Aug. 12, 1969 M. W. OZIER 3,460,170

SLEEPING BAGS

Filed Sept. 20, 1967

FIG. 1

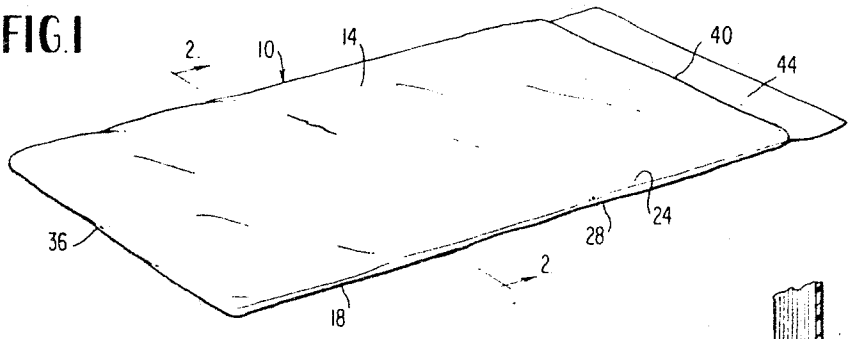
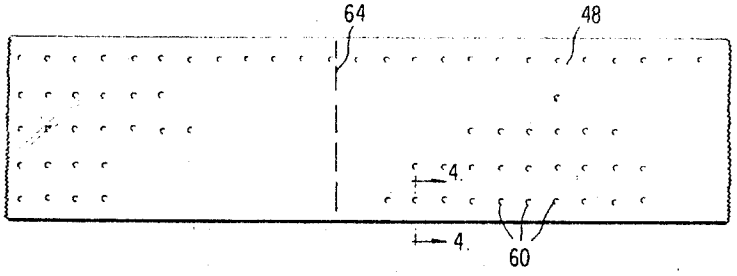


FIG. 3



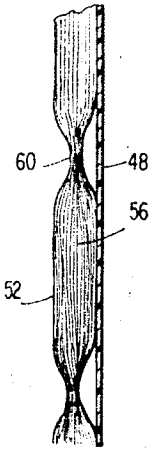


FIG. 4

FIG. 5

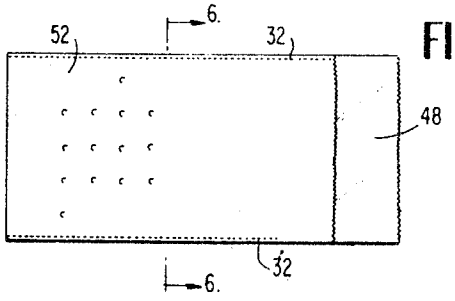


FIG. 6

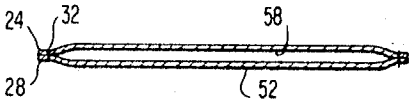
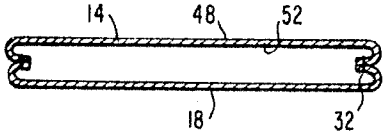


FIG. 2



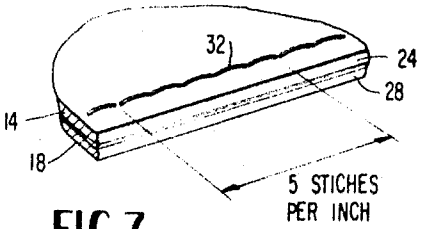


FIG. 7

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SLEEPING BAGS

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U.S. Cl. 5—343 5 Claims

ABSTRACT OF THE DISCLOSURE

A light weight, low cost sleeping bag comprising an outer layer of impervious material and an inner layer of paper which is constructed with a seam having sufficient openings to provide adequate ventilation. The bag is manufactured by initially fastening together two panels constructed of a paper layer laminated to an impervious layer such as plastic along a portion of their marginal edges with the impervious layers facing each other and subsequently inverting the bag as formed so that the impervious layers are on the outside and the seam and paper layers are on the inside.

BACKGROUND OF THE INVENTION

This invention relates to sleeping bags and more particularly to a light weight, disposable sleeping bag which is inexpensive to produce.

It is known to make light weight sleeping bags from paper that can be disposed of after one or two uses. However, the sleeping bags which have been made of paper heretofore have been of relatively complex construction requiring a multiplicity of materials and a number of complex manufacturing steps. Furthermore, the paper sleeping bags which have been developed thus far in the art have been incapable of providing adequate warmth for the person using the bag while at the same time permitting adequate ventilation, absorbing body moisture, and being waterproof.

An improved disposable sleeping bag could well be used by medical and first aid personnel for treatment of shock, accident victims and ambulance services if such sleeping bags could be manufactured at a low enough cost to justify the using of a fresh sterile sleeping bag and then throwing it away after each use. In addition, such sleeping bags could obviously be used by campers who only occasionally require a sleeping bag or by the regular camper who finds it more convenient to purchase such a sleeping bag rather than be burdened with carrying a relatively heavy sleeping bag. For maximum versatility in the outdoors a sleeping bag should be impervious to water to preclude the necessity of a separate ground cloth while still providing adequate ventilation. At the same time it should be warm enough so that a person using it could survive in an environment where the temperature might fall well below freezing.

SUMMARY OF THE INVENTION

Generally, the present invention encompasses a sleeping bag comprising superposed top and bottom panels, each of said panels comprising a layer of paper laminated to a layer of impervious material, fastening means joining said layers along a portion of their peripheral edges to form a bag having a layer of paper on the inside and said layer of impervious material on the outside and having an opening on one side thereof, said fastening means forming a seam on the inside of said bag having openings therein to provide ventilation for said bag.

It is an object of this invention to provide a light weight, disposable sleeping bag which is relatively simple to manufacture and which can be prepared at a low cost.

It is a further object of this invention to provide a low cost sleeping bag which can be disposed of after one use.

It is a further object of this invention to provide a sleeping bag which is made of a paper and plastic laminate.

It is another object of this invention to provide a sleeping bag in which a person can survive at temperatures well below freezing.

Further objects and advantages of the invention will become apparent from the following description of a preferred embodiment of this invention as illustrated in the accompanying drawings and described hereinafter.

BRIEF DESCRIPTION OF THE DRAWINGS

FIGURE 1 is a perspective view of a preferred embodiment of a sleeping bag according to the present invention.

FIGURE 2 is a view taken along line 2—2 of FIGURE 1 showing a cross-section of the bag construction.

FIGURE 3 is an illustration of a panel used in manufacturing the sleeping bag.

FIGURE 4 is a view taken along line 4—4 of FIGURE 3 showing a cross-section of a panel used in the sleeping bag.

FIGURE 5 is a plan view of the sleeping bag with the paper on the outside prior to its being inverted.

FIGURE 6 is a view taken along line 6—6 of FIGURE 5.

FIGURE 7 is a detail view of the edge of the sleeping bag showing a stitched seam prior to its being inverted.

DESCRIPTION OF THE PREFERRED EMBODIMENT

A preferred embodiment of the invention is shown in FIGURE 1 wherein it is seen that a sleeping bag shown generally at **10** comprises a top panel **14** folded over a bottom panel **18**.

The top and bottom portions are joined along their adjacent inwardly directed peripheral edges **24** and **28** by suitable fastening means or connecting elements such as stitches, staples or the like to form a seam. A third side is closed by the fold **36**. An opening **40** is provided at the end of the bag opposite the fold **36** to permit ingress thereto and egress therefrom.

A flap **44** extends beyond opening **40**. The flap **44** can be folded over opening **40** to close it. When the flap **44** is open it serves as a waterproof support for a pillow or the like. It is apparent that in another form of the invention the seams could be on adjoining sides and the fold could be adjacent the opening in the bag. Further in another form the top and bottom panels could be completely separate initially and subsequently joined together on three sides by suitable fastening means.

As shown in FIGURES 2 and 4, the bag is provided with an outer layer **48** comprising a water impervious flexible sheet material such as a thin polyethylene film and an inner layer which preferably is comprised of sub layers of wet strength paper **52** and soft absorbent paper **56**.

The layer of paper preferably includes a thin sub layer of wet strength paper **52** connected to a relatively thick pad of moisture absorbent paper **56** by embossing **60** for greater strength and longer life than if they were independent of each other. The water impervious sheet material is bonded or laminated to the pad of absorbent paper **56** to provide complete water proofing for the exterior of the bag. Preferably, the top and bottom panels **14** and **18** of the sleeping bag are joined on their inwardly directed peripheral edges by stitching at **32**. The seam formed by the stitches are inside the bag so that they are protected from being opened if the bag is abraded while in use. In addition, rain rolling off the plastic sheeting cannot enter the bag through the seams since they are turned inside.

An open form of stitching such as conventional chain stitching is employed to provide openings in the seam to ventilate the inside of the bag. For best results the stitches on the seam should be spaced so that it contains four to eight stitches per inch. The optimum number of stitches per inch is five. With this number of stitches the sleeping bag is kept structurally secure while still being capable of providing sufficient insulation to allow survival of the inhabitant of the sleeping bag at temperatures well below freezing. At the same time the spacing between the stitches is large enough to provide sufficient ventilation for comfort at milder temperatures. It is apparent that those skilled in the art to which this invention pertains will recognize that similar results may be achieved by substituting staples or clips for the preferred stitching.

The panels used in the construction of the bag may be manufactured by embossing a plurality of layers of absorbent paper **56** and a layer of wet strength paper **52** into a pad. A flexible water impervious sheet material **48** made of a suitable plastic such as polyethylene is then bonded to the absorbent paper to form a panel with outer layers of wet strength paper and water impervious sheeting and an inner layer of moisture absorbent paper. In the form of the sleeping bag shown in the drawings an elongated blank is folded on itself along fold line **64** to form top and bottom panels **14** and **18** with the plastic sheeting on the inside and the paper on the outside. As shown in FIGURES 5 and 6, panels **14** and **18** are preferably stitched together along two sides to form seams **32** along their peripheral edge adjacent fold **36** to form a bag with an opening **40** and a head flap **44**.

After the bag is sewn closed, it is inverted, or drawn inside out, so that the flexible water impervious sheeting **48** is on the outside of the bag while the paper layer is within the bag. Since the wet strength paper **52** lines the sleeping bag, perspiration will not weaken it. Any perspiration will, however, be absorbed by the absorbent paper **56**. Many variations and modifications of the present invention will occur to those skilled in the art from a study of the embodiment of the invention specifically disclosed herein.

What is claimed is:

1. A disposable sleeping bag including

superposed top and bottom panels, each of said panels comprising a layer of paper laminated to a layer of impervious material;

said panels being arranged so that said layers of paper are on the inside, said impervious layers are on the outside, and a portion of the peripheral edges of said superposed layers is inwardly directed; and

a plurality of spaced elements interconnecting said panels to each other along said portion to form a disposable sleeping bag, said spaced elements forming an inwardly directed seam on said inwardly directed peripheral edge with a plurality of openings between said elements to permit ventilation of said bag through said seam.

2. A disposable sleeping bag as in claim **1** wherein said spaced elements comprise stitches forming a seam on said portion having four to eight stitches per inch inclusive.

3. A sleeping bag as in claim **1** wherein said layer of impervious material is comprised of plastic.

4. A disposable sleeping bag as in claim **1** wherein there are at least four of said spaced elements per inch.

5. A disposable sleeping bag as in claim **4** wherein said spaced elements comprise stitches forming a seam on said portion having at least four stitches per inch.

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U.S. Cl. X.R.

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