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(54) **Truss**

(57) Truss comprising a horizontal beam (1) made up of a metal section having a substantially rectangular U-shaped cross-section, which is connected by means of a reticulated structure comprising a plurality of diagonal bars (2) to an angular beam (3) which is made up of one or more metal sections and is arranged on the horizontal beam (1), wherein said diagonal bars (2) are made up of metal sections which have a substantially rectangular U-shaped cross-section and are substantially as wide as the inner distance between the vertical walls (1a) of the horizontal beam (1), and that the sections making up the angular beam (3) have a cross-section comprising a pair of side walls (3a), the outer surfaces of which have a mutual distance substantially equal to the mutual distance between the inner surfaces of the side walls (2a) of the diagonal bars (2).

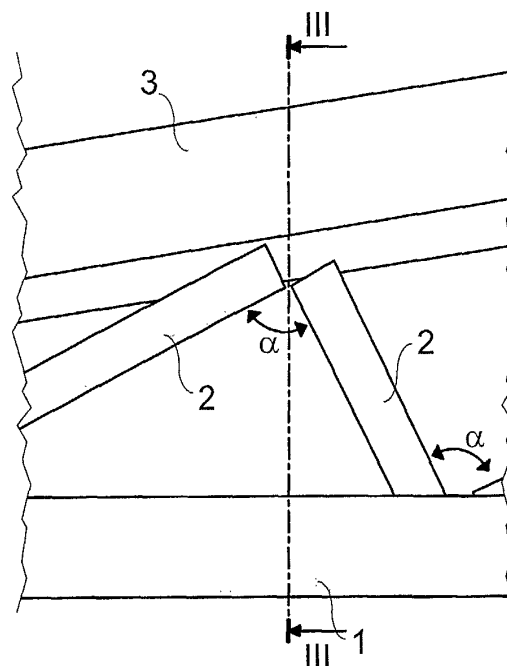


Fig. 2

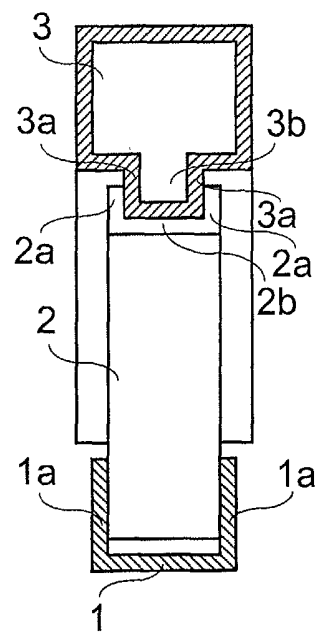


Fig. 3

Description

[0001] The present invention relates to a truss, and in particular to a truss which can be employed as a cross-bar in the supporting structures of the movable coverings.

[0002] Known trusses comprise a horizontal beam connected by means of a reticulated structure comprising a plurality of diagonal bars to an angular beam arranged on the horizontal beam. The beams and the bars are generally made up of metal sections soldered to each other. However, due to the substantially triangular shape of the truss, it is difficult to cut at an acute angle and then solder the upper ends of the diagonal bars to the angular beam, so that often some pairs of vertical metal plates are soldered under the angular beam for laterally containing the diagonal bars.

[0003] It is therefore an object of the present invention to provide a truss which is free from said disadvantages. Said object is achieved with a truss, the main features of which are disclosed in the first claim and other features are disclosed in the subsequent claims.

[0004] Thanks to their particular profile, the angular beam and the diagonal bars can be mutually coupled, so that the truss according to the present invention can be carried out in a simple and resistant way without the help of said vertical plates. Furthermore, with this arrangement, the diagonal bars can be simply cut at right angle, since their joint with the angular beam is carried out through the side walls, thereby reducing the surfaces to be mutually soldered, with a consequent reduction of manufacturing times and costs.

[0005] Further advantages and features of the truss according to the present invention will be clear to those skilled in the art from the following detailed and non-limiting description of an embodiment thereof with respect to the attached drawings, wherein:

- figure 1 shows a front view of the truss according to said embodiment;
- figure 2 shows an enlarged front view of a portion of the truss of figure 1; and
- figure 3 shows a cross-sectional side view of the truss of figure 1 according to plane III-III of figure 2.

[0006] Referring to said figures, it is seen that the truss according to the present embodiment of the invention comprises in a known way a horizontal beam 1 made up of a metal section having a substantially rectangular U-shaped cross-section. The horizontal beam 1 is connected by means of a reticulated structure comprising a plurality of diagonal bars 2 to an angular beam 3. The latter is arranged on the horizontal beam 1 and consists of a pair of metal sections which have substantially the same size and are soldered at one end with an obtuse angle, so that the angular beam 3 forms a substantially isosceles triangle with beam 1 as a base.

[0007] According to the invention, the diagonal bars

2 are also made up of metal sections which have a substantially rectangular U-shaped cross-section and are substantially as wide as the inner distance between the vertical walls 1a of the horizontal beam 1, so that the diagonal bars 2 can be inserted from the top into beam 1 and easily fixed thereto, for instance by means of soldering. Furthermore, the sections making up the angular beam 3 have a cross-section comprising a pair of side walls 3a, the outer surfaces of which have a mutual distance substantially equal to the mutual distance between the inner surfaces of the side walls 2a of the diagonal bars 2.

[0008] In the present embodiment, the inner surfaces of the side walls 2a of the diagonal bars 2 are slightly lower than the outer surfaces of said side walls 3a of the angular beam 3. In particular, the side walls 3a belong to a longitudinal protuberance 3b which has a substantially rectangular cross-section and is arranged in the middle of the lower surface of the angular beam 3, which also has a substantially rectangular cross-section, however greater than the longitudinal protuberance 3b. With this arrangement, the longitudinal protuberance 3b can be inserted from the top between the side walls 2a of the diagonal bars 2 until the upper free edge of their horizontal wall 2b does not hit against the lower wall of protuberance 3b. This particular coupling allows to facilitate and improve the fixing, for instance by means of soldering, between the angular beam 3 and the diagonal bars 2. In the present embodiment of the invention the angles α comprised between a diagonal bar 2 and the adjacent bars are substantially right, while the angles comprised between bars 2 and beam 1 can be comprised between 30° and 60°.

Claims

1. Truss comprising a horizontal beam (1) made up of a metal section having a substantially rectangular U-shaped cross-section, which is connected by means of a reticulated structure comprising a plurality of diagonal bars (2) to an angular beam (3) which is made up of one or more metal sections and is arranged on the horizontal beam (1), **characterized in that** said diagonal bars (2) are made up of metal sections which have a substantially rectangular U-shaped cross-section and are substantially as wide as the inner distance between the vertical walls (1a) of the horizontal beam (1), and that the sections making up the angular beam (3) have a cross-section comprising a pair of side walls (3a), the outer surfaces of which have a mutual distance substantially equal to the mutual distance between the inner surfaces of the side walls (2a) of the diagonal bars (2).
2. Truss according to claim 1, **characterized in that** the inner surfaces of the side walls (2a) of the diag-

onal bars (2) are lower than the outer surfaces of said side walls (3a) of the angular beam (3).

3. Truss according to claim 1 or 2, **characterized in that** said side walls (3a) of the angular beam (3) belong to a longitudinal protuberance (3b) which has a substantially rectangular cross-section and is arranged in the middle of the lower surface of the angular beam (3), which also has a substantially rectangular cross-section, however greater than the longitudinal protuberance (3b).

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4. Truss according to claim 3, **characterized in that** said longitudinal protuberance (3b) of the angular beam (3) is inserted from the top between the side walls (2a) of the diagonal bars (2), the upper free edge of the horizontal wall (2b) of the diagonal bars (2) hitting against the lower wall of protuberance itself (3b).

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5. Truss according to one of claims 1 to 4, **characterized in that** the angles (α) comprised between a diagonal bar (2) and the adjacent bars are substantially right.

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6. Truss according to one of claims 1 to 5, **characterized in that** the angles comprised between the diagonal bars (2) and the horizontal beam (1) are comprised between 30° and 60°.

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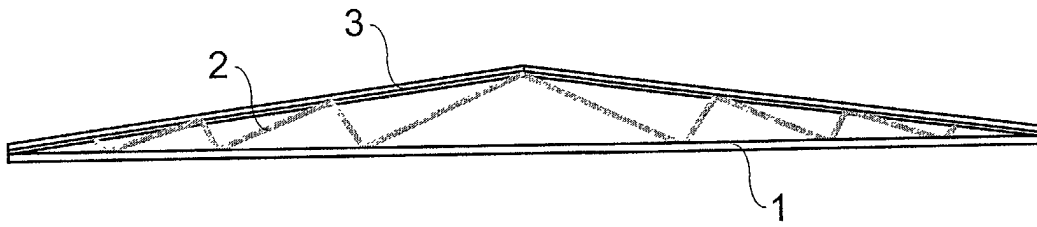


Fig. 1

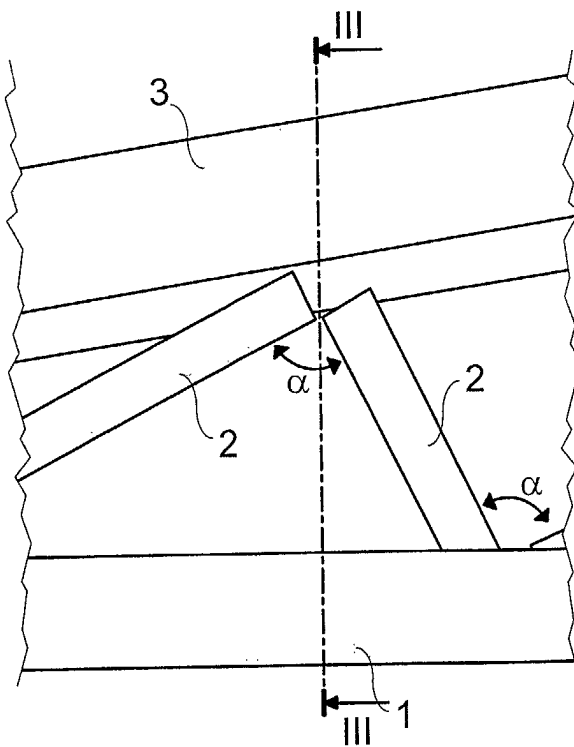


Fig. 2

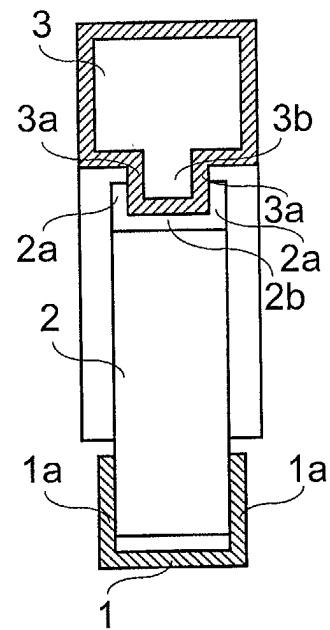


Fig. 3



European Patent
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EUROPEAN SEARCH REPORT

Application Number
EP 02 42 5176

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A	* column 2, line 35 - column 5, paragraph 1; figures *	3,4	
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The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
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Place of search		Date of completion of the search	Examiner
THE HAGUE		23 July 2002	Righetti, R
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**ANNEX TO THE EUROPEAN SEARCH REPORT
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EP 02 42 5176

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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