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(54) **MODULAR FRAME WITH BEVELLED CONNECTION ELEMENTS**

MODULARER RAHMEN MIT SCHRÄGEN VERBINDUNGSELEMENTEN

CADRE MODULAIRE AVEC DES ÉLÉMENTS CONNECTEURS EN BISEAU

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Description

Field of the Invention

[0001] The present invention is applicable to the frame market for painting canvases, which are imprinted with copies of original paintings or photographs from digital or plastic arts, in wide development. These paintings are usually marketed at museum stores, galleries and in stores related with art and decoration.

Background of the Invention

[0002] When a replica is purchased, there is constantly the problem of its framing and respective canvas transportation, due to its dimension. When purchasing mainly the canvas there will always be a problem with its transportation and framing.

[0003] FR2734463, US5515630 and US4922638 present modular frames with side elements and edge elements that provide a frame with the desired dimensions by means of fittings and screws. These frames present however the setback of forming a poorly adaptable assembly, being difficult to set up and proving a non-evident reuse.

[0004] US 2006/042141 A1 and DE 27 19 434 A1 disclose modular frames formed by extension elements and connecting elements in the form of tongue elements and grove elements.

[0005] The present invention intends to solve the above-mentioned problems by providing a reusable modular frame that presents in a single assembly the canvas and a set of components that wich compose the frame after having been assembled. This solution allows facilitating the transport and assembly of the group on the part of the buyer.

Summary of the Invention

[0006] The structure of the frame is composed of several identical pieces that form the frame when coupled together.

[0007] The pieces are fit in together to provide the frame with shape and the canvas is attached by means of fixing means.

[0008] The objective of the present invention is to provide a frame which is easy to assemble, which accepts a canvas especially made to fit therein in an equally simplified manner.

Description of the Drawings

[0009] Figure 1 is a perspective view of the connecting elements (1a, 1b) in a preferred embodiment.

[0010] Figure 2 is a perspective view of the assembly process of connecting elements (1a, 1b) and extension elements (2), in a preferred embodiment.

[0011] Figure 3 is a perspective view of the several ways of assembling the connecting elements (1a, 1b) into the extension pieces (2).

Description of the invention

[0012] The modular frame according to the present invention comprises only two kinds of components: connecting elements (1a, 1b) and extension elements (2).

[0013] The connecting elements (1a, 1b) are intended to either form the corners of the frame or support the connection among the extension pieces (2), which constitute the side elements of the frame. These connecting pieces (1a, 1b) are linked by means of fitting in a groove connecting element (1a) into a tongue connecting element (1b).

[0014] The extension elements (2) are provided to constitute the side elements of the frame. An extension element has a connecting element (1a, 1b) in each end thereof.

[0015] The extension elements (2) present a length, or a multiple thereof, which is sufficient to provide the desired dimension corresponding to the canvas, together with the connecting pieces (1a, 1b).

[0016] Subsequently to the full assembly of the frame, a canvas especially tailored for the present invention might be attached by several means, preferably velcro, eyelets and joint pins or magnets. Besides being simple and fast to operate, the present assembly allows a simple change of the canvas into another frame.

[0017] The velcro fix would require fixing both faces of the velcro, one being placed at the canvas' end surface and the other on the extension elements (2).

[0018] The eyelet fix consists of small pins provided in the extension elements (2) and small openings with joint pins at the end surface of the canvas.

[0019] The magnet fix consists of magnets placed at the end surface of the canvas and a metal-based surface on the extension elements (2).

[0020] In order to ensure that the fixing means remain unseen, it is advisable for the velcro, eyelet and magnet fixing means to be placed on the frame's inner face so that the painting may be completely leaned against the wall, when displayed.

[0021] The extension elements (2) are provided with a square profile wherein as the connecting elements (1a, 1b) have a part presenting a smaller square profile, so that a tight fit with the extension elements (2) occurs, and a part having a fitting face at a $\pm$ 15° angle to the pret presenting the smaller square profile, this pret comprising a tongue and groove element.

[0022] As shown in Fig. 1, the connecting elements (1a, 1b) present a groove connecting element (1a) or a tongue connecting element (1b) wherein the tongue can have a circular shape,

[0023] When the smaller square profile part is fit into the extension elements (2), the connecting elements (1a, 1b) have a locking face at a $\pm$45° inclination to the inner face of the extension piece (2). This makes it possible

for the connecting elements (1a, b) to be used as corners or extensions of the frame's side element.

[0024] Fig. 2 shows a partial assembly of a frame, wherein one of the side elements is composed of two extension elements (2) linked by the respective connecting elements (1a, 1b).

[0025] Fig. 3 shows some methods for the fitting of the connecting elements (1a, 1b) into the extension pieces (2).

Claims

1. Modular frame for paintings comprising two types of components: groove and tongue connecting elements (1a, 1b) and extension elements (2), wherein the extension elements (2) are suitable for creating modular frames of different sizes according to the number of extension elements used; wherein the extension elements (2) are provided with movable fixing means to fix the canvas, and wherein the connecting elements (1a, 1b) are linkable by means of fitting a tongue connecting element (1a) in a groove connecting element (1b) **characterised in that** the extension elements (2) have a square profile and **in that** the connection elements have a part presenting a smaller square profile so that a tight fit with the extension elements (2) occurs, whereby the connecting elements (1a, 1b) either form the frame corners or support the connection between the extension elements (2) that constitute the side elements of the frame and **in that** the part of the connecting elements (1a, 1b) that comprises a tongue (1b) or a groove (1a) element has a fitting face at a $\pm 45°$ angle to the face of the connecting element (2) presenting the smaller square profile and being suitable for being fit in the face of the extension element presenting a square profile.

2. Modular frame according to claim 1, wherein the fixing means, which join the canvas to the extension elements (2), consist of two velcro faces, one being placeable at the canvas end surface and the other being placeable on the extension elements (2).

3. Modular frame according to claim 1, wherein the fixing means, which join the canvas to the extension elements (2), consist of small pins placeable in the extension elements (2) which fit in eyelets placeable at the canvas end.

4. Modular frame according to claim 1, wherein the fixing means, which join the canvas to the extension elements (2), consist of magnets placeable at the canvas end surface and a metallic surface placeable on the extension elements (2).

5. Modular frame according to claims 2, 3 or 4, **characterized in that** the fixing means, which join the canvas to the extension elements (2), are placeable in an inner surface of the frame.

6. Modular frame according to claim 1, wherein the extension elements (2) have a square profile and the connecting elements (1a, 1b) are separable from the extension elements to provide two types of connections, extension or corner connections, and have a part presenting a smaller square profile so that a tight fit with the extension elements (2) occurs being demountable, and a part comprising a tongue and groove element.

7. Modular frame according to claim 1, wherein the connecting elements (1a, 1b) consist of a groove element (1a) and a tongue element (1b) wherein the tongue has a circular shape.

Patentansprüche

1. modularer Rahmen für Gemälde/Leinwände, der aus zwei Komponentenarten besteht: Verbindungselemente mit Nuten und Zungen (1a, 1b) und Verlängerungselemente (2), wobei die Verlängerungselemente (2) dazu geeignet sind, einen modularen Rahmen in verschiedenen Grössen zu erzeugen, abhängig von der Anzahl der eingesetzten Verlängerungselemente; wobei die Verlängerungselemente (2) bewegliche Befestigungsmittel besitzen. Die Verbindungselemente (1a, 1b) können miteinander verbunden werden, indem ein Verbindungselement mit Zunge (1a) mit einem Verbindungselement mit Nut (1b) verbunden wird. Die Verlängerungselemente (2) haben ein quadratisches Profile. Die Verbindungselemente besitzen ein kleineres quadratisches Profil, so dass sie eng sitzend in die Verlängerungselemente (2) hineinpassen. Die Verbindungselemente (1a, 1b) können entweder die Ecken des Rahmens oder die Verbindung zwischen zwei Verlängerungselementen (2) herstellen, welche die Seiten des Rahmens bilden. Der Teil der Verbindungselemente (1a, 1b), an dem die Zunge (1b) oder die Nut (1a) sitzt, besteht aus einer Fläche, die relativ zur Seite des Verbindungselements (2), die aus dem kleineren quadratischen Profil, das im Verlängerungselement sitzt, einen Winkel, von $\pm 45°$ bildet.

2. Modularer Rahmen entsprechend Anspruch 1, wobei die Befestigungsmittel, die die Leinwand an den Verlängerungselementen (2) befestigen, aus zwei Klettband-Flächen bestehen. Eine wird mit den Kanten des Gemäldes verbunden und die andere mit den Verlängerungselementen (2).

3. Modularer Rahmen entsprechend Anspruch 1, wobei die Befestigungsmittel, die die Leinwand an den

Verlängerungselementen (2) befestigen, aus kleinen Stiften bestehen, die an die Verlängerungselemente (2) angebracht werden und in Löcher an den Kanten Leinwandfläche eingreifen.

4. Modularer Rahmen entsprechend Anspruch 1, wobei die Befestigungsmittel, die die Leinwand an den Verlängerungselementen (2) befestigen, aus Magneten bestehen, die an die Leinwand befestigt werden, und einer Metallfläche, die an die Verlängerungselemente (2) angebracht werden.

5. Modularer Rahmen entsprechend der Ansprüche 1 2, 3 oder 4, der dadurch charakterisiert ist, dass die Befestigungsmittel, die die Leinwand an den Verlängerungselementen (2) befestigen, in einer inneren Fläche des Rahmens eingesetzt werden.

6. Modularer Rahmen entsprechend Anspruch 1, wobei die Verlängerungselemente (2) ein quadratisches Profil besitzen und die Verbindungselemente (1a, 1b) von den Verlängerungselementen trennbar sind, um zwei Verbindungsarten zu ermöglichen: eine Verlängerung- oder eine Eckverbindung. Die Elemente haben ein kleineres quadratisches Profil, um eng sitzend mit den Verlängerungselementen (2) verbunden zu werden und sind somit demontierbar. Auf der anderen Seite bestehen sie entweder aus einem Nut- oder einem Zungen-Element.

7. Modularer Rahmen entsprechend Anspruch 1, wobei die Verbindungselemente (1a, 1b) aus einem Nut-Element (1a) und einem Zungen-Element (1b) bestehen und die Zunge eine runde Form besitzt.

Revendications

1. Cadre modulaire pour peintures comprenant deux types de composants : des éléments connecteurs à rainure et à languette (1a, 1b) et des éléments d'extension (2), où les éléments d'extension (2) permettent d'obtenir des cadres modulaires de différentes dimensions selon le nombre d'éléments d'extension utilisés et où les éléments d'extension (2) sont fournis avec des moyens de fixation mobiles pour fixer la toile. Les éléments connecteurs (1a, 1b) sont connectables au moyen d'une languette de connexion (1a) qui s'encastre dans une rainure (1b). Cet assemblage est **caractérisé par le fait que** les éléments d'extension (2) ont un profil carré et que les éléments connecteurs présenter\t une partie avec un profil carré plus petit, ce qui permet de les encastrer parfaitement dans les éléments d'extension (2) et grâce auquel les éléments connecteurs (1a, 1b) forment les angles du cadre ou assurent la liaison entre les éléments d'extension (2) qui constituent les éléments latéraux du cadre. Les éléments connecteurs (1a, 1b) qui comprennent une languette (1b) ou une rainure (1a) ont une face d'ajustement avec un angle de $\pm$ 45° par rapport à la face de l'élément connecteur (2) qui présente un profil carré plus petit, ceci permettant de les assembler dans la face de l'élément d'extension au profil carré.

2. Cadre modulaire correspondant à la revendication 1, où les moyens de fixation qui relient la toile aux éléments d'extension (2) consistent en deux bandes velcro, la première étant placée à l'extrémité de la surface de la toile et la seconde sur les éléments d'extension (2).

3. Cadre modulaire correspondant à la revendication 1, où les moyens de fixation qui relient la toile aux éléments d'extension (2) consistent en deux petites clavettes insérées dans les éléments d'extension (2) qui s'ajustent dans des oeillets situés à l'extrémité de la toile.

4. Cadre modulaire correspondant à la revendication 1, où les moyens de fixation qui relient la toile aux éléments d'extension (2) consistent en des aimants placés à l'extrémité de la surface de la toile et en une surface métallique fixée sur les éléments d'extension (2).

5. Cadre modulaire correspondant aux revendications 2, 3 ou 4, **caractérisé par le fait que** les moyens de fixation qui relient la toile aux éléments d'extension (2) peuvent être placés sur la face intérieure du cadre.

6. Cadre modulaire correspondant à la revendication 1, où les éléments

7. Cadre modulaire correspondant à la revendication 1, où les éléments connecteurs (1a, 1b) consistent en une rainure (1a) et une languette (1b) et où la languette a une forme circulaire.

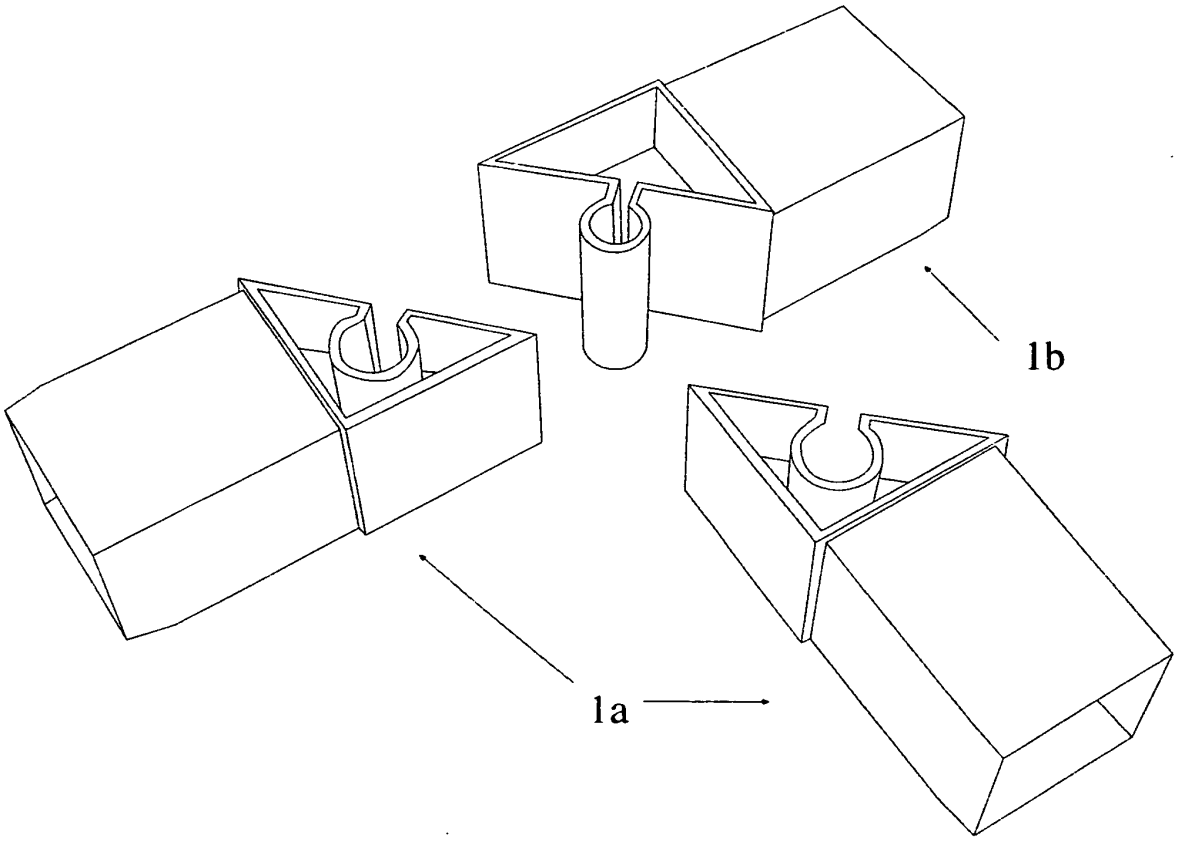


Fig.1

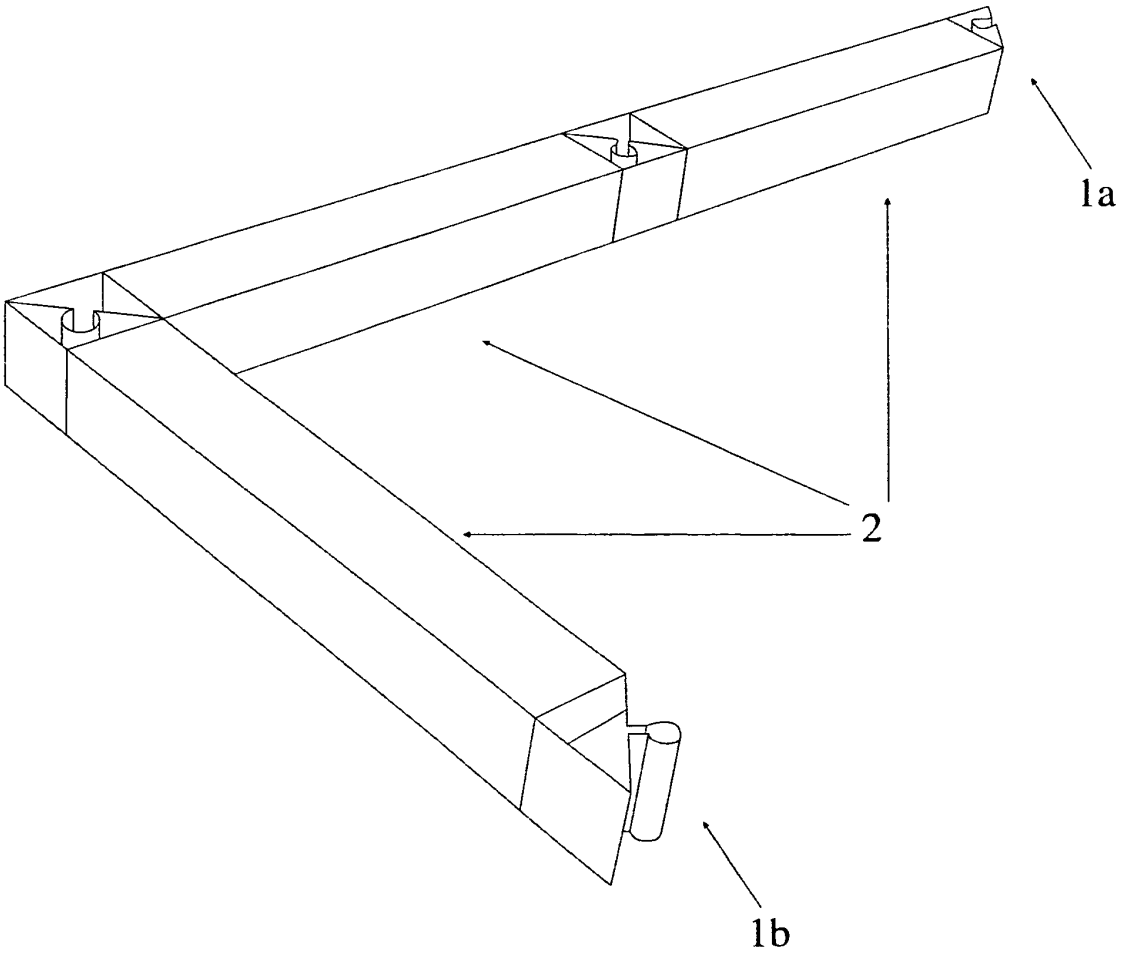


Fig.2

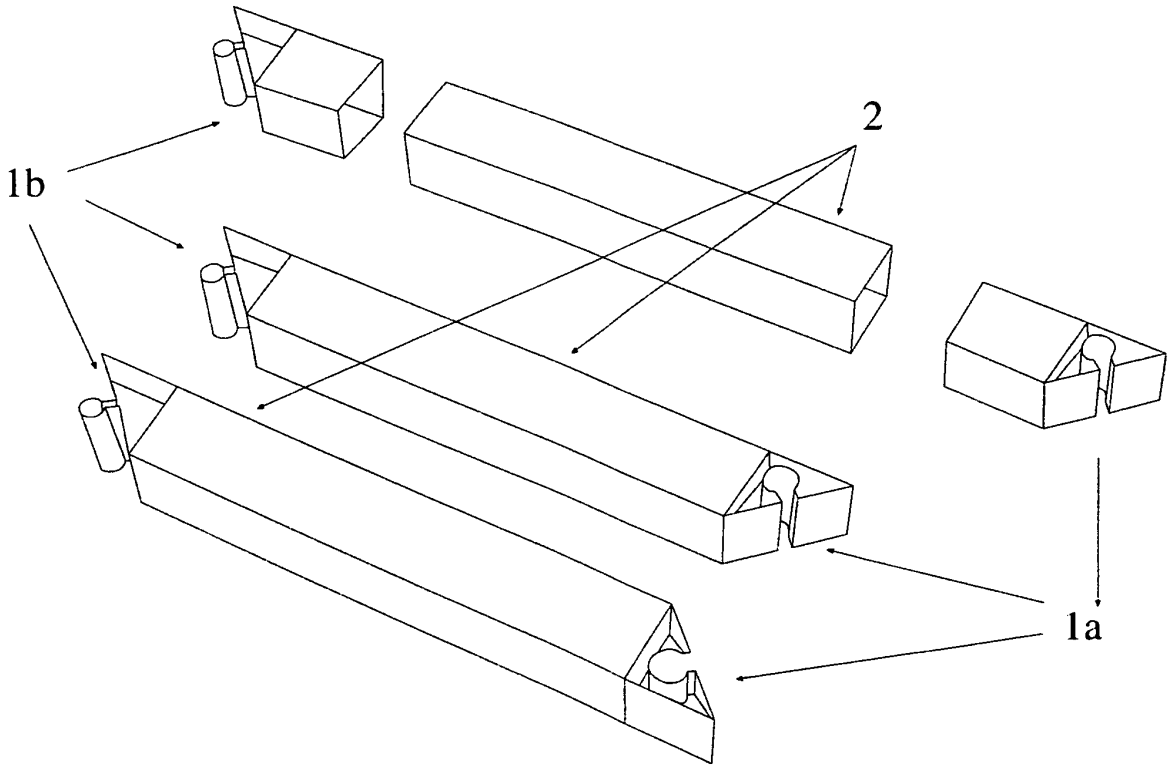


Fig.3

REFERENCES CITED IN THE DESCRIPTION

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