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A jointed supporting outlining guide for load-bearing structures on walls and ceilings and bent or round panels or curved architectural structure to be covered with plaster-board or with other similar materials.

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Description

The invention concerns a load bearing jointed profile according to the preamble of claim 1. Such a profile is known from document FR-A-2 233 485.

Structures covered by plaster-board or similar materials are being more and more commonly used. They let us achieve light structures in many different shapes, particularly arched, bent or round shapes.

It is known a French Patent FR-A-2 233 485 considered the symbol of relevant background art, which compared with the proposed patent, is differentiated by the following reasons:
- the profile object of this proposed patent is able to accommodate internally to its "U"-section a second rigid profile, in such a way as to realize a metallic frame which could accommodate boards, particularly in covered gypsum, to be fixed by screws, to construct curved architectonic elements for interior's finishing; differently, instead, the described patent FR-A-2 233 485 is ideal to be covered wholly with plastic material in order to build windows packing, in particular automobile windows;
- the profile object of FR-A-2 233 485 does not present function material folded inward, however, the segmentations of the profile are joint through two sides only with flat joints; while the profile object of this proposed patent presents three joints, one for every face, folded inward and linking many box-like "U"-shaped segmentations;
- the profile object of FR-A-2 233 485 can be around one single axis; differently, instead, the proposed profile is easily bent by hand, allowing the box-like elements to pivot, relatively on respect to the other, around two orthogonal axes, and having the possibility to loosen as a spiral in space;
- the profile object of the proposed patent, thanks to a profiling of the superior edges (8) of lateral faces, has the possibility of being easily fixed by trip on the opposite sleeper (9); differently, the profile of patent FR-A-2 233 485 does not have this feature.

The aim of the present patent for industrial invention is the suggestion of a solution that realizes the modelling of structures for curved manufactures, that is, before the structure is covered with panels made of plaster-board or similar materials.

This object is solved basically by the solution given in the characterizing part of claim 1. Further advantageous embodiments are laid down in the dependent claims.

The proposed solution consists in the creation of a jointed guide which can easily and rapidly be shaped as to assume the form of the structure required.

The guide is essentially a 'U' shaped outline, preferably metallic and zinc-coated, (sheet) formed by a series of open, box-like elements, made by bending towards the inside of the base and of the side walls, some of the material which has not been removed by the shearing.

In this way joints are formed in the structure which allows the outline to be bent in all directions.

The resolving idea can be better understood by referring to the enclosed illustration, where the idea is shown in an indicative, not obliging realization. In table 1/6, fig. 1) shows the sheet, already cut so that it can be bent; in fig. 2) the sheet is already bent longitudinally to form a single box which has a U-shaped cross-section.

In table 2/6, fig. 3) and 4) show the structure bent at the cut points and showing both the back and the front.

In table 3/6,(fig.5) and 6) show the guide in different bending situations; some bendings are carried out to extremes, until the breaking of the more stretched connection element occurs; in figure 7) it is shown a box-like element separated from the others.

In table 4/6, fig. 8) shows a structure shaped by means of a series of flexible guides.

In table 5/6, fig. 9), 10) and 11) indicates the flexible guide with fixing vanes to create, for example, a stair-like structure.

In table 6/6, fig. 12), 13) and 14) suggest a way of fixing the box-like elements by having the upper edges of their sides bent in order to snap them up in appropriately shaped supporting structures.

Regarding the figures displayed, the sheet (3), cut with slots (4) and (5) is longitudinally bent to create one box-like element (1) as shown in fig.2); afterwards the joints (2) are bent towards the inside of the box-like element.

This is done to obtain a chain of box-like elements all linked by the base and the smaller side faces by means of webs (2) which are bent towards the inside as shown in figures 3) and 4).

This particular connection of the box-like elements allows the flexible outline to be bent along two orthogonal axes parallel to the plane of the base and the smaller side faces.

This particular feature of the guide is used to shape it easily by hand following the outlines of the structure to be created by first fitting the upright elements (6) and afterwards covering it with panels of plaster board or similar materials, as shown in fig.8).

The outlining guide has been improved to obtain a broader application, by lengthening one of.
the smaller sides to create the vanes (7) as shown in table 5/6 in fig. 9); it is then possible to connect several, suitably staggered, flexible outlines by fixing the vanes (7) of one outline to the side of the adjacent one, as shown in fig. 10 and (11).

In this way, it is possible to create a curved stair structure as shown in fig. 11).

A further improvement is shown in table 6/6 by using bent side edges (8) of the box-like elements (1) as seen in a front view in fig. 12) and in an axonometric view in fig. 13).

This profiling allows the trip of the box-like elements (1) of the jointed profile on an appropriate sleeper (9), as shown on fig. 14.

Claims

1. A load bearing jointed profile (1) used as an outline and as a sustaining element for light structures, consisting of a chain of U-shaped sections integrally linked together by webs (2) which are formed by the removal of material (4, 5), characterized in that the sections have the form of open box-like elements (1) which are linked at their smaller sides by three inwardly folded webs extending between the bottom and each of the two longer side faces of the elements so that the elements can pivot relatively to each other on two orthogonal axes.

2. A jointed profile as in claim 1 and for the purpose of the same, characterized by the fact that it is obtained by a metallic sheet (3).

3. A jointed profile as in claim 2 and for the purpose of the same, characterized by the fact that plaster-board or similar panels are fixed on the side faces or along the base in order to obtain the stiffening of the structure.

4. A jointed profile as in claim 3 and for the purpose of the same, characterized by the fact that protruding elements (7) provided along one side of the box-like sections (1) are used for clamping to other structures.

5. A jointed profile as in claim 4 and for the purpose of the same, characterized by the fact that the lateral faces are equipped with a curved profiling (8) for every box-like element (1) to allow the trip on appropriate sleepers (9).

Patentansprüche

1. Ein tragfähiges Profil (1) mit Verbindungen, das als Kontur und als Tragelement für leichte Strukturen gebraucht ist, und das aus einer Kette von U-förmiger Teile die vom Bändern (2) gebildeten mit der Entfernung von Material (4) gemeinsam verbunden sind besteht, dadurch gekennzeichnet, dass die Teile die Form von schachtellähnlichen Elementen (1) haben, die an seinen kleineren Seiten von drei Bändern gefasst sind, und dass die genannte Bänder innerlich gebeugt sind und sich zwischen die Unterseite und jeder von zwei länger seitlicher Flächen von der genannten Elemente erstrecken, so dass die genannte Elemente in bezug auf einander um zwei rechtwinkliger Achsen drehen kann.

2. Ein Profil mit Verbindungen nach Anspruch 1 und zu demselben Ziel, dadurch gekennzeichnet, dass es von einem metallischen Band (3) gewonnen ist.

3. Ein Profil mit Verbindungen nach Anspruch 2, und zu demselben Ziel, dadurch gekennzeichnet, dass Gipsplatte und ähnliche Platte an den seitiichen Flächen oder an der Unterseite um die Struktur zu festigen gesetzt sind.


5. Ein Profil mit Verbindungen nach Anspruch 4, und zu demselben Ziel, dadurch gekennzeichnet, dass die seitliche Fläche mit einem gekrümmten Umriss (8) fur jedes schachtellähnliches Element (1) ausgestattet ist um die Verschiebung auf geeigneten Kreuzarmen zu erlauben.

Revendications

1. Profil à joints (1) pour soutenir des charges employé comme contour et comme élément de support pour structures légères, consistant en une chaîne de sections formées en U connectées solidairement l’une à l’autre avec des rubans (2) lesquels sont formés avec le déplacement de matériel (4, 5), caractérisé en ce que les sections ont la forme d’éléments à boîte ouverte (1) lesquels sont connectés en correspondance de leur côtés plus petits avec trois rubans pliés vers l’intérieur étendus entre le fond et chacune des deux faces latérales plus longues des éléments, de façon que les éléments puissent pivoter l’un par rapport à l’autre sur deux axes orthogonaux.
2. Profil à joints selon la revendication 1 et dans le but de la même, caractérisé en ce qu'il est obtenu d'une feuille métallique (3).

3. Profil à joints selon la revendication 2 et dans le but de la même, caractérisé en ce que des pannaux en plâtre ou panneaux similaires sont fixés sur le faces latérales ou le long de la base dans le but d'obtenir le raidissement de la structure.

4. Profil à joints selon la revendication 3 et dans le but de la même, caractérisé en ce que les éléments saillants (7) pourvus le long d'un côté des sections à boîte (1) sont employées pour le blocage à autres structures.

5. Profil à joints selon la revendication 4 et dans le but de la même, caractérisé en ce que les faces latérales sont équipées avec un profilage (8) pour chaque élément à boîte (1) pour permettre la course sur traverses appropriées.