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(54) **Assemblable structure**

(57) An assemblable structure, usable as a living and/or container unit, comprises tubular elements (2) that are mutually aligned and fixing means (12, 13a, 13b, 13c, 24, 25, 26, 34) arranged for mutually connecting said tubular elements (2), and is characterised in that said fixing means (12, 13a, 13b, 13c, 24, 25, 26, 34) comprises

a plurality of fixing elements (13a, 13b) arranged for connecting a tubular element (2) to the adjacent tubular element (2) on one side, and a distinct plurality of fixing elements (13b, 13a, 13c) arranged for connecting said tubular element (2) to another adjacent tubular element (2), if present, on the opposite side.

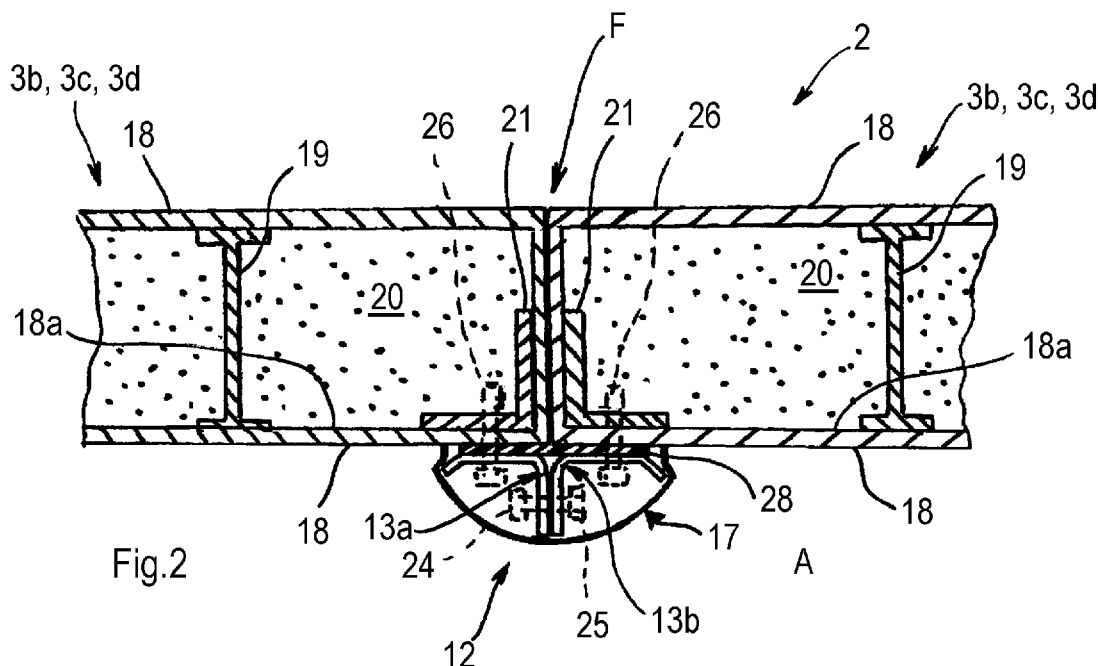


Fig.2

Description

[0001] The invention relates to an assemblable structure, usable as a living and/or container unit.

[0002] Prefabricated units are known, consisting of a certain number of tubular elements that are assemblable together and are shaped as a parallelepipedon. Each element is shaped by panels, which are normally made of fibreglass, mutually assembled at respective adjacent borders by fixing means of known type. By aligning and assembling together a desired number of these elements it is possible to make living and/or container units, which are usable as dwellings, offices, surgeries or storage facilities. These prefabricated units, which are conveyed dismantled to the place of use and are assembled there, are variously equipped by the manufacturer on the basis of the use to which they are intended and can thus be provided with windows, toilets, beds, internal dividing walls.

[0003] In the case of natural calamities, during which inhabited buildings are destroyed or seriously damaged, the prefabricated units are used as replacement dwellings and must therefore be provided with insulating and sealing means so as to enable the prefabricated units to be used even in adverse climatic and weather conditions.

[0004] The prefabricated units are also used in situations that are different from natural calamities, being able to act temporarily as offices, storerooms or canteens inside, for example, building sites and barracks. The prefabricated units can also be used in a permanent manner, for example inside sporting, recreational or tourism facilities, in which they can act as changing rooms, surgeries, offices. In the situations disclosed above, the prefabricated units are preferred because they are substantially simpler and quicker to erect than conventional buildings. More in general, prefabricated units are used in all those situations in which it is not possible and/or economical to erect conventional buildings.

[0005] In order to make the known prefabricated units, the elements disclosed above are mutually aligned and assembled, so as to define overall a hollow structure that is approximately shaped as a parallelepipedon. In order to connect mutually the various elements, screw tie rods are used, having a length corresponding to the length of the structure defined by the aligned elements. The screw tie rods are inserted into suitable seats obtained into the thickness of the panels forming the elements, so as to be arranged parallel to a longitudinal axis of the structure. By acting on the screws of the tie rods, it is possible to clamp the latter and mutually to connect the aligned elements, so as to obtain a living and/or container unit.

[0006] A drawback of the aforesaid procedure is that, between the adjacent borders of the elements that are mutually connected by screw tie rods, interstices remain that permit undesired infiltrations of water inside the unit. Consequently, the sealing properties of the unit are not such as to enable the unit to be used appropriately in adverse climatic and weather conditions.

[0007] An object of the invention is to improve known prefabricated living and/or container units.

[0008] Another object is to provide a prefabricated living and/or container unit that has suitable insulating and sealing properties, so as to enable the prefabricated living and/or container unit to be used even in adverse climatic and weather conditions.

[0009] According to the invention, there is provided an assemblable structure, usable as a living and/or container unit, comprising tubular elements that are mutually aligned and fixing means arranged for mutually connecting said tubular elements, characterised in that said fixing means comprises a plurality of fixing elements, arranged for connecting a tubular element to the adjacent tubular element on one side, and a distinct plurality of fixing elements arranged for connecting said tubular element to another adjacent tubular element, if present, on the opposite side.

[0010] Owing to the invention, a living and/or container unit is made available that is provided with excellent sealing properties in relation to atmospheric agents.

[0011] The fixing elements comprise pairs of metal profiled sections that are arranged vertically and/or horizontally with respect to the tubular elements and are applied externally to the structure along the adjacent borders of two adjacent tubular elements. The profiled sections of each pair are mutually connected by screws and each profiled section is in turn fixed to the corresponding tubular element by means of further screws.

[0012] In this way, the adjacent tubular elements are maintained mutually connected in an effective manner and the respective adjacent borders mate in a complete manner. Consequently, between the adjacent tubular elements interstices do not form that are such as to allow undesired infiltration of water inside the unit, as occurs in known prefabricated units.

[0013] Further, between the pairs of profiled sections and the corresponding adjacent tubular elements it is possible to interpose sealing means of known type, for example washers, this enabling the sealing properties of the unit to be increased further in relation to atmospheric agents.

[0014] In one embodiment, between the two profiled sections of each pair spacing elements are interposed that ensure a stable interconnection of the profiled sections.

[0015] In another embodiment, one of the profiled sections of each pair is provided with abutting means suitable for engaging an adjacent border of the other profiled section, so as to maintain the two profiled sections mutually level. In this way, it is possible to make the adjacent borders of the panels forming the roof of the unit mate in an optimum manner even if these panels are warped, i.e. are more or less bent.

[0016] The invention can be better comprised and implemented with reference to the attached drawings that illustrate some embodiments thereof by way of non-limiting example, in which:

Figure 1 is a fragmentary and incomplete perspective view showing a prefabricated living and/or container unit comprising a plurality of tubular elements that are mutually assembled by fixing means;

Figure 2 is a fragmentary and incomplete schematic cross section showing various components of the fixing means;

Figure 3 is a fragmentary and incomplete perspective view showing a profiled section element comprised in the fixing means;

Figure 4 is a fragmentary and incomplete perspective view, showing a further profiled section element arranged for cladding the fixing means;

Figure 5 is a fragmentary and incomplete schematic cross section showing an embodiment of the fixing means in which a profiled section element is provided with abutting means;

Figure 6 is a fragmentary and incomplete perspective view showing the profiled elements comprised in the embodiment of the fixing means in Figure 5;

Figure 7 is a fragmentary and incomplete schematic cross section, showing another embodiment of the fixing means comprising a spacing element;

Figure 8 is an enlarged, fragmentary and incomplete perspective view, showing a still further profiled section element used for assembling the unit in Figure 1.

[0017] Figure 1 shows a prefabricated structure 1, usable as a living and/or container unit and locatable on an intended resting surface, for example a portion of ground P. The structure 1 is substantially parallelepipedon-shaped and comprises a floor 4, a pair of mutually parallel and opposite side walls 5a, 5b, a roof 6 and a further pair of mutually parallel and opposite side walls 7a, 7b (of the latter Figure 1 shows only the front wall 7a).

[0018] In the front wall 7a there is obtained an inlet opening 7c provided with a door 8, by means of which it is possible to enter the unit 1. In the end walls 7a, 7b and/or in the side walls 5a, 5b there are comprised windows 9, each of which is quadrilateral-shaped and is provided with a frame on which a sheet of glass or other suitable transparent material is fitted.

[0019] The unit 1 is made by reciprocally aligning, according to an intended assembly direction F1, and then mutually connecting a plurality of tubular elements 2. Each tubular element 2 is parallelepipedon-shaped and is made of panels of known type, made of composite material and such as to ensure that the structure 1 has suitable insulating and mechanical resistance properties.

[0020] Each tubular element 2 comprises a base panel 3a, that is horizontally positionable so as to form a corresponding portion of the floor 4 when the tubular element 2 is rested on the portion of ground P to assemble the unit 1. The floor 4 may comprise a plurality of slab elements 11 that are mutually adjacent and fixed to the underlying base panels base 3a of the tubular elements 2. From opposite side borders 30 of the base panel 3a a pair of side panels 3b projects vertically 3c that are mu-

tually parallel and arranged for forming corresponding portions of the pair of side walls 5a, 5b. Each tubular element 2 is completed by an end panel 3d, that is parallel to and opposite the base panel 3a and forms a corresponding portion of the roof 6 when the unit 1 is assembled. The tubular elements 2 intended for forming the end walls 7a, 7b of the unit 1 comprise further panels defining the end walls 7a, 7b.

[0021] Figure 1 shows a front panel 10 forming the front wall 7. The panels in which the inlet opening 7c and/or the windows 9 are received are provided with suitable frame means that are not shown that enable the door 8 and/or the windows 9 to be fitted in the corresponding panel.

[0022] In an embodiment that is not shown, tubular elements 2 are provided comprising side panels 3b, 3c and/or terminal panels 3d that are glass pane-shaped. This is particularly useful, for example, if the structure 1 is used as an office.

[0023] In another embodiment that is not shown, tubular elements 2 are provided comprising side panels 3b, 3c that are hinged on the underlying base panels 3a and on the end panels 3d above, so as to be rotatable around a side border. In this way, once the structure 1 has been assembled the hinged side panels 3b, 3c can be used directly as doors.

[0024] In order to assembly each tubular element 2, connecting elements 29, shown in Figure 8, are used. Each connecting element 29 is made in the shape of a metal profiled section having an approximately U-shaped cross section and comprises a lesser face 29a, a greater face 29c and a supporting face 29b. The supporting face 29b and the greater face 29c are mutually parallel and arranged transversely to the lesser face 29a. In corresponding portions of the greater face 29c and of the supporting face 29b threaded holes 31 are obtained, arranged for receiving fixing screws 32, only one of which is shown (by a dotted line) in Figure 8.

[0025] A pair of connecting elements 29 is fixed to the side borders 30 of each base panel 3a, so that, in use, the lesser face 29a is parallel to the corresponding side edge 30 and opposite the latter, the greater face 29c faces the portion of ground P (on which the base panel 3a rests) and the supporting face 29b faces in an opposite direction to the portion of ground P.

[0026] After positioning a side panel 3b, 3c so that a side edge (not shown) of the latter rests on the supporting face 29b, the panel 3b, 3c is fixed to the underlying connecting element 29, and thus to the adjacent base panel 3a, by means of the fixing screws 32. The latter traverse the threaded holes 31 of the connecting elements 29 and are received in threaded blind holes (which are not shown) obtained in the side panels 3b, 3c. By means of further fixing means (which is not shown), the side panels 3b, 3c of each tubular element 2 are fixed to the corresponding end panel 3d.

[0027] In an embodiment which is not shown, also the end panel 3d is provided with a pair of connecting ele-

ments 29, by means of which the end panel 3d is fixed to the underlying side panels 3b, 3c according to a procedure that is similar to the one disclosed above.

[0028] In order to connect the tubular elements 2 mutually, so as to construct the unit 1, a plurality of fixing devices 12 is used. With reference to Figures 2 to 4, each fixing device 12 comprises a pair of profiled sections 13a, 13b, made of metal or of another suitable material. As is visible in Figure 2, two adjacent side panels 3b, or 3c (forming the side walls 5a, 5b of the unit 1) and/or two adjacent end panels 3d (forming the roof 6 of the unit 1) are mutually connected by a fixing device 12. Each panel 3b, 3c, 3d has a composite structure, being formed peripherally by cladding slabs 18, made of a suitable material, for example fibreglass, and enclosing an internal layer 20. The latter comprises a suitable insulating material, for example expanded polyurethane. In the internal layer 20 reinforcing elements 19 are located, for example of the profiled sections in fibreglass, that increase the mechanical resistance properties of the panel 3b, 3c, 3d. Also the panels 3a forming the floor 4 of the unit 1 have the same composite structure disclosed above.

[0029] In the internal layer 20 of the panels 3b, 3c, 3d anchoring elements 21 are also located, in which threaded holes are received (which are not shown). Each anchoring element 21 is immersed in the internal layer 20 and is applied to a corresponding internal surface 18a of the adjacent cladding slab 18.

[0030] Each profiled section 13a, 13b has a substantially L-shaped cross section and comprises a lesser branch 14 and a greater branch 15, arranged transversely to one another. From a border of the greater branch 15 opposite the lesser branch 14 an anchoring branch 16 projects obliquely that, once the fixing device 12 is assembled, enables a guard element 17 to be anchored on the latter. In the lesser branch 14 through holes 23 are obtained that are usable for mutually connecting the two profiled sections 13a, 13b of each pair by fixing means of known type, for example a nut 24 and a corresponding screw 25 (shown by a dotted line). Similar through holes 23 are obtained in the greater branch 15 and are usable for fixing each profiled section 13a, 13b to the corresponding anchoring element 21 of the underlying panel 3b, 3c, 3d by means of further screws 26 (shown by a dotted line).

[0031] To mount the unit 1 shown in Figure 1, the tubular elements 2 are first positioned so that the respective base panels 3a are in contact with the portion of ground P and the respective side panels 3b, 3c are aligned along the direction F1. In this way, the floor 4, the side walls 5a, 5b and the roof 6 of the unit 1 to be assembled are defined (Figure 1).

[0032] In each side wall 5a, 5b, just as on the roof 6, a plurality of connecting zones F (Figure 2) is further defined, each of which comprises side borders that are adjacent to and mate with the panels 3b, 3c, 3d and near which the fixing devices 12 are assembled.

[0033] In order to assemble the fixing devices 12, the

profiled sections 13a, 13b of each pair are arranged vertically (at the side walls 5a, 5b), or horizontally (at the roof 6), so that the respective lesser branches 14 mate mutually and the corresponding through holes 23 of the lesser branches 14 are aligned, the respective greater branches 15 rest on the cladding slabs 18 of the underlying panels 3b, 3c, 3d and the through holes 23 of the greater branches 15 are aligned on corresponding through holes 22 (Figure 8) obtained in the thickness of the panels 3b, 3c, 3d. In this assembly configuration A (Figure 2), the lesser branches 14 are adjacent to one another and aligned on the corresponding connecting zone F, whilst the greater branches 15 face directions that are opposite and parallel to the panels 3b, 3c, 3d. The lesser branches 14 are mutually connected by nuts 24 and screws 24 so as to connect mutually the profiled sections 13a, 13b of each pair, and by the further screws 26 the greater branches 15 are fixed to the panels 3b, 3c, 3d, i.e. to the anchoring elements 21 of the latter. Once the assembly configuration A of the fixing devices 12 has been made stable by the nuts 24, the screws 25 and the further screws 26, the tubular elements 2 are firmly connected together. The procedure disclosed above is performed to assemble both the side walls 5a, 5b and the roof 6 of the unit 1.

[0034] It should be noted that the fixing devices 12 enable the adjacent tubular elements 2 to mate mutually in a substantially complete manner, thus preventing interstices forming that are such as to enable water to infiltrate inside the unit 1, as occurs, on the other hand, in known prefabricated units that are assembled using screw tie rods. Before assembling the fixing devices 12, it is further possible to interpose sealing elements, for example washers 28 of known type, between the cladding slabs 18 of the panels 3b, 3c, 3d and the greater branches 15. In this way, the seal of the unit 1 in relation to water infiltrations, which is *per se* greater than that of known prefabricated units, can be increased further.

[0035] Figure 7 shows an embodiment of the fixing device 12 in which a spacing element 34 is interposed between the two profiled sections 13a and 13b. The spacing element 34 is bar-shaped, having a cross section of quadrilateral shape, it extends longitudinally and parallel to the two profiled sections 13a, 13b and is interposed between the lesser branches 14 of the latter.

[0036] The two profiled sections 13a and 13b shown in Figure 7 have the same structure as the profiled sections 13a and 13b disclosed previously with respect to Figures 2 and 3. Consequently, the fixing device 12 shown in Figure 7 is assembled by means of a procedure that is similar to that previously disclosed with reference to the fixing device 12 shown in Figure 2, so as to obtain the assembly configuration A (Figure 7).

[0037] In an embodiment which is not shown, the spacing element 34 has a length that is significantly less than the length of the profiled sections 13a, 13b. Consequently, between the two profiled sections 13a, 13b there can be interposed a plurality of spacing elements 34 that are

mutually aligned and spaced.

[0038] In another embodiment which is not shown the shape of the cross section of the spacing element 34 is circular or generally polygonal.

[0039] Figures 5 and 6 show another embodiment of the fixing device 12, in which one of the two profiled sections 13a, 13b is replaced by a profiled section 13c provided with an abutting portion 33.

[0040] Similarly to the profiled sections 13a, 13b, also the profiled section 13c has a substantially L-shaped cross section and comprises a lesser branch 14 and a greater branch 15, arranged transversely to one another. The abutting portion 33 is shelf-shaped and extends along the entire length of the lesser branch 14. The abutting portion 33 protrudes from the lesser branch 14 in a position opposite the greater branch 15 and is parallel to the latter. The shape and dimensions of the abutting portion 33 are such as to enable the latter to receive and lock a free border 35 of the lesser branch 14 of the profiled section 13a, or 13b.

[0041] In the lesser branch 14 of the profiled section 13c, instead of the through holes 23, slots 36 are obtained that have an elongated shape and are arranged transversely to the greater branch 15.

[0042] In an embodiment which is not shown, the lesser branch 14 of the profiled section 13c is provided with both slots 36 and through holes 23.

[0043] In another embodiment which is not shown, the lesser branch 14 of the profiled section 13c is provided with through holes 23 and is devoid of slots 36.

[0044] In a still further embodiment which is not shown also the greater branch 15 of the profiled section 13c is provided with slots 36.

[0045] During assembly of the unit 1, the profiled section 13c is particularly useful if one or more panels, in particular the end panels 3d forming the roof 6, are curved transversely to the assembly direction F1, so as to be, for example, convex towards the exterior with respect to the respective tubular element 2. In this case, the profiled section 13c is mounted on the curved end panel 3d whereas a corresponding profiled section 13a, 13b is mounted on the adjacent end panel 3d. Then, by exerting suitable pressure on the curved end panel 3d, the latter is deformed (flattened) so as to take the profiled section 13c to the corresponding profiled section 13a, 13b until the abutting portion 33 of the profiled section 13c stops against the free border 35 of the profiled section 13a, 13b, i.e. until the profiled section 13c is at the same level as the corresponding profiled section 13a, 13b.

[0046] In this way, the assembly configuration A shown in Figure 5, is obtained in which the adjacent side borders of the originally curved end panel 3d and of the adjacent end panel 3d mate suitably. This enables all the end panels 3d to be assembled mutually regardless of the respect degree of curvature.

[0047] Owing to the slots 36, it is possible to connect mutually the lesser branch 14 of the profiled section 13c and the lesser branch 14 of the profiled section 13a, 13b

by the nuts 24 and the screws 25 when the adjacent side borders of the profiled section 13c and of the profiled section 13a, 13b are not mutually at the same level. In fact, the screws 25 can slide vertically inside the corresponding slots 36 whilst the profiled section 13c is moved towards the profiled section 13a, 13b. When the aforesaid adjacent side borders are mutually at the same level and mate, the screws 25 and the nuts 24 are tightened so as to connect the adjacent end panels 3d firmly.

[0048] In an embodiment which is not shown, also the lesser branch 14 and/or the greater branch 15 of the profiled sections 13a, 13b are provided with slots 36.

[0049] In another embodiment which is not shown, between the profiled sections 13c and the corresponding profiled sections 13a, 13b the previously disclosed spacing elements 34 are interposed.

[0050] Once mounting of the fixing devices 12 has been completed, on the latter a guard element 17 can be fixed thereupon that is made in the shape of a metal profiled section.

[0051] The cross section of the protecting element 17 is shaped so as to enable the protecting element 17 to adapt suitably to the shape and to the dimensions of the profiled sections 13a, 13b, 13c forming the fixing device 12 (Figure 2; Figure 5; Figure 7).

[0052] In fact, the cross section of the protecting element 17 comprises a convex central portion 17a and a pair of lateral portions 17b, 17c (Figure 4). Between the convex central portion 17a and each of the lateral portions 17b, 17c, there is defined an anchoring portion 27. The anchoring portions 27 are convex and can engage the anchoring branches 16 comprised in the profiled sections 13a, 13b, 13c. In this way, when on each assembled fixing device 12 the corresponding protecting element 17 is fitted, the latter completely covers the profiled sections 13a, 13b, 13c and engages the respective anchoring branches 16.

[0053] The protecting element 17 performs both a safety function and a decorative function. In fact, the protecting element 17 prevents a user from coming accidentally into contact with the shape corners with which the profiled sections 13a, 13b, 13c are provided and which could be the cause of accidents. At the same time, the protecting element 17 has a pleasant shape that contributes to improving the external appearance of the unit 1.

[0054] In an embodiment which is not shown, the protecting element 17 has a square or polygonal cross section.

[0055] Once assembled, the unit 1 can be equipped with the elements necessary to perform the function, such as tables, seats, beds and other furniture elements, and with possible electrical and/or water systems. The unit 1 thereby obtained, owing to the fixing devices 12, has excellent sealing properties in relation to atmospheric agents and can therefore be used effectively as a living and/or container unit even in adverse climatic and meteorological conditions.

Claims

1. Assemblable structure, usable as a living and/or container unit, comprising tubular elements (2) that are mutually aligned and fixing means (12, 13a, 13b, 13c, 24, 25, 26, 34) arranged for mutually connecting said tubular elements (2), **characterised in that** said fixing means (12, 13a, 13b, 13c, 24, 25, 26, 34) comprises a plurality of fixing elements (13a, 13b), arranged for connecting a tubular element (2) to the adjacent tubular element (2) on one side, and a distinct plurality of fixing elements (13b, 13a, 13c) arranged for connecting said tubular element (2) to another adjacent tubular element (2), if present, on the opposite side.
2. Assemblable structure according to claim 1, wherein said distinct plurality of fixing elements (13c) is provided with abutting means (33) arranged for engaging said plurality of fixing elements (13a) so as to maintain said plurality of fixing elements (13a) at the same level as said distinct plurality of fixing elements (13c).
3. Assemblable structure according to claim 1, or 2, wherein said fixing means (12, 13a, 13b, 13c, 24, 25, 26, 34) comprises a plurality of spacing elements (34) interposable between said plurality of fixing elements (13a, 13b) and said distinct plurality of fixing elements (13b, 13a, 13c).
4. Assemblable structure according to any preceding claim, wherein said plurality of fixing elements (13a, 13b) and said distinct plurality of fixing elements (13b, 13a, 13c) are fixed by fixing screw means (26) near mutually facing borders of said adjacent tubular elements (2).
5. Assemblable structure according to any preceding claim, wherein said plurality of fixing elements (13a, 13b) and said distinct plurality of fixing elements (13b, 13a, 13c) are mutually connected by further fixing screw means (24, 25).
6. Assemblable structure according to any preceding claim, wherein said plurality of fixing elements (13a, 13b) and said distinct plurality of fixing elements (13b, 13a, 13c) comprises profiled elements (13a, 13b, 13c).
7. Assemblable structure according to claim 6, wherein pairs of said profiled elements (13a, 13b, 13c) define fixing devices (12) arranged for mutually connecting said tubular elements (2).
8. Assemblable structure according to claim 7, as appended to claim 3 or to any one of claims 4 to 6 as appended to claim 3, wherein said spacing elements (34) are interposable between said profiled elements (13a, 13b, 13c) of said pairs.
9. Assemblable structure according to claim 3, or to any one of claims 4 to 8 as appended to claim 3, wherein said spacing elements (34) are bar-shaped.
10. Assemblable structure according to claim 3, or to any one of claims 4 to 9 as appended to claim 3, wherein said spacing elements (34) are provided with a cross section having a shape selected from a group comprising: circular shape, square shape, polygonal shape.
11. Assemblable structure according to claim 7, or according to any one of claims 8 to 10 as appended to claim 7, wherein said fixing devices (12) are arranged near connecting zones (F) defined by adjacent borders of said adjacent tubular elements (2).
12. Assemblable structure according to claim 7, or according to any one of claims 8 to 11 as appended to claim 7, wherein sealing means (28) is interposed between said fixing devices (12) and said tubular elements (2).
13. Assemblable structure according to claim 12 as appended to claim 11, wherein said sealing means (28) comprises washers (28) arranged near said connecting zones (F).
14. Assemblable structure according to claim 6, or according to any one of claims 7 to 13 as appended to claim 6, wherein said profiled elements (13a, 13b, 13c) comprise a portion (14) and a further portion (15) arranged transversely to one another.
15. Assemblable structure according to claim 14, wherein said profiled elements (13a, 13b, 13c) further comprise a still further portion (16) arranged obliquely to said further portion (15).
16. Assemblable structure according to claim 15, wherein said still further portion (16) projects from an end of said further portion (15), said end being opposite said portion (14).
17. Assemblable structure according to claim 14 as appended to claim 2 or to any one of claims 3 to 16 as appended to claim 2, wherein said abutting means (33) comprises an abutting portion (33) protruding from said portion (14) of said profiled elements (13c).
18. Assemblable structure according to claim 17, wherein said abutting portion (33) is turned in the opposite direction with respect to said further portion (15) of said profiled elements (13c).

- 19.** Assemblable structure according to any one of claims 14 to 18, as appended to claim 7 or to any one of claims 8 to 13 as appended to claim 7, wherein, in said adjacent pairs of said profiled elements (13a, 13b, 13c), said portions (14) are mutually facing. 5
- 20.** Assemblable structure according to any one of claims 14 to 19, as appended to claim 7 or to any one of claims 8 to 13 as appended to claim 7, wherein, in said adjacent pairs of said profiled elements (13a, 13b), said further portions (15) are turned in opposite directions. 10
- 21.** Assemblable structure according to any one of claims 14 to 20, as appended to claim 4 or to any one of claims 5 to 13 as appended to claim 4, wherein said fixing screw means (26) is received in corresponding holes (23) and/or slots (36) of said further portions (15). 15
- 22.** Assemblable structure according to any one of claims 14 to 21, as appended to claim 5 or to any one of claims 6 to 13 as appended to claim 5, wherein said further fixing screw means (24, 25) is received in corresponding holes (23) and/or slots (36) of said portions (14). 20
- 23.** Assemblable structure according to claim 7, or according to any one of claims 8 to 22 as appended to claim 7, wherein said fixing devices (12) are covered by further profiled elements (17) arranged parallel to said profiled elements (13a, 13b). 25
- 24.** Assemblable structure according to claim 23, said further profiled elements (17) are provided with a cross section having a shape selected from a group comprising: convex shape, square shape, polygonal shape. 30
- 25.** Assemblable structure according to any preceding claim, wherein said tubular elements (2) are defined by panels (3a, 3b, 3c, 3d). 35
- 26.** Assemblable structure according to claim 25, wherein said panels (3a, 3b, 3c, 3d) comprise side panels (3b, 3c) defining opposite walls (5a, 5b) of said structure. 40
- 27.** Assemblable structure according to claim 26, as appended to claim 7 or to any one of claims 8 to 25 as appended to claim 7, wherein said fixing devices (12) are fixed to said side panels (3b, 3c). 45
- 28.** Assemblable structure according to claim 27, as appended to claim 11 or to any one of claims 12 to 27 as appended to claim 11, wherein said connecting zones (F) are defined by adjacent borders of said side panels (3b, 3c). 50
- 29.** Assemblable structure according to any one of claims 26 to 28, wherein said panels (3a, 3b, 3c, 3d) comprise further panels (3d) defining a roof (6) of said structure, said further panels (3d) being arranged transversely to said side panels (3b, 3c). 55
- 30.** Assemblable structure according to claim 29, as appended to claim 7 or to any one of claims 8 to 29 as appended to claim 7, wherein said fixing devices (12) are fixed to said further panels (3d).
- 31.** Assemblable structure according to claim 30, as appended to claim 11 or to any one of claims 12 to 30 as appended to claim 11, wherein said connecting zones (F) are defined by adjacent borders of said further panels (3d).
- 32.** Assemblable structure according to any one of claims 29 to 31, wherein said panels (3a, 3b, 3c, 3d) comprise still further panels (3a) defining a floor (4) of said structure, said still further panels (3a) being opposite said further panels (3d) and arranged transversely to said side panels (3b, 3c).
- 33.** Assemblable structure according to claim 32, wherein said still further panels (3a) are connected to said side panels (3b, 3c) by connecting elements (29).
- 34.** Assemblable structure according to claim 33, wherein said further panels (3d) are connected to said side panels (3b, 3c) by said connecting elements (29).
- 35.** Assemblable structure according to claim 33, or 34, wherein said connecting elements (29) comprise still further profiled elements (29).
- 36.** Assemblable structure according to claim 35, wherein said still further profiled elements (29) are fixed to side edges (30) of said still further panels (3a).
- 37.** Assemblable structure according to claim 35, or 36, wherein a side portion of said side panels (3b, 3c) is fixed to a supporting face (29b) comprised in said still further profiled elements (29).
- 38.** Assemblable structure according to any one of claims 35 to 38, wherein said still further profiled elements (29) have an approximately U-shaped cross section.
- 39.** Assemblable structure according to any one of claims 26 to 38, wherein said side panels (3b, 3c) comprise a glass pane portion.
- 40.** Assemblable structure according to any one of claims 26 to 39, wherein said side panels (3b, 3c)

can be hinged on adjacent portions of said tubular elements (2) so as to be rotatable around a side border thereof.

- 41.** Assemblable structure according to any one of claims 29 to 40, wherein said further panels (3d) comprises a glass pane portion.

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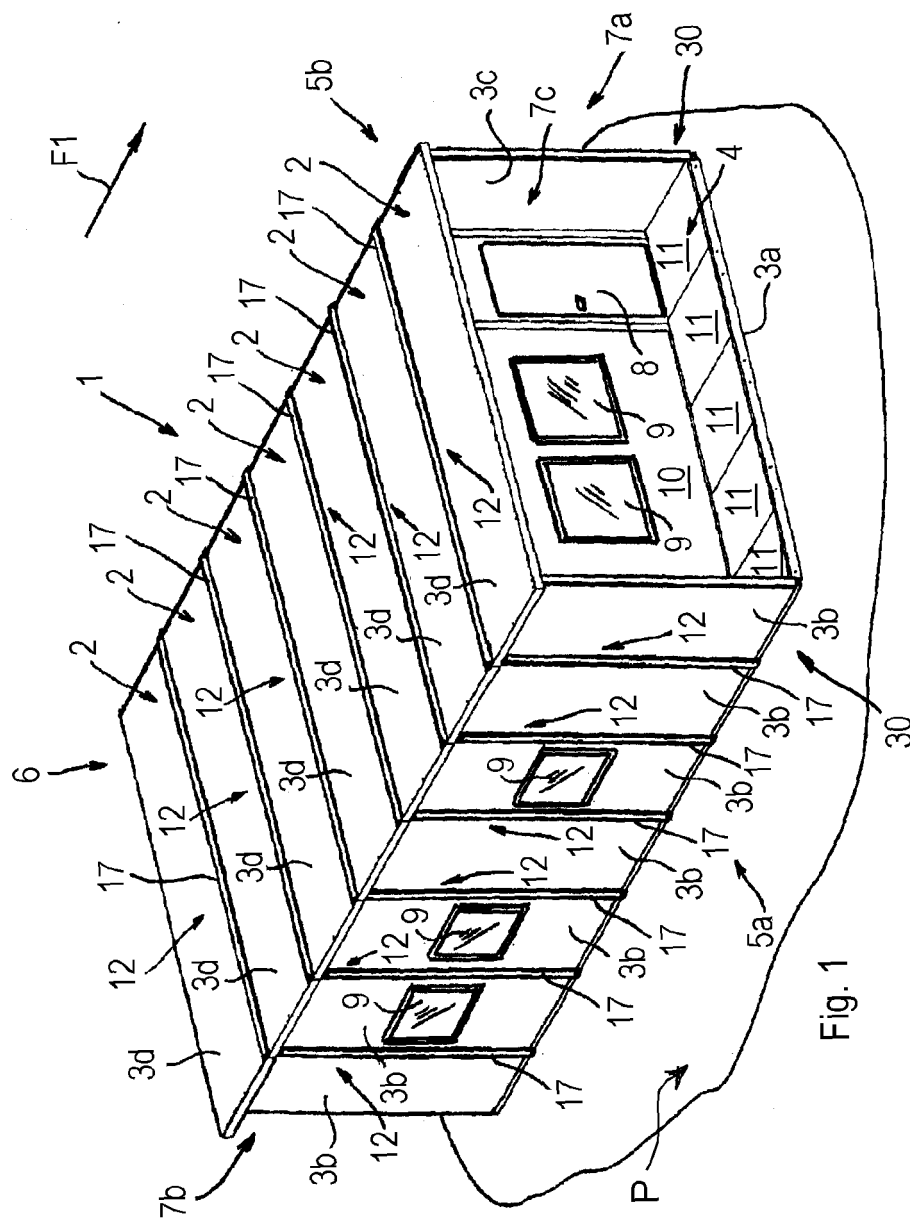
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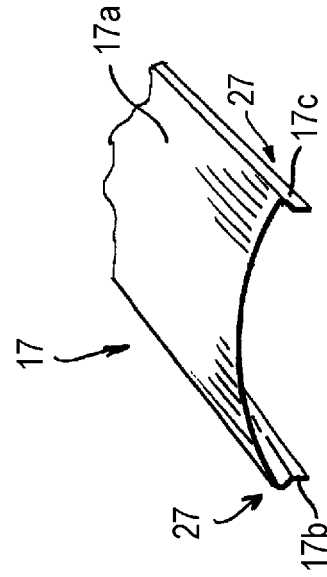
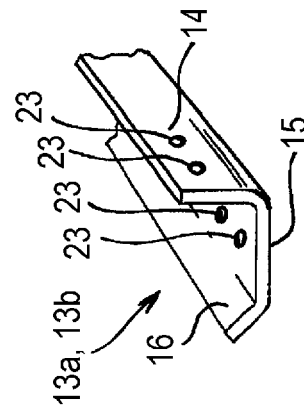
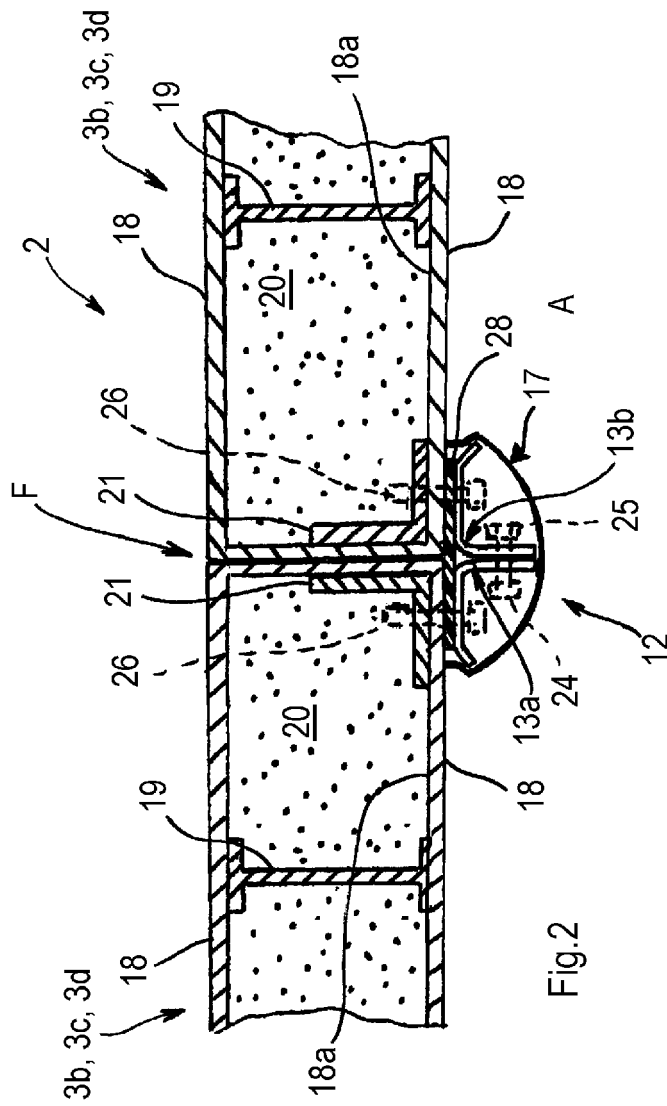
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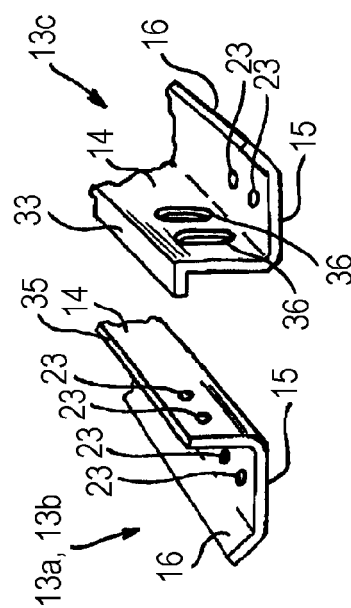
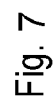
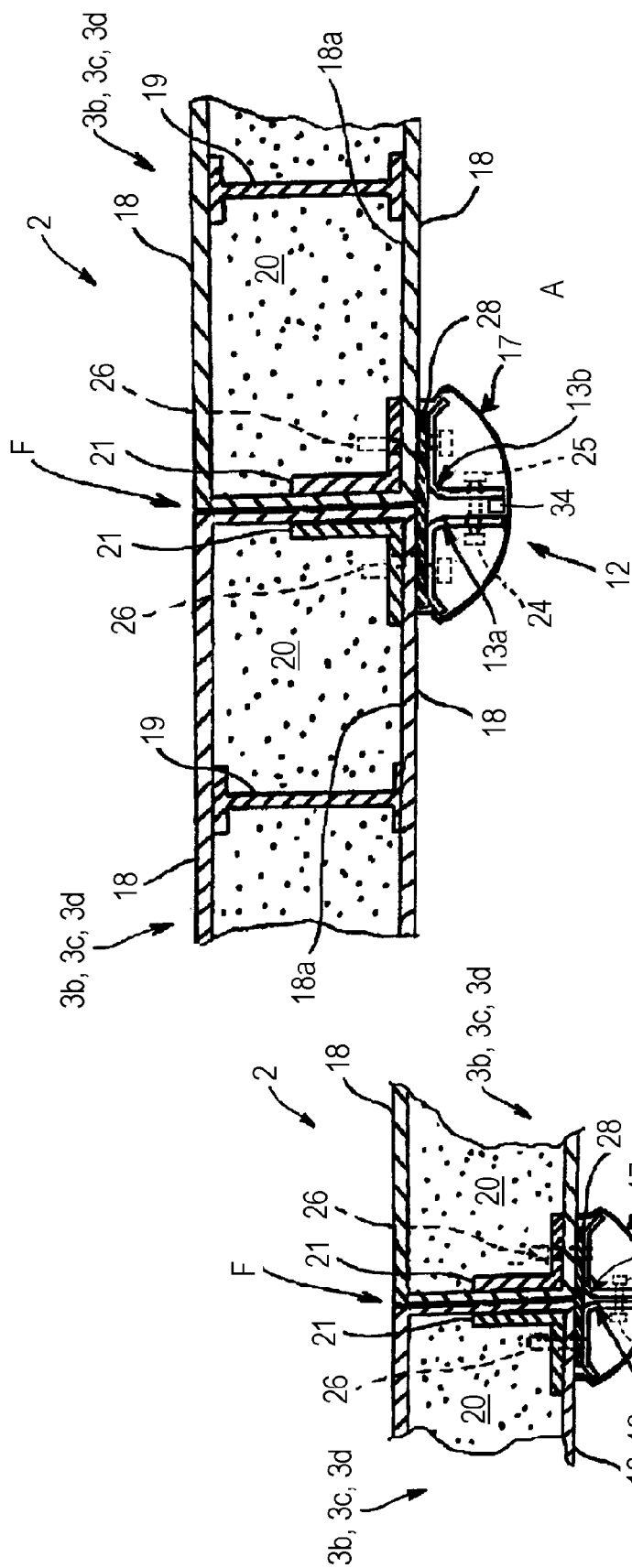


Fig. 6

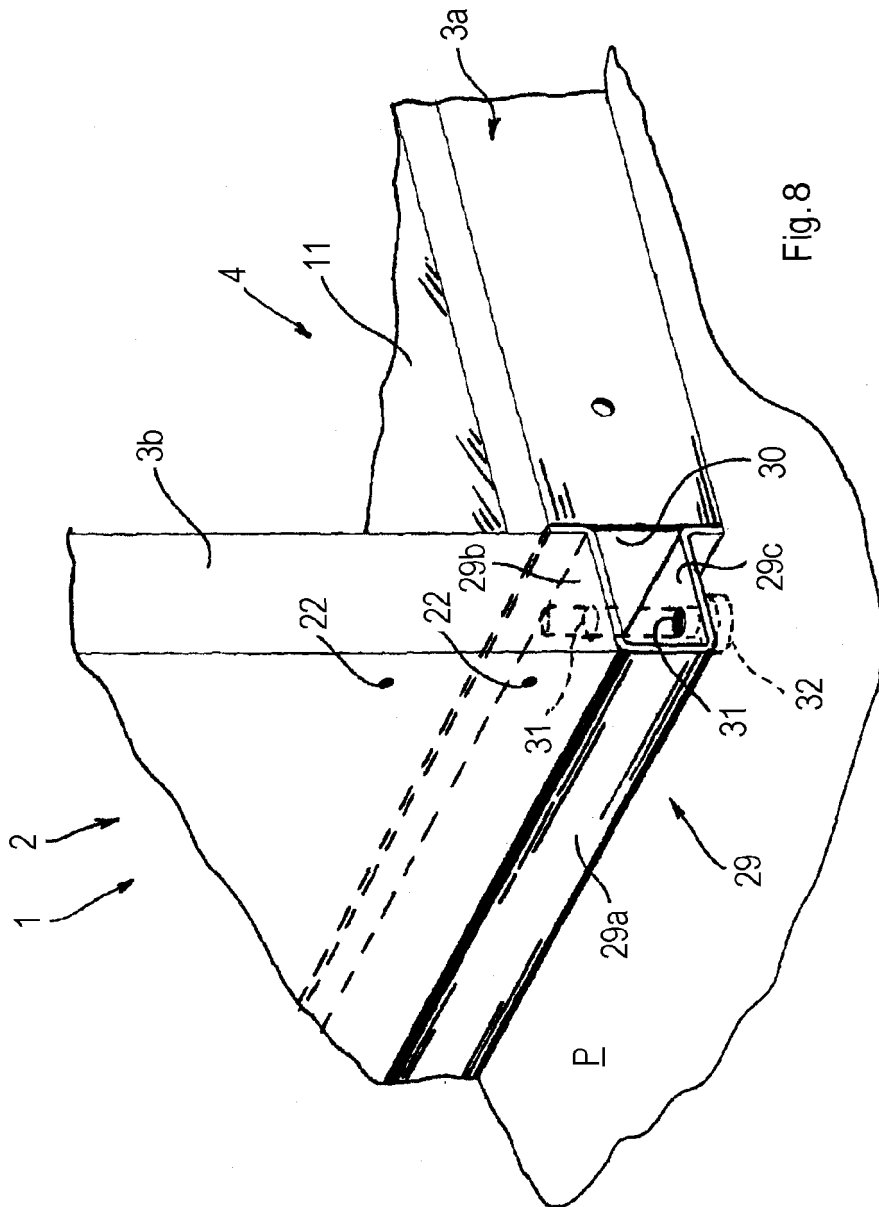


Fig. 8