COMBINATION BAG

TECHNICAL FIELD

[1] The invention relates toa bag, and in particular relates to a combination bag.

BACKGROUND

[2] A carrying bag provides suitable storage space or compartments for users to carry and organize their belongings. Depending on different application scenarios and design orientations, bag may come in various styles. For instance, there are backpacks with two shoulder straps, known as double-shoulder backpacks, as well as those with only one shoulder strap, known as single-shoulder sling bags that can be worn diagonally across the shoulder.

[3] Specifically, the two shoulder straps of a double-shoulder backpack evenly distribute the weight on both shoulders while keeping the backpack centered on the back, thus providing users with comfortable carrying experience. This design is well-suited for activities that involve carrying a larger volume of items.

[4] On the other hand, single-shoulder sling bags can be easily shifted from the back to the front of the body, allowing quick access to belongings. Additionally, due to having only one shoulder strap, single-shoulder sling bags are relatively lightweight and offer more freedom of movement, making them suitable for casual occasions with smaller carrying needs.

[5] To cater to the requirements of different activity scenarios, there are some combination-style or convertible bag that combine elements of both single-shoulder sling bags and double-shoulder backpacks. However, these bags often have limitations and drawbacks, making it difficult to fully meet practical usage needs. For example, some combination-style bags sacrifice the capacity of double-shoulder backpacks to accommodate the single-shoulder sling bag component. They may also lack a sufficient number of functional compartments or pockets, causing

inconvenience during regular use.

SUMMARY

[6] The present invention provides a combination bag. The combination bagincludes a sling bag and a backpack with an interior space, wherein the sling bag includesa flat-shaped bag bodywith a first surface and a second surface facing away from each other, wherein the flat-shaped bag body is foldable;a rigid support structure embedded within the flat-shaped bag body, symmetrically arranged along afold line of the flat-shaped bag body;a shoulder strap attached to the flat-shaped bag body;at least two bag components, wherein one bag component is positioned on the second surface of the bag body, for forming an independent storage compartment, and an opening of the storage compartment is located away from the fold line;and the interior space is defined by a first wall, a second wall opposite the first wall, and a continuous side wall connecting the first and second walls;wherein the first wall has an area approximately equal to that of the flat-shaped bag body, and flat-shaped bag bodyis detachably fixed within the interior space bya connecting component;when the flat-shaped bag body is fixed inside the interior space, the first surface of the flat-shaped bag body is in close contact with the first wall.

[7] At least one advantageous aspect of the present invention isthat: in the combined state of the single-shoulder sling bag and the double-shoulder backpack, the pockets and functional compartments of the single-shoulder sling bag are fully exposed within the storage space, providing ample pockets and functional compartments for the double-shoulder backpack. Moreover, the flat shape of the unfolded single-shoulder sling bag helps minimize space occupation, ensuring that the double-shoulder backpack has sufficient storage space.

BRIEF DESCRIPTION OF THE DRAWINGS

[8] One or more embodiments are described by way of example in conjunction with

the accompanying drawings, which are not intended to limit the embodiments. Elements with the same reference numerals in the drawings represent similar components, unless otherwise specified. The drawings are not to scale.

[9] FIG.1 is a schematic diagram from one perspective of the single-shoulder sling bag according to an embodiment of the present invention.

[10] FIG.2 is a schematic diagram from another perspective of the single-shoulder sling bag according to an embodiment of the present invention.

[11] FIG.3 is a schematic diagram from one perspective of the double-shoulder backpack according to an embodiment of the present invention.

[12] FIG.4 is a schematic diagram of the double-shoulder backpack according to an embodiment of the present invention, showing the situation when opened along the second opening.

[13] FIG.5 is a schematic diagram of the single-shoulder sling bag according to an embodiment of the present invention, showing the situation when the flat-shaped bag body is in an unfolded state.

[14] FIG.6 is a schematic diagram of the single-shoulder sling bag detachably fixed inside the double-shoulder backpack according to an embodiment of the present invention, showing the situation when opened along the second opening.

[15] FIG.7 is a schematic diagram of the double-shoulder backpack according to an embodiment of the present invention, showing the situation when opened along the first opening.

[16] FIG.8 is a schematic diagram from another perspective of the double-shoulder backpack according to an embodiment of the present invention.

DETAILED DESCRIPTION

[17] For the purpose of facilitating understanding of the present application, detailed

explanations will be provided in conjunction with the accompanying drawings and specific embodiments. It should be noted that when an element is described as "fixed to" another element, it can be directly on the other element, or there may be one or more intermediate elements between them. When an element is described as "connected to" another element, it can be directly connected to the other element, or there may be one or more intermediate elements between them. The terms "upper," "lower," "inner," "outer," "bottom," etc., used in this specification to indicate positional relationships or orientations are based on the orientations or positional relationships shown in the drawings, solely for the purpose of facilitating the description and simplifying the description, and should not be construed as indicating or implying that the devices or elements referred to must have specific orientations, be constructed and operated in specific orientations. Therefore, they should not be understood as limiting the present application. In addition, the terms "first," "second," "third," etc., are used for descriptive purposes only and should not be construed as indicating or implying relative importance.

[18] Unless defined otherwise, all technical and scientific terms used in this specification have the same meaning as commonly understood by those skilled in the art to which this application pertains. The terms used in this specification are intended to describe specific embodiments for illustrative purposes and are not intended to limit the present application. The term "and/or" used in this specification includes any and all combinations of one or more of the listed items.

[19] Furthermore, the technical features involved in different embodiments described below in the present application can be combined with each other as long as they do not conflict with each other.

[20] The term "pocket" refers to a storage space attached or formed on a bag, clothing, or similar object. It is typically made of the same or similar material as the bag, located on the surface or inside of the bag, and used for carrying and storing items by the

user.

[21] The term "fastening structure " refers to a structure that allows opening and closing operations and is used to form the opening-closing portion of a bag, clothing, or similar object. It can include various components and mechanisms to achieve reliable connection and fixation at the opening, ensuring the security and stability of the items.

[22] By way of example, the fastening structure can be a combination of hooks and loops, buttons and buttonholes, a zipper composed of interlocking teeth and zipper heads, or a magnetic clasp utilizing the attraction force of magnets or magnetic materials.

[23] In general, the present invention discloses a combination bag composed of a single-shoulder sling bag 10 and a double-shoulder backpack 20. The combination bag can be reversibly transformed between a "separated state" and a "combined state" to meet the user's different usage needs.

[24] The single-shoulder sling bag 10 is a bag with a built-in rigid support structure and foldable deformability, which takes on different shapes depending on whether it is used in combination with the double-shoulder backpack. The double-shoulder backpack 20 is a bag with a double-shoulder strap design, providing suitable storage space.

[25] In the separated state, the single-shoulder sling bag 10 and the double-shoulder backpack 20 can be used as two independent bags. As shown in FIG. 1 and FIG. 2, when used independently, the single-shoulder sling bag 10 needs to be folded along a predetermined fold line to form a single-shoulder sling bag style with a suitable thickness and size.

[26] In the combined state, as shown in FIG. 5 and FIG. 6, the single-shoulder sling bag 10 is unfolded along the fold line to minimize its thickness and securely

accommodated within the storage space inside the double-shoulder backpack 20. Furthermore, the unfolded single-shoulder sling bag 10 enriches the functional compartments and pockets of the double-shoulder backpack 20, providing more convenience for the user.

[27] In the combination bag according to the present invention, a rigid support structure is used to achieve a sturdy outer shell, and the folding structure design of the single-shoulder sling bag is combined, which allows for an aesthetically pleasing appearance and a good user experience when the single-shoulder sling bag is used alone, without affecting the functionality of the single-shoulder sling bag and the double-shoulder backpack when used in combination.

[28] FIG. 1, FIG. 2, and FIG. 5 illustrate schematic diagrams of the single-shoulder sling bag 10 in a folded state and an unfolded state, respectively. The specific components of the single-shoulder sling bag 10 with foldable deformability will be described in detail.

[29] As shown in FIG. 1, FIG. 2, and FIG. 5, the single-shoulder sling bag 10 may include a bag body 11, a rigid support structure 12, at least two bag components 13, and a shoulder strap 14.

[30] The bag body 11 serves as the basic structure of the entire single-shoulder sling bag 10. It is flat in shape and has a first surface S1 and a second surface S2 that face away from each other. The accompanying drawings show an example of a bag body 11 that is generally square-shaped. However, those skilled in the art will understand that other suitable shapes can be selectively used based on practical needs, rather than being limited to square shapes.

[31] The rigid support structure 12 is a rigid component that can resist external forces and prevent bending and deformation. It can be embedded inside the bag body 11 to support the basic shape of the bag body 11. As an example, the rigid support structure

12 can be made of plastic sheets with a certain thickness to achieve lightweight effects.

[32] Referring to FIG. 1, the rigid support structure 12 is appropriately arranged at specific positions of the bag body 11 to form corresponding fold lines. This allows the bag body 11 to be reversibly folded along the designated fold lines, enabling reversible transformation between the "folded state" and the "unfolded state."

[33] For example, in accordance with the generally square-shaped bag body 11, the rigid support structure 12 can be a pair of rectangular plastic sheets. The two rectangular plastic sheets are symmetrically arranged along the fold line X, thereby transforming the bag body 11 in the folded state into a rectangular bag with a certain thickness.

[34] The bag components 13 are structural component fixed to the second surface of the bag body 11 through sewing, adhesion, or overlapping connections, among other connection methods. At least a portion of the edges of each bag component 13 is fixedly connected to the second surface of the bag body, forming an independent storage compartment.

[35] Preferably, the opening of the storage compartment is also equipped with at least one fastening structure (e.g., a zipper) to secure the items stored in the storage compartment and prevent them from falling out.

[36] As an example, two bag components 13 can be set to form two independent storage compartments on the second surface of the bag body 11 for users to store items. Of course, those skilled in the art can also set a greater number of bag components based on practical needs.

[37] Furthermore, on the surface of at least one bag component 13, several first pockets 15 can be further provided to enhance the storage function of the single-shoulder sling bag. For example, as shown in FIG. 5, two first pockets 15 are

sewn onto the surface of the bag component.

[38] Preferably, the surface of the aforementioned at least one bag component can also be equipped with at least one hanging ring 16 for hanging small items. The hanging ring 16 can be set in a position adjacent to the opening of the first pocket so that small items such as keys and folded plastic bags hung on the hanging ring can be inserted into the pocket. As an example, the hanging ring 16 can be fixedly connected to the surface of the bag component using magnetic attraction and/or snap fasteners.

[39] The shoulder strap 14 is a long strip-like structural component with a specific width and thickness. Its ends are attached to the bag body 11 and can form shoulder straps for carrying, when the bag body 11 is folded.

[40] Specifically, the shoulder strap 14 can be made of any suitable flexible material, such as nylon, canvas, leather, etc., based on practical needs. It should have an appropriate thickness and width to provide sufficient support and cushioning effects.

[41] Moreover, the shoulder strap 14 can further have functions such as length adjustment, padding, and/or magnetic connection buckles to meet the individual needs of users and enhance the carrying experience.

[42] During actual use, when the bag body 11 is in the folded state, the first surface of the bag body forms the outer surface of the single-shoulder sling bag 10. The storage compartments, first pockets, and hanging rings located on the second surface of the bag body 11 are positioned on the inside of the single-shoulder sling bag 10, providing functional compartments for organized storage of different items.

[43] Especially, the hanging ring 16 located on the inside of the bag body do not pose a risk of accidentally scraping or falling off during use. Users can conveniently reach into or place items through the gaps at the folded top without the need to unzip the bag as required by conventional bags.

[44] Furthermore, each opening of the storage compartments and first pockets can be

set away from the fold line X, so that these openings face the top of the single-shoulder sling bag 10 formed when the bag body 11 is in the folded state, facilitating the insertion and removal of items.

[45] Additionally, when the bag body 11 is in the unfolded state, the storage compartments, first pockets, and hanging rings located on the second surface of the bag body 11 also provide ample storage space.

[46] Therefore, when the bag body 11 is detachably secured to the first surface and first wall of the double-shoulder backpack 20, the abundant storage space on the second surface of the bag body 11 can be utilized as partitioned storage space inside the double-shoulder backpack 20.

[47] For the sake of simplicity, in some embodiments, the two opposite edges of the bag body 11 located at the ends of the fold line can be referred to as the "first edge 11a" and the "second edge 11b," respectively. The two distant ends of the shoulder strap 14 can be referred to as the "first end" and the "second end," respectively.

[48] Please refer to FIG. 2, where the first edge 11a has a first protrusion 111 extending outward, and the second edge 11b has a second protrusion 112 extending outward. The first end and second end of the shoulder strap 14 can be attached to the first protrusion 111 and the second protrusion 112, respectively.

[49] The aforementioned additional first protrusion 111 and second protrusion 112 provide some extra space to accommodate the volume and weight of the items contained inside when the bag body 11 is in the folded state, thus preventing the shoulder strap 14 from pulling and deforming the folded bag body 11.

[50] Specifically, please refer to FIG. 5, where the first edge 11a also has a third protrusion 113 paired with the first protrusion 111, and the second edge 11b has a fourth protrusion 114 paired with the second protrusion 112.

[51] Between the mutually paired first protrusion 111 and third protrusion 113, there is

a fasteningstructure. Similarly, anotherfastening structure is set between the mutually paired second protrusion 112 and fourth protrusion 114. For example, both of these fastening structures can be a combination of buttons and buttonholes.

[52] By setting the aforementioned opening-closing structures, ideal fastening forces can be provided on both sides of the first edge 11a and second edge 11b to keep the bag body 11 in the folded state.

[53] Ideally, please refer to FIG. 5, where the first end of the shoulder strap 14 is attached to the first protrusion 111, and the second end of the shoulder strap 14 is attached to the second protrusion 112. The shoulder strap 14 also passes through the ring structures set on the third protrusion 113 and fourth protrusion 114. Therefore, when the bag body 11 is in the unfolded state, the shoulder strap 14 surrounds the edges of the bag body without the need to detach it from the bag body 11.

[54] Furthermore, the shoulder strap 14 can have an appropriate length to closely follow the edges of the unfolded bag body 11 as much as possible.

[55] FIG. 3 shows a schematic view of the double-shoulder backpack from one angle, while FIG. 8 shows a schematic view of the double-shoulder backpack from another angle. The double-shoulder backpack 20 forms an accommodating space internally, capable of accommodating and securing the single-shoulder sling bag 10 in its unfolded state.

[56] As shown in FIG. 3 and FIG. 8, the interior spacefor accommodating can be defined by a first wall 21, a second wall 22, and continuous side walls 23.

[57] The first wall 21 and the second wall 22 are opposite to each other and spaced apart by a certain distance. The continuous side walls 23 join between the first wall 21 and the second wall 22, thereby enclosing an interior space for accommodation.

[58] For ease of description, the joining edge between the continuous side walls 23 and the first wall 21 is referred to as the "first joining edge," while the joining edge

between the continuous side walls 23 and the second wall 22 is referred to as the "second joining edge."

[59] As shown in FIG. 4 and FIG. 6, the unfolded state of the bag body 11 is detachably secured to the first wall using at least one connecting component. In this state, the first surface of the bag body 11 is in close contact or facing the first wall 21, while the second surface of the bag body 11 is exposed inside the accommodating space, providing or forming ample storage space.

[60] Ideally, as shown in FIG. 6, the bag body 11 can have an area that is substantially equal to the first wall 21, thus making full use of the fixing position provided by the first wall 21. In other words, when applied to a double-shoulder backpack with the same size first wall 21, the maximum area of the bag body 11 is equal to the area of the first wall 21.

[61] Specifically, as shown in FIG. 2 and FIG. 4, the connecting component can include at least one magnetic base 31 fixed on the first wall and at least one magnetic buckle 32 fixed on the first surface of the bag body.

[62] The paired magnetic bases 31 and magnetic buckle 32 are connected and fixed between the bag body 11 and the first wall 21 through snap fastening and magnetic attraction. Ideally, the magnetic base 31 and magnetic buckle 32 can be paired for enhanced fixing effect.

[63] Furthermore, the connecting component includes elastic band 33, fixed at one end on the first wall. As shown in FIG. 6, when the first surface of the bag body 11 is in close contact with the first wall, the elastic band 33 are looped or covered over the fold line of the bag body 11. The elastic band 33 apply elastic force to keep the bag body in close contact with the first wall, preventing movement.

[64] In some embodiments, the double-shoulder backpack may also have one or more openings to facilitate the user's placement of items into the accommodating space.

[65] Referring to FIG. 7, the openings of the interior space of the double-shoulder backpack can include a first opening 24 formed by at least a portion of the first joining edge and a second opening 25 formed by at least a portion of the second joining edge.

[66] The first opening 24 is located at the top end of the interior space. The second opening 25 is also located at the top end and extends a predetermined length towards the bottom end of the interior space. In other words, the second opening 25 extends further compared to the first opening 24.

[67] In this application, the terms "top end" and "bottom end" are used to refer to the two ends of the interior space in the vertical direction. The vertical direction refers to the height of the double-shoulder backpack in its normal wearing state. In other words, when the double-shoulder backpack is worn normally, its top end is further away from the ground compared to the bottom end.

[68] Ideally, as shown in FIG. 3, a second pocket 26 can be further provided on the second wall 22 within the interior space. In FIG.3, the backpack pocket is shown in dotted lines to indicate its internal position.

[69] The opening of the second pocket is adjacent to the continuous side walls 23 and extends in the vertical direction. The opening of the second pocket can also be equipped with a fastening structure (e.g., a zipper).

[70] Therefore, the user can conveniently access the second pocket through the second opening 25 and retrieve lightweight but important items such as identification cards, receipts, etc. Since the second opening is located inside the interior space rather than on the outermost pocket, it effectively avoids the issues of loss or theft.

[71] Although for illustrative purposes, the components of the combined backpack are depicted as side parts, walls, ends, surfaces, etc., and although they can be referred to as separate components, the backpack can be formed from a single piece of

material or from separate three or more pieces of material. Any suitable joining method, including but not limited to sewing, heat welding, ultrasonic welding, plasma welding, adhesive bonding, and similar methods or combinations thereof, can be used to join the ends of the single piece of material or to join the separate pieces of material together.

[72] Lastly, it should be noted that the above embodiments are provided for illustrative purposes to explain the technical solution of the present application, rather than limiting its scope. Within the scope of the present application, the technical features described in the above embodiments or different embodiments can be combined, and the steps can be implemented in any order. There are many other variations of the different aspects of the present application as described above, which are not provided in detail for the sake of brevity. Although detailed descriptions have been given with reference to the aforementioned embodiments in this application, those skilled in the art should understand that modifications can still be made to the technical solutions described in the aforementioned embodiments, or some technical features can be equivalently replaced. Such modifications or replacements do not depart from the essence of the technical solutions of the embodiments described in the present application.

CLAIMS

1. A combination bag, comprising:

a sling bag, wherein the sling bag comprises:

a flat-shaped bag bodywith a first surface and a second surface facing away from each other, wherein the flat-shaped bag body is foldable;

a rigid support structure embedded within the flat-shaped bag body, symmetrically arranged along afold line of the flat-shaped bag body;

a shoulder strap attached to the flat-shaped bag body;

at least two bag components, whereineach of the bag componentsis positioned on the second surface of the flat-shaped bag body, for forming an independent storage compartment, and an opening of the independentstorage compartment is located away from the fold line;

a backpack with an interior space, wherein the interior space is defined by a first wall, a second wall opposite the first wall, and a continuous side wall connecting the first wall and second wall;

wherein the first wall has an area approximately equal to that of the flat-shaped bag body, and flat-shaped bag bodyis detachably fixed within the interior spacebya connecting component;

when the flat-shaped bag body is fixed within the interior space, the first surface of the flat-shaped bag body is in close contact with the first wall.

2. The combination bag according to claim 1, wherein two bag components are symmetrically positioned along the fold line.

3. The combination bag according to claim 2, wherein the opening of the independent storage compartment is equipped with a fastening structure; and at least one bag component is further equipped with a plurality offirstpockets, whose opening is located away from the fold line.

4. The combination bag according to claim 3, wherein at least one bag component is further equipped with at least one hanging ring, and the opening of the first pocket are located adjacent to the hanging ring.

5. The combination bag according to claim 1, wherein the flat-shaped bag body has a first edge and a second edge, which are located at the ends of the fold line;

a first protrusion extending outward from the first edge, and a second protrusion extending outwardfrom second edgeand two ends of the shoulder strap are respectively attached to the first protrusionand the second protrusion.

6. The combination bag according to claim 5, wherein the bag body further comprises a third protrusion paired with the first protrusion, and a fourth protrusion paired with the second protrusion;

wherein two fastening structuresare arranged between the first protrusion and the third protrusion, as well as between the second protrusion and the fourth protrusion; and

the fastening structure is configured to provide a sufficient fixing force on the first edge and the second edge, for keeping the flat-shaped bag bodyin a folded state.

7. The combination bag according to claim 6, wherein a first end of the shoulder strap is attached to the first protrusion, and a second end of the shoulder strap is attached to the second protrusion,each of the third protrusionand the fourth protrusion have a ring structure for the shoulder strap to pass through.

8. The combination bag according to claim 1, wherein when the flat-shaped bag body is unfolded, the shoulder straps wrap around edges of the flat-shaped bag body.

9. The combination bag according to claim 1, wherein the connecting component comprises:

a pair of magnetic bases fixed on the first wall.

a pair of magnetic buckles fixed on the first surface of flat-shaped bag body.

10. The combination bag according to claim 9, wherein the connecting component further comprises: an elastic band; and two ends of the elastic band are fixed to the first wall;

when the first surface of the flat-shaped bag body is in close contact with the first wall, the elastic band is looped around the fold lineof the flat-shaped bag body.

11. The combination bag according to claim 1, wherein at least a portion of a first

joining edge forms a first opening of the interior space, and at least a portion of a second joining edge forms a second opening of the interior space;

wherein the first joining edge is the joining edge between the continuous side walls and the first wall, while the second joining edge is the joining edge between the continuous side walls and the second wall.

12. The combination bag according to claim 11, wherein the interior space has a top end and a bottom end in a vertical direction;andthe first opening is located at the top end, and the second opening is located at the top end, extending a predetermined length from the top end towards the bottom end.

13. The combination bag according to claim 12, wherein the second wall is further equipped with a second pocket, and an opening of the second pocket is adjacent to the continuous side walls.

14. The combination bag according to claim 12, wherein the opening of the second pocket is oriented in the vertical direction, and the opening of the second pocket is equipped with a fastening structure.

15. The combination bag according to claim 1, wherein the rigid support structure comprises two plastic sheets, thataresymmetrically arranged along the fold line.