(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
9 February 2012 (09.02.2012)

PCT

(10) International Publication Number
WO 2012/017458 A1

(51) **International Patent Classification**:
E04F 15/024 (2006.01) *E04H 15/56* (2006.01)

(21) **International Application Number**:
PCT/IT2010/000357

(22) **International Filing Date**:
5 August 2010 (05.08.2010)

(25) **Filing Language**: Italian

(26) **Publication Language**: English

(71) **Applicant** *(for all designated States except US)*: **CORRADI S.P.A.** [IT/—]; Via G. Brini, 39, I-40128 Bologna (IT).

(72) **Inventors; and**

(75) **Inventors/Applicants** *(for US only)*: **LAI, Alessandro** [IT/IT]; Via Don Giuseppe Bedetti, 117, I-40129 Bologna (IT). **REBONATO, Armando** [IT/IT]; Via del Bosco, 9, I-40068 San Lazzaro dl Savena (IT).

(74) **Agent**: **MODIANO, Micaela**; Modiano & Partners, Via Meravigli, 16, I-20123 Milano (IT).

(81) **Designated States** *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) **Designated States** *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— *with international search report (Art. 21(3))*

(54) **Title**: KIT FOR LOCKING OF STAVES

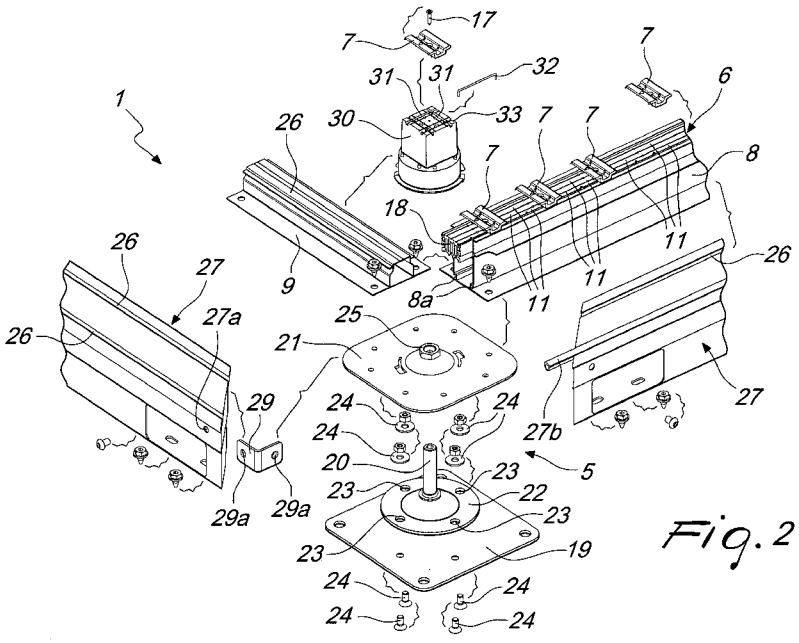


Fig. 2

(57) **Abstract**: Kit for locking of staves, of the type that comprises at least one frame (4), in its turn provided with at least one ground support element (5), which defines an upper accommodation surface for the staves (2). The support element (5) is, positively, height-adjustable. The upper surface comprises respective guide rails (6) for shaped inserts (7), which can be removably coupled to the respective rail (6) according to a plurality of configurations that are as mutually distant as the width of each individual stave (2). Once assembly has been completed, each stave (2) is interposed between respective shaped locking inserts (7), which are elastically coupled with the respective rail (6), and is resting on a plurality of parallel rails (6) of the frame (4).

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KIT FOR LOCKING OF STAVES

Technical Field

The present invention refers to a kit for locking of staves, a pedestal provided with the kit for locking of staves, and a structure such as an arbour, gazebo, sun umbrella, shade sail, sunshade, shelter, kiosk, canopy, wall, column and the like provided with the pedestal.

Background Art

In many cases structures for outdoor use, covers, awnings, arbours and canopies in general have their pillars fixed directly to the ground by means of dedicated plinths or by means of suitable assemblies for fixing to stable masonry works.

This ensures the total stability of the structure and its suitability to withstand the effects of atmospheric agents such as wind, thermal variations and humidity. In other cases, however, these structures are placed on the ground with no stable anchoring, thus making the stability of the entire structure rely exclusively on the supporting pedestal of each pillar.

In order to increase the stability of this type of structure two different solutions can be adopted (which can be implemented simultaneously).

The size of each pillar can be increased so as to effectively contrast the action of the wind owing to the ample support base.

The mass of each pedestal can also be increased.

Both these solutions, taken individually and/or in combination, are not sufficient to determine a stability of the structure that is comparable to that which can be obtained with anchorages fixed to masonry works and plinths.

When it is desirable to adopt a structure that is simple to assemble and install, in environments where fixing to fixed masonry works and/or to

dedicated plinths is not possible, then use must necessarily be made of structures that are simply placed on the ground but which, however, have less stability and the functionality of which may be compromised in the event of strong winds and/or by the action of other atmospheric agents.

In each structure, moreover, the usable floor surface can be constituted by elements of a varied nature.

If staves are adopted, they are particularly sensitive to variations in temperature and humidity: the fixing of these in order to create the flooring that constitutes the usable floor surface is therefore particularly complex. Indeed, the sufficient stability of the usable floor surface must be subordinate to the presence of appropriate amounts of play that allow each stave to deform according to the environmental parameters.

Disclosure of the Invention

The main aim of the present invention is to resolve the above mentioned problems, by offering a kit for locking of staves that ensures an effective locking of each stave by allowing any expansions and contractions thereof owing to the environmental parameters.

Within this aim, an object of the invention is to provide a pedestal, provided with the kit for locking of staves, that is simple and rapid to assemble and which has excellent stability.

Another object of the invention is to provide a pedestal, provided with the kit for locking of staves, that is of high aesthetic value and which is particularly safe for users.

Another object of the invention is to provide a structure such as an arbour, gazebo, sun umbrella, shade sail, sunshade, shelter, kiosk, canopy, wall, column and the like, provided with the pedestal, that is versatile, simple and rapid to assemble, and particularly stable against atmospheric agents such as wind, variations in temperature and variations in humidity.

A further object of the present invention is to provide a kit for locking of staves, a pedestal provided with the kit for locking of staves, and a

structure such as an arbour, gazebo, sun umbrella, shade sail, sunshade, shelter, kiosk, canopy, wall, column and the like, provided with the pedestal, that are low cost, easily and practically implemented and safely applied.

This aim, as well as these and other objects which will become better evident hereinafter, are achieved by a kit for locking of staves of the type comprising at least one frame, provided with at least one ground support element, which defines an upper accommodation surface for said staves, characterised in that said upper surface comprises respective guide rails for shaped inserts, which can be removably coupled to the respective rail according to a plurality of configurations that are as mutually distant as the width of each individual stave, each stave, once assembly has taken place, being interposed between respective shaped locking inserts, which are elastically coupled with the respective rail, and resting on a plurality of parallel rails of said frame.

This aim and these objects are also achieved by a pedestal for a structure, preferably such as an arbour, gazebo, sun umbrella, shade sail, sunshade, shelter, kiosk, canopy, wall, column and the like, characterised in that it comprises at least one support element that is designed to support at least one longitudinal body, said body being provided with an upper profile bar, according to the orientation of the configuration of assembly, which is provided with a removable upper accommodation guide rail for at least one insert for locking of at least one stave that is adapted to constitute a portion of a usable floor surface, at least one said longitudinal body comprising seats for the rigid and removable coupling of respective supports of the pillars of the structure to be coupled to said pedestal.

This aim and these objects are also achieved by a structure such as an arbour, gazebo, sun umbrella, shade sail, sunshade, shelter, kiosk, canopy, wall, column and the like, characterised in that it comprises said pedestal, provided with suitable shaped grooves, for accommodating respective fixing elements, preferably threaded, and at least one support for at least one pillar,

provided with suitable through eyelets for the insertion of respective anchoring screws which are mated to the said fixing elements and are adapted to engage with them, the tightening of each of said anchoring screws on a respective threaded element determining the clamping, or gripping, of the support on the surface of said pedestal, said surface being contiguous with the said groove, with consequent fixing of the pillar to said pedestal.

Brief description of the drawings

Further characteristics and advantages of the invention will become better apparent from the description that follows of respective preferred, but not exclusive, embodiments of the kit for locking of staves, of the pedestal provided with the kit for locking of staves, and of the structure such as an arbour, gazebo, sun umbrella, shade sail, sunshade, shelter, kiosk, canopy, wall, column and the like, provided with the pedestal according to the invention, illustrated by way of non-limiting example in the accompanying drawings wherein:

Figure 1 shows the kit and the pedestal according to the invention, in a perspective and partially exploded view;

Figure 2 shows the detail marked II in figure 1, in a perspective view, greatly enlarged and exploded;

Figure 3 shows the detail marked III in figure 1, in a perspective view, greatly enlarged and exploded;

Figure 4 shows the detail marked IV in figure 1, in a perspective and greatly enlarged view;

Figure 5 shows the detail marked V in figure 1, in a perspective view, greatly enlarged and exploded;

Figure 6 shows an insert, in a perspective and greatly enlarged view;

Figure 7 shows a portion of the pedestal according to the invention, seen from above;

Figure 8 shows a portion of the pedestal according to the invention, seen from below;

Figure 9 is a sectional view of figure 7, taken along the line marked IX-IX;

Figure 10 is a sectional view of figure 7, taken along the line marked X-X;

Figure 11 is a sectional view of figure 10, taken along the line marked XI-XI;

Figure 12 is a sectional view of figure 9, taken along the line marked XII-XII.

Ways of carrying out the Invention

With reference to the figures, the reference numeral 1 generally indicates a kit for locking of staves 2 and the reference numeral 3 indicates a pedestal for structures provided with the kit 1.

The kit 1 comprises at least one frame 4, provided with at least one ground support element 5, that defines an upper accommodation surface for the staves 2.

The upper surface of the frame 4 comprises, in its turn, respective guide rails 6 for shaped inserts 7.

The inserts 7 can be removably coupled to the respective rail 6 according to a plurality of configurations that are as mutually distant as the width of each individual stave 3.

Once assembly has been completed, each stave 3 is interposed between the respective shaped locking inserts 7, which are elastically coupled with the respective rail 6, and is resting on a plurality of parallel rails 6 of the frame 4.

The frame 4, according to a preferred, but not exclusive, embodiment, comprises a plurality of side members 8 and cross-pieces 9 which are mutually coupled in substantially mutual perpendicularity.

On the top of at least one of the side members 8 and cross-pieces 9, the guide rail 6 is defined, which comprises respective first longitudinal grooved tracks 10 and respective seats 11 which are equidistant and distributed, for the coupling of at least one of the shaped inserts 7.

It should be particularly noted that each shaped insert 7, according to an embodiment of undoubted practical and applicative interest, comprises a bottom 12, provided with respective ribs 13, which protrude downwards, and which are adapted to be accommodated in the abovementioned first grooved tracks 10 of a respective guide rail 6.

The bottom 12 is also provided with at least one elastically deformable tooth (not shown in the figure and located on the side of the bottom 12 from which protrude the ribs 13), which also protrudes downwards, and which is adapted to engage in at least one respective seat 11 of the guide rail 6.

Each insert 7 also comprises a pair of side strips 14 which are integral with the edges of the bottom 12 and which are adapted to engage in respective perimetric slots 15 of the staves 2.

The insert 7, according to an embodiment of undoubted applicative interest, is a profile shape with a cross-section that is substantially the shape of an upside-down omega, Ω: the bottom 12 is constituted by the central portion of the "omega" and the side strips 14 are constituted by the external protruding sections.

It must be noted that, in order to implement a component that is versatile and adapted to minimize the deformations of the usable floor surface constituted by the mutually coupled staves 2 arranged in parallel, the side strips 14 comprise protruding end pegs 16.

These pegs 16 are deformable: in this way the heat expansion of each stave 2 determines the crushing and deformation thereof, without modifying the substantial coplanarity of the upper surfaces of the staves 2.

The pegs 16 can be made of a material that is plastically deformable, so that, following the compression caused by the expansion of the staves 2, the crushing thereof takes place while preserving the coplanarity of the upper surface of the staves 2.

The possibility is not excluded of making the pegs 16 from an elastically deformable material, by means of, for example, the co-moulding

of elastomers, the fixing of elastic polymeric foams, or even the use of springs, in order to restore the shape and dimensions thereof once the compression generated by the heat expansion of the staves 2 has ceased.

It should be noted, in order to emphasise the simplicity of construction and assembly of the proposed embodiment, that each shaped insert 7 can be stably coupled to the respective rail 6 by means of a suitable locking element such as a fixing screw 17, a nail, a pin, a cotter and the like.

In practice, therefore, each insert 7 engages, by means of its tooth, in the seats 11 of the rail 6: this virtually guarantees the stable maintenance of the position of anchorage. However, for external actions (such as, for example, the heat expansion of the staves 2) the protruding teeth might be subjected to an excessive mechanical force; for this reason the fixing screws 17 are adopted, which guarantee the rigid coupling between the insert 7 and the rail 6.

Besides, since each insert 7 and each rail 6 are preferably made of polymeric materials, it is possible to adopt a self-tapping and self-drilling fixing screw 17 which provides an excellent level of simplicity of assembly.

More in general, by adopting the locking concept inherent in the kit 1, it is possible to provide a pedestal 3 for a structure preferably such as an arbour, gazebo, sun umbrella, shade sail, sunshade, shelter, kiosk, canopy, wall, column and the like.

The pedestal 3 comprises at least one support foot (or support element) 5 that is designed to support at least one longitudinal body (a side member 8 or a cross-piece 9).

At least one of such longitudinal bodies is provided with an upper profile bar 18 (the term "upper" refers to the deployment assumed in the assembly configuration) which is provided with a removable upper accommodation guide rail 6 for at least one insert 7 for locking of at least one stave 2 that is adapted to constitute a portion of a usable floor surface.

At least one of such longitudinal bodies (a side member 8 or a cross-

piece 9) comprises seats 11 for the rigid and removable coupling of respective supports of the pillars of the structure to be coupled to the pedestal 3.

The support foot (or support element 5) comprises a lower plate 19 that is designed to actually rest on the ground, a pin 20, substantially perpendicular to the lower plate 19 and stably coupled to it, for the height-adjustable support of a plate 21 that is provided with anchoring means for the at least one longitudinal body.

In particular, the pin 20 extends, perpendicularly, from a base disc 22, which is provided with slots 23 that are capable of accommodating means 24 of coupling to the lower plate 19: during assembly, therefore, to stably secure the pin 20 to the lower plate 19, it is sufficient to couple the disc 22 to the plate 19, for example by using locking screws, bolts, nails, or other known types of coupling means 24.

Usefully, in order to permit the above mentioned height-adjustable support of the plate 21, the external side surface of the pin 20 is provided with a threading, which can be coupled with a female screw formed in an opening 25 of the plate 21. It therefore seems evident that, after having anchored the pin 20 to the lower plate 19 according to the methods described in the previous paragraph, the installation technician can choose the height at which to arrange the plate 21 (and, consequently, the longitudinal bodies supported by it) by simply screwing the plate 21 along the threading provided on the pin.

According to the preferred embodiment, cited and proposed in the accompanying figures for the purposes of non-limiting illustration of the application of the invention, the above mentioned longitudinal bodies comprise side members 8 and cross-pieces 9 of different length. The substantially "U"-shaped nature of the cross-section of the side members 8 is such as to allow the accommodation inside them of a shaped bar (which coincides with the profile bar 18 in the embodiment shown in the figures),

which in turn has, on the surface that is kept in view in the accommodation configuration, a guide rail 6 for respective inserts 7 to couple the staves 2.

Advisably, at least one of the side members 8 and the cross-pieces 9 comprises means of coupling for respective laterally-protruding shelves: such shelves can constitute a support for laminar components serving the pedestal 3.

For example, the shelves can be accommodated, with one of their sides, in a recess 8a formed along the side wall of the side members 8 (or correspondingly in the cross-pieces), thus achieving a coupling that is stable and adapted to guarantee the support of the laminar components. In particular, the laminar components serving the pedestal 3 comprise at least one component chosen from among suitable ballast units for the pedestal, preferably such as slabs made of materials chosen from among metals, metallic alloys, rocks and stones, cement aggregates and the like, insulation panels, made of material that has minimal heat conductibility, and heating strips controlled by a respective energy supply circuit.

It should be made clear that the adoption is specified (and comes under the scope of protection claimed herein) of a plurality of different laminar components for the same pedestal 3: purely as examples, we cite the possibility of placing, on the shelves, the above mentioned ballast units, in their turn surmounted by the insulation panels. The insulation panels can then support the heating strips and, with the pedestal 3 completely assembled, the heating strips are facing towards and proximate to the lower surface of the staves 2. In this regard, it is pointed out that the upper face of the insulation panels can be reflective, so as to minimize energy radiation propagating downwards, instead favouring its reflection upwards, and therefore towards the staves 2.

With further reference to the preferred, but not exclusive, embodiment, the ballast units are preferably slabs made of cement, stone or cast metal, while the insulation panels are preferably made from polymeric foams,

expanded foams, glass wool, rock wool, composite materials or the like. Moreover, the above mentioned heating strips are preferably of the type that comprise electric resistor filaments, capable of generating thermal energy by the Joule effect and powered by a suitable electricity supply.

Advantageously, according to a further possible embodiment, the cross-pieces 9 comprise at least one "T"-shaped upper groove 26, for the sliding and rigidly constrainable accommodation of fixing elements serving the respective supports of the pillars of the structure to be fixed to the pedestal 3.

For example, it is possible, in the tracks formed by the "T"-shape of the grooves 26, to slide nuts up to the pre-established position, in which the nuts can receive respective anchoring screws of the supports of the above mentioned pillars.

In particular, at least one between the cross-pieces 9 and the side members 8, arranged along the perimeter of the pedestal 3, comprises a pair of "T"-shaped upper grooves 26 for the sliding and rigidly constrainable accommodation of fixing elements serving the respective supports of the pillars of the structure to be fixed to the pedestal 3.

The choice to use pairs of grooves 26 (instead of single grooves 26) makes it possible to implement couplings between structure and pedestal 3 that have total stability, for example by using four nuts (each of which can be used as in the example just discussed) and four anchoring screws of a base plate of the pillar that supports the structure.

If the height of the cross-pieces 9 is lower than that of the side members 8 (as moreover in the example in the accompanying figures), it is possible to adopt further longitudinal bodies, which are constituted by edge runners 27.

Along the upper surface of the edge runners 27 (and thus aligned with the height of the respective upper face of the corresponding side member 8) is the pair of grooves 26, to which it is possible to anchor, as we have seen,

the desired pillar and structure.

If it is necessary to join two edge runners 27 together, either arranged in line or to form a 90° corner, it is possible to use, respectively, junction elements such as brackets 28 and plates 29 (bent at 90°). These elements have surface regions which are shaped to mate with the end sections of the edge runners 27, in order to allow their coupling with them and their subsequent stable fixing by means of threaded units of various different types, which can be inserted in the respective holes 28a, 29a formed along the above mentioned surface regions and at corresponding receptacles 27a (which can also be threaded) of the edge runners 27.

Advisably, in the "T"-shaped upper grooves 26, respective shaped slats 27b can be accommodated, to close the grooves 26; the slats 27b are preferably made of a material chosen from among rubber, polymers, elastomers and polymeric foams, and their presence (and in particular their top, which protrudes from the grooves 26) makes it possible to increase the friction of the upper surface of the cross-pieces 9 and of the side members 8 in order to guard against the possibility of a person walking upon it slipping.

Positively, the pedestal 3 furthermore comprises a block 30 which in plan view is substantially square, provided with suitable second grooved tracks 31, arranged in two directions that are perpendicular to each other and parallel to the faces of the block 30.

The block 30 can be stably coupled to the top of the plate 21 provided with anchoring means for the longitudinal bodies; moreover, the top of the block 30 which in plan view is substantially square is coplanar with the top of the shaped bar (the profile bar 18 in the examples shown in the accompanying figures) which has the guide rail 6, in order to allow the resting, on the block 30, of at least one portion of at least one stave 2 and the locking of same by means of a suitable further insert 7.

By means of the block 30, it is therefore possible to provide a further support to the staves 2 at the junctions between the longitudinal bodies (side

members 8 and cross-pieces 9), where otherwise the staves 2 would remain overhanging and unsecured.

In order to guarantee a correct coupling between the block 30 and the shaped bars that are contiguous with it, so preventing unwanted slippages and sliding of the latter with respect to the former, spacers 32 are used, which are substantially constituted by small rods (made of metal or other materials) folded into a "U" shape.

In this way one folded end of each of these rods can be inserted in a seat 11 of the rails 6 (typically the seat nearest to its end), while the other folded end of the rod can be accommodated in a respective cell 33 formed on the top of the block 30.

The spacers 32 can thus maintain, in the pre-established configuration, the bars with respect to the block 30, so preventing slippages or mutual sliding.

By adopting the above mentioned concepts, it is possible to provide a structure, such as an arbour, gazebo, sun umbrella, shade sail, sunshade, shelter, kiosk, canopy, wall, column and the like.

This structure comprises the pedestal 3, provided with suitable shaped grooves 26, for accommodating respective fixing elements, preferably threaded (such as those cited in the previous pages), and at least one support for at least one pillar, provided with suitable through eyelets for the insertion of respective anchoring screws which are mated to the threaded fixing elements and are adapted to engage with them.

The tightening of each anchoring screw on the respective threaded element determines the clamping, or gripping, of the support on the surface of the pedestal 3, the surface being contiguous with the groove 26, with consequent fixing of the pillar to the pedestal 3.

Positively, the structure also comprises a perimetric bezel 34, integral with the at least one longitudinal body arranged along the perimeter of the pedestal 3: the bezel 34 is constituted by a laminar housing 35, which can be

stably associated with at least one respective longitudinal body (in the example shown in the figures it is associated with the edge runner 27), and a plugging lamina 36, which is accommodated between the housing 35 and the longitudinal body. The lamina 36 can slide vertically until its lower edge comes to rest on the ground, thus hiding from view the components of the structure and of the pedestal 3.

The kit 1 according to the invention thus makes it possible to practically and easily assemble (as well as structurally stable) a plurality of staves 2, to form the usable floor surface for structures of the above mentioned types.

Indeed, after having fixed the pedestal 3 to the ground (by anchoring, according to the methods shown in the previous pages, the lower plate 19 and the pin 20 to the ground), it is possible to associate a frame 4 with it which is constituted by a grid of side members 8 and cross-pieces 9, which can be fixed to the pedestal 3 (at a height chosen at will, owing to the plate 21 that can slide on the pin 20).

On the top of the side members 8 (and/or of the cross-pieces 9) it is thus possible to define guide rails 6, along which the inserts 7 can slide, until their stable coupling with the seats 11 defined along the rails 6.

The choice to make seats 11 that are as distant from each other as the width of each stave 2 makes it extremely easy (and substantially guided) to position all the inserts 7 in the position in which they are adapted to receive the staves 2, in order to achieve the covering of the ground and so obtain the desired usable floor surface.

The choice to provide the inserts 7 with protruding pegs 16 moreover allows any expansions and contractions of the staves 2 that are due to environmental parameters.

It is also advantageous to note that the possibility of providing the pedestal 3 with heating strips (designed to be located underneath the staves 2 in order to diffuse heat energy towards the environment above), makes it

possible to use the pedestal 3 and the structure (such as an arbour, gazebo, et cetera) provided with it, even outdoors in the winter months or in any case in conditions of low temperature, because the heating of the persons is taken care of by these heating strips.

Advantageously, the kit 1 for locking of staves 2 ensures an effective locking of each stave 2, thus allowing any expansions and contractions that are due to environmental parameters, owing to the presence, among other things, of the pegs 16.

Usefully, the pedestal 3, provided with the kit 1 for locking of staves 2, can be assembled in a simple and rapid manner, and has excellent stability.

Moreover, positively, the pedestal 3 stands out for the high aesthetic value and for the increased safety assured for users.

It is of no little importance to note that the structure such as an arbour, gazebo, sun umbrella, shade sail, sunshade, shelter, kiosk, canopy, wall, column and the like, provided with the pedestal 3 is demonstrated to be versatile, simple and rapid to assemble, and particularly stable against atmospheric agents such as wind, variations in temperature and variations in humidity.

In addition, it is worthwhile to note that the kit 1 for locking of staves 2, the pedestal 3 provided with the kit 1 for locking of staves 2, and the structure such as an arbour, gazebo, sun umbrella, shade sail, sunshade, shelter, kiosk, canopy, wall, column and the like, provided with the pedestal 3, are low cost, easily and practically implemented and safely applied.

The invention thus conceived is susceptible of numerous modifications and variation, all of which are within the scope of the appended claims; in addition, all the details may be replaced by other technically equivalent elements.

In the embodiments illustrated, individual characteristics shown in relation to specific examples may in reality be interchanged with other, different characteristics, existing in other embodiments.

In addition, it should be noted that anything found to be already known during the patenting process is understood not to be claimed and to be the subject of a disclaimer.

In practice the materials employed, as well as the dimensions, may be any according to the requirements and to the state of the art.

Where the technical features mentioned in any claim are followed by reference signs, those reference signs have been included for the sole purpose of increasing the intelligibility of the claims and accordingly, such reference signs do not have any limiting effect on the interpretation of each element identified by way of example by such reference signs.

CLAIMS

1. Kit for locking of staves of the type comprising at least one frame (4), provided with at least one ground support element (5), which defines an upper accommodation surface for said staves (2), characterised in that said upper surface comprises respective guide rails (6) for shaped inserts (7), which can be removably coupled to the respective rail (6) according to a plurality of configurations that are as mutually distant as the width of each individual stave (2), each stave (2), once assembly has taken place, being interposed between respective shaped locking inserts (7), which are elastically coupled with the respective rail (6), and resting on a plurality of parallel rails (6) of said frame (4).

2. The kit according to claim 1, characterised in that said frame (4) comprises a plurality of side members (8) and cross-pieces (9) which are mutually coupled in substantially mutual perpendicularity, on the top of at least one of said side members (8) and cross-pieces (9) there being defined said guide rail (6) which comprises respective first longitudinal grooved tracks (10) and respective seats (11) which are equidistant and distributed, for the coupling of at least one of said shaped inserts (7).

3. The kit according to claim 1, characterised in that said at least one shaped insert (7) comprises a bottom (12), provided with respective ribs (13), which protrude downwards, and which are adapted to be accommodated in suitable first grooved tracks (10) of a respective guide rail (6) and provided with at least one elastically deformable tooth, which also protrudes downwards, and which is adapted to engage in at least one respective seat (11) of the said guide rail (6), and comprises a pair of side strips (14) which are integral with the edges of the said bottom (12) and which are adapted to engage in respective perimetric slots (15) of said staves (2).

4. The kit according to claim 3, characterised in that said insert (7) is a profile with a cross-section that is substantially the shape of an upside-down omega, Ω, said bottom (12) being constituted by the central portion of the

said "omega" and said side strips (14) by the external protruding sections.

5. The kit according to claim 4, characterised in that said side strips (14) comprise deformable protruding end pegs (16), the heat expansion of each of said staves (2) thus determining the crushing and the deformation of the said pegs (16) without modifying the substantial coplanarity of the upper surfaces of the said staves (2).

6. The kit according to one or more of the preceding claims, characterised in that each shaped insert (7) can be stably coupled to the respective rail (6) by means of a suitable locking element such as a fixing screw (17), a nail, a pin, a cotter and the like.

7. Pedestal for a structure, preferably such as an arbour, gazebo, sun umbrella, shade sail, sunshade, shelter, kiosk, canopy, wall, column and the like, characterised in that it comprises at least one support element (5) that is designed to support at least one longitudinal body, said body being provided with an upper profile bar (18), according to the orientation of the configuration of assembly, which is provided with a removable upper accommodation guide rail (6) for at least one insert (7) for locking of at least one stave (2) that is adapted to constitute a portion of a usable floor surface, at least one said longitudinal body comprising seats (11) for the rigid and removable coupling of respective supports of the pillars of the structure to be coupled to said pedestal (3).

8. Pedestal according to claim 7, characterised in that said support element (5) comprises a lower plate (19) that is designed to actually rest on the ground, a pin (20), substantially perpendicular to said lower plate (19) and stably coupled to it, for the height-adjustable support of a plate (21) that is provided with anchoring means for said at least one longitudinal body.

9. The pedestal according to claim 7, characterised in that said longitudinal bodies comprise side members (8) and cross-pieces (9) of different lengths, the cross-section of said side members (8) being substantially "U"-shaped, for accommodating, in the said side members (10),

a shaped bar that has, on the surface kept in view in the accommodation configuration, a guide rail (6) for respective inserts (7) to couple the staves (2).

10. The pedestal according to claim 7, characterised in that at least one of said side members (8) and said cross-pieces (9) comprises means of coupling for respective laterally-protruding shelves, support shelves for laminar components serving the said pedestal (3).

11. The pedestal according to claim 10, characterised in that said laminar components serving the said pedestal (3) comprise at least one component chosen from among suitable ballast units for the pedestal (3), preferably such as slabs made of materials chosen from among metals, metallic alloys, rocks and stones, cement aggregates and the like, insulation panels, made of material that has minimal heat conductibility, and heating strips controlled by a respective energy supply circuit.

12. The pedestal according to claim 11, characterised in that said ballast units rest on said shelves and are surmounted by said insulation panels, in their turn supporting said heating strips, said heating strips being faced towards and proximate to the lower surface of the staves (2) with the pedestal (3) completely assembled.

13. The pedestal according to claim 9, characterised in that said cross-pieces (9) comprise at least one "T"-shaped upper groove (26) for the sliding and rigidly constrainable accommodation of fixing elements serving the respective supports of the pillars of the structure to be fixed to said pedestal (3).

14. The pedestal according to claim 13, characterised in that at least one between said cross-pieces (9) and said side members (8), arranged along the perimeter of the said pedestal (3), comprise a pair of said "T"-shaped upper grooves (26) for the sliding and rigidly constrainable accommodation of said fixing elements serving the respective supports of the pillars of the structure to be fixed to said pedestal (3).

15. The pedestal according to one or more of the previous claims, characterised in that in the said "T"-shaped upper grooves (26), respective shaped slats (27b) are accommodated, to close the grooves (26); said slats, preferably made of a material chosen from among rubber, polymers, elastomers and polymeric foams, increasing the friction of the upper surface of cross-pieces (9) and side members (8) in order to guard against the possibility of a person walking upon it slipping.

16. The pedestal according to one or more of the previous claims, characterised in that it comprises a block (30) which in plan view is substantially square, provided with suitable second grooved tracks (31), arranged in two directions that are perpendicular to each other and parallel to the faces of the said block (30), said block (30) being able to be stably coupled to the top of the said plate (21) provided with anchoring means for said at least one longitudinal body, the top of said block (30) which in plan view is substantially square being coplanar with the top of the shaped bar which has said guide rail (6) for the resting, on said block (30), of at least one portion of at least one stave (2) and the locking of same by means of a suitable insert (7).

17. Structure such as an arbour, gazebo, sun umbrella, shade sail, sunshade, shelter, kiosk, canopy, wall, column and the like, characterised in that it comprises said pedestal (3), according to claim 6, provided with suitable shaped grooves (26), for accommodating respective fixing elements, preferably threaded, and at least one support for at least one pillar, provided with suitable through eyelets for the insertion of respective anchoring screws which are mated to the said fixing elements and are adapted to engage with them, the tightening of each of said anchoring screws on a respective threaded element determining the clamping, or gripping, of the support on the surface of said pedestal (3), said surface being contiguous with the said groove (26), with consequent fixing of the pillar to said pedestal (3).

18. The structure according to claim 17, characterised in that it

comprises a perimetric bezel (34), integral with the at least one longitudinal body arranged along the perimeter of said pedestal (3), said bezel (34) being constituted by a laminar housing (35), which can be stably associated with at least one respective longitudinal body, and a plugging lamina (36), accommodated between said housing (35) and said longitudinal body, said lamina (36) being able to slide vertically in order to rest its lower edge on the ground.

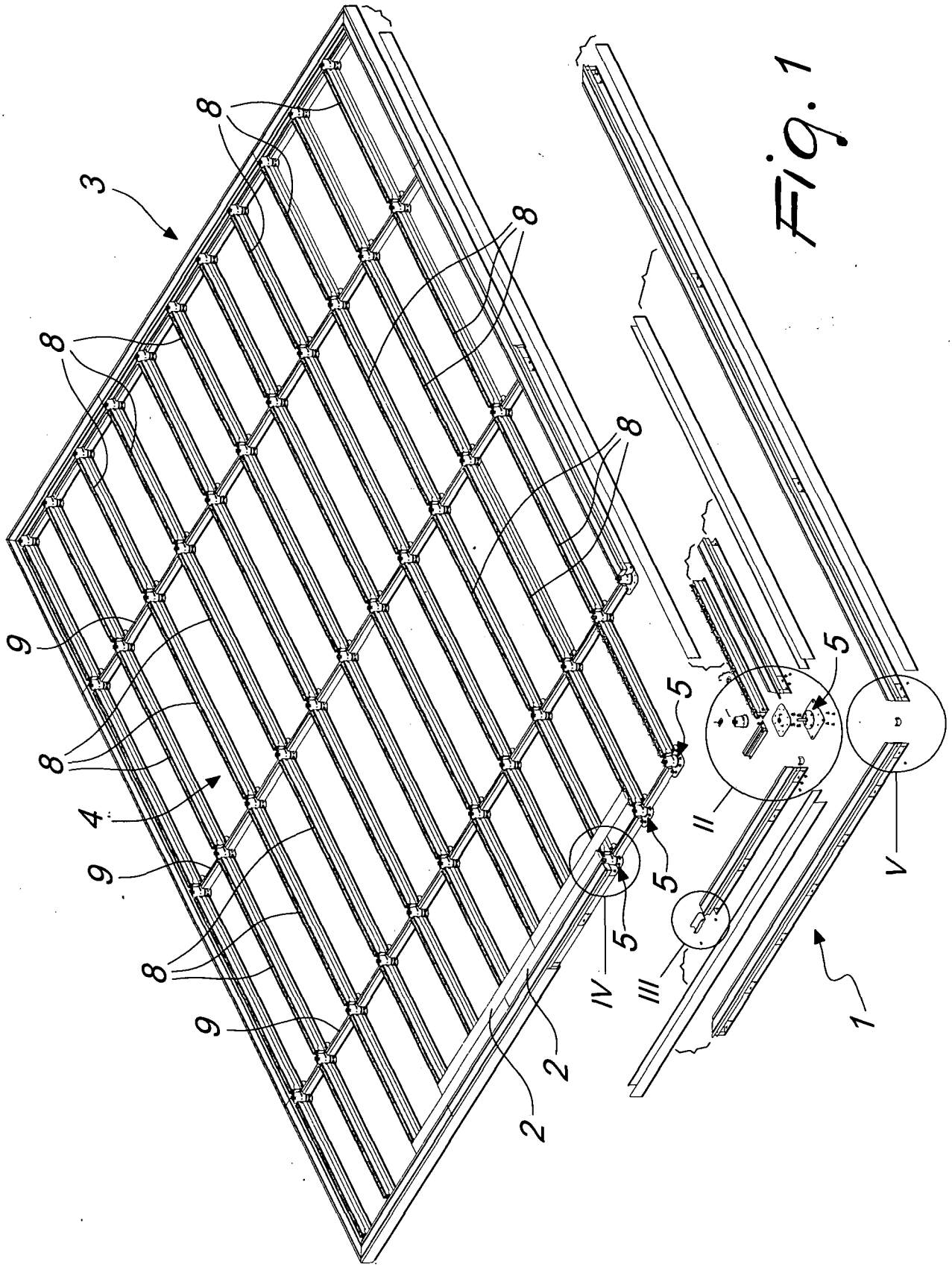


Fig. 1

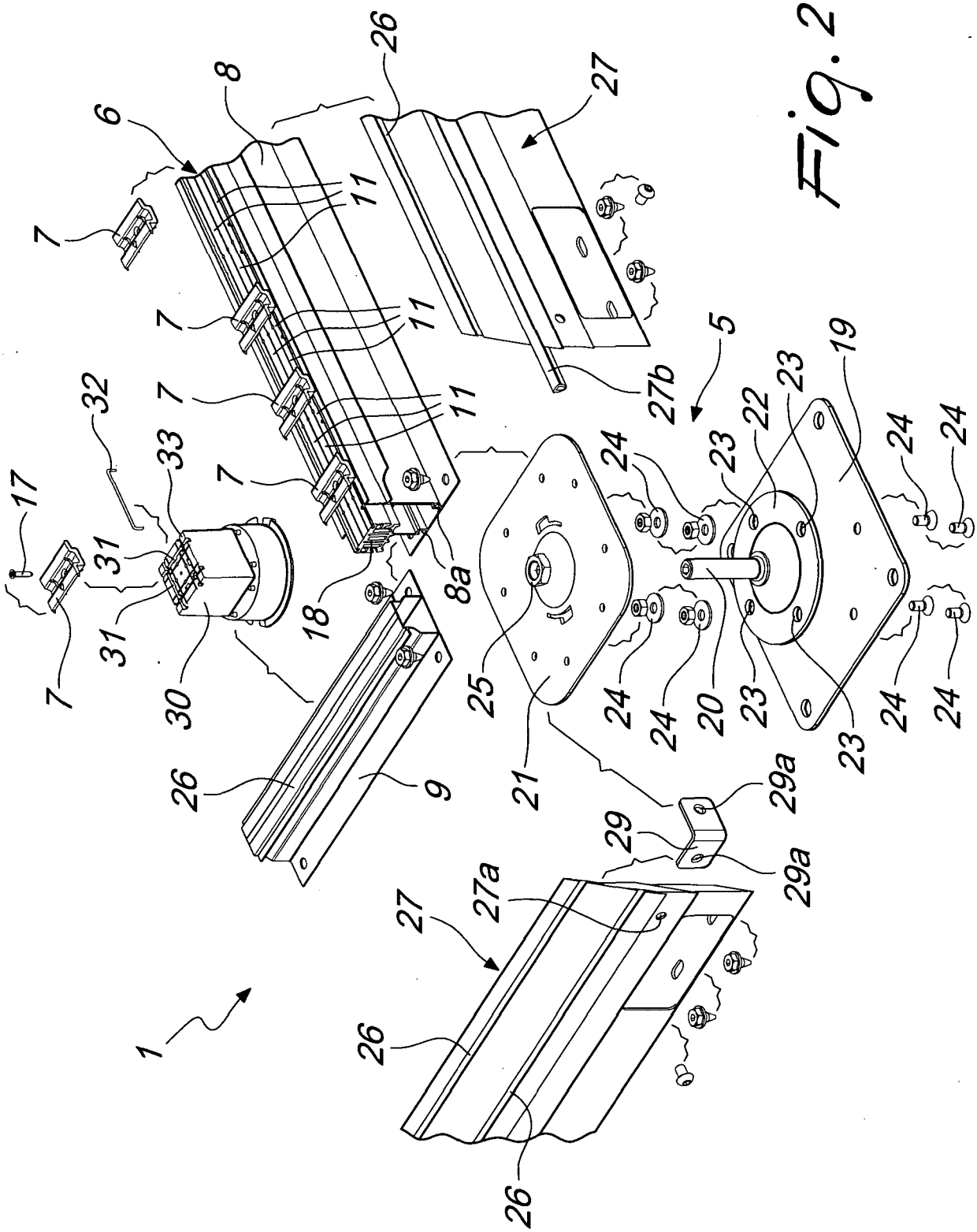

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Fig. 2

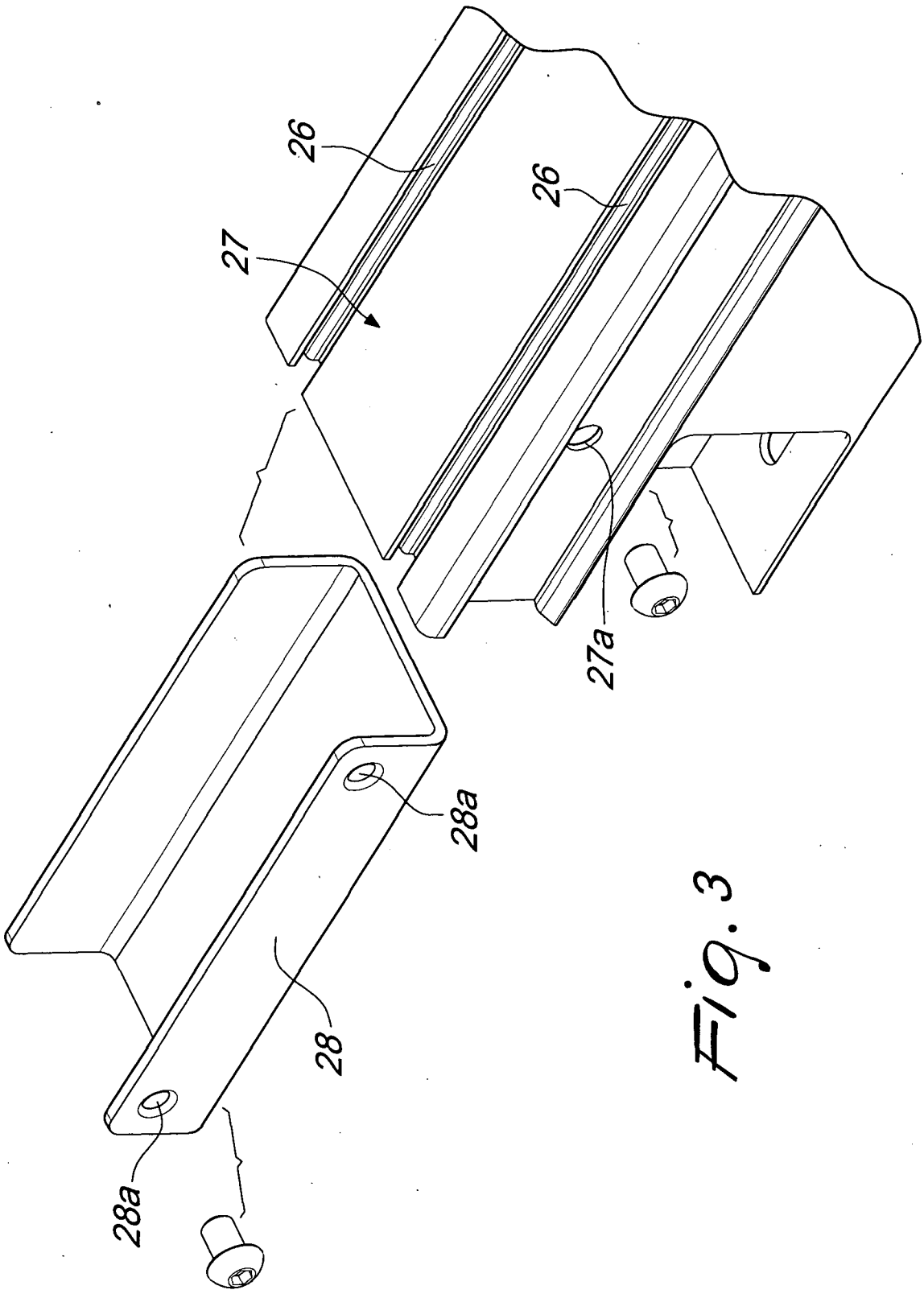


Fig. 3

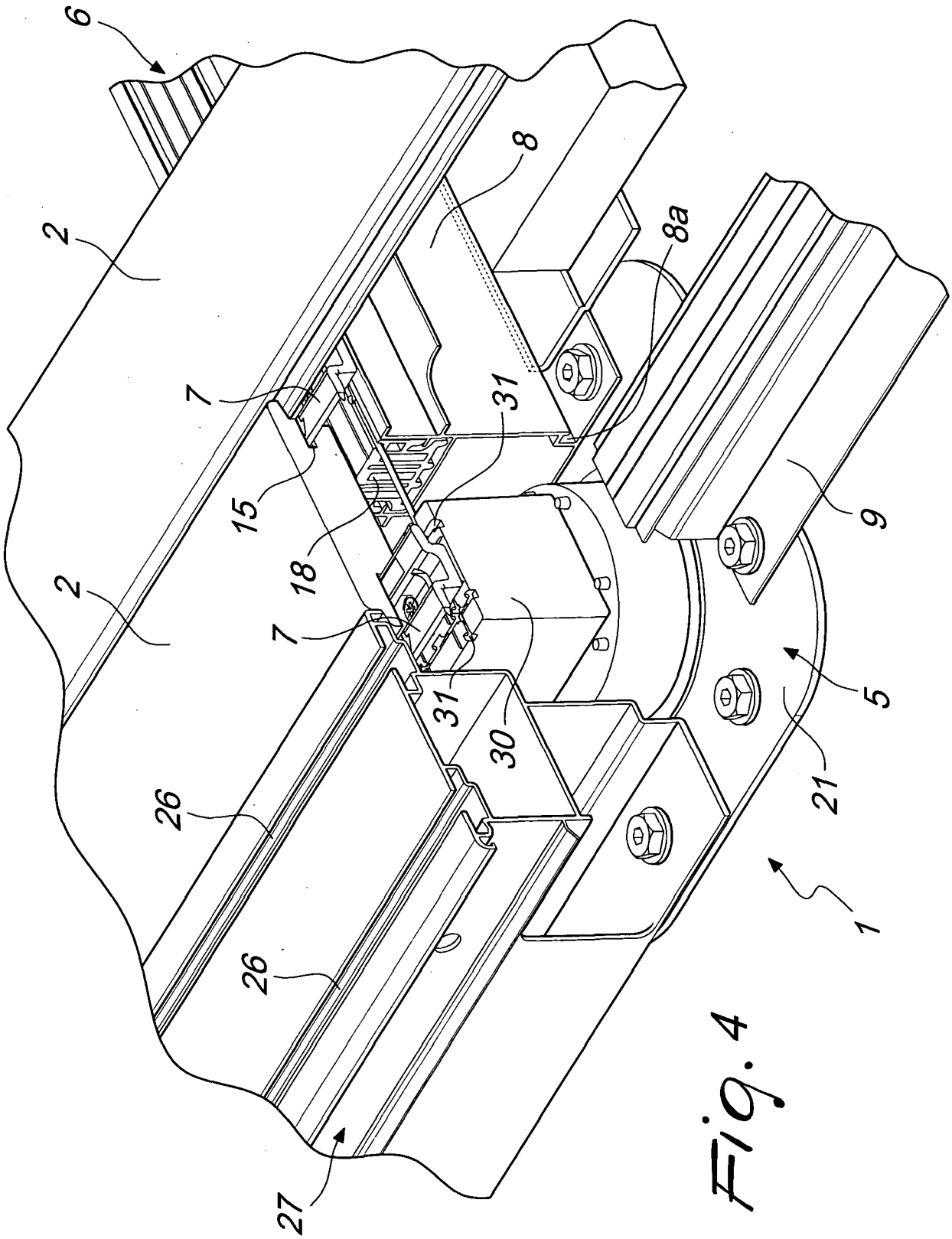


Fig. 4

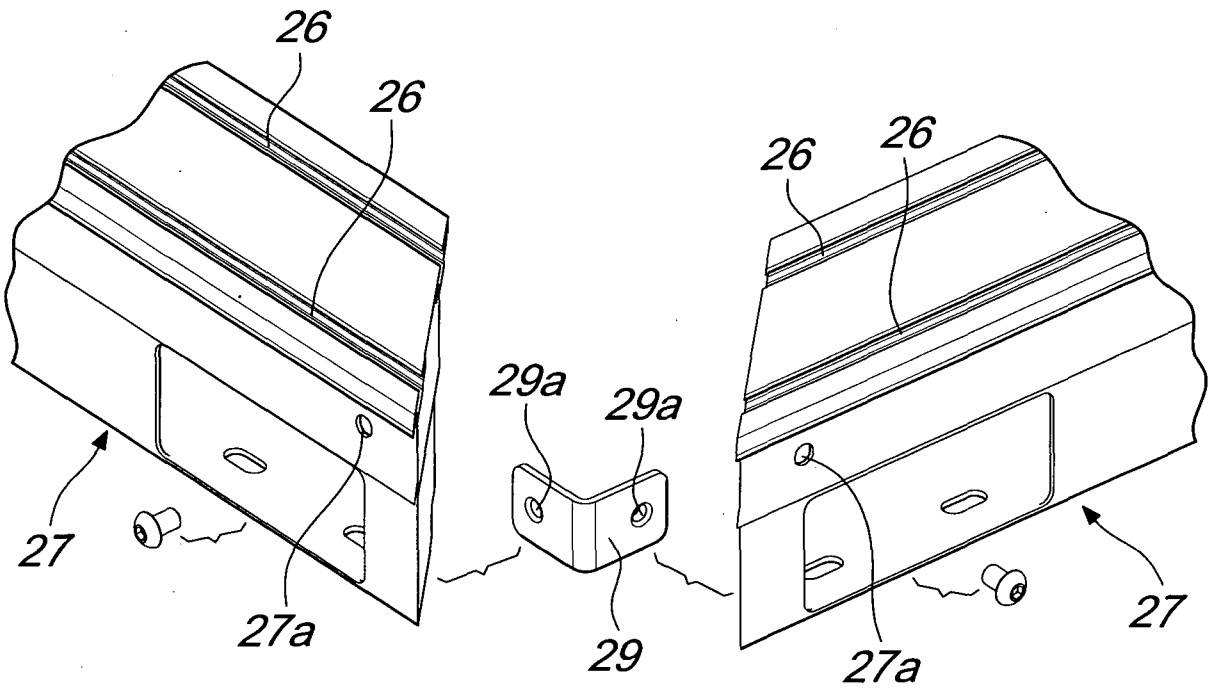


Fig. 5

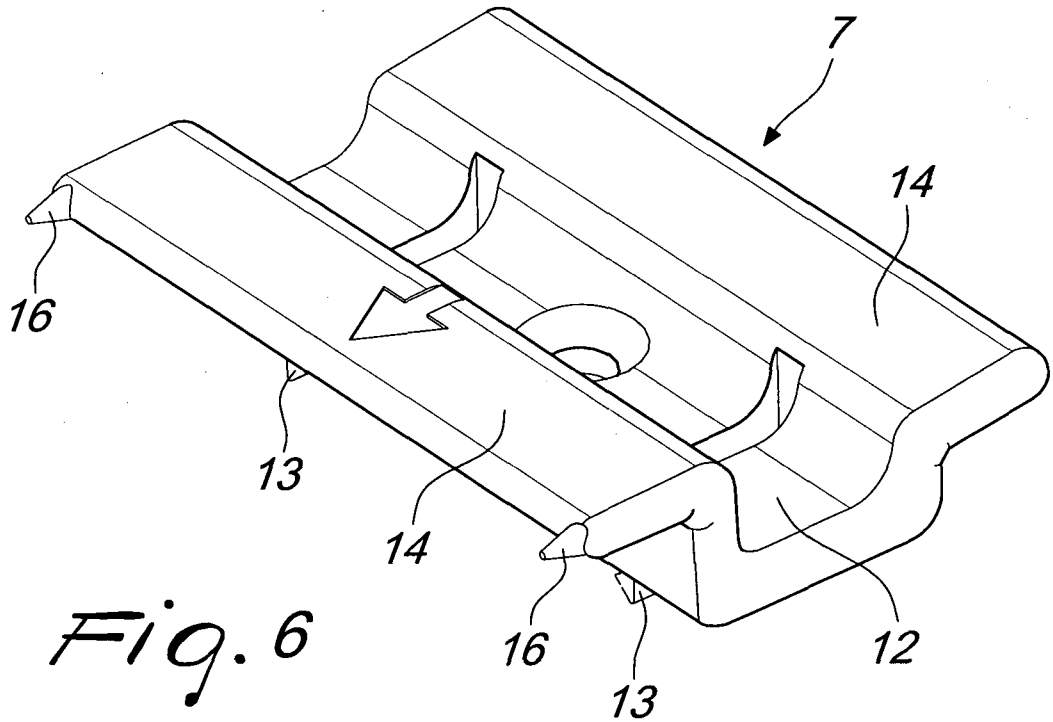


Fig. 6

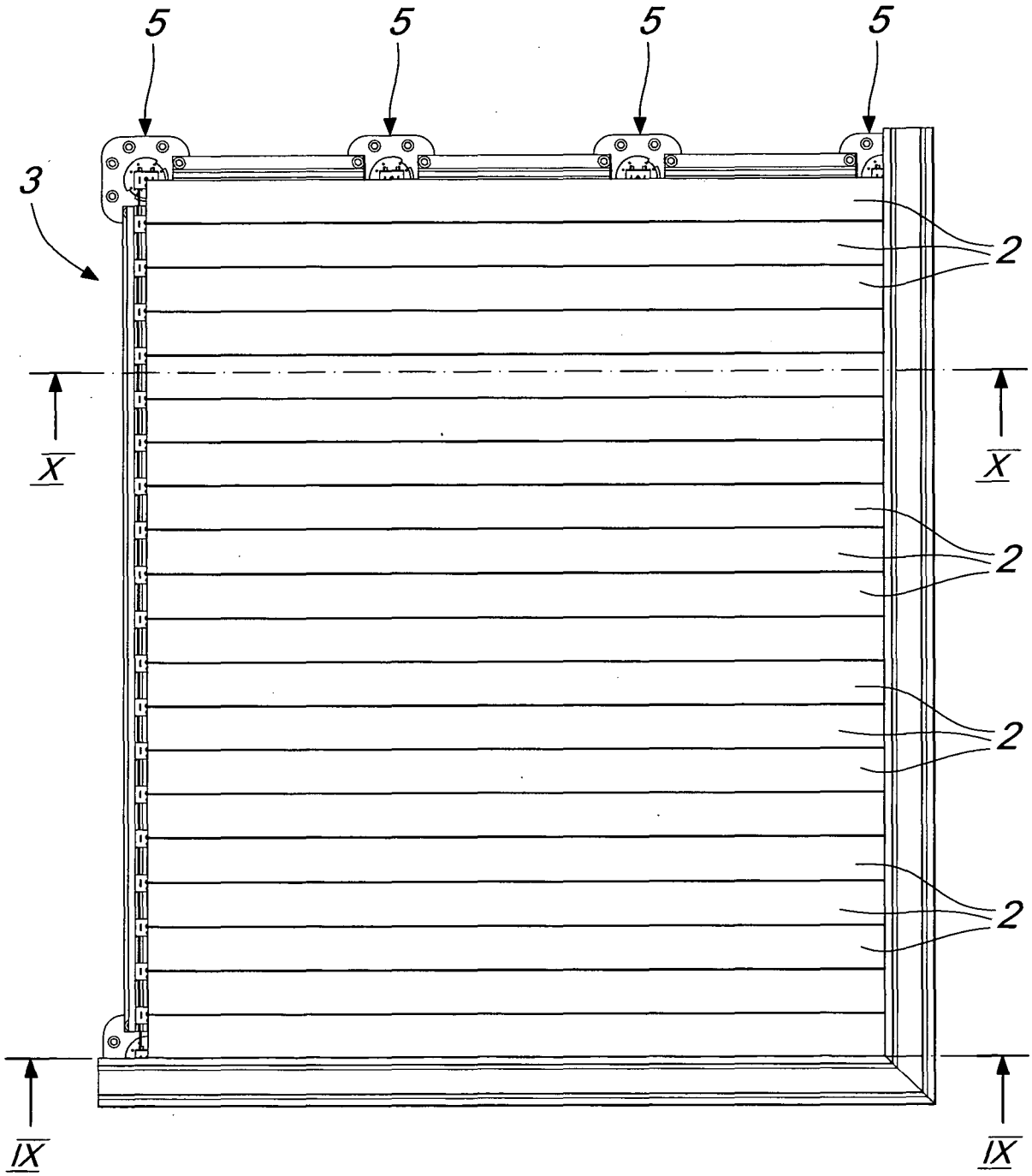


Fig. 7

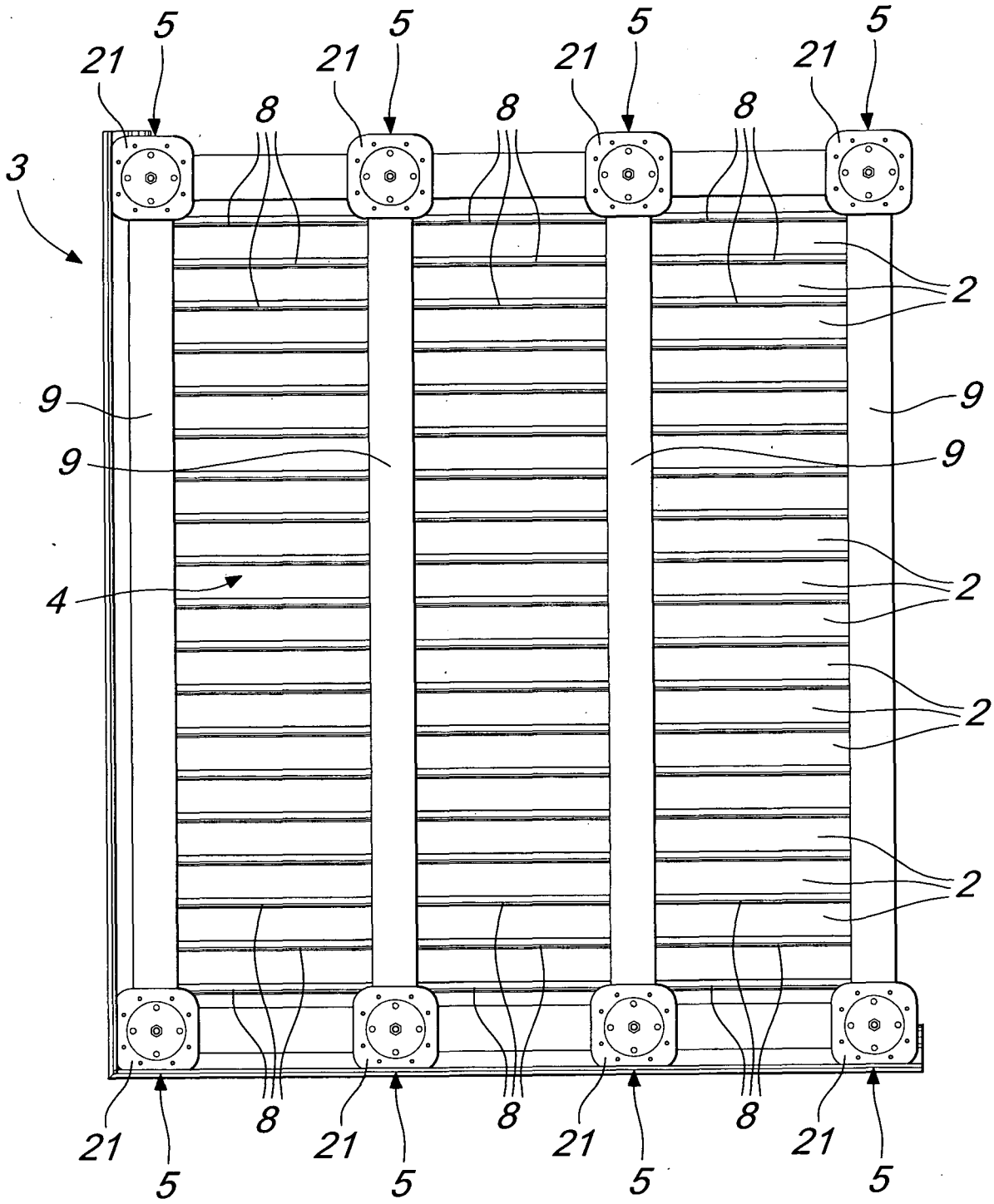


Fig. 8

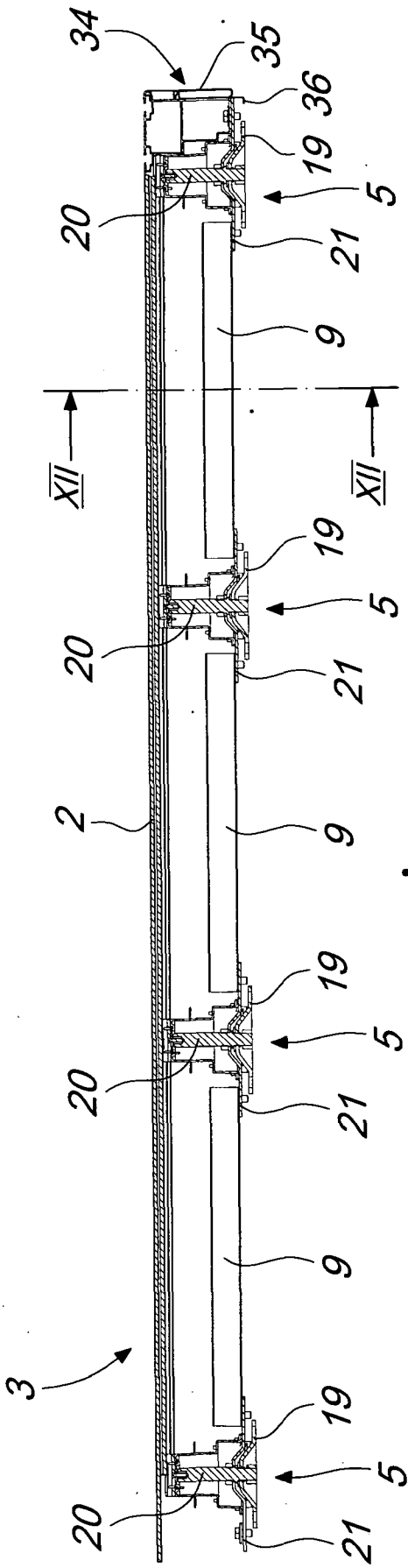

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Fig. 9

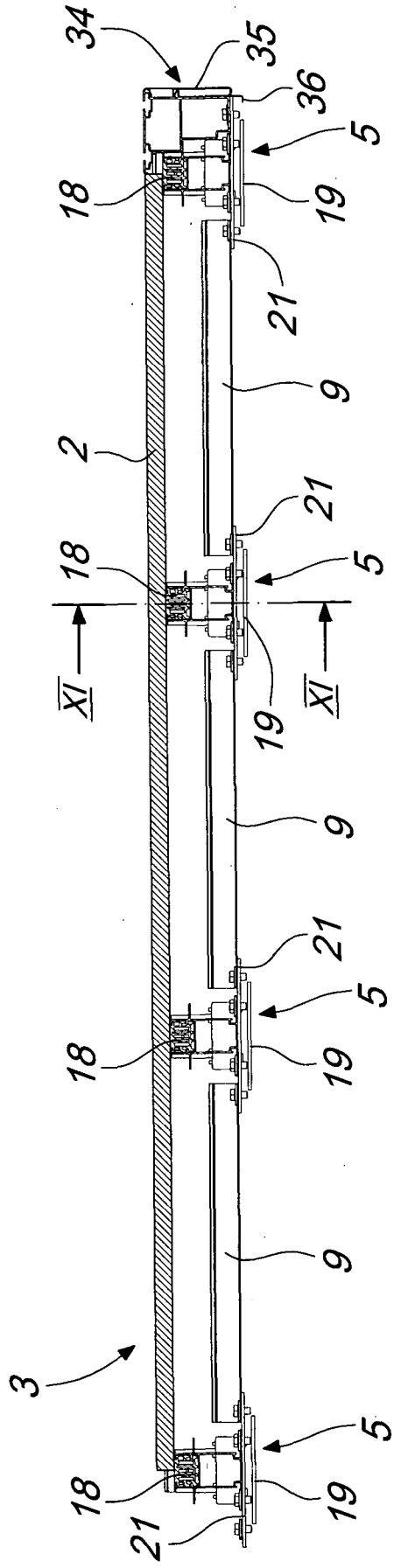

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Fig. 10

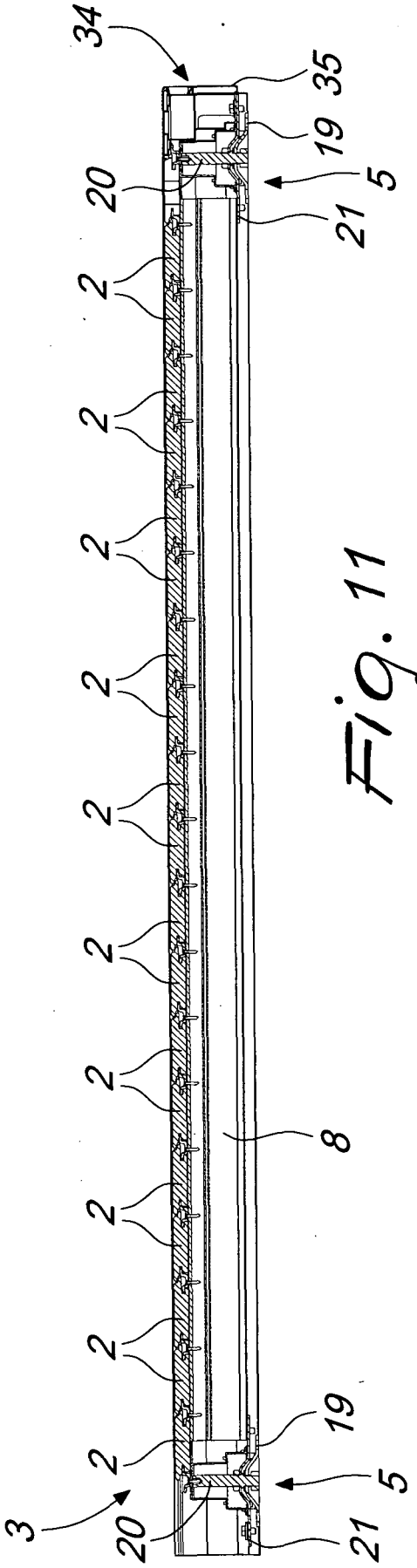


Fig. 11

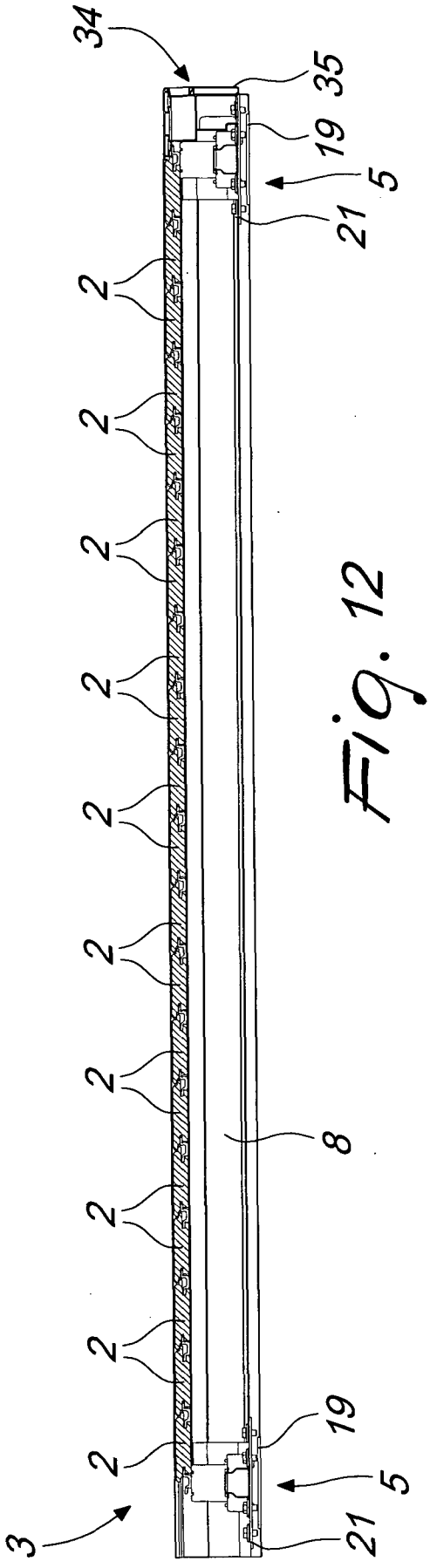


Fig. 12

INTERNATIONAL SEARCH REPORT

International application No
PCT/IT2010/000357

A. CLASSIFICATION OF SUBJECT MATTER
INV. E04F15/024 E04H15/56
ADD.

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)
E04F 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 practical, search terms used)
EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 710 750 A2 (KREUSEL MAGDA [DE] KREUSEL ULRICH [DE]) 8 May 1996 (1996-05-08) figures 2, 3 and 4	1-3,6
X	WO 99/22097 A1 (ERICSSON GE MOBILE INC [US]) 6 May 1999 (1999-05-06) figure 1	1,2
A	WO 2005/024154 A1 (BUZON PEDESTAL INTERNAT S A [BE]; BUZON CLAUDE [BE]) 17 March 2005 (2005-03-17) figures 1-3	1-6
A	CA 2 588 154 A1 (MAS BLAZQUEZ DAVID [ES]) 9 November 2008 (2008-11-09) figure 1 and 3	1-6

☐ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
4 May 2011	20/07/2011

Name and mailing address of the ISA/	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Bauer, Josef

INTERNATIONAL SEARCH REPORT

International application No.
PCT/IT2010/000357

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.

2. ☐ As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.

3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-6

Remark on Protest

☐ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.

☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.

☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-6

   A kit for locking of staves comprising a shaped insert

   ---

2. claims: 7-18

   Height-adjustable support element for a pedestal

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/IT2010/000357

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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