



(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
08.02.2012 Bulletin 2012/06

(51) Int Cl.:
E04H 4/00 (2006.01)

(21) Application number: **10171637.1**

(22) Date of filing: **02.08.2010**

(84) Designated Contracting States:
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK SM TR
Designated Extension States:
BA ME RS

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(54) **Swimming pool**

(57) A rectangular swimming pool to be placed on a base, comprising several connecting pieces, several columns as well as several walls, which connecting pieces are designed to connect the walls and the columns together near respective corner points of the swimming pool, characterised in that each connecting piece comprises a first part provided on the inner side of a corner point and a second part provided on the outer side of a corner point, whilst a column is installed between respective end sides of facing walls and between said first part

and said second part, wherein the first part, which is plate-shaped, engages with its edges in connecting slots of facing walls on either side thereof, whilst the second part has a substantially U-shaped cross-section for receiving the column in question between legs of said U-shaped cross-section, and wherein the first part, the second part and the column in question are provided with co-axial connecting holes, through which a pin extends for connecting the first part, the second part and the column in question together.

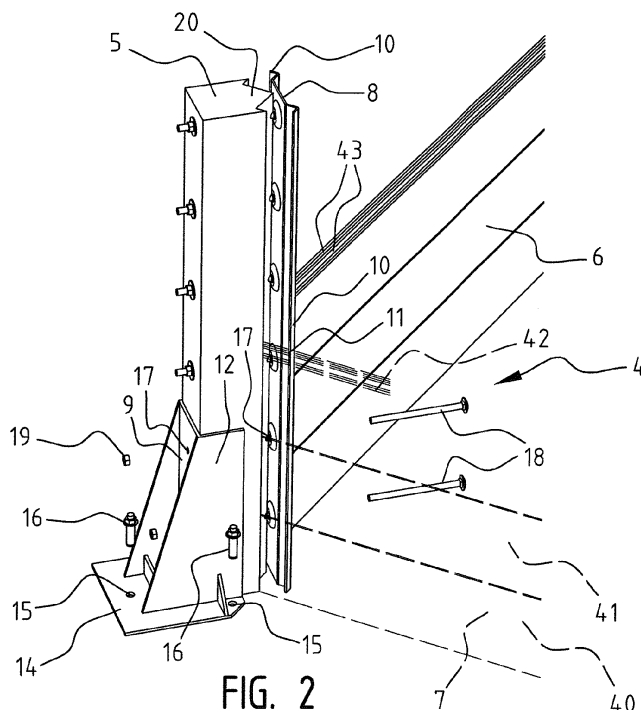


FIG. 2

Description

[0001] The present invention relates to a rectangular swimming pool to be placed on a base, comprising several connecting pieces, several columns as well as several walls, which connecting pieces are designed to connect the walls and the columns together near respective corner points of the swimming pool.

[0002] Such a swimming pool is generally known. In particular larger garden centres are experiencing an increasing public interest in swimming pools suitable for placement in a garden around a house. Said public interest in particular results from an increasing need that people feel to live in as comfortable conditions as possible, including the possibility to swim/bathe in private surroundings without being dependent on public swimming pools.

[0003] A drawback of the known swimming pool is the fact that it is made up of all kinds of different parts which are easily lost, whilst assembling the swimming pool is found to be a time-consuming and laborious task. In addition, there is always a risk that the known swimming pool will collapse.

[0004] The object of the invention is to provide an improved swimming pool, in particular for private use, which is easy to assemble and which is stable, so that the risk of collapse is excluded.

[0005] In order to accomplish that object, a swimming pool of the kind described in the introduction is characterised in that each connecting piece comprises a first part provided on the inner side of a corner point and a second part provided on the outer side of a corner point, whilst a column is installed between respective end sides of facing walls and between said first part and said second part, wherein the first part, which is plate-shaped, engages with its edges in connecting slots of facing walls on either side thereof, whilst the second part has a substantially U-shaped cross-section for receiving the column in question between legs of said U-shaped cross-section, and wherein the first part, the second part and the column in question are provided with co-axial connecting holes, through which a pin extends for connecting the first part, the second part and the column in question together. Said pin is in particular a bolt provided with external screw thread, on which a nut is screwed, so that the column in question is clamped between the first part and the second part near a corner point of the swimming pool. Since the first part engages in connecting slots of adjacent walls on either side thereof, the walls are connected to the column with a clamped fit. It will be understood that in this way a stable swimming pool is obtained, which is easy to assemble using a minimum amount of parts.

[0006] In a preferred embodiment of a swimming pool according to the invention, the first part has a substantially W-shaped cross-section. As a result, the first part is capable of taking up all kinds of (clamping) forces being exerted thereon.

[0007] In another preferred embodiment of a swimming pool according to the invention, the second part comprises a baseplate. More in particular, the baseplate is provided with at least one (through) hole, through which a pin extends for fixing the second part to the base. As a result, the parts in question are capable of taking up large forces exerted by the water present in the swimming pool.

[0008] In another preferred embodiment of a swimming pool according to the invention, each column comprises a projection which extends from the column in the direction of the respective first part and between end sides of facing walls. Preferably, said projection has a pointed shape, so that the end sides of the facing walls can be supported on sides of the pointed shape.

[0009] In another preferred embodiment of a swimming pool according to the invention, the connecting pieces and the columns form first connecting pieces and first columns, respectively, whilst the swimming pool further comprises second connecting pieces and second columns, which second connecting pieces are designed to connect the walls and the second columns together near respective wall extensions of the swimming pool. Preferably, each second connecting piece includes a first part provided on the inner side of a wall extension and a second part provided on the outer side of a wall extension, whilst second columns are provided between respective end sides of facing walls and between the first part and the second part, wherein the first part, which is plate-shaped, engages with its edges in connecting slots of facing walls on either side thereof, wherein the second part has a substantially U-shaped cross-section for receiving the respective second column between legs of the U-shaped cross-section, and wherein the first part, the second part and the respective second column are provided with co-axial connecting holes, through which a pin extends for connecting the first part, the second part and the column in question together. Consequently, walls are concerned which are arranged in line with each other and which are connected at the location where their end sides meet, using second connecting pieces and second columns. In this case, too, the pin is in particular a bolt provided with external screw thread, on which a nut is screwed. Also in this case assembly operations are simple, with a minimum number of parts being involved, wherein the second column is clamped between the first part and the second part of the second connecting piece, and wherein the walls are connected to the column with a clamped fit.

[0010] In another preferred embodiment of a swimming pool according to the invention, the first part of the second connecting piece has a substantially U-shaped cross-section.

[0011] In another preferred embodiment of a swimming pool according to the invention, the second part of the second connecting piece comprises a baseplate. Preferably, said baseplate is provided with at least one (through) hole, through which a pin extends for fixing the

second part of the second connecting piece to the base.

[0012] In another preferred embodiment of a swimming pool according to the invention, each second column comprises a projection which extends from the second column in the direction of the respective first part of the second connecting piece and between end sides of facing walls. The projection is preferably rectangular in shape, so that the end sides of the facing walls can be supported on sides of the rectangular shape.

[0013] It is noted that the first and the second columns and the walls are preferably made of wood, whilst the first and the second connecting pieces are in particular made of a metal. The base is preferably a concrete base.

[0014] In another preferred embodiment of a swimming pool according to the invention, the walls are built up of wall elements stacked one on top of the other, wherein each wall element is provided with at least one projecting, longitudinal lip at its upper side and with at least one corresponding, longitudinal groove at its bottom side, and wherein the lip of a lower wall element engages in the groove of a wall element disposed on top thereof. The respective walls are thus built up of longitudinal segments, using mating lips/slots, each wall element forming a segment.

[0015] The invention will now be explained in more detail with reference to figures illustrated in a drawing, in which:

- Figure 1 is a schematic, perspective view of a preferred variant of a swimming pool according to the invention;
- Figure 2 shows a connection according to detail A in figure 1 in disassembled condition;
- Figure 3 is a top plan view of the connection of figure 2 in assembled condition;
- Figure 4 shows a connection according to detail B in figure 1 in disassembled condition;
- Figure 5 is a top plan view of the connection of figure 4 in assembled condition; and
- Figure 6 shows the swimming pool of figure 1 in partially disassembled condition.

[0016] In figure 1 there is shown a swimming pool 1 placed on a concrete base 2 on a lawn 3 of a house.

[0017] With reference to figure 2, a steel connecting piece 4, a wooden column 5 as well as wooden walls 6,7 for each corner point of the swimming pool 1 are brought to the building site. The connecting piece 4 functions to connect the walls 6,7 and the column 5 together at a corner point of the swimming pool 1. Each connecting piece 4 is to that end made up of a first part 8 provided on the inner side of a corner point and a second part 9 provided on the outer side of a corner point. As figure 2

shows, the column 5 is placed between end sides of the walls 6,7 and between the first part 8 and the second part 9. As shown, the first part 8 is in the form of an elongated plate having a W-shaped cross-section. The first part 8 engages with its edges 10 in vertical connecting slots 11 of the walls 6,7 on either side thereof. The second part 9, however, has a U-shaped cross-section for receiving the column 5 between legs 12,13 of the U-shaped cross-section. The second part 9 further has a baseplate 14 provided with three openings 15, through which bolts 16 are passed for fixing the second part 9 to the concrete base 2. The first part 8, the second part 9 and the column 5 are furthermore provided with co-axial connecting holes 17. Bolts 18 provided with external screw thread are passed through said holes, after which nuts 19 are screwed thereon so as to connect the first part 8, the second part 9 and the column 5 together with a clamped fit. Via the mating edges 10 and the slots 11, the walls 6,7 are likewise connected together with a clamped fit.

[0018] Figure 3 is a top plan view of figure 2 (which does not show the second part 9, however), in which like parts are indicated by the same numerals. The column 5 comprises a projection 20 having a pointed shape, which extends from the column 5 in the direction of the first part 8 and between the end sides of the walls 6,7. Said end sides are supported on sides 21 of the pointed shape in assembled condition.

[0019] In order to be able to vary the swimming pool 1 in length or in width as desired by the customer, walls 22, 23 of a standard length are brought to the site and connected together, if desired, as shown in figures 4 and 5. To that end use is made of a second, steel connecting piece 24 and a second column 25 for each extension. As figure 4 shows, each second connecting piece 24 comprises a first part 26 provided on the inner side of a wall extension and a second part 27 provided on the outer side of the wall extension. Similar to figures 2 and 3, the second column 25 is mounted between end sides of the walls 22,23 and between the first part 25 and the second part 26. The first part 25, which is configured as an elongated plate having a U-shaped cross-section, engages with its edges 28 in vertical connecting slots 29 of the walls 22,23 on either side thereof. The second part 27 is identical to the second part 9 of the aforesaid first connecting piece 4, and consequently it also has a U-shaped cross-section for receiving the second column 25 between legs 30,31 of the U-shaped cross-section, as well as a baseplate 32 provided with three openings 33, through which bolts 34 are passed for fixing the second part 27 to the concrete base 2.

[0020] Similar to figures 2 and 3, the first part 26, the second part 27 and the second column 25 are provided with co-axial connecting holes 35. Bolts 36 provided with external screw thread are passed through said holes, after which nuts 37 are screwed thereon so as to connect the first part 26, the second part 27 and the second column 25 together with a clamped fit. The mating edges 28 and slots 29 realise a clamping-fit connection between

the walls 22,23.

[0021] Figure 5 is a top plan view of figure 4 (which does not show the second part 27), in which like parts are indicated by the same numerals. The column 25 comprises a rectangular projection 38, so that the end sides of the walls 22, 23 can be supported on sides 39 of the rectangular shape.

[0022] Figures 2-5 show that the walls 6,7,22,23 are built up of wall elements 40,41,42 stacked one on top of the other. Each wall element 40,41,42 is provided with two projecting lips 43 at its upper side and with three corresponding grooves 44 at its bottom side, with the lips 43 of a lower wall element 40,41 engaging in corresponding grooves 44 of a wall element 41,42 disposed on top thereof. Thus it is also possible to vary the swimming pool 1 in height as desired by the customer, viz. by stacking wall elements 40,41,42 one on top of the other.

[0023] Figure 6 shows the finishing of the swimming pool 1 in the form of additional wall elements 45.

[0024] It is noted that the invention is not limited to the embodiment shown herein but that it also extends to other preferred variants that fall within the scope of the appended claims.

Claims

1. A rectangular swimming pool (1) to be placed on a base (2), comprising several connecting pieces (4), several columns (5) as well as several walls (6,7), which connecting pieces (4) are designed to connect the walls (6,7) and the columns (5) together near respective corner points of the swimming pool, **characterised in that** each connecting piece (4) comprises a first part (8) provided on the inner side of a corner point and a second part (9) provided on the outer side of a corner point, whilst a column (5) is installed between respective end sides of facing walls (6,7) and between said first part (8) and said second part (9), wherein the first part (8), which is plate-shaped, engages with its edges in connecting slots of facing walls (6,7) on either side thereof, whilst the second part (9) has a substantially U-shaped cross-section for receiving the column (5) in question between legs (12, 13) of said U-shaped cross-section, and wherein the first part (8), the second part (9) and the column (5) in question are provided with co-axial connecting holes (16), through which a pin (17) extends for connecting the first part (8), the second part (9) and the column (5) in question together.
2. A swimming pool (1) according to claim 1, wherein the first part (8) has a substantially W-shaped cross-section.
3. A swimming pool (1) according to claim 1 or 2, wherein the second part (9) comprises a baseplate (14).
4. A swimming pool (1) according to claim 3, wherein said baseplate (14) is provided with at least one hole (15), through which a pin (16) extends for fixing the second part (9) to the base (2).
5. A swimming pool (1) according to any one of the preceding claims 1-4, wherein each column (5) comprises a projection (20) which extends from the column (5) in the direction of the respective first part (8) and between end sides of facing walls (6,7).
6. A swimming pool (1) according to any one of the preceding claims 1-5, wherein the connecting pieces (4) and the columns (5) form first connecting pieces (4) and first columns (5), respectively, whilst the swimming pool further comprises second connecting pieces (24) and second columns (25), which second connecting pieces (24) are designed to connect the walls (22,23) and the second columns (25) together near respective wall extensions of the swimming pool (1).
7. A swimming pool (1) according to claim 6, wherein each second connecting piece (24) includes a first part (26) provided on the inner side of a wall extension and a second part (27) provided on the outer side of a wall extension, whilst second columns (25) are provided between respective end sides of facing walls (22,23) and between the first part (26) and the second part (27), wherein the first part (26), which is plate-shaped, engages with its edges in connecting slots (29) of facing walls (22,23) on either side thereof, wherein the second part (27) has a substantially U-shaped cross-section for receiving the respective second column (25) between legs (30,31) of the U-shaped cross-section, and wherein the first part (26), the second part (27) and the respective second column (25) are provided with co-axial connecting holes (35), through which a pin (36) extends for connecting the first part (26), the second part (27) and the column (25) in question together.
8. A swimming pool (1) according to claim 6, wherein the first part (26) of the second connecting piece (24) has a substantially U-shaped cross-section.
9. A swimming pool (1) according to claim 6 or 7, wherein the second part (27) of the second connecting piece (24) comprises a baseplate (32).
10. A swimming pool (1) according to claim 8, wherein said baseplate (32) is provided with at least one hole (33), through which a pin (34) extends for fixing the second part (27) of the second connecting piece (24) to the base (2).
11. A swimming pool (1) according to any one of the preceding claims 6-10, wherein each second column

(25) comprises a projection (38) which extends from the second column (25) in the direction of the respective first part (26) of the second connecting piece (24) and between end sides of facing walls (22,23).

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12. A swimming pool (1) according to any one of the preceding claims 1-11, wherein the first and the second columns (5,25) and the walls (6,7; 22,23) are made of wood.

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13. A swimming pool (1) according to any one of the preceding claims 1-12, wherein the first and the second connecting pieces (4,24) are made of a metal.

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14. A swimming pool (1) according to any one of the preceding claims 1-13, wherein the walls (6,7; 22,23) are built up of wall elements (40,41,42) stacked one on top of the other, wherein each wall element (40,41,42) is provided with at least one projecting, longitudinal lip (43) at its upper side and with at least one corresponding, longitudinal groove (44) at its bottom side, and wherein the lip (43) of a lower wall element (40,41) engages in the groove (44) of a wall element (41,42) disposed on top thereof

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15. A swimming pool (1) according to any one of the preceding claims 1-14, wherein the base (2) is made of concrete.

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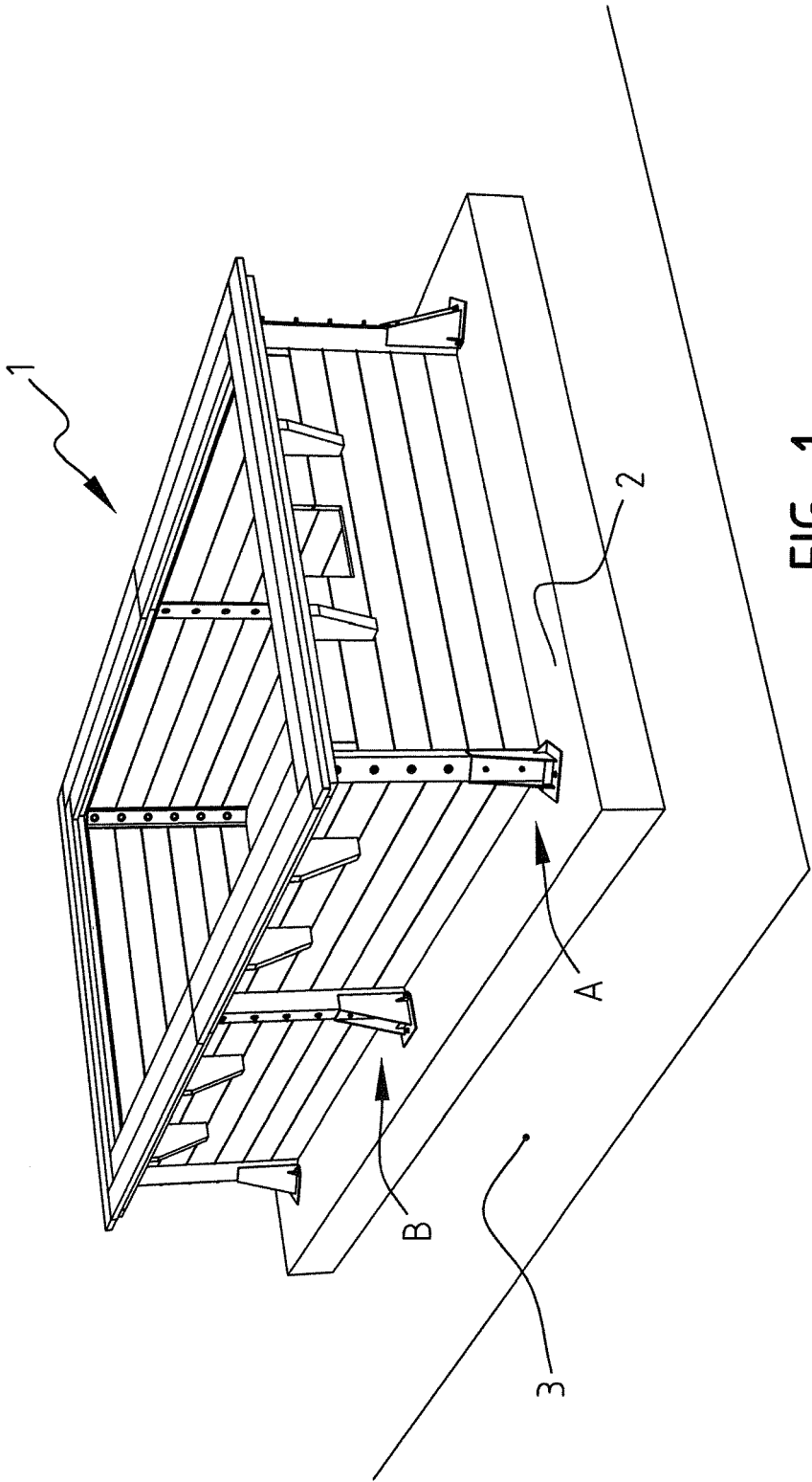
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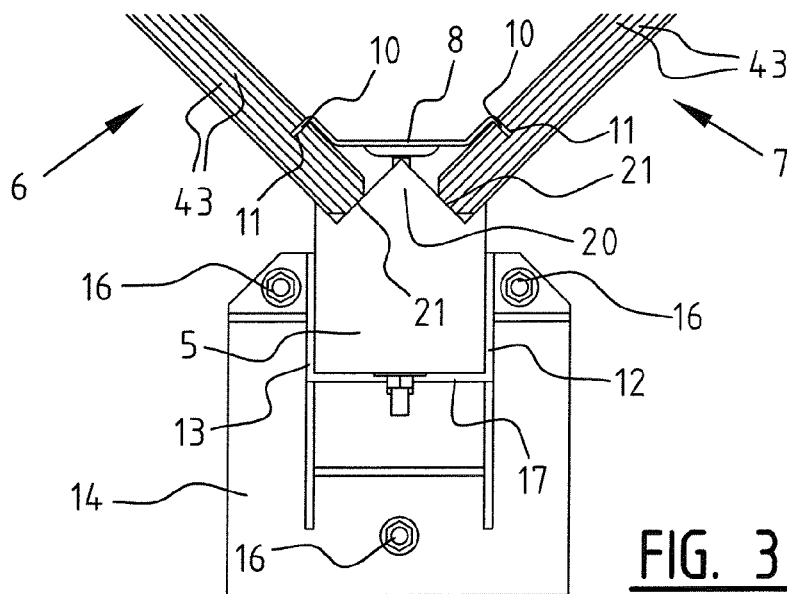
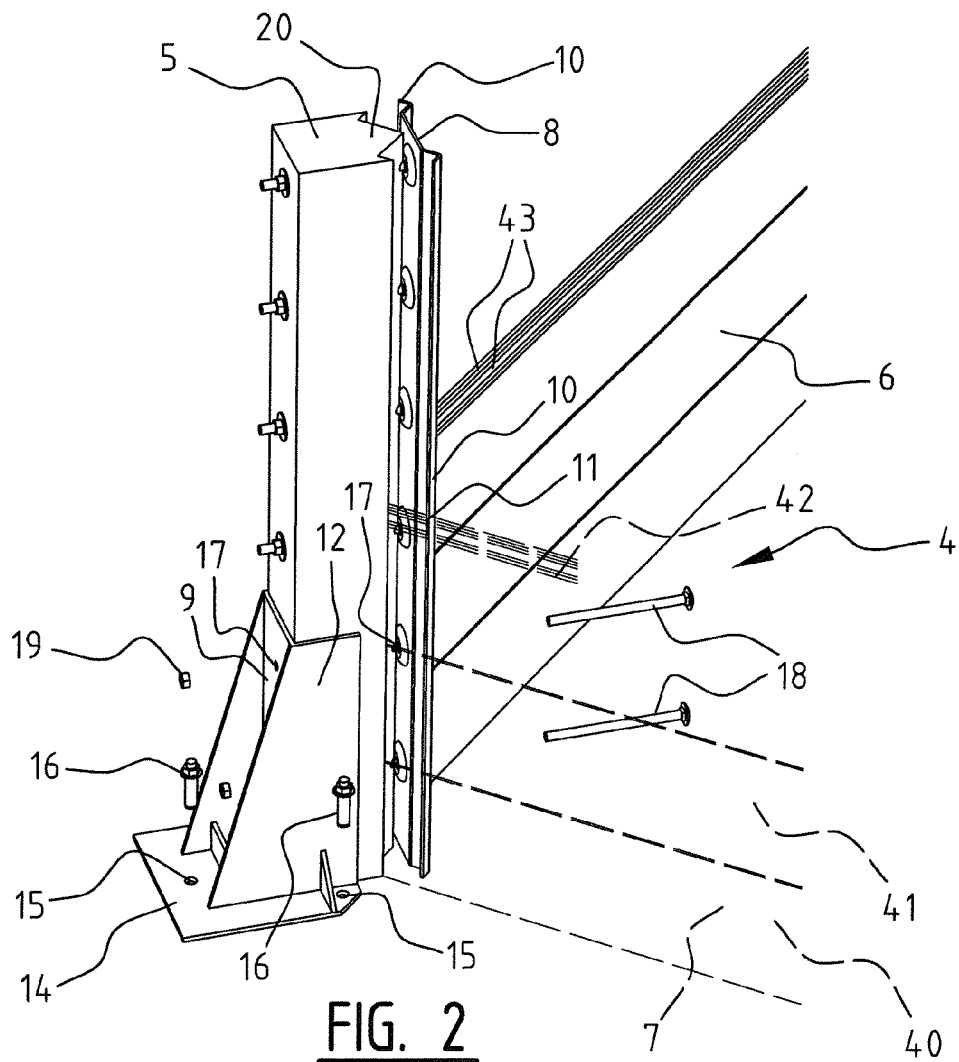
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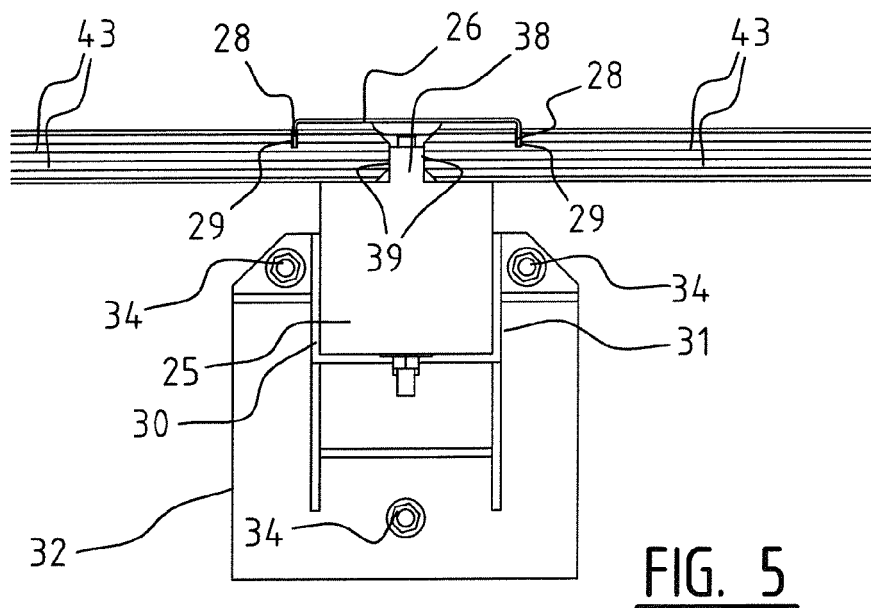
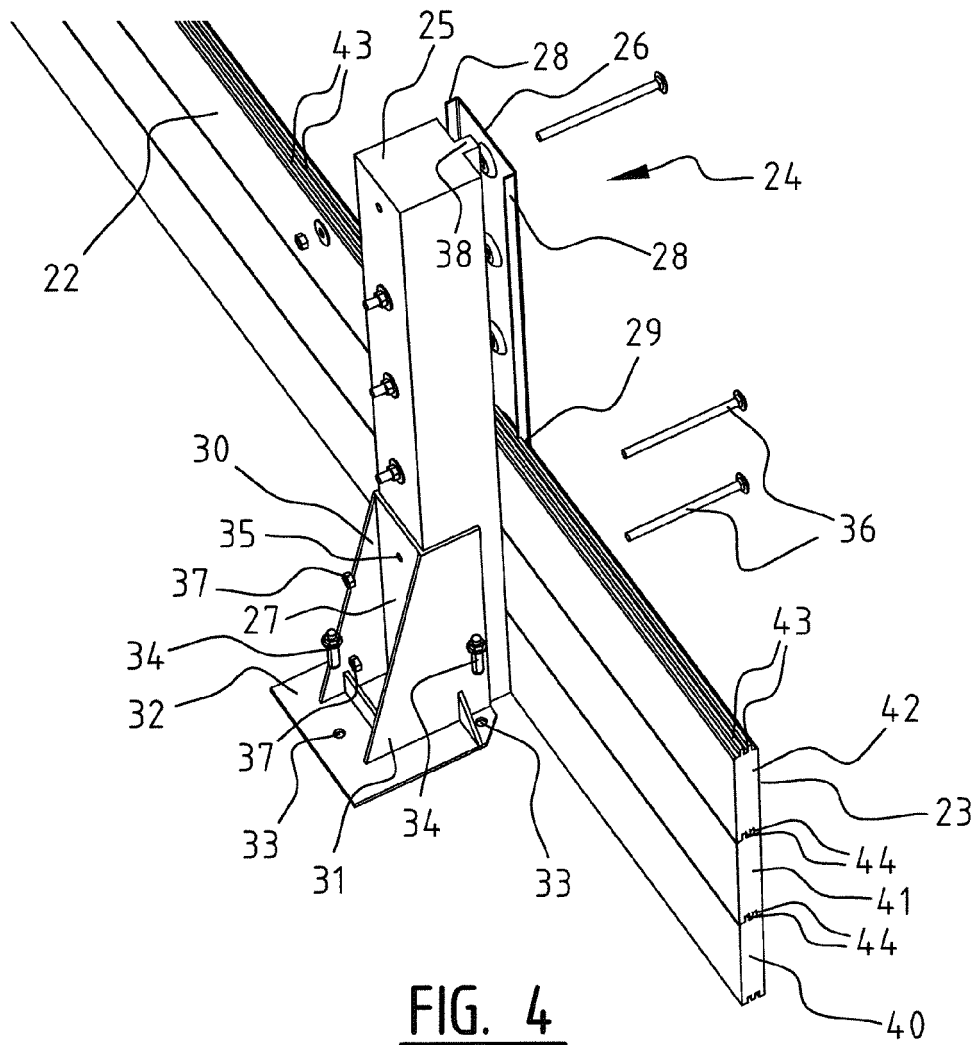
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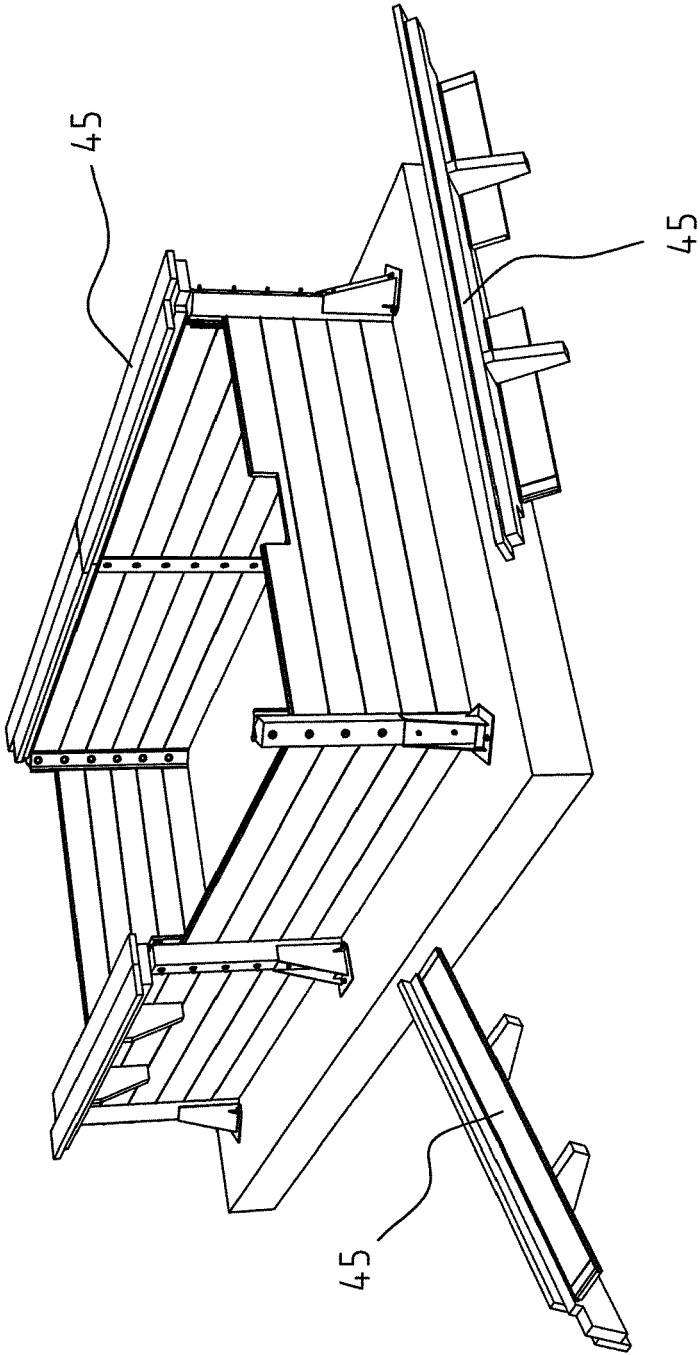


FIG. 6



EUROPEAN SEARCH REPORT

Application Number
EP 10 17 1637

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	FR 2 809 428 A1 (MENUISERIE CHARPENTE CARADOT F [FR]) 30 November 2001 (2001-11-30) * page 5, line 4 - page 6, line 9; figures 1-7 *	1	INV. E04H4/00
A	FR 2 897 885 A1 (PASCUAL IIDEVERT [FR]; PERRIER ALEXANDRE [FR]) 31 August 2007 (2007-08-31) * page 3, line 11 - line 25; figures 3,5-10 *	1	
A	FR 2 630 144 A1 (LEMAN THIERRY [FR]) 20 October 1989 (1989-10-20) * page 4, line 18 - page 5, line 36; figures 1,2 *	1	
			TECHNICAL FIELDS SEARCHED (IPC)
			E04H E04B
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 15 February 2011	Examiner Porwoll, Hubert
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 10 17 1637

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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15-02-2011

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