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(54) **SLEEPING BAG WITH INTEGRAL HEATING DUCT**

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(57) **ABSTRACT**

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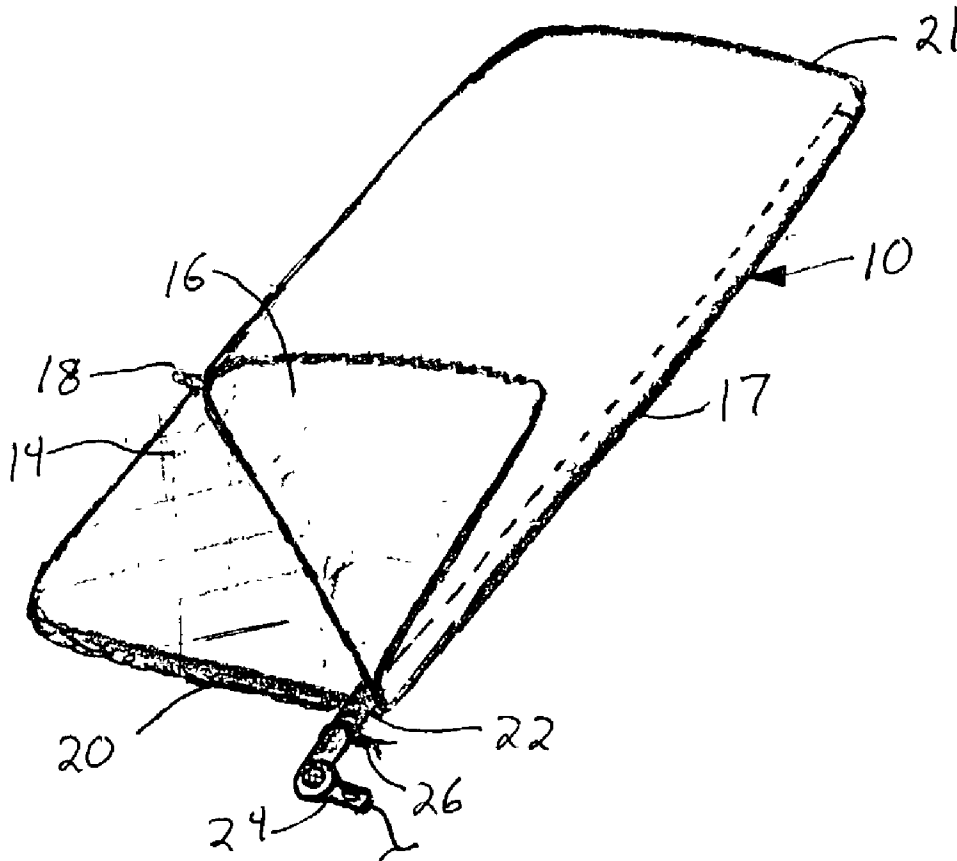
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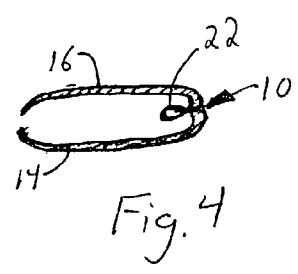
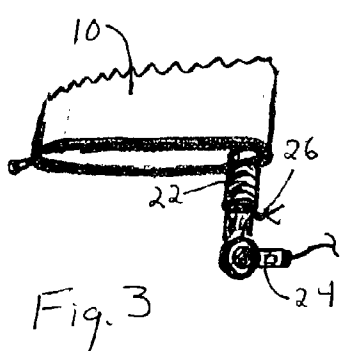
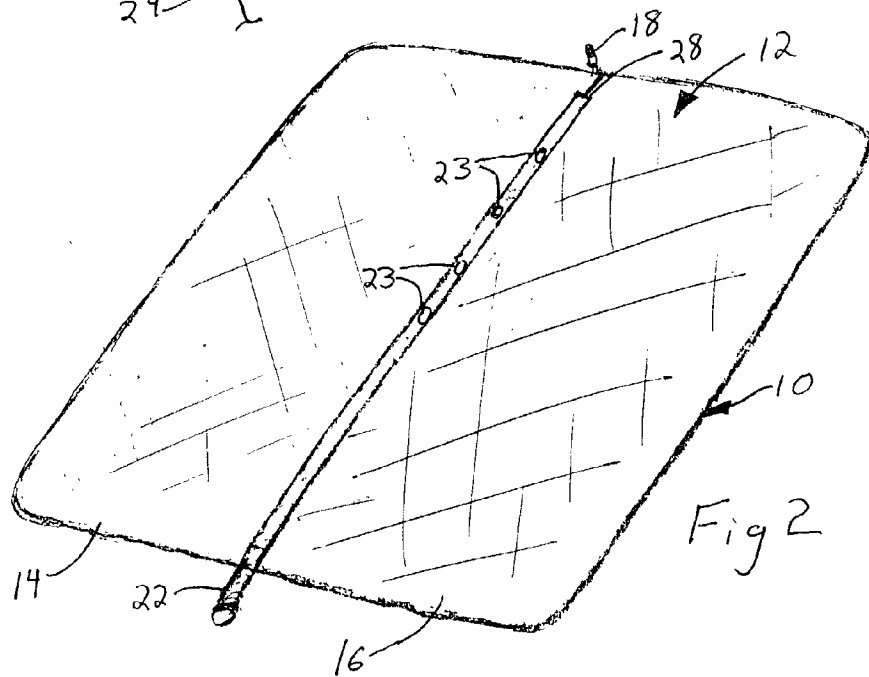
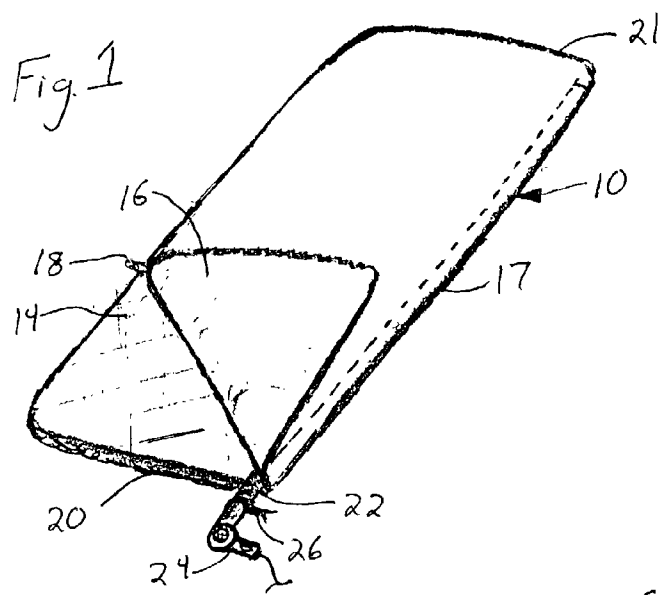
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A sleeping bag has a shell constructed by a flexible panel that is folded in half to form first and second panel portions. Adjacent edges of the first and second panel portions having complementary components of a fastener thereon to close the sleeping bag except for an opening at a head end thereof. A duct, secured to the first panel portion, has an opening between the first and second panel portions, and another opening outside the head end at which to connect to hair dryer. Heated air from the hair dryer is distributed throughout the sleeping bag prior to or during use by a camper.





## SLEEPING BAG WITH INTEGRAL HEATING DUCT

### CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] Not Applicable

### STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT

[0002] Not Applicable

### BACKGROUND OF THE INVENTION

[0003] 1. Field of the Invention

[0004] The present invention relates to camping equipment, and more particularly to sleeping bags.

[0005] 2. Description of the Related Art

[0006] Campers and other outdoor adventurers often sleep in an enclosed bag like article, commonly referred to as a sleeping bag. A conventional sleeping bag often has two or more edges which can be fastened together by a zipper, or other means, to form an enclosed shell within which the person places his or her body. An opening at one end of the elongated shell is provided through which the person's head extends. Except for the head opening, the sleeping bag generally sealed around the person's body when in use.

[0007] In order to keep the sleeper warm in relatively cold outdoor environments, the sleeping bag is fabricated with thermally insulating material. For example, the main part of the sleeping bag often is formed by two spaced apart sheets which are sown together with down or synthetic insulation held there between. Regardless of the insulating value of the sleeping bag, the comfort of the sleeper is a function of how well his or her body heat is held within the bag. The lower the external temperature, the greater the amount of heat that is lost through the bag. Upon entering the sleeping bag, some period of time is required for temperature of its material to rise to the user's body temperature. During that period the user is chilled by the cooler temperature of the sleeping bag.

[0008] Therefore, it is desirable to provide a sleeping bag which maintains its occupant at as comfortable a temperature as possible.

### SUMMARY OF THE INVENTION

[0009] A sleeping bag includes a first panel portion and a second panel portion each having a plurality of sides. The first panel portion is joined along one side to a side of the second panel portion which then are folded over each other to form shell. In another embodiment, the shell is formed by a single panel that has two halves which are folded over each other. A fastener releasably secures at other opens sides of the first and second panel portions together to form an enclosure within which a camper can sleep.

[0010] A duct is attached to the shell and has a first opening within the enclosure. A second opening of the duct extends through the shell and is adapted to be connected to a source of heated air, such as a conventional portable hair dryer. In one preferred version, the duct extends from a head end to a foot end of the sleeping bag and has a plurality of air outlets there between to evenly distribute the heated air throughout the enclosure.

### BRIEF DESCRIPTION OF THE DRAWINGS

[0011] FIG. 1 is a view of a sleeping bag in a state to receive a person;

[0012] FIG. 2 shows the sleeping bag in a fully opened position and spread flat on a surface;

[0013] FIG. 3 illustrates an open end of the sleeping bag through which a heating duct extends; and

[0014] FIG. 4 is a transverse cross section through the closed sleeping bag.

### DETAILED DESCRIPTION OF THE INVENTION

[0015] With initial reference to FIGS. 1 and 2, a sleeping bag 10 is formed by a rectangular panel of material 12. The panel 12 may be formed by two overlapping sheets of fabric with insulating material, such as down or synthetic insulation there between. The outer edges of the two sheets are then sown together and may be quilted to secure the insulating material against movement between the outer sheets. The panel 12 is then divided into two halves, or portions, 14 and 16 that are folded over one another with their edges abutting as shown in FIG. 1. The abutting edges are releasably secured together by a fastener, such as zipper 18 which extends completely around at least two, if not all three, of the exposed edges of the folded panel 12. Alternatively, the two panel portions 14 and 16 can be separately fabricates and then sown together along one side 17.

[0016] FIG. 1 illustrates a sleeping bag 10 with part of the upper panel portion 16 folded back to enable a person to enter the bag for sleeping. Once inside, the person's feet are positioned at a foot end 21 of the sleeping bag and the person's head and neck project out through a head end 20. The flap of the upper panel portion 16 is then folded back over the lower panel portion 14 and the zipper 18 closed as tightly around the occupant as possible.

[0017] An elongated piece of the sleeping bag fabric material is sown together to form a tube 22 which then is sown or otherwise attached longitudinally inside the sleeping bag 10 as shown in FIGS. 1 and 4. The fabric tube 22 forms a duct that extends substantially the entire length of the sleeping bag preferably along the fold of the panel 12. The ends of the tubular duct 22 are open to carry air into the sleeping bag from the open head end 20 to adjacent the foot end 21. A number of outlets 23 may be provided along the length of the duct 22 to evenly distribute the air within a closed sleeping bag 10. Although it is preferred that the tubular duct 22 be located on the interior of the sleeping bag 10 so that the maximum amount of heat from air flowing through the duct will be transferred into the sleeping enclosure, that duct could be attached to an exterior surface of the sleeping bag 10 with air passages leading into the sleeping enclosure.

[0018] As shown in FIGS. 1 and 3, an end of the duct 22 projects outwardly from the head end 20 of the sleeping bag. The user inserts the outlet nozzle of a standard portable hair dryer 24 into the exposed end of the duct 22 and secures the duct around the hair dryer nozzle by a draw string or other fastening mechanism. Sleeping bags often are utilized at camp grounds which have camp sites with 120 volt electrical outlets into which the electrical cord for the hair dryer 24 is

plugged. Alternatively a battery powered heater may be utilized in place of a 120 volt electrical hair dryer.

[0019] Prior to entering the sleeping bag **10**, the user can turn on the hair dryer **24** which blows heated air into the exposed end of the duct **22**. That air flows through the tubular duct and out into the closed sleeping bag through the outlets **23** and the open interior end **28** of the duct. From the duct **22**, the air flows between the two panel portions **14** and **16** of the sleeping bag and out through the open head end **20**. This flow of heated air warms the internal surfaces of the sleeping bag **10** prior to the camper entering. Upon entering the bag, the camper can turn of the hair dryer **24** as the interior surfaces have now been warmed to above the camper's body temperature and the body heat from the camper will maintain the sleeping bag interior at a comfortable temperature. If the exterior air is relatively cold, the hair dryer **24** can be left running at a relatively low temperature setting to continue forcing heated air through the sleeping bag while occupied by the camper.

[0020] When use of the sleeping bag **10** no longer is required, the camper disconnects the hair dryer **24** from the exposed end of the heating duct **22** and then rolls up the sleeping bag for storage. The flexible nature of the fabric duct **22** does not affect the ability of the sleeping bag to be rolled up for storage and carrying by a camper. Furthermore, if heating is not required, the duct **22** lays flat within the bag, and does not bother the camper's sleeping. Other forms of a flexible, collapsible duct can be utilized.

[0021] The foregoing description was primarily directed to a preferred embodiment of the invention. Although some attention was given to various alternatives within the scope of the invention, it is anticipated that one skilled in the art will likely realize additional alternatives that are now apparent from disclosure of embodiments of the invention. Accordingly, the scope of the invention should be determined from the following claims and not limited by the above disclosure.

What is claimed is:

1. A sleeping bag comprising:

a shell formed by a first panel portion and a second panel portion each having a plurality of sides, the first panel portion being joined along a first side to a first side of the second panel portion;

a fastener for releasably securing together at least one other side of each of the first panel portion and the second panel portion to form a sleeping enclosure; and

a duct fastened to the shell and having a first opening within the shell, and having a second opening at an end that projects from the shell for connection to a source of heated air.

2. The sleeping bag as recited in claim 1 wherein the duct extends along one of the plurality of sides of the first panel portion.

3. The sleeping bag as recited in claim 1 wherein the duct extends along the first side of the first panel portion within the sleeping enclosure.

4. The sleeping bag as recited in claim 3 wherein the duct has a plurality of air outlets along a length of the duct.

5. The sleeping bag as recited in claim 3 wherein the shell has a head end and a foot end, and the first opening of the duct is adjacent the foot end and the second opening is adjacent the head end.

6. The sleeping bag as recited in claim 5 wherein the duct extends outward from head end of the shell.

7. A sleeping bag comprising:

a flexible panel folded in half to form first and second panel portions with adjacent edge sections having complementary components of a fastener thereon whereby to seal the sleeping bag except for an opening at a head end thereof; and

a duct secured to the first panel portion and having a first opening between the first and second panel portions, and having a second opening in a section of the duct which projects outward from the head end wherein the second opening is adapted to connect to hair dryer.

8. The sleeping bag as recited in claim 7 wherein the duct extends to adjacent a foot end of the sleeping bag.

9. The sleeping bag as recited in claim 8 wherein the duct has a plurality of air outlets between the head end and the foot end of the sleeping bag.

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