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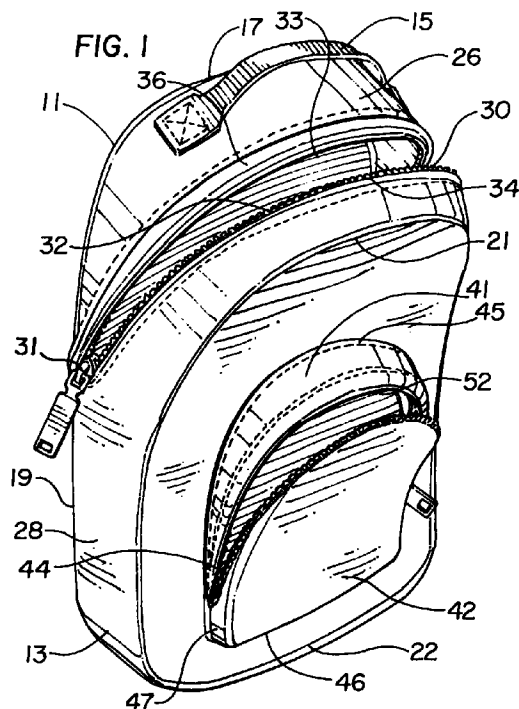
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### (54) Carry pack with angled opening

(57) A pack for carrying articles includes an angled zippered opening which provides access to an interior compartment of the pack and provides support to the unzipped pack portions. The pack includes front, back, and intermediate portions. The zippered opening is provided in the intermediate portion. The opening is generally U-shaped and has a pair of ends which are located adjacent the front portion and a central portion which angles upwardly and rearwardly toward the back portion.



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## Description

### Background and Summary of the Invention

This invention relates to storage and carrying devices such as backpacks, sacks, and packs. More particularly, the invention relates to a pack or sack with an angled opening.

The invention will be explained in conjunction with packs and sacks such as backpacks and packs which can be carried by one or more handles. However, it will be understood that the invention can be used with other types of devices for storing and carrying articles.

A backpack conventionally includes a plurality of panels which are stitched or otherwise secured together. The panels form an interior storage compartment, and access to the compartment is provided by a zipper or the like. The zipper is conventionally located where two panels meet or in the top of the pack. However, when the zipper is open, a portion of the pack becomes unsupported and may droop or sag, or the opening might remain substantially closed and interfere with loading or unloading the pack.

The invention provides a pack with an angled opening which angles upwardly and rearwardly from the front of the pack. The ends of the opening are positioned between the bottom and the top of the sack, preferably about 1/4 to 1/2 of the distance from the bottom to the top. The Opening is closed by a zipper or other fastener. When the opening is unfastened, the back portion of the pack is not completely detached from the front portion, and the back portion is thereby supported and prevented from substantially sagging or drooping. However, the back portion separates from the front of the pack sufficiently to allow access to the interior compartment.

### Description of the Drawing

The invention will be explained in conjunction with an illustrative embodiment showing the accompanying drawings, in which --

Figure 1 is a perspective view of a backpack formed in accordance with the invention with a pair of interior compartments, the openings in the pack being shown in an open condition;

Figure 2 is a side elevational view of the backpack of Figure 1;

Figure 3 is a back elevational view of the backpack with the openings closed; and

Figure 4 is a side elevational view of the backpack of Figure 3.

### Description of Specific Embodiment

A pack 10 includes a front portion 11, a back portion 12, and an intermediate portion 13. The particular pack illustrated includes a pair of shoulder straps 14

which are attached to the front portion and a handle 15 which is attached to the top of the side portion.

A user can carry the pack on his back by inserting his arms through the shoulder straps, or he can carry the pack by the handle. The front portion 11 lies against the back of the user when the pack is carried by the user and faces forwardly. The back portion 12 faces rearwardly.

The front portion 11 is formed by a substantially flat panel which includes a curved top edge 17, a bottom edge 18, and a pair of side edges 19. For a soft pack, the panel can be made of flexible fabric such as woven nylon. The woven fabric provides some stiffness to the panel, and the panel can be further reinforced with padding or other stiffening material if desired.

The back portion 12 is also formed by a substantially flat panel which includes a curved top edge 21, a bottom edge 22, and a pair of side edges 23. The back panel may also advantageously be formed from relatively flexible fabric with some stiffness such as a woven nylon.

The intermediate portion 14 extends between the front and back panels and spaces the front and back panels apart to form an interior compartment 25 within the pack. The intermediate portion includes an arched top portion 26 and a substantially flat bottom portion 27 which extend between the top and bottom edges of the front and back portions and a pair of side portions 28 which extend between the side edges of the front and back portions.

The intermediate portion may also be formed from relatively flexible fabric such as woven nylon. The front, back, and intermediate portions are formed separately and are secured together by stitching along their adjacent edges, which forms seams in the pack. The handle 15 is stitched to the arched top portion of the intermediate portion.

An opening or slit 30 is formed in the intermediate portion 13 for providing access to the interior compartment. The opening includes a pair of ends 31 which are adjacent the front portion 11 and a U-shaped central portion 32 which angles upwardly and rearwardly toward the top of the pack. In the embodiment illustrated, both of the upper and lower edges 33 and 34 of the opening lie entirely within the intermediate portion 13 between the seams which attach the intermediate portion to the front and back portions.

The opening may be closed by a zipper 35. However, other fastening or closing means could be used. In the embodiment illustrated, the top of the intermediate portion forms which extends beyond the upper row 37 of Zipper teeth for covering the zipper when the opening is closed as shown in Figures 3 and 4.

The ends 31 of the opening are located at about 1/2 of the distance between the bottom and top of the front portion 11. As a result, when the zipper is open as shown in Figures 1 and 2, the portions of the intermediate and front portions below the opening remain connected to the lower portion of the front portion and are

supported thereby. The front portion is reinforced not only by the padding or other stiffening material but also by the arched top portion 26. The material below the bottom edge 34 of the opening tends to hold its shape rather than collapse because of the tightness of the weave and the arched shape of the edge 34.

Even though the opening does not extend all the way to the bottom of the pack, the upward and rearward angle of the opening allows the pack to open sufficiently to provide convenient access to the interior compartment as shown in Figure 2. The lower edge 34 of the opening drops away from the upper edge 33 of the opening sufficiently to allow the user to insert his hand through the opening in a generally downwardly direction.

The ends of the opening are preferably located above the bottom of the pack so that the bottom of the front panel supports the open portion of the pack when the zipper is open. The ends are preferably within a range of about 1/4 to 3/4 of the distance from the bottom of the pack to the top of the pack.

The opening angles upwardly to form an included angle A with the front panel 11 (Figure 4). The angle A is preferably within the range of about 10° to 60°. In the embodiment illustrated the angle A is about 45°.

An auxiliary compartment 40 is provided by a pair of panels 41 and 42 which are attached to the back panel 12. The panels 41 and 42 are separately along a U-shaped opening 43 which angles upwardly and rearwardly at an angle B of about 10° to 15° relative to the back panel 12.

The panel 41 includes a pair of side edges 44 and a curved top edge 45 which are stitched to the back panel 12. The panel 42 includes a bottom edge 46 and a pair of short side edges 47 which are stitched to the back panel. The panels can also be formed from woven nylon fabric.

The opening 43 is closed by a zipper 49 and upper and lower rows of zipper teeth 50 and 51. The upper zipper teeth 50 are positioned inside of the curved edge 52 of the panel 41 to provide a flap which covers the opening when the opening is closed.

The panel 42 includes a relatively flat central portion 53 which forms the back of the auxiliary compartment, a forwardly extending bottom portion 54, and a pair of forwardly extending side portions 55. The front portion of the auxiliary compartment is formed by the back panel 12. The intermediate portion of the compartment is formed by the panel 41 and the bottom and side portions of the panel 42.

The ends of the opening 43 where the two rows of Zipper teeth meet is located about 1/4 of the distance between the bottom 54 of the compartment and the top of the panel 41. When the Zipper 49 is open as illustrated in Figure 2, the panel 42 is supported by the attachment of the side portions 55 to the panel 12 and by the arched shape of the panel which is provided by the central portion 53 and the side portions 55. However, the angle of the opening allows the upper edge of

the panel 42 to move away from the panel 41 to allow access to the compartment.

While in the foregoing specification a detailed description of a specific embodiment of the invention was set forth for the purpose of illustration, it will be understood that many of the details herein given may be varied considerably by those skilled in the art without departing from the spirit and scope of the invention.

## Claims

### 1. A pack for carrying articles comprising:

a front portion having top, bottom, and side portions,  
a back portion having top, bottom, and side portions,  
an intermediate portion connected to the top and side portions of the front and back portions and spacing the front and back portions apart to provide an interior storage compartment, the intermediate portion having an opening formed therein, the opening having a pair of ends which are positioned adjacent the intermediate portions of the front portion and a generally U-shaped central portion which extends upwardly and rearwardly toward the top portion of the back portion, and  
fastening means on the intermediate portion for releasably closing the opening.

### 2. The pack of claim 1 in which the top portions of the front and back portions are curved.

### 3. The pack of claim 1 in which the back and intermediate portions are formed from fabric.

### 4. The pack of claim 1 in which the front, back, and intermediate portions are formed from fabric.

### 5. The pack of claim 1 in which the front, back, and intermediate portions are formed from separate pieces which are secured together.

### 6. The pack of claim 1 in which said fastening means is a zipper.

### 7. The pack of claim 1 in which the ends of the opening in the intermediate portion are located between the top and bottom portions of the front portion.

### 8. The pack of claim 1 in which the ends of the opening in the intermediate portion are located between about 1/4 to 3/4 of the distance between the bottom and top portions of the front portion.

### 9. The pack of claim 1 in which the ends of the opening in the intermediate portion are located about 1/2 of the distance between the bottom and top por-

tions of the front portion.

10. The pack of claim 1 in which the intermediate portion includes an arched top portion.

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