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(54) **Piece for assembling panels to structures**

Teil für die Montage von Platten an Tragwerk

Pièce pour le montage de panneaux sur des structure

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Description

OBJET OF THE INVENTION

[0001] The present invention relates to a piece for assembling panels to structures for siding and cladding of stands.

[0002] The piece object of the invention is constituted from plates that are joined on one of their faces to a connection piece and on their other face to a panel or panels of the structure through orifices of the plate in which are inserted screws or any similar means of attachment.

[0003] The invention characterises the fact that the plate orifices have a diameter greater than that of the means of attachment between the modular panels and the plate, and also has means for securing the relative position of the panel(s) with respect to the plate.

BACKGROUND OF THE INVENTION

[0004] Pieces are known for assembling panels to temporary structures such as stands for fairs and conventions. These structures require means to allow their quick assembly and disassembly.

[0005] The applicant holds a number of records incorporating a longitudinally flapped union piece between the grooves of which is inserted the end of an attachment piece in the form of a clip hinged on one of its ends. On the opposite end of said clip is a discoid plate with lugs on which the panel(s) is (are) placed and attached. One example in order to illustrate this solution is ES 1051531 U1.

[0006] However, the above-described system has the disadvantage that it does not allow absorbing the small maladjustments that appear between consecutive panels attached to the same assembly piece, such as misalignments.

[0007] Another object pursued by the present invention is that the visible surface of the panels conceals the means of union to the plate as much as possible.

[0008] DE 94 01 746 U1 discloses a piece for assembling panels to structures. The piece for assembling has a plate with orifices in order to fix the position between the panels to the plate by attaching means, wherein the orifices have a larger diameter than the diameter of the attaching means.

[0009] The present invention solves the aforementioned drawbacks by means that allow absorbing deviations and maladjustments between consecutive panels anchored to the same plate.

DESCRIPTION OF THE INVENTION

[0010] The present invention relates to a piece for assembling panels to structures for siding and cladding of stands.

[0011] The assembly pieces in which the invention lies are constituted by two plates that can be circular, oval or in any other shape that are joined on one of their faces to a connection piece and joinable on their other face to one or more panels of the structure through orifices made in the plate, through which are inserted screws or any similar means of attachment. The connection pieces may be of the type having a clip hinged on one of its ends. Each plate can be joined to one or more panels of the structure, depending on the number of orifices it has and on the shape of the panels themselves.

[0012] The piece object of the invention is characterised in that the orifices of the plate have a larger diameter than the means of union between the modular panels and the plate, also having means for securing the relative position of the panel or panels with respect to the plate, in that the means for, in use, attaching the panels and the plate consist of screws in combination with nuts with at least one head and in that the means for securing the relative position of the panels and the plate consist of an essentially U-shaped piece that embraces the nut and is placed between the head of the nut and the plate.

[0013] As there is a degree of play between the means of attaching the panels to the plate and its orifices due to their different diameters, it is possible for said means, and therefore the panels associated to them, to be placed in different positions. The assembly piece of the invention has means allowing to secure said position such that it allows absorbing deviations and misalignments between the panels at the time of assembling them.

DESCRIPTION OF THE DRAWINGS

[0014] The present descriptive memory is completed by a set of drawings that illustrate the preferred embodiment and in no way limit the invention.

Figure 1 is a schematic plan view of the panel and the plate on the visible side of the panel.

Figure 2 is a schematic plan view of the panel and the plate on the concealed side of the panel.

Figure 3 is a cross section of the plate and the panel at the area of union of the two elements .

Figure 4 is a schematic perspective view of the plate with its angled flaps and the connection piece.

Figure 5 is a schematic perspective view of the plate and the connection piece for an angled positioning.

PREFERRED EMBODIMENT OF THE IVENTION

[0015] Figure 1 shows a plate (1), in this case circular, with orifices (1.1). These orifices (1.1) have a larger diameter than the means of attaching the plate (1) to the panels (2). In a preferred embodiment said attachment means consist of screws (2.1) which in combination with nuts (2.2) attach said piece (1) to the panels (2).

[0016] Figure 2 shows the plate (1) and the panel (2), not showing the attachment piece (5) for the sake of clarity.

[0017] In the preferred embodiment the means that allow securing the relative position between the plate (1) and the panel (2), that is, between the screw (2.1) associated to the panel (2) and the orifice (1.1) associated to the plate (1), consist of a combination of the following elements:

[0018] The nuts (2.2) have a head (2.2.1) that acts as a stop against an essentially U-shaped piece (3) or the like that embraces the nut (2.2) and is trapped between the nut head (2.2.1) and the plate (1), thereby securing the position of the screw (2.1) with respect to the orifices (1.1) of the plate (1) and therefore that of the panels (2) with respect to the plate (1).

[0019] The essentially U-shaped piece (3) can adopt other configurations in which one of the legs of the "U" is extended by a narrowing, so that it is also clipped on the nut (2.2).

[0020] In the preferred embodiment the orifices (1.1) are recessed into the panel (2), so that there is a separation between the plate (1) and the panels (2).

[0021] To embellish the exposed face of the panels (2), the screws (2.1) have a conical end (2.1.1) combined with a recess of the panel (2) for their insertion. Above the conical end (2.1.1) is placed a decorative cap (4), so that the attachment means cannot be seen in the exposed faces of the panels (2).

[0022] The nut (2.2) for attaching the plate (1) to the panel (2) has two parallel planes in its central segment that favour the entry of the U-shaped piece (3) and prevent the rotation of the nut (2.2).

[0023] Figure 4 shows a plate (1), which in this embodiment is oval in shape, with its wings forming an angle that can be either acute or obtuse, so that two or more panels may be joined at said angle. This figure shows the attachment piece (5) which in this embodiment houses a hinged clip (5.1) and is joined to the plate (1) at one of its ends and to a grooved piece (6) at its other end.

[0024] Similarly, figure 5 shows a configuration in which the connection piece (5) also houses a hinged clip (5.1) and has its ends (5.2, 5.3) at an angle, as seen in the figure, thereby allowing to join the panels (2) to the discoid piece (1) to form a specific angle to the vertical plane of the structure.

Claims

1. Piece for assembling panels to structures, constituted by two plates (1) that are joined on one of their faces to an attachment piece (5) and joinable on their other face to one or more panels (2) of the structure through orifices (1.1) of the plate (1), through which are inserted securing means (2,1), **characterized in that** the orifices (1.1) of the plate (1) have a larger diameter than the diameter of the means for attaching the modular panels (2) to the plate (1), also having means for in use securing the relative position of the panels (2) with respect to the plate (1), **in that** the means for attaching the panels (2) and the plate (1) consist of screws (2.1) in combination with nuts (2.2) with at least one head (2.2.1) and **in that** the means for securing the relative position of the panels (2) and the plate (1) consist of an essentially U-shaped piece (3) that embraces the nut (2.2) and is placed between the head (2.2.1) of the nut (2.2) and the plate (1).

2. Piece for assembling panels to structures, according to claim 1, **characterized in that** further comprises a panel (2) and the panel (2) has a recess in its exposed face for inserting the head of the screw (2.1).

3. Piece for assembling panels to structures, according to claim 1, **characterized in that** the attachment screws (2.1) have a conical head (2.1.1).

4. Piece for assembling panels to structures, according to claim 1, **characterized in that** the head (2.1.1) of the screw (2.1) has a decorative cap (4) in the exposed face of the panel (2).

5. Piece for assembling panels to structures, according to claim 1, **characterized in** two of the walls of the nut (2.2) are flat; for securing the U-shaped element (3).

6. Piece for assembling panels to structures, according to claim 2, **characterized in that** the orifices (1.1) are recessed into the panel (2).

7. Piece for assembling panels to structures, according to claim 1, **characterized in that** the wings of the plates (1) form an angle.

8. Piece for assembling panels to structures, according to claim 1, **characterized in that** the end walls (5.2, 5.3) of the attachment piece (5) form an angle.

9. Piece for assembling panels to structures, according to claim 1, **characterized in that** the attachment piece (5) is one of those having a hinged clip (5.1) on one of its ends.

Patentansprüche

1. Teil für den Zusammenbau von Paneelen zu Strukturen, bestehend aus zwei Platten (1), die auf einer ihrer Seiten mit einem Ansatzteil (5) verbunden und auf ihrer anderen Seite mit einem oder mehreren Paneelen (2) der Struktur durch Öffnungen (1.1) in der Platte (1) verbindbar sind, durch welche Sicherungsmittel (2.1) gesteckt sind, **dadurch gekenn-**

zeichnet, dass die Öffnungen (1.1) in der Platte (1) einen größeren Durchmesser aufweisen als der Durchmesser der Mittel zur Befestigung der modularen Paneele (2) an der Platte 1 und weiterhin Mittel zur Sicherung der relativen Position der Paneele (2) in Gebrauch in Bezug auf die Platte (1) umfassen, dass die Mittel zum Verbinden der Paneele (2) und der Platte (1) aus Schrauben (2.1) in Verbindung mit Muttern (2.2) mit mindestens einem Kopf (2.2.1) bestehen und dass die Mittel zur Sicherung der relativen Position der Paneele (2) und der Platte (1) aus einem im wesentlichen U-förmigen Teil (3) bestehen, das die Mutter (2.2) umklammert und zwischen dem Kopf (2.2.1) der Mutter (2.2) und der Platte (1) angeordnet ist.

2. Teil zum Zusammenbau von Paneelen zu Strukturen nach Anspruch 1, **dadurch gekennzeichnet, dass** dieses weiterhin ein Paneel (2) umfasst und das Paneel (2) auf der Ansichtsseite eine Aussparung zur Aufnahme des Kopfs der Schraube (2.1) aufweist.

3. Teil zum Zusammenbau von Paneelen zu Strukturen nach Anspruch 1, **dadurch gekennzeichnet, dass** die Befestigungsschraube (2.1) einen konischen Kopf (2.1.1) aufweist.

4. Teil zum Zusammenbau von Paneelen zu Strukturen nach Anspruch 1, **dadurch gekennzeichnet, dass** der Kopf (2.1.1) der Schraube (2.1) eine Zierkappe (4) auf der Ansichtsseite des Paneels (2) aufweist.

5. Teil zum Zusammenbau von Paneelen zu Strukturen nach Anspruch 1, **dadurch gekennzeichnet, dass** zwei der Wände der Mutter (2.2) zur Sicherung des U-förmigen Elements (3) abgeflacht sind.

6. Teil zum Zusammenbau von Paneelen zu Strukturen nach Anspruch 2, **dadurch gekennzeichnet, dass** die Öffnungen (1.1) in das Paneel (2) eingesenkt sind.

7. Teil zum Zusammenbau von Paneelen zu Strukturen nach Anspruch 1, **dadurch gekennzeichnet, dass** die Flügel der Platten (1) einen Winkel bilden.

8. Teil zum Zusammenbau von Paneelen zu Strukturen nach Anspruch 1, **dadurch gekennzeichnet, dass** die Abschlusswände des Ansatzes (5) einen Winkel bilden.

9. Teil zum Zusammenbau von Paneelen zu Strukturen nach Anspruch 1, **dadurch gekennzeichnet, dass** das Ansatzstück (5) eine Gelenkklammer (5.1) an einem ihrer Enden aufweist.

Revendications

1. Pièce pour assembler des panneaux à des structures, constituée de deux plaques (1) qui sont unies par une de leurs faces à une pièce (5) de fixation et pouvant s'unir par leur autre face à un ou plusieurs panneaux (2) de la structure à travers des orifices (1.1) de la plaque (1), à travers lesquels sont insérés des moyens de fixation (2, 1), **caractérisée en ce que** les orifices (1.1) de la plaque (1) ont un diamètre plus grand que le diamètre des moyens pour fixer les panneaux (2) modulaires à la plaque (1), en ayant également des moyens pour, lors de leur utilisation, assurer la position relative des panneaux (2) par rapport à la plaque (1), **en ce que** les moyens pour fixer les panneaux (2) et la plaque (1) consistent en des vis (2.1) en combinaison avec des écrous (2.2) avec au moins une tête (2.2.1) et **en ce que** les moyens pour assurer la position relative des panneaux (2) et la plaque (1) consistent en une pièce (3) sous forme essentielle de U qui embrasse l'écrou (2.2) et se trouve disposée entre la tête (2.2.1) de l'écrou (2.2) et la plaque (1).

2. Pièce pour assembler des panneaux à des structures, selon la revendication 1, **caractérisée en ce qu'**elle comprend, en outre, un panneau (2) et le panneau (2) a un évidemment sur sa face exposée pour insérer la tête de la vis (2.1).

3. Pièce pour assembler des panneaux à des structures, selon la revendication 1, **caractérisée en ce que** les vis de serrage (2.1) ont une tête conique (2.1.1).

4. Pièce pour assembler des panneaux à des structures, selon la revendication 1, **caractérisée en ce que** la tête (2.1.1) de la vis (2.1) a un chapeau (4) décoratif sur la face exposée du panneau (2).

5. Pièce pour assembler des panneaux à des structures, selon la revendication 1, **caractérisée en ce que** deux des parois de l'écrou (2.2) sont plates pour assurer l'élément (3) sous forme de U.

6. Pièce pour assembler des panneaux à des structures, selon la revendication 2, **caractérisée en ce que** les orifices (1.1) sont encastrés dans le panneau (2).

7. Pièce pour assembler des panneaux à des structures, selon la revendication 1, **caractérisée en ce que** les ailes des plaques (1) forment un angle.

8. Pièce pour assembler des panneaux à des structures, selon la revendication 1, **caractérisée en ce que** les parois (5.2, 5.3) d'extrémité de la pièce (5) de fixation forment un angle.

9. Pièce pour assembler des panneaux à des structures, selon la revendication 1, **caractérisée en ce que** la pièce (5) de fixation est l'une de celles qui ont un clip articulé (5.1) sur une de ses extrémités.

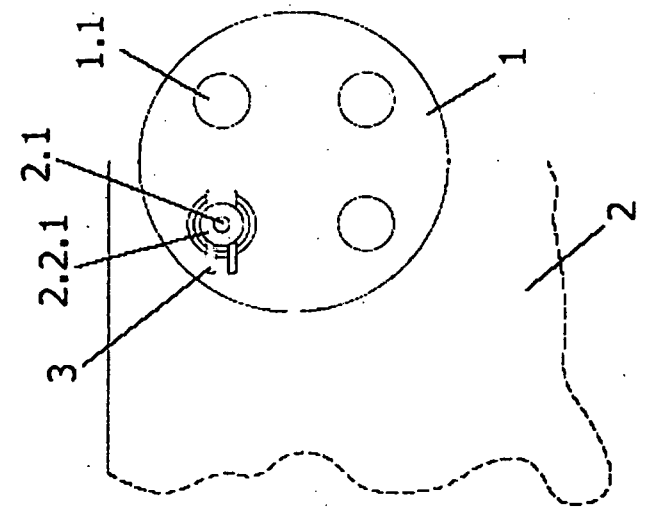


FIG.2

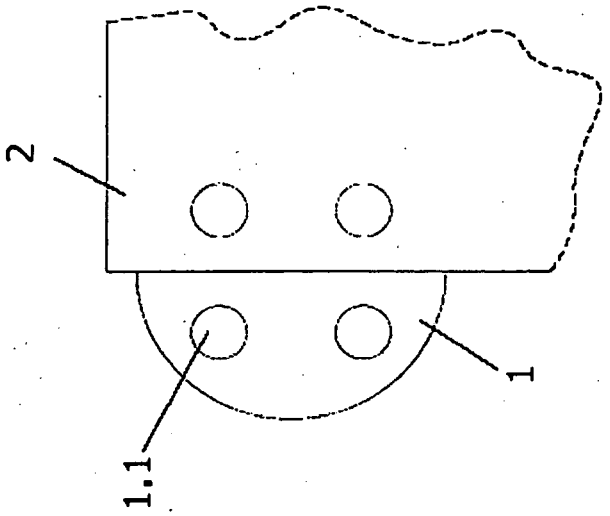


FIG.1

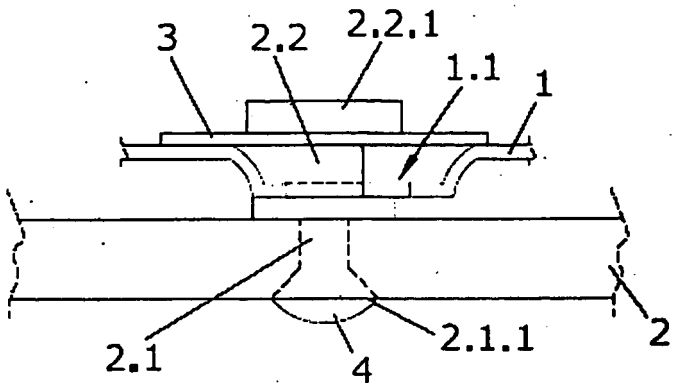


FIG.3

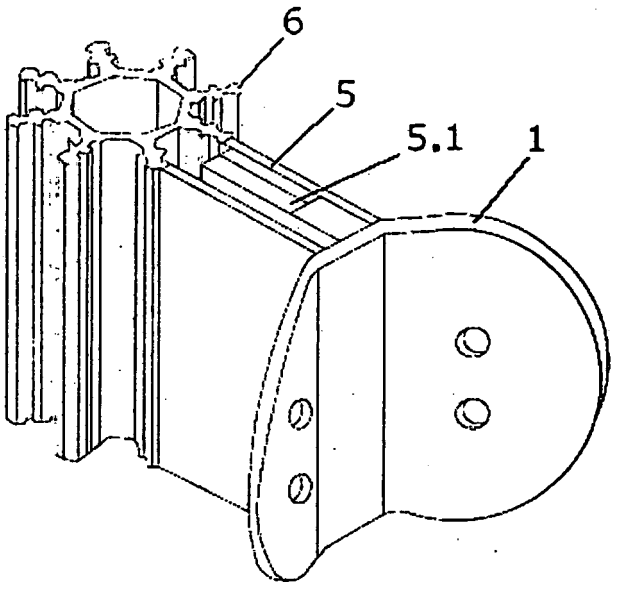


FIG.4

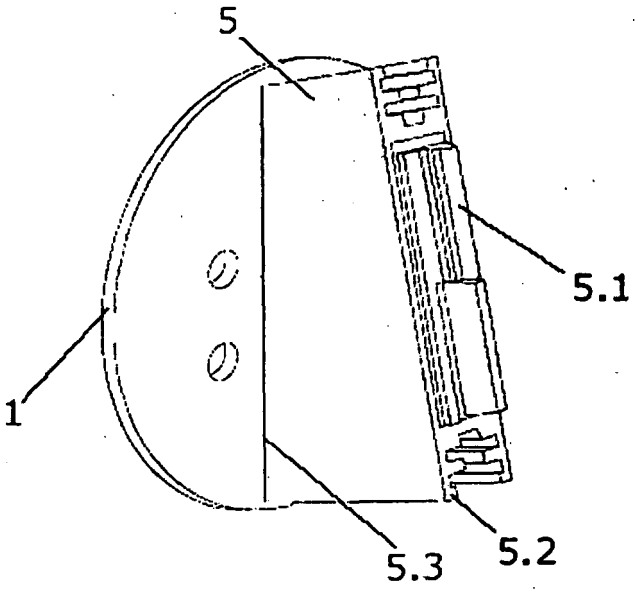


FIG.5

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- ES 1051531 U1 **[0005]**
- DE 9401746 U1 **[0008]**