A combined structure made of a foam material includes a top panel, two long side panels, two short side panels, and a bottom panel, wherein the top panel at its bottom has a plurality of slots, and the long side panel at its top has two protruding tenons for engaging the slots, and the long side panel includes two penetrating groove holes on both sides for embedding the protruding tenons, and the long side panel at its bottom has a plurality of protruding tenons for fixing the slots at the corresponding positions at the periphery of the bottom panel. The foam material forms a table or a chair capable of storing articles, so as to achieve the effects of providing a convenient and quick installation, a lightweight, an easy storage, and a feature of not occupying too much space after the combined structure is disassembled.
COMBINED STRUCTURE MADE OF A FOAM MATERIAL

BACKGROUND OF THE INVENTION

[0001] 1. Field of the Invention

[0002] The present invention relates to a combined structure made of a foam material, and more particularly to a combined structure comprising a top panel, two long side panels, two short side panels, and a bottom panel to form a table or a chair, and the panels can be lifted for containing articles, so as to achieve the effects of providing a convenient and quick installation, a lightweight, an easy storage, and a feature of not occupying too much space after the combined structure is disassembled.

[0003] 2. Description of the Related Art

[0004] In outdoor barbeque activities, we need to prepare a dining table and chairs for placing food and providing seats, in addition the preparation of food. However, the portable table and chairs are usually made of wood, plastics, or aluminum. Although the present material can be folded and stored conveniently, yet wood is considered too heavy, plastics cannot carry heavy loads, and aluminum is too expensive. Furthermore, tables and chairs made of wood, plastic, and aluminum are still heavy for transportation.

[0005] Further, the tables and chairs made of these materials are not suitable for indoor uses such as a classroom with many children. There is always a risk for children to accidentally bump into the hard tables or chairs and get hurt.

SUMMARY OF THE INVENTION

[0006] In view of the foregoing shortcomings of the prior art, the inventor of the present invention developed a combined structure in accordance with the present invention to overcome the current technical problems.

[0007] Therefore, it is a primary objective of the present invention to provide a combined structure made of a foam material that comprises a top panel, two long side panels, two short side panels, and a bottom panel, wherein a plurality of slots is disposed at the bottom surface of the top panel, and the long side panel has two protruding tenons protruded from the top of the long side panel and embedded into the slots of the top panel, and the long side panel has two penetrating groove holes disposed on both sides of the long side panel for embedding and fixing the protruding tenons on both sides of the short side panel, such that the size of the foam material is used to combine a table or a chair, so as to achieve the effects of providing a convenient and quick installation, a lightweight, an easy storage, and a feature of not occupying too much space after the combined structure is disassembled.

[0008] Another objective of the present invention is to provide a combined structure made of a foam material, wherein the long side panel includes a plurality of protruding tenons disposed at the bottom surface of the long side panel for embedding and fixing the same quantity of corresponding slots disposed at the periphery of a bottom panel and reinforcing the whole structure of a foam material for its support for heavy loads.

[0009] A further objective of the present invention is to provide a combined structure made of a foam material, wherein the long and short side panels include a bottom panel thereunder, so that when the top panel is lifted, a function for storing articles is provided.

[0010] Another further objective of the present invention is to provide a combined structure made of a foam material, wherein the top panel is in a square shape, a rectangular shape, a circular shape, an elliptical shape, or various shape having a curve along its periphery.

BRIEF DESCRIPTION OF THE DRAWINGS

[0011] FIG. 1 is an exploded view of a structure of the present invention;

[0012] FIG. 2A is a cross-sectional view of a structure of the present invention;

[0013] FIG. 2B is another cross-sectional view of a structure of the present invention;

[0014] FIG. 3 is a schematic view of a preferred embodiment of the present invention; and

[0015] FIG. 4 is a schematic view of storing articles according to the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0016] Referring to FIGS. 1, 2A and 2B, a combined structure made of a foam material in accordance with the invention comprises a top panel 1, two long side panel 2, two short side panel 3, and a bottom panel 4, wherein the bottom of the top panel 1 has a slot 11 and the top panel 1 is in a square shape, a rectangular shape, a circular shape, an elliptical shape, or any other shape having a curve along its periphery, and the top of the long side panel 2 has two protruding tenons 21 and a groove hole 22 separately disposed on the upper and lower positions of the body of the long side panel 2 and a plurality of protruding tenons 23 at the bottom, and both upper and lower position of the short side panel 3 separately include a protruding tenon 31, and the periphery of the bottom panel 4 has a plurality of neatly arranged slots 41.

[0017] Therefore, the groove holes 22 at the upper and lower sides of the long side panel 2 are embedded and engaged to the protruding tenons 31 disposed at the upper and lower sides of the short side panel 3, and then the two protruding tenons 21 at the top of the long side panel 2 are fixed into the corresponding slots 11 at the bottom surface of the top panel 1, and the plurality of protruding tenons 23 at the bottom of the long side panel 2 are embedded and engaged to the plurality of slots 41 at the corresponding positions around the periphery of the bottom panel 4, so that the foregoing foam material can be used to form each panel, and a larger sized foam is used as the top panel for a table and the smaller sized foam is used as the top panel for a chair as shown in FIG. 3. Such arrangement provides a convenient and quick installation, a lightweight, and a feature of not occupying too much space after the combined structure is disassembled. Therefore, the combined structure of the invention can be moved easily for outdoor uses, as well as indoor uses. Since the combined structure is made of a foam material, therefore children will not be injured when bumped into the combined structure.
Since the bottom of the long side panel 2 includes a plurality of protruding tenons 23 to be embedded and engaged to the slots 41 at the periphery of a bottom panel 4, therefore it can reinforce the whole foam structure for the support of a heavy load. In addition, the top panel 1 can be lifted for storing articles such as toys and other things as shown in FIG. 4.

In summation of the above description, the present invention definitely can achieve the expected effect, and the disclosed structure herein enhances the performance than the conventional structure and further complies with the patent application requirements.

What is claimed is:

1. A combined structure made of a foam material, comprising a top panel together with two long side panels and two short side panels, wherein said top panel at its bottom surface includes a plurality of slots, and said long side panel at its top includes two protruding tenons for embedding and fixing said slots of said top panel, and said long side panel includes two penetrating groove holes disposed on both sides of the body of said long side panel, such that said two protruding tenons disposed on both sides of said short side panel are embedded and engaged, and the size of said foam material is used to form a table or a chair, so as to achieve the effects of providing a convenient and quick installation, a light weight, and a feature of not occupying much space after said combined structure is disassembled.

2. The combined structure made of a foam material of claim 1, wherein said long side panel at its bottom includes a plurality of protruding tenons to be embedded and engaged to the same quantity of slots disposed at the periphery of a bottom panel to reinforce the support of heavy loads for the whole foam structure.

3. The combined structure made of a foam material of claim 1, wherein said long and short side panels at their bottom include a bottom panel, such that when said top panel is lifted, a function for storing articles is provided.

4. The combined structure made of a foam material of claim 1, wherein said top panel is in a square shape, a rectangular shape, a circular shape, an elliptical shape, or any shape having a curve along its periphery.

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