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(54) PANEL SECURING MECHANISM FOR A GAME COURT ENCLOSURE

(57) Fastening mechanism comprises a extruded profile (1), at least one joining flat and first means of fastening of the joining flats of the extruded profile, said extruded profile being arranged on the outside of at least one ground anchoring foot and comprising longitudinal grooves having a C-shaped cross section, with opposite projections, for holding the joining flats wherein the first fastening means comprise a solid profile arranged along and on the inside of the longitudinal groove of the extruded profile, the solid profile comprising in turn contact surfaces arranged on both sides of a fastening projection, the contact surfaces being embedded against the inner faces of the opposite projections of the groove when at least one screw of the first fastening means is screwed into the solid profile (3.1) by means of its fastening projection.

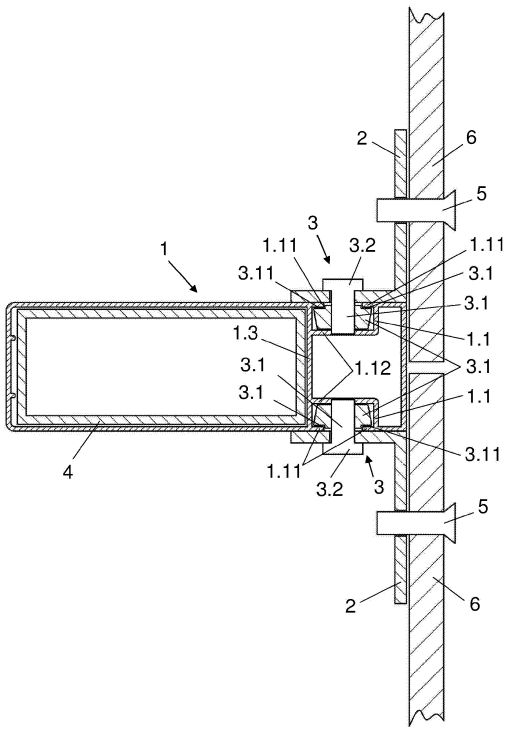

Fig.2

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Description

OBJECT OF THE INVENTION

[0001] The present invention refers to the field of the mechanisms for fastening the sheet glass or metal mesh panels making up the enclosure of sport courts, e.g. paddle tennis courts.

BACKGROUND OF THE INVENTION

[0002] The enclosures for sport courts, e.g. paddle tennis courts, are usually made up of a plurality of vertical posts arranged equidistant to each other according to a flat, rectangular arrangement.

[0003] The posts consist of a prismatic foot fastened to an anchor plate and of an extruded profile outwardly coupled to said foot. Said posts support conveniently arranged sheet glass and metal mesh panels, forming the enclosure up to a certain height.

[0004] There are known mechanisms for fastening the panels to the posts to make up the enclosure. For example, Spanish utility model application 1070784, published on 27 October 2009, shows an enclosure for a paddle tennis court wherein the extruded profiles of the posts frontally have two C-section longitudinal grooves for the optional mounting of corner profiles for fastening the glass sheets or means of fastening of horizontal crosspieces.

[0005] The extruded profile includes machined side holes which go all the way through to the longitudinal grooves and define areas for mounting means of fastening of horizontal joining crosspieces between successive extruded profiles and for supporting means of holding of glass sheets and metal meshes.

[0006] The previous fastening mechanism has drawbacks in that it is a complex and limited solution since it does not allow the horizontal crosspieces to be fastened at any height of the extruded profile that is required. The fastening of said horizontal crosspieces is restricted to the mounting areas defined by the holes machined on the sides of the extruded profile.

[0007] Consequently, it is not possible to allow in the assembly of the enclosure for variations in the dimensions of the panel to be fastened that might exist as a result of a lack of precision in the process of manufacture of said panel. That is, it is not possible to adjust, in a quick and easy manner, the fastening of the horizontal crosspiece to the vertical post as per the actual dimensions of the panel to be fastened.

DESCRIPTION OF THE INVENTION

[0008] In view of the aforementioned, the present invention refers to a panel fastening mechanism for enclosing sport courts.

[0009] The mechanism comprises a prismatic extruded profile, at least one joining flat and first means of fastening of the joining flats to the extruded profile.

[0010] The extruded profile is arranged on the outside of at least one ground anchoring foot and comprises longitudinal grooves having a C-shaped cross section and arranged on its outer wall. On the upper ends of the longitudinal grooves, i.e. opposite their base, there are arranged opposite projections, facing each other, which extend along the longitudinal groove to make it possible to hold the joining flats.

[0011] On the other hand, the joining flats have an L-shaped cross section and are optionally fastened, by means of second fastening means, to a glass panel or to horizontal crosspieces of a metal mesh panel.

[0012] In the case of the first fastening means, they comprise a solid profile arranged along and on the inside of the longitudinal groove of the extruded profile.

[0013] The solid profile in turn comprises contact surfaces arranged on both sides of a fastening projection. Said contact surfaces are embedded against the inner faces of the opposite projections of the groove when at least one screw of the first fastening means is screwed into the solid profile by means of its fastening projection.

[0014] Thus, it is possible to fasten, in a simple and agile manner, the joining flats to the extruded profile to support either the glass panels or the metal mesh panels.

[0015] The fastening of the joining profiles to the extruded profile can be done at any height of said profile that is required, it being possible to easily account for, right when the assembly of the enclosure is undertaken, the potential inaccuracies made in the sizing of the panels during their manufacturing process.

DESCRIPTION OF THE DRAWINGS

[0016] The present specification is complemented with a set of figures, which illustrate the preferred example of the invention and never limit the latter.

Figure 1 shows a top perspective view of a sport court whose enclosure is made using the panel fastening mechanism of the present invention.

Figure 2 shows a top sectional view of a first embodiment example of the fastening mechanism used between glass panels of the enclosure of the sport court of Figure 1.

Figure 3 shows a top sectional view of a second embodiment example of the fastening mechanism used between metal mesh panels of the enclosure of the sport court of Figure 1.

Figure 4 shows a side sectional view of a first embodiment example of the horizontal crosspiece of the metal mesh panel of Figure 3.

Figure 5 shows a side sectional view of a second embodiment example of the horizontal crosspiece

of the metal mesh panel of Figure 3.

Figure 6 shows a top sectional view of a second embodiment example of the fastening mechanism of Figure 3, used between metal mesh panels, with means of support of a net.

Figure 7 shows a top sectional view of a third embodiment example of the fastening mechanism, used between the corners of the enclosure of the sport court of Figure 1, between a glass and a metal mesh panel.

PREFERRED EMBODIMENT OF THE INVENTION

[0017] The present invention is a panel fastening mechanism for enclosing sport courts.

[0018] As can be seen in Figure 1, a sport court, e.g. a paddle tennis court, comprises a plurality of conveniently arranged glass panels (6) and metal mesh panels (7), forming the enclosure of said sport court.

[0019] In the arrangement of the panels in the enclosure, a fastening mechanism is used allowing the joining of two glass panels (6) or two metal mesh panels (7), as well as of a glass panel (6) and a metal mesh panel (7), to be carried out.

[0020] As shown in Figures 2, 3 and 7, the fastening mechanism comprises a prismatic extruded profile (1), at least a joining flat (2) and first means of fastening (3) of the joining flats (2) to the extruded profile (1).

[0021] The extruded profile (1) is arranged on the outside of at least one ground anchoring foot (4), i.e. the ground anchoring foot (4) is housed inside the extruded profile (1). As can be seen in Figure 1, the ground anchoring foots (4) are equidistantly arranged covering the entire perimeter of the sport court, with a view to fastening on top of them the enclosure of the court made up of the set of glass panels (6) and metal mesh panels (7).

[0022] The extruded profile (1) comprises longitudinal grooves (1.1) having a C-shaped cross section, whose upper ends form opposite projections (1.11), facing each other, which allow the joining flats (2) to be held or retained when said joining flat (2) is fastened to the extruded profile (1) by means of the first fastening means (3).

[0023] In the first and second embodiment examples of the fastening mechanism shown in Figures 2 and 3, the extruded profile (1) has a substantially rectangular cross section.

[0024] Likewise, in these cases, the longitudinal grooves (1.1) are preferably arranged aligned and opposite each other, close to one of the ends of the long sides of the extruded profile (1).

[0025] In the case of the embodiment of Figure 3, i.e. when the idea is to fasten two adjacent metal mesh panels (7), the ends of the long sides of the extruded profile (1), to which the longitudinal grooves (1.1) are close, preferably include second grooves (1.2) having a U-shaped cross section, also aligned and opposite each other.

[0026] On the other hand, as shown in Figure 2, in the case of the joining of two adjacent glass panels (6), the longitudinal grooves (1.1) are preferably joined at one of the ends of their bases (1.12), forming an inner wall (1.3) of the extruded profile (1).

[0027] In this case, the extruded profile (1) is fastened to the outside of the ground anchoring foot (4) by means of three of its sides and the inner wall (1.3).

[0028] However, in the embodiment shown in Figure 3, i.e. the joining of two adjacent metal mesh panels (7), the extruded profile (1) is fastened to the outside of the ground anchoring foot (4) by means of three of its sides and the side walls (1.13) of the longitudinal grooves (1.1).

[0029] As can be seen in Figure 6, two extruded profiles (1) may be arranged in line, rigidly joined to each other at one of their short sides, on the outside of two ground anchoring foots (4), in order to be used as a support structure for a net (not shown in the figures).

[0030] On the other hand, in the third embodiment example of the fastening mechanism shown in Figure 7, i.e. in the case of the joining of panels at the corners of the enclosure, e.g. of a glass panel (6) and a metal mesh panel (7), the extruded profile (1) has a cross section made up of two perpendicular sides (1.4) whose closest ends are joined by an angular section (1.5) and whose farthest ends are joined to straight sections (1.6). Said straight sections (1.6) are perpendicular to each other and are joined by a diagonally arranged section (1.7), closing the cross section of the extruded profile (1).

[0031] In this case, the longitudinal grooves (1.1) are arranged on the perpendicular sides (1.4) of the extruded profile (1). Preferably, at the ends closest to each other of said perpendicular sides (1.4).

[0032] Likewise, in this embodiment example of Figure 7, the extruded profile (1) is arranged on the outside of a set of two ground anchoring foots (4). Said ground anchoring foots (4) are joined at one of their corners and oriented perpendicularly to each other.

[0033] In this case, the extruded profile (1) is fastened on the outside of the set of two ground anchoring foots (4) by means of its straight sections (1.6), the bases (1.12) of the longitudinal grooves (1.1) and projections (1.71, 1.121), the latter extending in a direction parallel to the wall of the ground anchoring foot (4) to which they are fastened. Said projections (1.71, 1.121) are arranged on each end of the diagonally arranged section (1.7) and on the ends closest to each other of the bases (1.12) of the grooves (1.1) respectively.

[0034] On the other hand, as shown in Figures 2, 3 and 7, the first fastening means (3) comprise a solid profile (3.1) and at least one screw (3.2) suitable for being screwed into said solid profile (3.1).

[0035] The solid profile (3.1) is arranged along and on the inside of the longitudinal groove (1.1) of the extruded profile (1). Said solid profile (3.1) is preferably made of an aluminium alloy.

[0036] Likewise, the solid profile (3.1) comprises contact surfaces (3.11) arranged on both sides of a fastening

projection (3.12). Said fastening projection (3.12) fits between the opposite projections (1.11) of the groove (1.1), and the contact surfaces (3.11) are embedded against the inner faces of said opposite projections (1.11), when at least one of the screws (3.2) is screwed into the solid profile (3.1) by means of its fastening projection (3.12), to fasten the joining flat (2) to the extruded profile (1).

[0037] The solid profile (3.1) may have threaded holes, with the same dimensions of that of the screws (3.2), arranged equidistant to each other along the entire central length of the fastening projection (3.12), or said holes may be made on the fastening projection (3.12) at the time of screwing the screw (3.2) into said solid profile (3.1), the height at which the joining flat (2) is required to be fastened to the extruded profile (1) being taken into account.

[0038] Likewise, the screw (3.2) is preferably screwed in one go into the solid profile (3.1) and into the longitudinal groove (1.1) by means of its base (1.12).

[0039] On the other hand, the cross section of the solid profile (3.1) can substantially have the shape of a quadrangle, wherein the contact surfaces (3.11) and the fastening projection (3.12) are arranged on one of the long sides of said quadrangle.

[0040] Likewise, the solid profile (3.1) preferably has a substantially trapezoidal cross section, wherein the contact surfaces (3.11) and the fastening projection (3.12) are arranged on the long side of the trapezium.

[0041] In the case of the joining flats (2), they have an L-shaped cross section and may be optionally fastened, by means of second fastening means (5), to a glass panel (6) or to horizontal crosspieces (7.1) of a metal mesh panel (7).

[0042] Any of the known fastening means, e.g. pressure screws, may be used as second fastening means (5).

[0043] As can be seen in Figure 4, in a first embodiment example of the horizontal crosspiece (7.1), the latter can comprise a substantially rectangular cross section with a hollow (7.1) made in one of its short ends.

[0044] However, as shown in Figure 5, in a second embodiment example, the short end of the cross section of said horizontal crosspiece (7.1) has two hollows (7.11) aligned and opposite each other made in it.

[0045] The ends of the metal mesh of a metal mesh panel (7) are fastened between the hollows (7.11) of the horizontal crosspieces (7.1) and the second grooves (1.2) existing in the extruded profile (1) - see Figure 3.

[0046] The horizontal crosspiece (7.1) with two hollows (7.11) is used in intermediate metal mesh panels (7). In other words, panels which are not arranged on the upper or lower end of the enclosure.

[0047] Conversely, the horizontal crosspiece (7.1) with a hollow (7.11) is used to fasten the ends of the metal mesh when said horizontal crosspiece (7.1) is arranged at the ends of the enclosure or adjoining a glass panel (6).

Claims

1. A panel fastening mechanism for enclosing sport courts comprising a prismatic extruded profile (1), at least one joining flat (2) and first means of fastening (3) of the joining flats (2) of the extruded profile (1), said extruded profile (1) being arranged on the outside of at least one ground anchoring foot (4) and comprising longitudinal grooves (1.1) having a C-shaped cross section, with opposite projections (1.11), for holding the joining flats (2), said joining flats (2) having an L-shaped cross section and optionally being fastened, by means of second fastening means (5), to a glass panel (6) o to horizontal crosspieces (7.1) of a metal mesh panel (7), **characterised in that** the first fastening means (3) comprise a solid profile (3.1) arranged along and on the inside of the longitudinal groove (1.1) of the extruded profile (1), the solid profile (3.1) comprising in turn contact surfaces (3.11) arranged on both sides of a fastening projection (3.12), the contact surfaces (3.11) being embedded against the inner faces of the opposite projections (1.11) of the groove (1.1) when at least one screw (3.2) of the first fastening means (3) is screwed into the solid profile (3.1) by means of its fastening projection (3.12), to fasten the joining flat (2) to the extruded profile (1).

2. A fastening mechanism according to claim 1, wherein the section of the solid profile (3.1) substantially has the shape of a quadrangle, wherein the contact surfaces (3.11) and the fastening projection (3.12) are arranged on one of its long sides.

3. A fastening mechanism according to claim 2, wherein the solid profile (3.1) has a substantially trapezoidal section, wherein the contact surfaces (3.11) and the fastening projection (3.12) are arranged on its long side.

4. A fastening mechanism according to claim 1, wherein the extruded profile (1) has a substantially rectangular section, and the longitudinal grooves (1.1) are arranged aligned and opposite to each other, close to one of the ends of the long sides of the extruded profile (1).

5. A fastening mechanism according to claim 4, wherein the ends of the long sides of the extruded profile (1), to which the longitudinal grooves (1.1) are close, include second grooves (1.2) having a U-shaped cross section and aligned and opposite to each other.

6. A fastening mechanism according to claim 4, wherein the longitudinal grooves (1.1) are joined at one of the ends of their bases (1.12), forming an inner wall (1.3) of the extruded profile (1).

7. A fastening mechanism according to claim 6, wherein the extruded profile (1) is fastened to the outside of the ground anchoring foot (4) by means of three of its sides and the inner wall (1.3).

8. A fastening mechanism according to claim 4, wherein the extruded profile (1) is fastened to the outside of the ground anchoring foot (4) by means of three of its sides and side walls (1.13) of the longitudinal grooves (1.1).

9. A fastening mechanism according to claim 8, wherein two extruded profiles (1) are arranged in line, rigidly joined together at one of their short sides, on the outside of two ground anchoring foots (4) as a support structure for a net.

10. A fastening mechanism according to claim 1, wherein the extruded profile (1) has a section made up of two perpendicular sides (1.4) whose closest ends are joined by an angular section (1.5) and whose farthest ends are joined to straight sections (1.6), said straight sections (1.6) being perpendicular to each other and joined by a diagonally arranged section (1.7).

11. A fastening mechanism according to claim 10, wherein the longitudinal grooves (1.1) are arranged on the perpendicular sides (1.4) of the extruded profile (1).

12. A fastening mechanism according to claim 11, wherein the extruded profile (1) is arranged on the outside of a set of two ground anchoring foots (4), which are joined at one of their corners and perpendicularly oriented among each other, the extruded profile (1) being fastened to the set of two ground anchoring foots (4) by means of its straight sections (1.6), the bases (1.12) of the longitudinal grooves (1.1) and projections (1.71, 1.121) arranged on the ends of the diagonally arranged section (1.7) and on the ends closest to each other of the bases (1.12) respectively.

13. A fastening mechanism according to claim 1, wherein the horizontal crosspiece (7.1) comprises a substantially rectangular section with at least one hollow (7.11) made in one of its short ends.

14. A fastening mechanism according to claims 5 and 14, wherein the ends of the metal mesh of a metal mesh panel (7) are fastened in the hollows (7.11) of the horizontal crosspieces (7.1) and the second grooves (1.2) of the extruded profile (1).

15. A fastening mechanism according to claim 1, wherein the screw (3.2) of the first fastening means (3) is screwed in one go into the solid profile (3.1) and into the longitudinal groove (1.1) by means of its base (1.12).

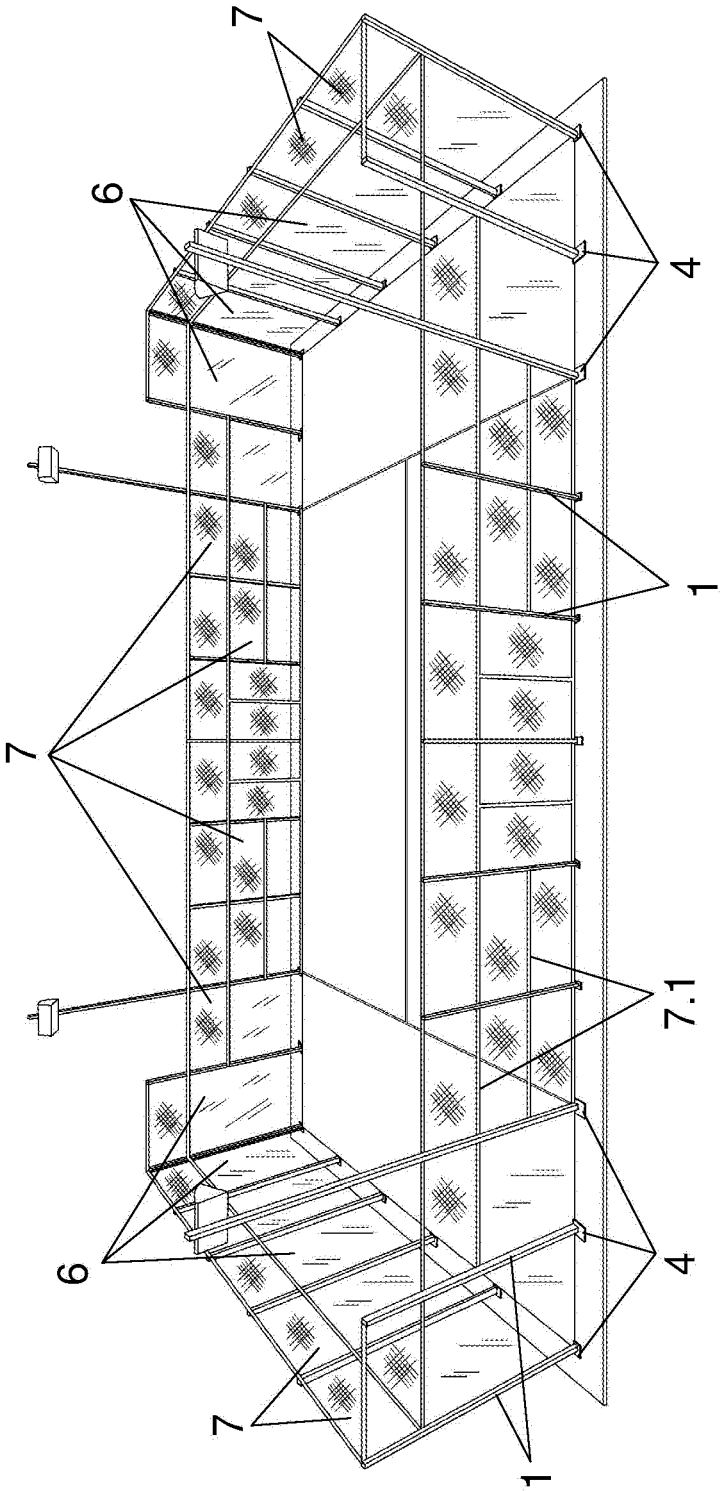

Fig.1

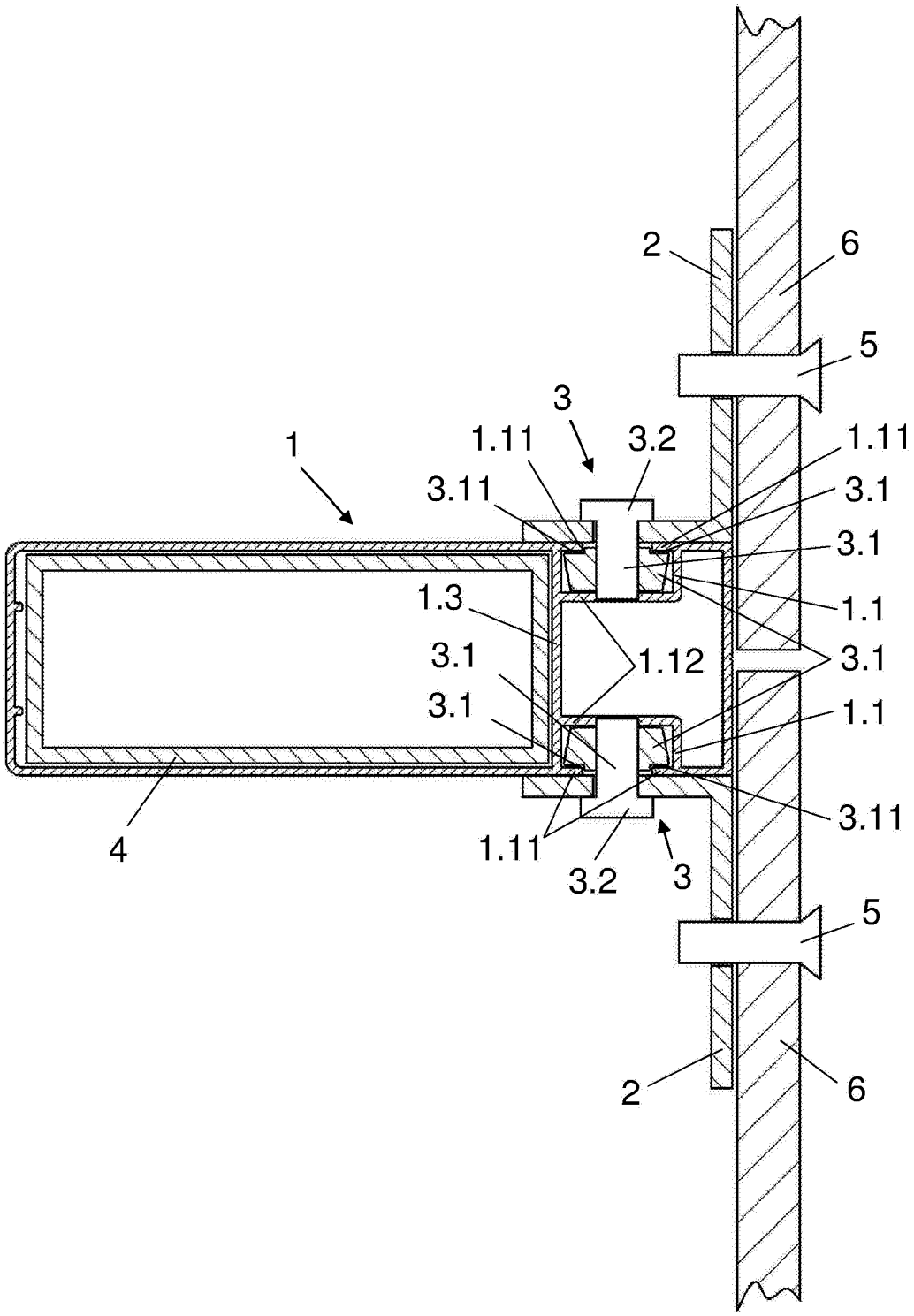

Fig.2

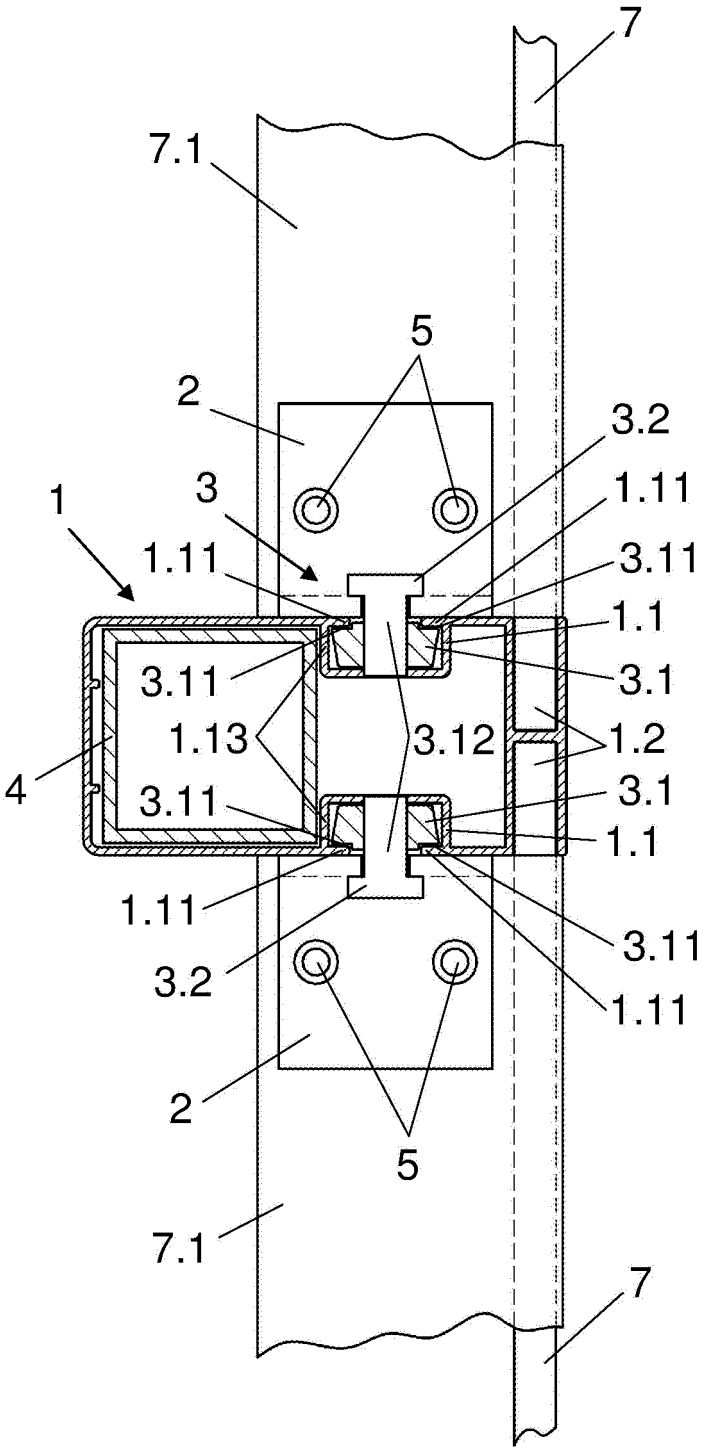
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Fig.3

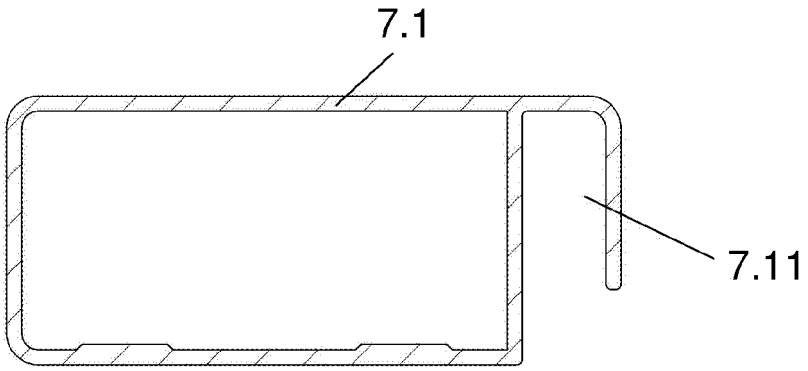

Fig.4

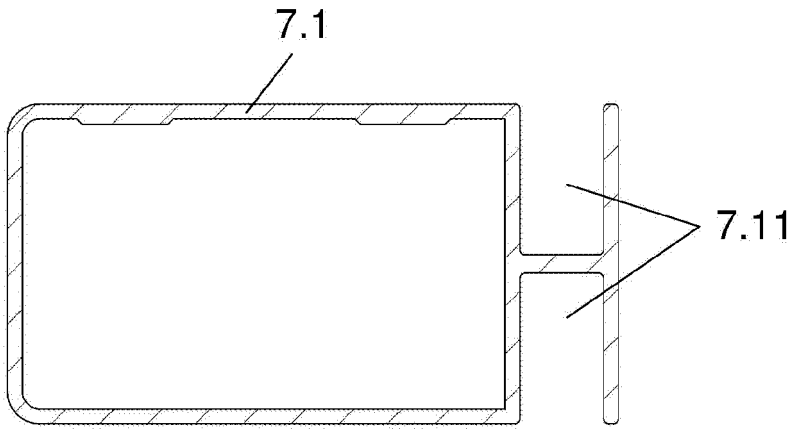

Fig.5

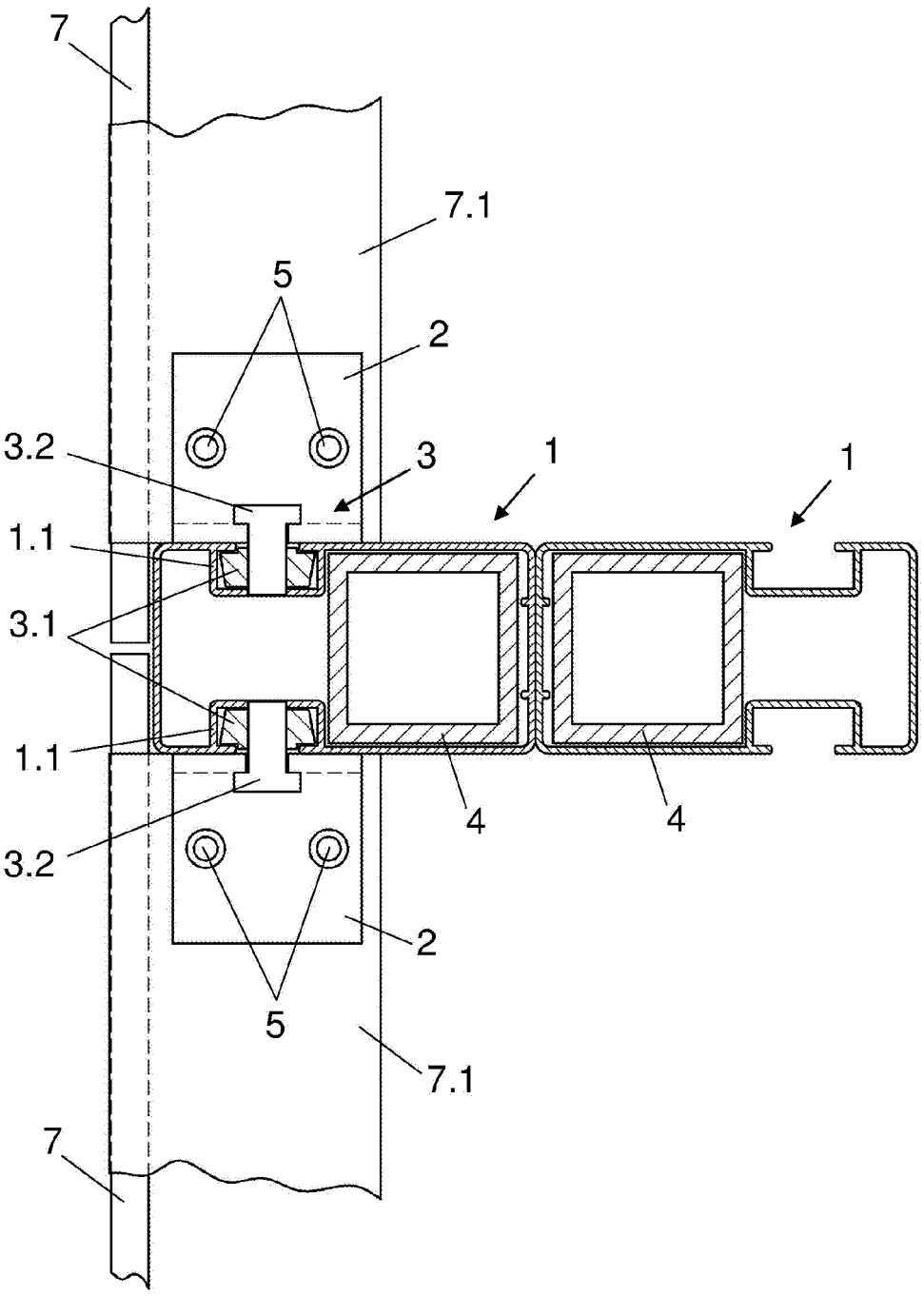

Fig.6

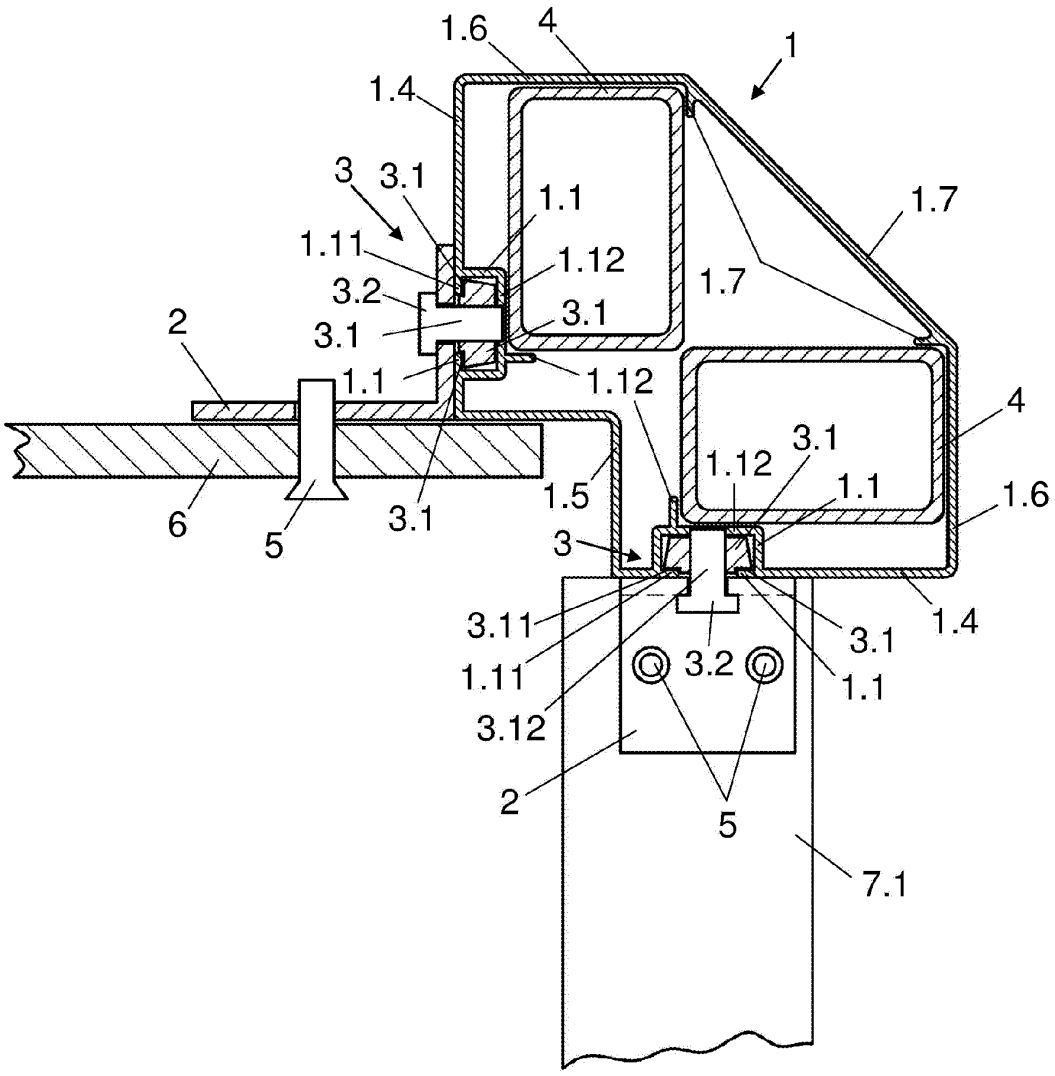
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Fig.7

INTERNATIONAL SEARCH REPORT

International application No.
PCT/ES2013/070018

A. CLASSIFICATION OF SUBJECT MATTER

E04H17/16 (2006.01)
E04H17/20 (2006.01)
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
E04H

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPODOC, INVENES, INTERNET

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 6283456 B1 (BENZ ET AL) 04.09.2001, column 1, line 66 - column 3, line 59; figures.	1,4-6
A	ES 1070784 U (HERNAMPEREZ) 27.10.2009, column 4, line 30 - column 8, line 31; figures.	1,4,6-8
A	GB 2452702 A (SIMPSON STRONG) 18.03.2009, the whole the document.	1,4,7,8
A	US 20070272909 A1 (JOHN E. PAYNE) 29.11.2007, page 4, paragraph [89] - page 11, paragraph[169]; figures.	1

☐ Further documents are listed in the continuation of Box C. ☒ See patent family annex.

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Date of the actual completion of the international search	Date of mailing of the international search report
26/08/2013	**(29/08/2013)**
Name and mailing address of the ISA/ OFICINA ESPAÑOLA DE PATENTES Y MARCAS Paseo de la Castellana, 75 - 28071 Madrid (España) Facsimile No.: 91 349 53 04	Authorized officer M. Hernández Agusti Telephone No. 91 3495553

Form PCT/ISA/210 (second sheet) (July 2009)

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.
PCT/ES2013/070018

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REFERENCES CITED IN THE DESCRIPTION

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