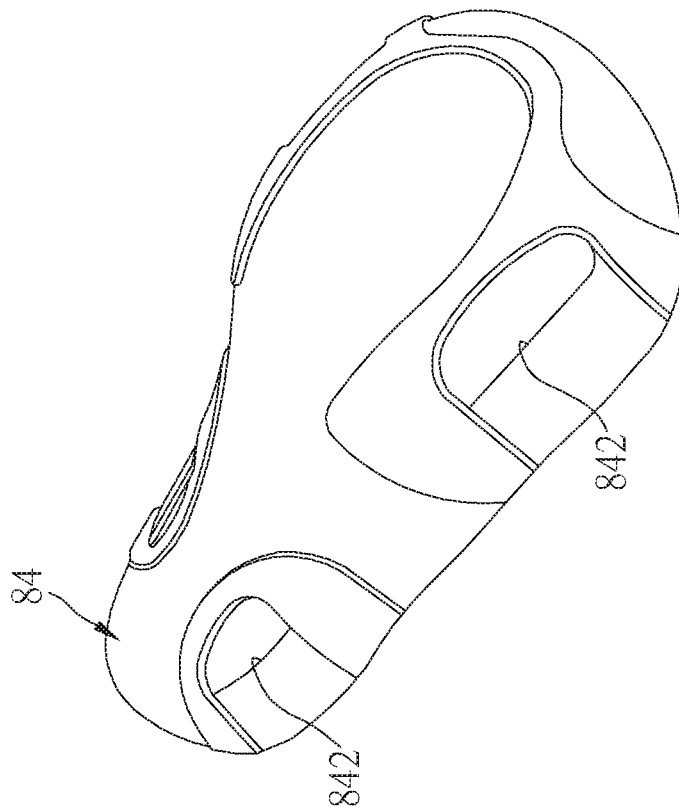


FIG. 10

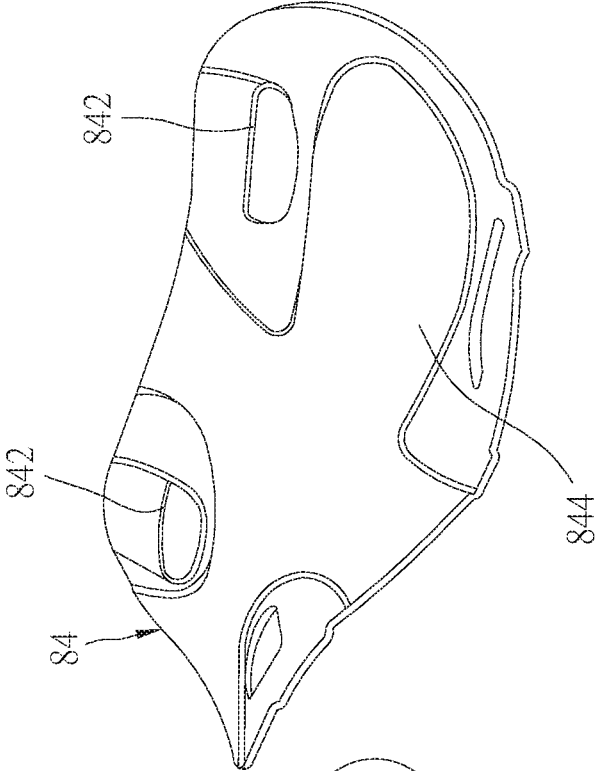


FIG.11

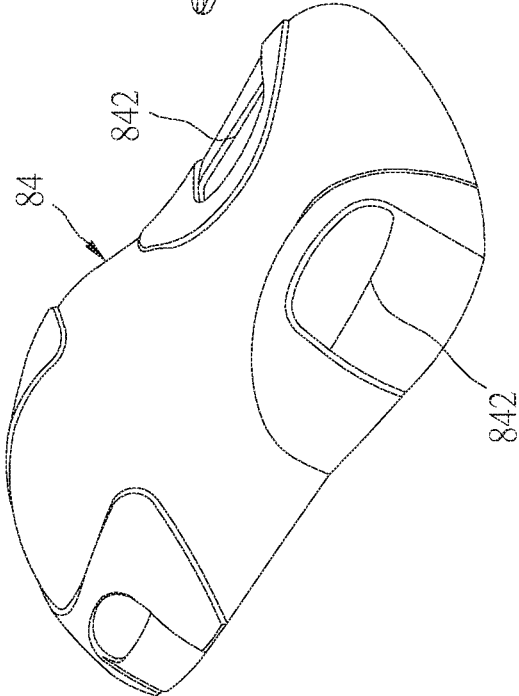


FIG.12

BACKPACK

BACKGROUND OF THE INVENTION

Technical Field

[0001] The present invention relates generally to a backpack, and more particularly to a backpack with a back casing.

Description of Related Art

[0002] Backpacks for being carried on a user's back are commonly used in outdoor activities such as walking, hiking, traveling, and cycling. The backpack is mainly fixed to the user via straps, so that the user could carry a heavier or a larger object in the backpack, reducing the burden on both hands of the user. As a result, solve the problem that the user can't carry heavy objects for a long time by hands, and the user's hands are free to do more activities.

[0003] Compared with other carrying bags, the backpacks have the abovementioned advantages. However, a bag body of the backpack is made of cloth. When the user carries the backpack, the bag body is located behind the user, so that when the bag body is hit or pushed from the rear, the objects inside the bag body may be damaged. What's more, the force of the impact may hurt the user. For instance, if a user accidentally slips, and leans their back to the ground, the conventional backpack cannot protect the user's back.

BRIEF SUMMARY OF THE INVENTION

[0004] In view of the above, the primary objective of the present invention is to provide a backpack for protecting a back of a user and objects inside of a bag body, providing various ways for the user to use it.

[0005] The present invention provides a backpack, including a bag body, two straps, and a back casing, wherein the bag body has an inner surface and an outer surface opposite to the inner surface. The inner surface is adapted to face a user's body. The straps are engaged with the bag body. The back casing is detachably engaged with the bag body and is located outside of the outer surface.

[0006] With the detachable back casing, the bag body and the user's back could be effectively protected. In addition, the detachable back casing could be detached from the bag body when the back casing is not needed, providing a more flexible way for the user to use it.

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWINGS

[0007] The present invention will be best understood by referring to the following detailed description of some illustrative embodiments in conjunction with the accompanying drawings, in which

[0008] FIG. 1 is a perspective view of the backpack according to a first embodiment the present invention;

[0009] FIG. 2 is an exploded view of the backpack according to the first embodiment the present invention;

[0010] FIG. 3 is a perspective view, showing the inside of the backpack according to the first embodiment the present invention;

[0011] FIG. 4 is a schematic view, showing the back casing abuts against the bag body;

[0012] FIG. 5 is a perspective view, showing the inside of the backpack according to a second embodiment the present invention;

[0013] FIG. 6 is a perspective view, showing the outside of the backpack according to a third embodiment the present invention;

[0014] FIG. 7 is a rear view of the back casing according to the third embodiment the present invention;

[0015] FIG. 8 is a rear view of the back casing according to a fourth embodiment the present invention;

[0016] FIG. 9 is a rear view of the backpack according to a fifth embodiment the present invention;

[0017] FIG. 10 is a perspective view, showing the back casing according to the fifth embodiment the present invention;

[0018] FIG. 11 is a perspective view, showing the inside of the back casing according to the fifth embodiment the present invention; and

[0019] FIG. 12 is a perspective view, showing the back casing according to the fifth embodiment the present invention seen from another direction.

DETAILED DESCRIPTION OF THE INVENTION

[0020] A backpack 1 according to a first embodiment of the present disclosure is illustrated in FIG. 1 to FIG. 4 and includes two straps 10, a bag body 20, and a back casing 30.

[0021] The straps 10 are engaged with the bag body 20 for being carried by a user. Only one of the straps 10 is shown in FIG. 1. The bag body 20 has an inner surface 20a and an outer surface 20b opposite to the inner surface 20a, wherein the inner surface 20a faces the user's body, and the outer surface 20b faces away from the user's body. The back casing 30 is detachably engaged with the bag body 20 and is located outside of the outer surface 20b of the bag body 20, wherein an inner surface 30a of the back casing 30 faces the outer surface 20b of the bag body 20. The back casing 30 is made of a hard material such as metal, plastic, wood board, fiberglass, composite material, or a combination of the foregoing.

[0022] More specifically, the bag body 20 has two fixing straps 40 juxtaposed from top down. In order to illustrate easily, we will only describe the details of one of the fixing straps 40 in the following paragraphs, for the fixing straps 40 have substantially the same configuration. The fixing strap 40 includes a first section 402 and a second section 404, wherein the first section 402 and the second section 404 are platy straps and are respectively connected to two opposite sides of the bag body 20. The first section 402 and the second section 404 are detachably connected. In the current embodiment, the first section 402 is connected to a first engaging member which is a first connector 42 as an example; the second section 404 is connected to a second engaging member which is a second connector 44 as an example, wherein the first connector 42 and the second connector 44 are detachably engaged, so that the first section 402 and the second section 404 could be disengaged from each other.

[0023] The back casing 30 is in an elongated plate shape and has a plurality of perforations penetrating through the inner surface 30a and an outer surface 30b of the back casing 30. In the current embodiment, the back casing 30 includes four perforations 302, wherein each of the perforations 302 is elongated. The perforations 302 are grouped in two, and

the two sets of perforations 302 are juxtaposed from top down. Each set of perforations 302 are adapted to be passed through by one of the fixing straps 40 to fix the back casing 30 on the bag body 20. In the current embodiment, the back casing 30 has two opposite side edges 30c, wherein each of the perforations 302 is close to the corresponding side edge 30c. The back casing 30 has a plurality of notches 304, wherein each of the notches 304 is located between one of the side edges 30c and the corresponding perforation 302, and communicates with the perforations 302 and outside of the side edges 30c. The first section 402 and the second section 404 respectively enter the corresponding perforation 302 via the corresponding notch 304, and then the first connector 42 and the second connector 42 could be engaged with each other, so that the back casing 30 could be fixed on the bag body 20. Each of the notches 304 is located between two ends of the corresponding perforation 302, thereby to prevent the first section 402 or the second section 404 being disengaged from the corresponding notch 304.

[0024] In the current embodiment, the back casing 30 sequentially has an upper section 322, a middle section 324, and a lower section 326 from top down, wherein the upper section 322 corresponds to a top of the bag body 20, and the lower section 326 corresponds to a bottom of the bag body 20. The notches 304 and the perforations 302 are located on the middle section 324. The upper section 322 and the lower section 326 respectively incline in a direction from the middle section 324 toward the outer surface 20b of the bag body 20. In this way, the upper section 322 and the lower section 326 could be adapted to be abutted against a top and a bottom of the backpack 1, and could not over-protrude and affect the user's activities.

[0025] The back casing 30 has two lateral portions 342 and a middle portion 344 located between the lateral portions 342 in a horizontal direction, wherein the lateral portions 342 incline in a direction from the middle portion 344 toward the side edges 30c. The notches 304 and the perforations 302 are located on the lateral portions 342. The middle portion 344 has a receiving groove 344a facing the outer surface 20b of the bag body 20. In the current embodiment, the receiving groove 344a extends from the upper section 322 to the lower section 326. As shown in FIG. 4, after the back casing 30 being engaged with the bag body 20, a receiving space for receiving objects is formed between the receiving groove 344a and the outer surface 20b of the bag body 20.

[0026] By engaging the back casing 30 with the bag body 20, the backpack 1 according to the current embodiment could not only protect objects in the bag body 20, but also protect the user's back. When the back casing 30 is not needed, the back casing 30 could be disengaged from the bag body 20. Other objects, such as raincoats, sleeping mats, etc., could be placed between the back casing 30 and the bag body 20.

[0027] However, the first engaging member and the second engaging member are not limited to be the first connector 42 and the second connector 44, but could be a hook fastener and a loop fastener which could be engaged with each other, or could be a male fastener and a female fastener which could be engaged with each other, as long as the first section 402 could be detachably engaged with the second section 404.

[0028] In practice, there could be only one fixing strap 40 to fix the back casing 30 on the bag body 20. Alternatively,

the bag body 20 and the back casing 30 could be respectively provided with an engaging member to be engaged with each other. For instance, the outer surface 20b of the bag body 20 is provided with a hook fastener or a male fastener, and the back casing 30 is provided with a loop fastener or a female fastener.

[0029] A back casing 50 of a backpack according to a second embodiment of the present disclosure is illustrated in FIG. 5, which has almost the same structure as that of the first embodiment, except that a felt layer 52 is disposed on an inner surface 50a of the back casing 50. In the current embodiment, the felt layer 52 is located in a receiving groove 502, and is adapted to be attached by a corresponding fastener 54. In this way, an object 56 could be provided with the corresponding fastener 54, thereby to fix the object 56 in the receiving groove 502 of the back casing 50.

[0030] A back casing 60 of a backpack according to a third embodiment of the present disclosure is illustrated in FIG. 6 and FIG. 7, which has almost the same structure as that of the first embodiment, except that a plurality of openings 602 are disposed on the back casing 60, wherein the openings 602 penetrate through an inner surface and an outer surface of the back casing 60. The openings 602 are distributed in an upper section 622, a middle section 624 and a lower section 626 of the back casing 60, and could have the same or different sizes. In this way, the openings 602 could be adapted to be passed through by a fixing member, which is a strap as an example, to secure an object 66 to the back casing 60. In practice, the back casing 60 could include at least one opening 602.

[0031] A back casing 70 of a backpack according to a fourth embodiment of the present disclosure is illustrated in FIG. 8, which has almost the same structure as that of the first embodiment, except that a third engaging member, which is a third connector 72 as an example, and a fourth engaging member, which is a fourth connector 74 as an example, are respectively connected to two lateral sides of the back casing 70. In the current embodiment, there are two third connectors 72 and two fourth connectors 74, wherein the third connectors 72 are detachably engaged with the first connectors 42 of the bag body 20 according to the first embodiment, and the fourth connectors 74 are detachably engaged with the second connectors 44 of the bag body 20, thereby to engage the back casing 70 with the bag body 20.

[0032] A backpack 5 according to a fifth embodiment of the present disclosure is illustrated in FIG. 9 to FIG. 12, which has almost the same structure as that of the first embodiment, which also includes a bag body 80 and a back casing 84, and the back casing 84 also has a plurality of perforations 842 for being passed through by the fixing straps, except that the back casing 84 bulges outward from top down, and has a recess 844 facing an outer surface of the bag body 80, wherein the recess 844 could also receive objects.

[0033] In summary, with the back casing disposed outside of the outer surface of the bag body, the backpack of the present disclosure could effectively protect the bag body and the user's back. In addition, the detachable back casing could be detached from the bag body when the back casing is not needed, providing a more flexible way for the user to use it.

[0034] It must be pointed out that the embodiments described above are only some preferred embodiments of the present invention. All equivalent structures which

employ the concepts disclosed in this specification and the appended claims should fall within the scope of the present invention.

1. A backpack, comprising:
 - a bag body having an inner surface and an outer surface opposite to the inner surface, wherein the inner surface is adapted to face a user's body, and at least one fixing strap is connected to the bag body;
 - two straps engaged with the bag body; and
 - a back casing having two opposite side edges, at least two notches, and at least two perforations, wherein each of the at least two notches is located between one of the side edges and one of the at least two perforations, and communicates with one of the at least two perforations and an outside of the corresponding side edge; the at least two perforations are adapted to be penetrated through by the at least one fixing strap from the corresponding notch, thereby the back casing is able to be detachably engaged with the bag body and located outside of the outer surface.
2. The backpack of claim 1, wherein the at least one fixing strap comprises a first section and a second section; the first section and the second section are respectively connected to two opposite sides of the bag body; the first section and the second section are detachably connected.
3. The backpack of claim 2, wherein the first section is connected to a first engaging member, and the second section is connected to a second engaging member; the first engaging member and the second engaging member are detachably engaged with each other; the first section is detachably engaged with the second section via the first engaging member and the second engaging member.
4. (canceled)
5. The backpack of claim 1, wherein each of the at least two perforations is elongated, and each of the at least two notches is located between two ends of the corresponding perforation.
6. (canceled)
7. The backpack of claim 1, wherein the back casing sequentially has an upper section, a middle section, and a lower section from top down; the upper section corresponds to a top portion of the bag body; the lower section corresponds to a bottom portion of the bag body; the upper section and the lower section respectively incline in a direction from the middle section toward the outer surface of the bag body.
8. The backpack of claim 1, wherein the back casing has two lateral portions and a middle portion located between the lateral portions; each of the at least two notches and each of the at least two perforations are located on one of the two

lateral portions; the middle portion has a receiving groove facing the outer surface of the bag body; the two lateral portions are thicker than a rest portion of the back casing.

9. The backpack of claim 1, wherein the back casing has at least one opening penetrating through the inner surface and the outer surface of the back casing.

10. The backpack of claim 1, wherein the bag body is connected to a first engaging member and a second engaging member, and the back casing is connected to a third engaging member and a fourth engaging member; the first engaging member is detachably engaged with the third engaging member; the second engaging member is detachably engaged with the fourth engaging member.

11. The backpack of claim 1, wherein the back casing has a recess facing the outer surface of the bag body.

12. A backpack, comprising:

- a bag body having an inner surface and an outer surface opposite to the inner surface, wherein the inner surface is adapted to face a user's body;

- two straps engaged with the bag body; and

- a back casing detachably engaged with the bag body and located outside of the outer surface;

wherein the back casing has an inner surface facing the outer surface of the bag body; a felt layer is disposed on the inner surface and is adapted to be detachably attached by at least one object provided with a corresponding fastener.

13. A backpack, comprising:

- a bag body having an inner surface and an outer surface opposite to the inner surface, wherein the inner surface is adapted to face a user's body, and at least one fixing strap is connected to the bag body;

- two straps engaged with the bag body; and

- a back casing having two opposite side edges, at least two notches, and at least two perforations, wherein each of the at least two notches is located between one of the side edges and one of the at least two perforations, and communicates with one of the at least two perforations and an outside of the corresponding side edge; the at least two perforations are adapted to be penetrated through by the at least one fixing strap from the corresponding notch, thereby the back casing is able to be detachably engaged with the bag body and located outside of the outer surface;

wherein the back casing has an inner surface facing the outer surface of the bag body; a felt layer is disposed on the inner surface and is adapted to be detachably attached by at least one object provided with a corresponding fastener.

* * * * *