

[54] **FABRIC JOINTS**
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[58] Field of Search. 24/207, 81 CC, 201 C, 24/230 BC, 205.11

[56] **References Cited**

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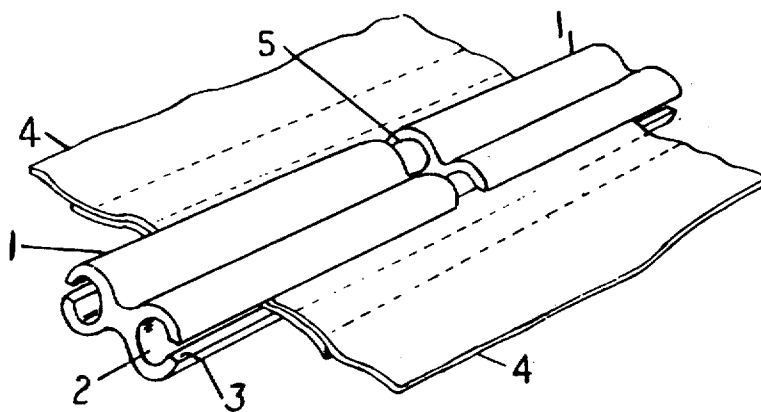
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[57] **ABSTRACT**

A joint for joining two sheets of fabric incorporates a stiff rib formed with two parallel passageways and a slot providing lateral access to each passageway. Each sheet of fabric has one boundary edge enlarged in the form of a bead integral with the sheet. Each sheet is attached to the rib by engagement of the bead on the edge of the respective passageway, the sheet extending into the rib through the respective slot.

1 Claim, 4 Drawing Figures



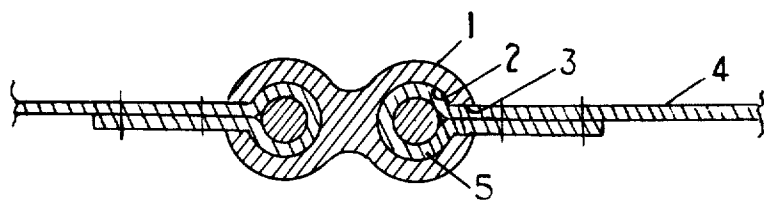


FIG. 1

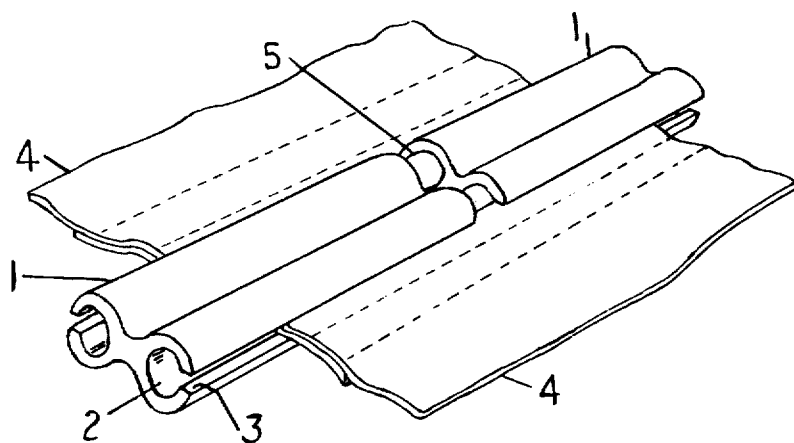


FIG. 2

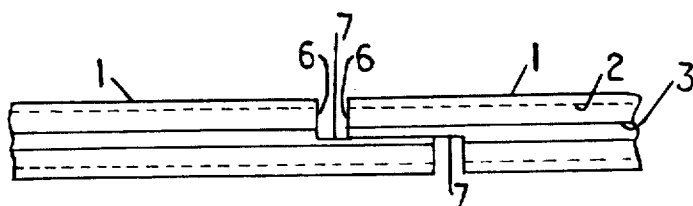


FIG. 3

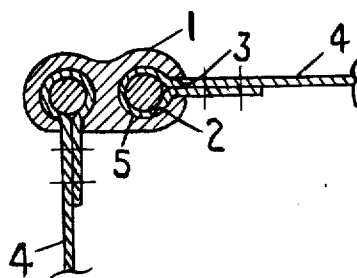


FIG. 4

FABRIC JOINTS

This invention relates to a fabric joint.

It is frequently desirable to be able to join sheets of fabric to one another by a connection which is easy to engage, has high strength and is substantially weatherproof. Examples of applications of the joint are the joining of covers of all kinds and the joining of sections of an airhouse i.e., a structure made to sheets of fabric and kept erected by air under slight pressure. At present the method of joining the fabric sections making such a house is by sliding clasp fastener or by some form of lacing such as Dutch lacing or by use of eyelets connected to one another in various fashions. All these methods suffer from their own disadvantages. Lacing and eyelets require a certain degree of skill to manufacture and are time-consuming besides being difficult to manipulate under adverse weather conditions in the open while sliding clasp fasteners are liable to damage. It requires only damage to one of the elements of a sliding clasp fastener to render the entire fastener useless.

Fabric joints are known in which the edge portions of sheets of fabrics are jammed in slots in connecting elements by suitably shaped jamming members.

Such joints are troublesome to assemble because they require the simultaneous filament of the sheet and the jamming member in the slot, they cannot be used for joining vaulted sheets because of the necessary rigidity of the jammed member, and they are comparatively easily pulled apart because their grip depends only on friction.

It is an object of the present invention to provide a joint which has great strength, is cheap, is easy to fit together by unskilled labour, is weatherproof, and is usable to join vaulted sheets such as those which form the roof panels of an air house.

A fabric joint according to the invention incorporates a rib of non-resilient material formed with two parallel passageways and two continuous lateral slots each providing lateral access to a respective passageway and two sheets of fabric each having one boundary edge enlarged by formation of an integral bead thereon, the beads on each sheet being located within a respective passageway and the portion of the sheet extending back from the bead passing through the slot.

For joining sheets in the one plane the slots face away from one another in opposite directions. For forming a corner joint the slots may face in directions at an acute angle to one another.

Each rib may be cut away to present at each end a cut-away portion having a cut face parallel with the plane containing the axes of the passageways.

The rib may be formed of a metal such as aluminium or may be formed of a non-metal such as nylon.

The rib may have a figure of eight cross section, the passageways being located in the two loops of the eight. In this construction for joining sheets in the same plane the portions of the loops at the top and bottom of the eight are formed with the slots.

Practical embodiments of the invention are illustrated in the accompanying drawings in which

FIG. 1 illustrates in cross section a joint of two sheets in one plane,

FIG. 2 is a perspective view of the joint showing the meeting point of two adjacent short ribs forming sections of a longer rib,

FIG. 3 is a side view of two adjacent rib sections showing how the ends may be cut away and engage one another and

FIG. 4 is a cross section of a joint at a corner.

In the drawings and referring to FIGS. 1 to 3, 1 denotes a rib of figure eight cross section formed with two parallel passageways 2 located in the loops of the eight, and two lateral continuous slots facing away from one another. Two sheets of fabric 4 are formed along edge portions to be joined with integral enlarged beads 5. The bead 5 of each sheet is located within the respective passageway 2 and the portion of the sheet extending back from the bead passes through the respective slot 3.

Each rib 1 is cut away at each end to present a cut away portion 6 having a cut face 7 parallel with the plane containing the axes of the passageways 2, the cut faces 7 facing in opposite directions with respect to the plane containing the axes of the passageways 2.

In the construction of FIG. 4 the lateral slots 3 face in directions at right angles to one another. Otherwise the construction of the joint is similar to that illustrated in FIGS. 1 to 3 and the same reference numerals denote the same parts.

In practice, a joint is made by sliding each sheet 4 on to the rib 1 so that the bead 5 enters an associated passageway 2 while the portion of the sheet 4 extending back from the bead 5 passes through the lateral slot 3. At the junction of two short ribs forming sections of a longer rib the cut away end 6 of one rib section 1 overlaps the adjacent rib section 1 whereby to enhance the waterproof properties of the joint.

The joint is easy to assemble or dismantle, it is cheap, has a strength equal to the strength of the fabric sheets being joined and because of the tortuous nature of the passage from one side of each sheet to the other is virtually weatherproof. Where the rib is made of metal it has the additional advantage of serving as a lightning conductor where the joint is used to join the fabric sections of an airhouse. The ribs may be curved to the contour of a vaulted roof without causing any difficulty in assembly.

What is claimed is:

1. In a fabric joint incorporating adjoining aligned ribs of non-resilient material each formed with two parallel aligned passageways and two lateral continuous slots each providing lateral access to a respective passageway and two sheets of fabric each having one boundary edge enlarged by formation of an integral bead thereon, the beads on each sheet being located within a respective passageway and the portion of the sheet extending back from the bead passing through the slot, said adjoining ribs being cut-away at adjacent ends so that each rib presents a cut-away portion having a cut face parallel with the plane containing the axes of passageways, the cut faces facing in opposite directions with respect to the plane containing the axes of the passageways.

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