



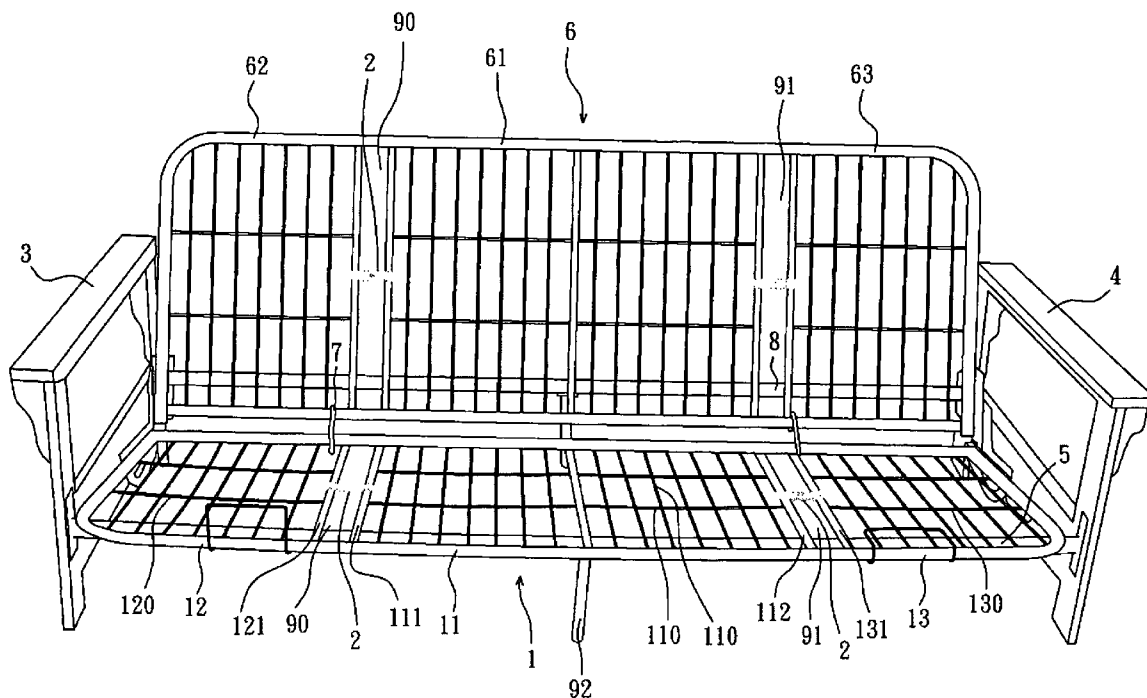
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(19) **United States**(12) **Patent Application Publication**
Shih(10) **Pub. No.: US 2009/0205129 A1**(43) **Pub. Date: Aug. 20, 2009**(54) **LIE-ABLE SOFA**(52) **U.S. Cl. 5/12.1**(76) **Inventor: Tung-Yuan Shih, Tainan City (TW)**(57) **ABSTRACT**

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A lie-able sofa comprises a seat having a seat frame; in side the seat frame of the seat having at least one an oblong frame and at least one short frame; a hollow space being formed between the oblong frame and the short frame; a back frame uprightly installed to a backside of the seat; each bridge unit being formed by two connecting sheets being arranged at an upper side and a lower side; a nut and a stud serving to lock the two connecting sheets together; each connecting sheet having two cambered sheets at two sides thereof; as the two connecting sheets are combined, the cambered sheets of different connecting sheets being formed with a space for receiving the main support tube. By above structure, the oblong frame and the short frames are retained to the seat.



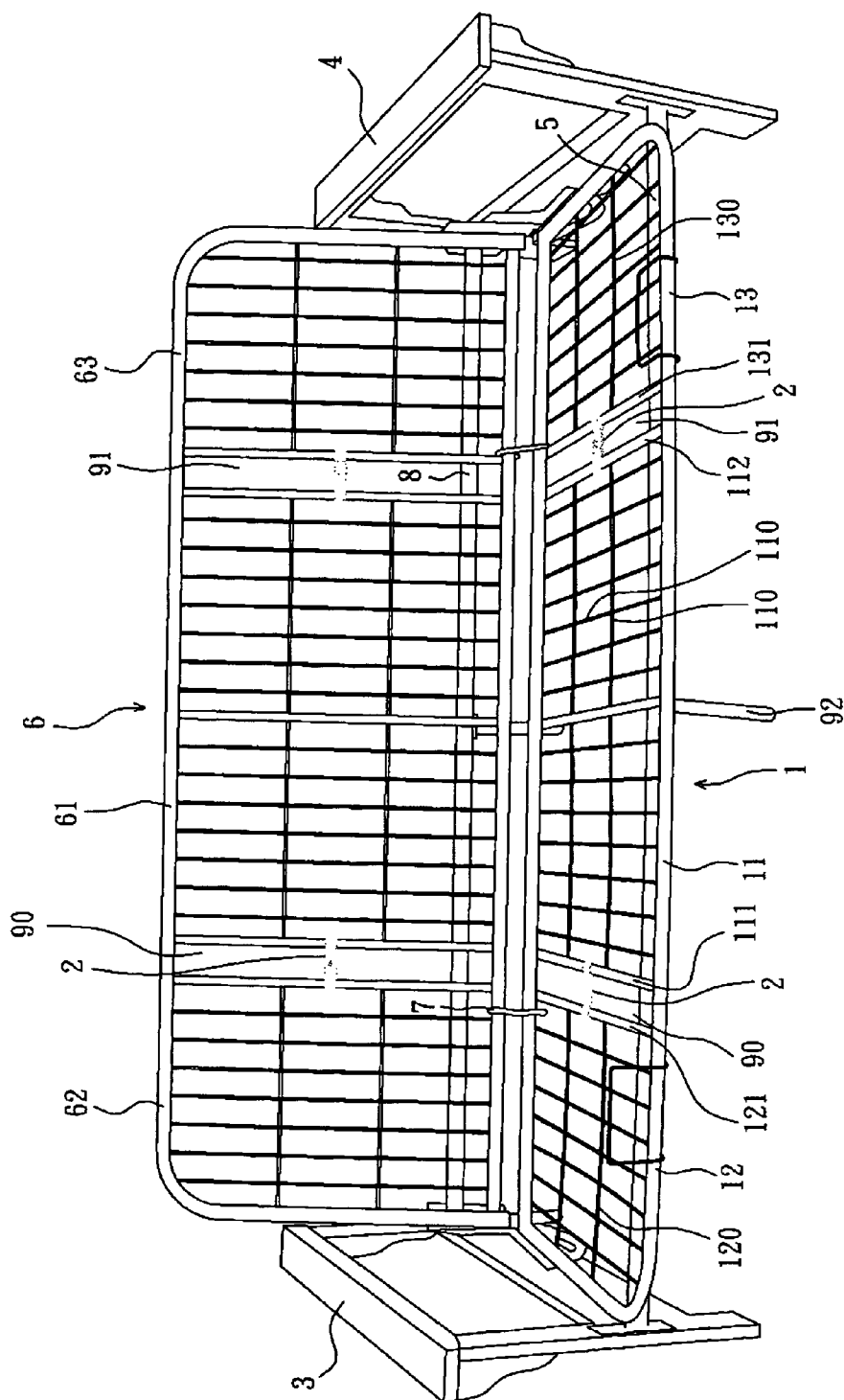


FIG. 1

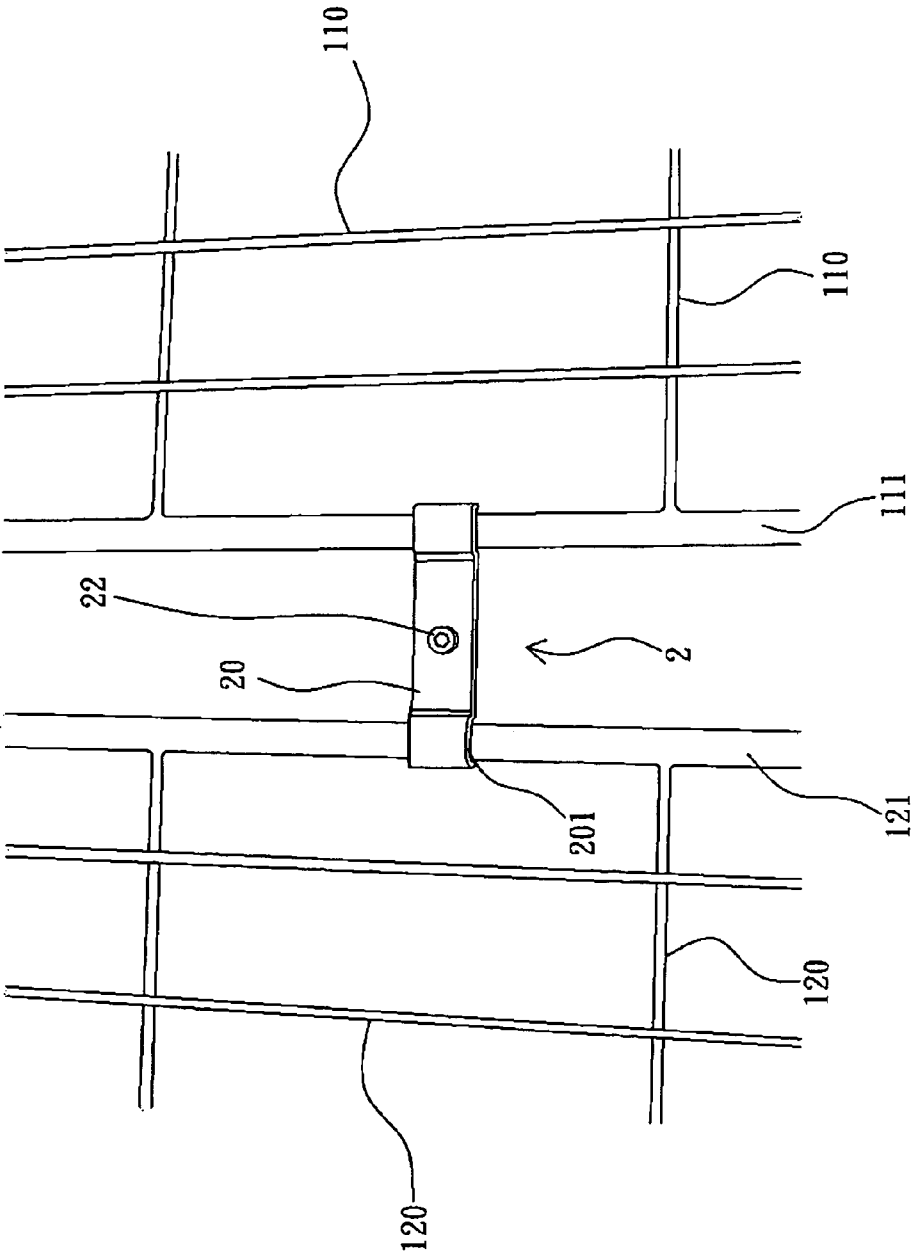


FIG. 2

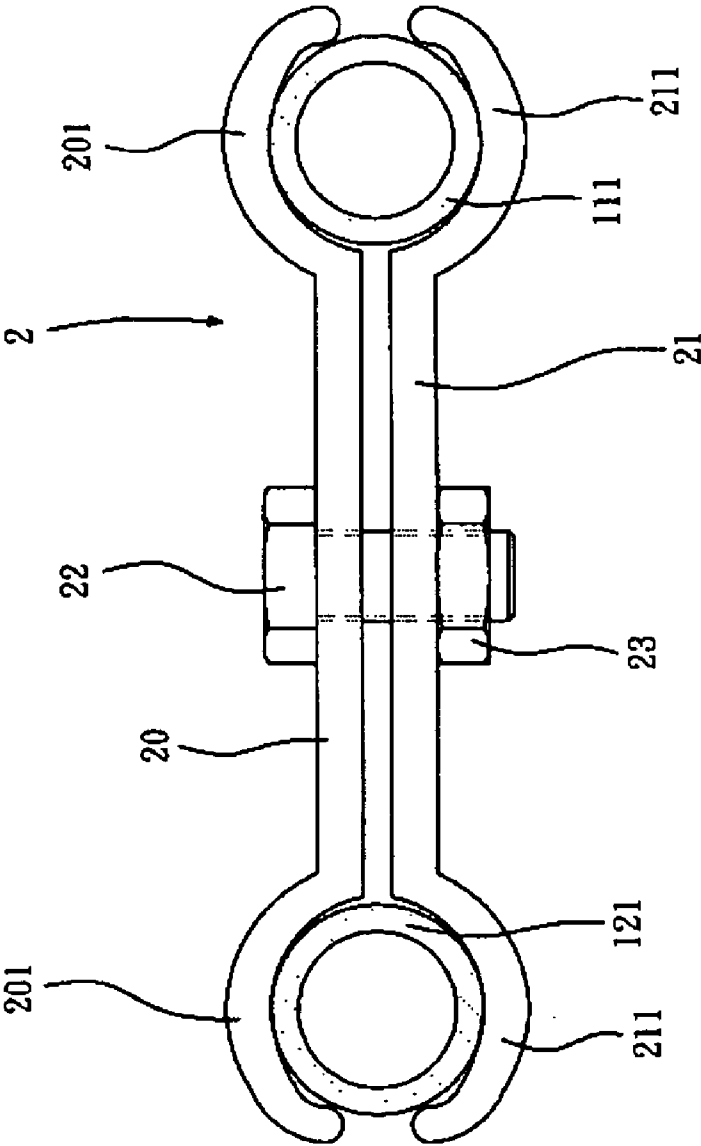


FIG. 3

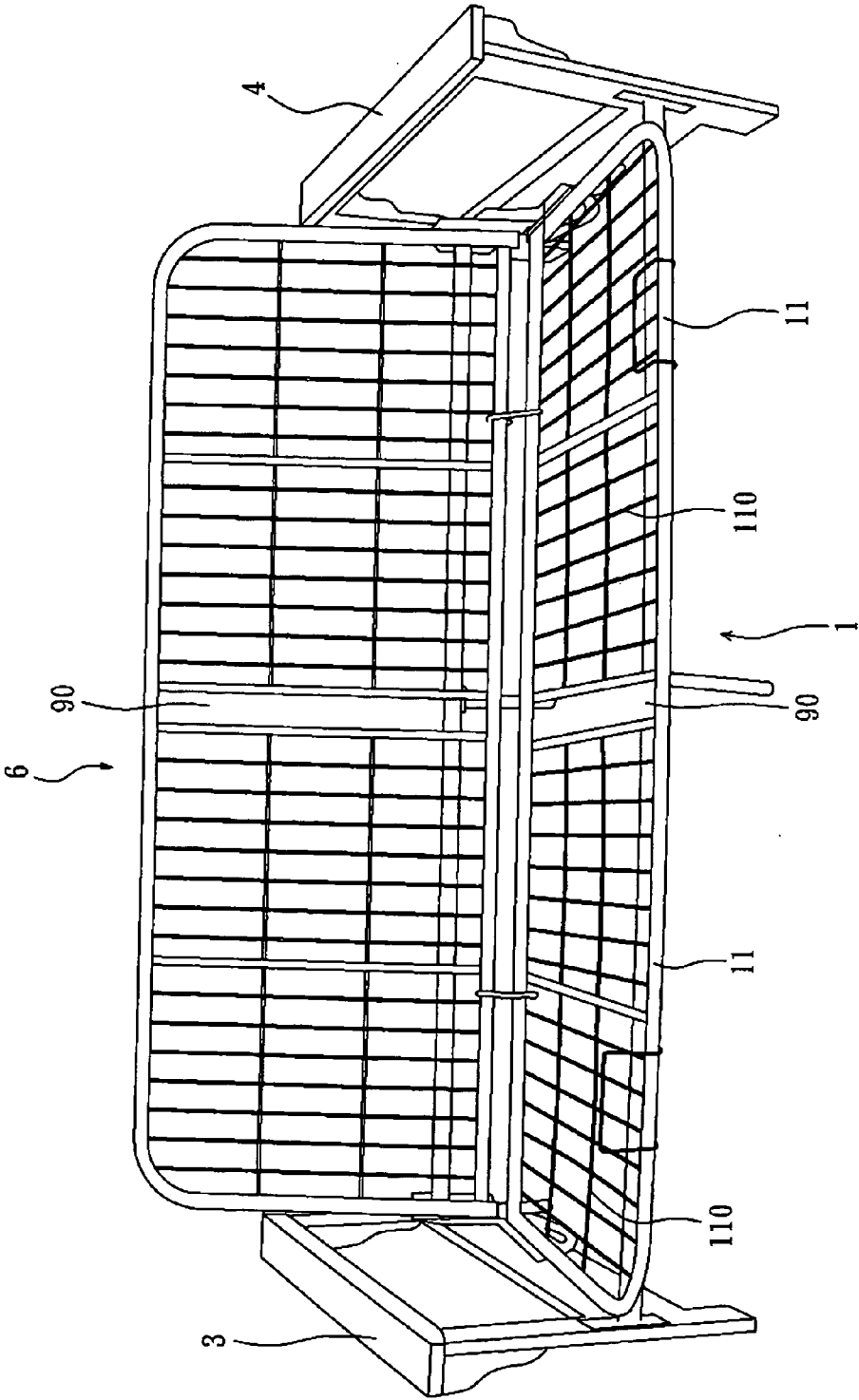


FIG. 4

LIE-ABLE SOFA

FIELD OF THE INVENTION

[0001] The present invention relates to sofas, and particularly to a lie-able sofa wherein the present invention is suitable for light-weighted lie-able sofa by assembling smaller parts with a lower cost. Bridge units are used for enhancing the whole structure of the sofa.

BACKGROUND OF THE INVENTION

[0002] Referring to FIG. 4, a prior art lie-able sofa is illustrated. The prior art sofa has a seat **1**, a back frame **6**, and two handles **3, 4** at two sides. The seat **1** is formed by two oblong frames **11**. When a user sits or lies between the two oblong frames of the sofa, a hollow portion **90** between the two oblong frames are not supported so that the place will collapse. Thus it only supports a finite weight. Furthermore, the hollow portion **90** will make the user feel uneasy. To have a better supporting ability, the radius of the iron wires must be enlarged or more iron wires are used to be the space between the two oblong frames. However this will make the cost increased.

SUMMARY OF THE INVENTION

[0003] Accordingly, the object of the present invention is to provide a lie-able sofa, wherein the present invention is suitable for light-weighted lie-able sofa by assembling smaller parts with a lower cost. The bridge units have the effect of enhancing the whole structure of the sofa.

[0004] To achieve above object, the present invention provides a lie-able sofa which includes the following elements.

[0005] A seat has a seat frame and a plurality of legs **92** for supporting the seat.

[0006] In side the seat frame of the seat has an oblong frame and two short frames at two sides of the oblong frame.

[0007] Two sides of the oblong frame have two main support tubes arranged along two longitudinally sides of the seat frame. The short frame is arranged between one short side of the seat frame and a main support tube. The short frame is arranged between one short side of the seat frame and a main support tube.

[0008] A hollow portion is formed between the two main support tubes. A bridge unit is arranged across the two main support tubes. A hollow portion is formed between the two main support tubes. A bridge unit is arranged between the two main support tubes.

[0009] A plurality of iron wires are arranged across two longitudinal sides and two transversal sides of the oblong frame and two short frames so as to form as nets in the oblong frame and the short frames.

[0010] A back frame is uprightly installed to a backside of the seat. The back frame has an enhancing rod transversally arranged at an upper side of the seat so as to enhance the structure of the back frame. A plurality of connecting units are arranged between the back frame and the seat for retaining the back frame to the seat.

[0011] Two handles are at two sides of the seat. Each handle is connected between the seat and the back frame. Each handle has an enhancing rod below the seat.

[0012] Each bridge unit is formed by two connecting sheets are symmetrically arranged at an upper side and a lower side. A nut and a stud serve to lock the two connecting sheets together. Each connecting sheet has two cambered sheets at

two sides thereof. As the two connecting sheets are combined, the cambered sheets are formed with a space for receiving the main support tube. Thus, by above mentioned structure, the oblong frame and the short frames are retained. Thus other than steadiness, the seat is also flexible and comfortable for lying and seating.

[0013] Similarly, the back frame is formed with an oblong frame and two short frames which has a structure like those used in the seat.

[0014] The various objects and advantages of the present invention will be more readily understood from the following detailed description when read in conjunction with the appended drawing.

BRIEF DESCRIPTION OF THE DRAWINGS

[0015] FIG. 1 is a perspective view about the lie-able sofa in the embodiment of the present invention.

[0016] FIG. 2 is a partial enlarged view of the present invention.

[0017] FIG. 3 is a partial cross sectional view of the present invention.

[0018] FIG. 4 is a schematic view about the prior art lie-able sofa.

DETAILED DESCRIPTION OF THE INVENTION

[0019] In order that those skilled in the art can further understand the present invention, a description will be provided in the following in details. However, these descriptions and the appended drawings are only used to cause those skilled in the art to understand the objects, features, and characteristics of the present invention, but not to be used to confine the scope and spirit of the present invention defined in the appended claims.

[0020] Referring to FIGS. 1 and 2, the structure of the present invention is illustrated. The present invention related to a lie-able sofa which includes the following elements.

[0021] A seat **1** has a seat frame and a plurality of legs **92** for supporting the seat **1**.

[0022] Inside the seat frame of the seat **1** has an oblong frame **11** and two short frames **12, 13** at two sides of the oblong frame **11**.

[0023] Two sides of the oblong frame **11** have two main support tubes **111, 112** arranged along two longitudinally sides of the seat frame. The short frame **12** is arranged between one short side of the seat frame and a main support tube **121**. The short frame **13** is arranged between one short side of the seat frame and a main support tube **131**.

[0024] A hollow portion **90** is formed between the two main support tubes **111, 121**. A bridge unit **2** is arranged across the two main support tubes **111, 121**. A hollow portion **91** is formed between the two main support tubes **112, 131**. A bridge unit is arranged between the two main support tubes **112, 131**.

[0025] A plurality of iron wires **110** are arranged across two longitudinal sides and two transversal sides of the oblong frame **11** and two short frames **12, 13** so as to form as nets in the oblong frame **11** and the short frames **12, 13**. A back frame **6** is uprightly installed to a backside of the seat **1**. The back frame **6** has an enhancing rod **8** transversally arranged at an upper side of the seat **1** so as to enhance the structure of the back frame **6**. A plurality of connecting units **7** are arranged between the back frame **6** and the seat **1** for retaining the back frame **6** to the seat **1**. Two handles **3, 4** are at two sides of the

seat **1**. Each handle **3, 4** is connected between the seat **1** and the back frame **6**. Each handle **3** has an enhancing rod **5** below the seat **1**.

[0026] Referring to FIGS. 2 and 3, each bridge unit **2** is formed by two connecting sheets **20, 21** which are symmetrically arranged at an upper side and a lower side. A nut **23** and a stud **22** serve to lock the two connecting sheets **20, 21** together. Each connecting sheet **20, 21** has two cambered sheets **201, 211** at two sides thereof. As the two connecting sheets **20, 21** are combined, the cambered sheets **201, 211** are formed with a space for receiving the main support tube. Thus, by above mentioned structure, the oblong frame **11** and the short frames **12, 13** are retained. Thus other than steadiness, the seat **1** is also flexible and comfortable for lying and seating.

[0027] Similarly, the back frame **6** is formed with an oblong frame **61** and two short frames **62, 63** which have a structure like those used in the seat **1**.

[0028] The present invention is suitable for light-weighted lie-able sofa by assembling smaller parts with a lower cost. The bridge units have the effect of enhancing the whole structure of the sofa.

[0029] The present invention is thus described, it will be obvious that the same may be varied in many ways. Such variations are not to be regarded as a departure from the spirit and scope of the present invention, and all such modifications as would be obvious to one skilled in the art are intended to be included within the scope of the following claims.

What is claimed is:

1. A lie-able sofa comprising:

- a seat having a seat frame;
- inside the seat frame of the seat having at least one an oblong frame and at least one short frame;
- a hollow space being formed between the oblong frame and the short frame;
- a back frame uprightly installed to a backside of the seat;
- each bridge unit being formed by two connecting sheets being arranged at an upper side and a lower side; a nut

and a stud serving to lock the two connecting sheets together; each connecting sheet having two cambered sheets at two sides thereof; as the two connecting sheets are combined, the cambered sheets of different connecting sheets being formed with a space for receiving the main support tube;

whereby by above structure, the oblong frame and the short frames are retained to the seat.

2. The lie-able sofa as claimed in claim 1, wherein the seat has a plurality of legs for supporting the seat.

3. The lie-able sofa as claimed in claim 1, wherein there are two oblong frames which are arranged adjacent to one another by using the bridge unit to connected the two oblong frames.

4. The lie-able sofa as claimed in claim 1, wherein there are two short frames which are arranged adjacent to one another by using a bridge unit to connected the two oblong frames.

5. The lie-able sofa as claimed in claim 1, wherein there are one oblong frame; and two short frames arranged at two sides of the oblong frame.

6. The lie-able sofa as claimed in claim 5, wherein two sides of the oblong frame are arranged with main support tubes and sides of the short frames adjacent to the oblong frame has respective main support tubes; two adjacent main support tubes have a space therebetween and are connected by a bridge unit.

7. The lie-able sofa as claimed in claim 6, wherein the back frame has an enhancing rod transversally arranged at an upper side of the seat so as to enhance the structure of the back frame; and a plurality of connecting units are arranged between the back frame and the seat for retaining the back frame to the seat

8. The lie-able sofa as claimed in claim 1, wherein a plurality of iron wires are arranged across two longitudinal sides and two transversal sides of the oblong frame and two short frames so as to form as nets in the oblong frame and the short frames.

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