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(54) Slat for blinds and method for its manufacture

(57) A slat comprises two substantially rectangular sheets (1) joined to each other lengthwise, the cross section of the slat having a substantially elliptic shape, and it is characterized in that said sheets (1) comprise joining means (4,5,6,7) provided at the ends of the major axis of the ellipse.

The method comprises the steps of:

Gluing the internal surface of the sheets (1); forming these sheets (1) to the desired shape; placing a filling (3) between both sheets (1); pressing both sheets (1) for their joining; and heating the assembly of the sheets (1) coupled to each other with the filling (3) between them.

A slat is obtained that presents a much better appearance than the known slats, with the joining areas at the ends of the ellipse.

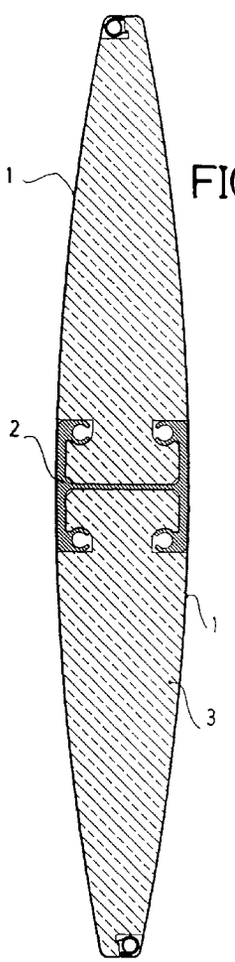

FIG. 1

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Description

The present invention refers to a slat for blinds, formed from two substantially rectangular sheets joined to each other, these sheets being joined at their larger sides. It also refers to the method for the manufacture of this slat.

BACKGROUND OF THE INVENTION

Up to now slats for blinds are known that are formed by a single substantially rectangular sheet that is bent joining two ends of it, forming a body of substantially elliptic cross section. This joint is habitually carried out by means of rivets or similar means. This type of slats have the main drawback that the joining of the ends of the slats may be seen easily, since this joining area cannot be carried out at the ends of said ellipse, which affects the appearance of the slat.

Another type of slats for blinds is formed by two substantially rectangular sheets joined to each other by means of a central joining body. This joining body is parallelepipedic and is provided with fins at its edges. To join the sheets to the joining body, the larger sides are bent so that the corresponding fin holds them. These sheets have the drawback that the two joining areas of the sheets with the body may be clearly seen, since these areas are located in the central area of the slat. Further, this type of slats necessarily requires the presence of the joining body, so that their cost increases. On the other hand, their production is excessively slow, which also affects in the costs of their manufacture.

DESCRIPTION OF THE INVENTION

With the slat for blinds of the invention it is possible to solve the mentioned drawbacks, presenting other advantages that will be described.

The slat for blinds of the invention is characterized in that said sheets comprise joining means provided at the ends of the major axis of the ellipse.

Thanks to this feature, the slat presents a much better appearance than the known slats, in which the joining area of the sheet or sheets that form them may be seen at first sight. Furthermore, the manufacture of the slat of the invention needs a time sensibly smaller than the known slats.

According to a first embodiment of the invention, these joining means comprise a joining piece that may be coupled to pleats, directed inwardly to the slat, provided at the larger sides of the sheets that form it.

According to a second embodiment of the invention, these joining means comprise pleats at one of the larger sides of one of the sheets that form a protrusion and pleats at the opposite larger side of said sheet that form a recess complementary to said protrusion.

Preferably, the slat for blinds comprises a central reinforcing element.

Also preferably, the slat for blinds of the invention comprises a filling in its interior.

According to a preferred embodiment, said reinforcing element is an H-shaped profile.

Preferably, this filling is of expanded polystyrene.

According to a preferred embodiment, this joining piece is formed by an elongate body with a C-shaped cross section, provided with a couple of fins that embrace the pleats of the elongate sides of the sheets that form the slat.

According to a preferred embodiment, the sheets are of aluminium and said filling is of polyurethane.

The method of the invention is characterized in that it comprises the steps of:

a) gluing the internal surface of the sheets;
b) forming these sheets into the desired shape;
c) placing a filling between both sheets;
d) pressing both sheets for their joining;
e) heating the assembly of the sheets coupled to each other with the filling between them.

Advantageously, the method of the invention comprises the additional step of placing a reinforcing element in the intermediate area of the slat before the placement of the filling.

Also advantageously, the step of formation of the sheets comprises the formation of a protrusion at one of the sides of the sheet and the formation of a recess complementary to said protrusion at the opposite side.

Preferably, the heating of the slats is carried out at a temperature higher than 100°C.

BRIEF DESCRIPTION OF THE DRAWINGS

For better understanding of what has been exposed some drawings are accompanied which, schematically and only by way of non-limitative example, show a practical case of embodiment.

Figure 1 is a cross-section view of a first embodiment of the slat for blinds of the invention;
figure 2 is a detail of the joining means of the embodiment represented in figure 1;
figure 3 is a cross section view of a second embodiment of the slat for blinds of the invention; and
figure 4 is a detail of the joining means of the embodiment represented in figure 3.

DESCRIPTION OF A PREFERRED EMBODIMENT

As may be seen from figure 1, according to a first embodiment of the invention, the slat is formed from two substantially rectangular sheets 1 of aluminium joined to each other, the slat having a substantially elliptic shape in cross section. In the represented embodiment, the slat comprises a central reinforcing piece 2, formed preferably by an H-shaped profile and a filling 3, prefer-

ably of expanded polystyrene or polyurethane.

One of the larger sides of each sheet 1 presents a series of pleats that form a protrusion 4, as may be seen with more detail in figure 2. The opposite side presents, in turn, a series of pleats that form a recess 5 complementary to said protrusion 4. Thus, the protrusion 4 can be coupled by pressure inside said recess 5, as may be seen in figures 1 and 2.

Thus, the joint of the two sheets 1 is carried out at the ends of the major axis of the ellipse defined by the cross section of the slat.

In figures 3 and 4 there is represented a second embodiment of the slat of the invention. Also in this embodiment, the slat is formed from two substantially rectangular sheets 1 joined to each other, the slat also having a substantially elliptic shape in cross section. In this embodiment the slat also comprises a central reinforcing piece 2, which is preferably an H-shaped profile.

The two sheets 1 are joined by means of a joining piece 7, as may be seen in figure 4. This joining piece 7 comprises a C-shaped elongate body 8 that presents a couple of fins 9 that embrace respective pleats 6 in the sheets 1 that form the slat. Also in this embodiment the joint of the two sheets 1 is carried out at the ends of the major axis of the ellipse defined by the cross section of the slat.

The method for manufacturing said slat comprises the following steps:

a) gluing the internal surface of the sheets 1;
b) forming said sheets 1 to the desired shape, with the formation of the corresponding recesses 5 and protrusions 4;
c) placing the reinforcing element 2 in the intermediate area of the slat;
d) placing the filling 3 of expanded polystyrene between both sheets 1;
e) pressing both sheets 1 for their joining;
f) heating the assembly of the sheets 1 coupled to each other with the filling 3 between them to a temperature higher than 100°C, thereby gluing the reinforcing element 2 and the filling 3 to the internal surface of the sheets due to the presence of the glue on it.

It should be indicated that the placement of the reinforcing element 2 is not indispensable, because the slat could equally be manufactured without its presence.

It is evident that said method can be carried out by any appropriate means, which are not described since they are well known for themselves.

Although reference has been made to a specific embodiment of the invention, it is evident for a person skilled in the art that the slat for blinds and the method for its manufacture described are susceptible of numerous variations and modifications, and that all the mentioned details can be substituted by other technically equivalent ones, without departing from the scope of protection defined by the enclosed claims.

Claims

1. Slat for blinds that comprises two substantially rectangular sheets (1) joined to each other lengthwise, the cross section of the slat having a substantially elliptic shape, characterized in that said sheets (1) comprise joining means (4, 5, 6, 7) provided at the ends of the major axis of the ellipse.

2. Slat for blinds according to claim 1, characterized in that these joining means comprise a joining piece (7) that may be coupled to pleats (6), directed inwardly to the slat, provided at the larger sides of the sheets (1) that form it.

3. Slat for blinds according to claim 1, characterized in that these joining means comprise pleats at one of the larger sides of one of the sheets (1) that form a protrusion (4) and pleats at the opposite larger side of said sheet (1) that form a recess (5) complementary to said protrusion (4).

4. Slat for blinds according to any of the previous claims, characterized in that it comprises a central reinforcing element (2).

5. Slat for blinds according to any of the previous claims, characterized in that it comprises a filling (3) in its interior.

6. Slat for blinds according to claim 4, characterized in that said reinforcing element (2) is a H-shaped profile.

7. Slat for blinds according to claim 5, characterized in that said filling (3) is of expanded polystyrene.

8. Slat for blinds according to claim 2, characterized in that said joining piece (7) is formed by an elongate body (8) with a C-shaped cross section, provided with a couple of fins (9) that embrace the pleats (6) of the elongate sides of the sheets (1) that form the slat.

9. Slat for blinds according to any of the previous claims, characterized in that the sheets (1) are of aluminium.

10. Slat for blinds according to claim 5, characterized in that said filling (3) is of polyurethane.

11. Method for the manufacture of a slat for blinds, the slat being formed by two sheets (1) joined to each other, characterized in that it comprises the steps of:

a) gluing the internal surface of the sheets (1);
b) forming these sheets (1) to the desired shape;
c) placing a filling (3) between both sheets (1);
d) pressing both sheets (1) for their joining;
e) heating the assembly of the sheets (1) coupled to each other with the filling (3) between them.

12. Method according to claim 11, characterized in that it comprises the additional step of placing a reinforcing element (2) in the intermediate area of the slat before the placement of the filling (3).

13. Method according to claims 11 or 12, characterized in that the step of forming the sheets (1) comprises the formation of a protrusion (4) at one of the sides of the sheet (1) and the formation of a recess (5) complementary to said protrusion (4) at the opposite side.

14. Method according to claim 11, characterized in that the heating of the slat it is carried out at a temperature higher than 100°C.

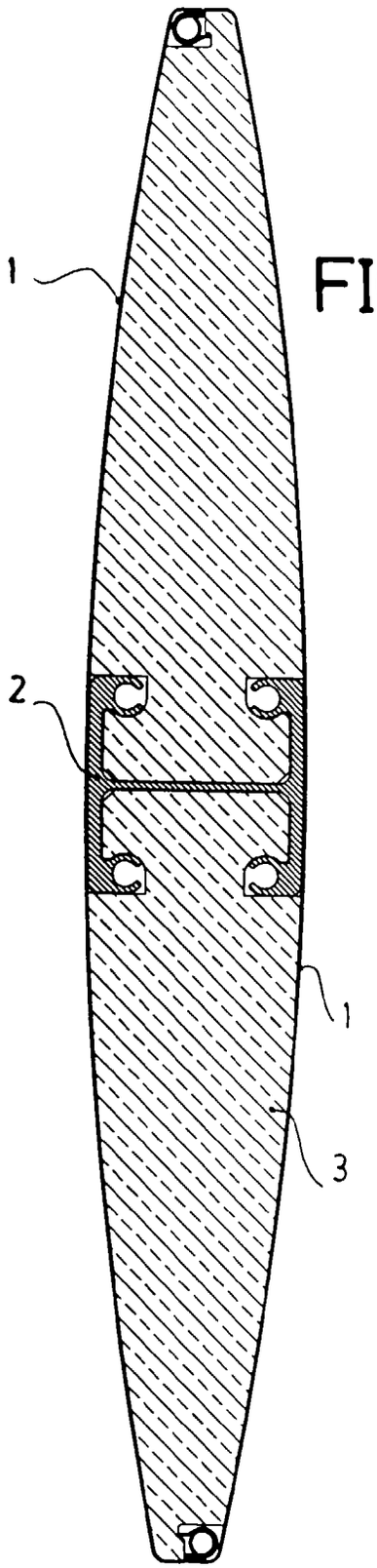
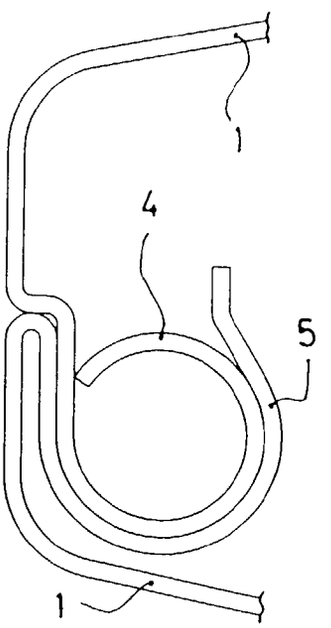


FIG. 1

FIG. 2



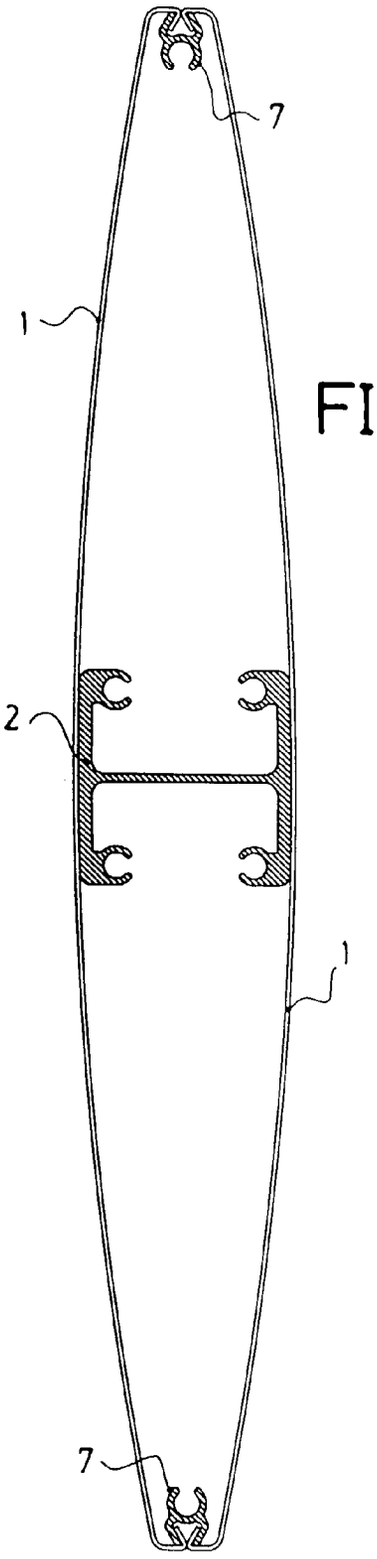
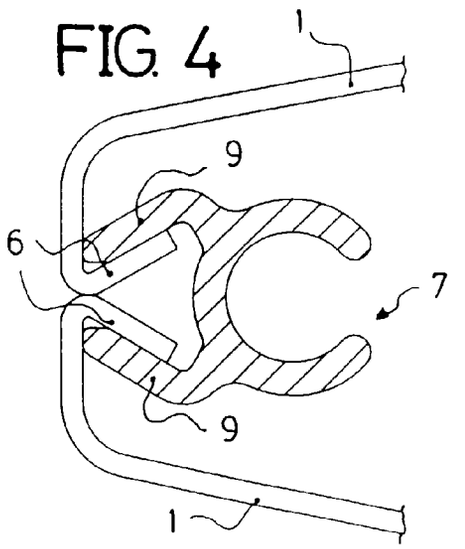


FIG. 3

FIG. 4



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EUROPEAN SEARCH REPORT

Application Number
EP 98 50 0118

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
X Y	NL 6 408 869 A (HUNTER DOUGLAS) 4 February 1966 * the whole document *	1,3-5,9 6,10	E06B9/386
Y	FR 1 375 930 A (AQL8UMINIUM ALCAN DE FRANCE) 3 February 1965 * page 2, column 1, paragraph 3; figure 3 *	6	
Y	US 5 141 042 A (SCHWAEGERLE PAUL R) 25 August 1992 * column 7, line 30 - line 42 *	10	
X	US 2 759 574 A (MILLER) 21 August 1956 * the whole document *	1,2,4,9	
X	"Alumium Aussenelemente für Wohnhochbauten Elements / Elements extérieurs en alumium pour les grands immeubles d'habitation " SCHWEIZER ALUMIUM RUNDSCHAU, vol. 18, no. 2, March 1968, pages 40-47, XP002075512 * page 44; figure 12 *	1,2,8,9	
X	US 4 519 435 A (STIER KENNETH) 28 May 1985 * column 4, line 61 - column 5, line 18; figures 5,6 *	11	
A	AU 576 968 B (ROSSITER A L) 8 September 1988 * the whole document *	11	
A	FR 2 327 385 A (DANTO ROGEAT ET CIE) 6 May 1977 * the whole document *	11	

TECHNICAL FIELDS SEARCHED (Int.Cl.6)
E06B

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	25 August 1998	Fordham, A

CATEGORY OF CITED DOCUMENTS
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