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(54) **Log cabin with improved joint between roof and walls and with improved wind anchoring**

Blockhaus mit verbessertem Anschluss zwischen Dach und Wänden

Cabane du type comprenant des rondins avec une connection améliorée entre le toit et les parois

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EP 2 194 201 B1

Description

[0001] The present invention relates in general to a log cabin, of which the walls are formed by horizontal wooden planks arranged above each other.

[0002] It is possible that the walls are in connection with each other because the planks of the different walls are interlocking. Figure 1 is a schematic top view of such corner design. The walls 2 and 3 of a log cabin 1 comprise planks 12 and 13, respectively, stacked upon each other. At some distance of their ends, the planks 12 and 13 are provided with recesses capable of accommodating the planks of the adjacent wall. In such design, it is inevitable that end sections 12a and 13a of the planks 12 and 13 project out of the plane of the walls 3 and 2. Among other things, this has the disadvantage that it is not possible to place the log cabin 1 with its wall against a wall or on a separation between premises. It is further a disadvantage that the planks must be preprocessed by applying the recesses in order to be able to place the planks by stacking. It is further a disadvantage that the inner dimensions of the log cabin 1 are relatively small: the end sections 12a and 13a can be considered as loss of useful space.

[0003] These disadvantages can be solved by using an upright. Figure 2 is a schematic top view of a corner design with an upright 20. The planks 12 and 13 of the walls 2 and 3 are attached to the upright 20 with nails or screws 22, 23. A disadvantage of this is that attaching the nails and/or screws is a labour-intensive and time-consuming operation. It is further a disadvantage that the resulting outer corner is not nice to see from an esthetic view point, so that a further processing is necessary in order to finish the corner design at the outer side.

[0004] In order to solve these problems as well, it has already been proposed to use an upright with vertical grooves. Figure 3 is a schematic top view of such corner design. The figure shows a cross section of an upright 30, with four side faces 30a, 30b, 30c, 30d and with vertical grooves 32 and 33 in the side faces 30a and 30b, respectively, into which the ends of the planks 12 and 13 fit. In this design, the advantage of the design of figure 1 is maintained, i.e. that arranging the planks 12 and 13 is done by simply stacking the planks. Different from the design of figure 1, it is now in principle possible to first stack all planks 12 of the one wall 2 before stacking the planks 13 of the other wall 3. Further, an esthetically nice finishing of the corner design is achieved directly without a further finishing being necessary. Of the designs discussed above, the.design of figure 3 offers the largest inner space with the length of the planks remaining the same.

[0005] The present invention specifically relates to a log cabin of the type illustrated in figure 3.

[0006] A problem with such log cabins is the connection of the roof on the walls. This will be explained with reference to figure 4A, which shows a schematic perspective view of an upper corner of a log cabin 1 in partly taken apart condition. The figure shows the corner upright 30 with the first vertical groove 32. The figure further shows a front wall 2, built from planks 12 stacked upon each other, of which the ends are accommodated in the groove 32. The figure further shows a part of a door 41 in the front wall 2, mounted in a door frame 40, of which the uprights are also provided with vertical grooves, comparable to the groove 32, to accommodate the opposite ends of the planks 12. If the front wall 2 does not have a door, the planks 12 extend to the corresponding groove of the next corner upright. It is also possible that the log cabin is so large that the planks 12 are too short, in which case the wall 2 may be provided with an intermediate upright with vertical grooves.

[0007] The figure further shows a side wall 3 built from planks 13 stacked upon each other of which the ends are accommodated in the second vertical groove 33 which is not visible in figure 4A, at the back side of the upright 30, as will be clear to a person skilled in the art by consultation of figure 3.

[0008] Log cabins typically have a pointed roof 5 with a triangular profile, as schematically shown in figure 4. Figure 4A shows that the upper part of the front wall 2 is implemented as an integral triangular wall segment 50, with a horizontal lower edge 51 and an oblique upper edge 52. In the lower side of the wall segment 50, a recess for the door frame 40 may be included, as shown. The figure further shows a recess 53 in the oblique upper edge 52 for accommodating a roof support beam. A rear wall of the log cabin will be built in comparable manner, with also a triangular wall segment, but this is not shown in this figure.

[0009] The upper plank 60 of the side wall 2 forms a longitudinal roof carrier plank. In this case, the direction of the ridge of the roof is taken as longitudinal direction. In assembled condition, the roof (not shown in figure 4A for sake of simplicity) forms a structural unit with the triangular wall segments of the front wall and the rear wall and with the roof carrier plank 60 of the side walls. It is noted that the roof carrier plank 60 has a front end 61 extending beyond the upright 30 in order to carry a part of the roof extending in front of the front wall 2.

[0010] It is clearly shown in figures 4A and 4B that the upright 30, for sake of the roof design, has its upper face 34 provided with two mutually perpendicular horizontal grooves 35, 36. A first horizontal groove 35 is aligned with the first vertical groove 32 and extends till the opposite side face 30c. The second horizontal groove 36 is aligned with the second vertical groove 33 and extends to the opposite side face 30d. Figure 4B is a schematic top view of the upright 30 showing this more clearly. The roof carrier plank 60 has its lower side 62 provided with a first recess 63, of which the width corresponds to the width of the upright 30 minus the depth of the second groove 33. The roof carrier plank 60 is accommodated in the second horizontal groove 36 of the upright 30, and the bottom 63c of its recess 63 rests on the bottom 36a of the second horizontal groove 36 of the upright 30. The

side edges 63a, 63b of the first recess 63 form a positional confinement for the upright 30, in order to assure that the vertical position of the upright 30, with respect to the planks 13 of the side wall 3, is maintained.

[0011] At its upper side, the roof carrier plank 60 is provided with a second recess 65, of which the width corresponds to the thickness of the triangular wall segment 50 (which is equal to the thickness of the planks 12), and which is aligned with the first recess 63 in such a way that, when the roof carrier plank 60 is standing on the upright 30, the second recess 65 is aligned with the first horizontal groove 35 of the head of the upright 30. At its lower side, the triangular wall segment 50 is provided with a stepped recess 55, comprising a first wide recess 56 and a second narrow recess 57. The first wide recess 56 starts from the lower edge 51 of the wall segment 50, and has a width corresponding to the width of the upright 30 minus the depth of the first groove 32. The triangular wall segment 50 is accommodated in the first horizontal groove 35 of the upright 30, and the bottom 56c of its first recess 56 rests on the bottom 35a of the first horizontal groove 35 of the upright 30. The second narrow recess 57 starts from the bottom 57c of the first wide recess 56, and has a width corresponding to the thickness of the roof carrier plank 60. The second narrow recess 57 accommodates the body 64 of the roof carrier plank 60 located between the recesses 63 and 65. The second recess 56 of the roof carrier plank 60 accommodates the part 58 of the triangular wall segment 50 located above the stepped recess 55. Thus, the roof of the log cabin rests on the uprights 30. The side edges 56a, 56b of the first recess 56 form a positional confinement for the upright 30, in order to assure that the vertical position of the upright 30, with respect to the planks 12 of the front wall 2, is maintained.

[0012] This is all further clarified in the cross sectional drawings of the figures 4C and 4D, wherein figure 4C shows a cross section seen from the front wall 2, so that the plane of drawing coincides with the side wall 3, while figure 4D shows a cross section seen from the side wall 3, so that the plane of drawing coincides with the front wall 2.

[0013] An important problem of this design is associated with shrinking. Because the planks 12 and 13 may shrink depending on weather conditions, the vertical size of the walls 2, 3 may vary. The variation can easily be some centimeters. Since the roof rests on the uprights 30, the roof can not follow the shrinking of the side walls: the roof remains in place, including the roof carrier plank 60 of the side wall 3 and the triangular wall segment 50 of the front wall 2-Thus, a wide horizontal cap emerges under the roof.

[0014] The present invention aims to provide a log cabin in which this problem has been solved.

[0015] It is noted that a log cabin according to the preamble of claim 1 is disclosed in DE-9010081-U1. The present invention provides a log cabin having all features of claim 1.

[0016] These and other aspects, features and advantages of the present invention will be further clarified by the following description with reference to the drawings, in which same reference numerals indicate same or similar parts, in which indications "below/above", "higher/lower", "left/right" et cetera only relate to the orientation shown in the drawing, and in which:

figures 1 and 2 show schematic top views of a corner design according to the state of the art;
figure 3 shows a schematic top view of a corner design according to the present invention;
figure 4 shows a schematic perspective view of a log cabin with a triangular roof;
figure 4A shows a schematic perspective view of a top corner of a log cabin in partly taken apart condition;
figure 4B shows a schematic top view of an upright;
figures 4C and 4D show schematic cross sections of the connection of the roof carrier elements on the upright in the case of a log cabin according to the state of the art;
figures 5A and 5B show schematic cross sections of the connection of the roof carrier elements on the upright in the case of a log cabin according to the present invention;
figure 6 illustrates a w-shaped bracket for joining together the walls;
figure 7 schematically illustrates that a log cabin has a roof unit resting on the walls;
figures 8A and 8B illustrate a known wind anchoring;
figure 9 shows a schematic perspective view of a wind anchoring as claimed in the dependent claims ;
figures 10-12 show more details of this wind anchoring.

[0017] The design of the log cabin proposed by the present invention may also be illustrated by the figures 3, 4A and 4B, with the understanding that, according to a key idea of the present invention, the said two mutually perpendicular horizontal grooves 35, 36 in the top face 34 of the upright 30 are made deeper, so that their respective bottoms 35a, 36a lie lower than in the case of the state of the.art. Figures 5A and 5B are cross sections comparable to the figures 4C and 4D, respectively, showing this feature. Figure 5A clearly shows that there is a vertical gap D1 present between the bottom 63c of the first recess 63 of the roof carrier plank 60 and the bottom 36a of the horizontal groove 36 in the top face 34 of the upright 30. Figure 5d clearly shows that there is a vertical gap D2 present between the bottom of the first recess 56 of wall segment 50 and the bottom of the second horizontal groove 35 in the top face 34 of the upright 30. Although not necessarily, D1 and D2 are preferably equal to each other.

[0018] Both figures clearly show that said part 58 of the triangular wall segment 50 rests on said body 64 of the roof carrier plank 60, but that wall segment 50 and

roof carrier plank 60 do not rest on the upright 30. More particularly, the triangular wall segment 50 only rests on the planks 12 of the front wall 2 and the roof carrier plank 60 only rests on the planks 13 of the side wall 3. When the planks 12 and 13 shrink, the triangular wall segment 50 and the roof carrier plank 60 can lower such as to remain lying on the planks 12 and 13, in which case said gaps D1 and D2 get smaller. Thus, at first no gap emerges in the walls. Only when the shrinkage in the walls 12 and 13 is so large that the triangular wall segment 50 and/or the roof carrier plank 60 come to rest on the upright 30, a gap may emerge in the front wall 2 and/or the side wall 3 on further shrinkage, but the width of this gap will be substantially smaller than in the case of the state of the art.

[0019] A consequence of the gaps D1 and D2 is that the overlap between the roof carrier plank 60 and the body of the upright 30, indicated by L1 in figure 5A, has been reduced. The same applies to the overlap between the wall segment 50 and the body of the upright 30, indicated by L2 in figure 5B. Since it is this overlap that prevents that the walls can be pressed outwards, this overlap might in practice be loaded too heavily. In order to avoid this, preferably at least one bracket 90 is provided, connecting the walls 2 and 3 to each other, as shown in the schematic top view of figure 6. The bracket 90 has a shape which is bent according to the character W, with a central corner part 91 extending along the upright 30, and two mutually perpendicular wings 92 and 93 attached to the wall 2 and 3, respectively. The central corner part 91 leaves the upright 30 free, so that the walls 2 and 3 together with the bracket 90 may move downwards along the upright 30 in the case of shrinkage of the planks 12 and 13.

[0020] A further problem concerns wind load. As mentioned in the above, the roof construction rests on the wall construction. This is schematically illustrated in figure 7, in which the roof construction and the wall construction are shown separate from each other. The roof is constructed as structural unit, which is indicated by reference numeral 5 and which in the following will also be indicated by the phrase "roof unit". In the case of a pointed roof, the roof unit comprises two mutually opposite triangular wall segments 50 (of which only one is visible in the figure), two mutually opposite longitudinal roof carrier planks 60 (of which only one is visible in the figure), and two roof faces 71, 72 meeting each other in the ridge 73. Of course, the roof unit 5 may comprise a frame of carrier beams, but this is not essential for the present invention and not shown in the figure. It is noted that the present invention is not only applicable in the case of pointed roofs, but is also applicable in the case of flat roofs or oblique roofs.

[0021] The wall construction comprises two transverse walls 2 arranged opposite each other and mutually parallel, and two longitudinal walls 3 arranged opposite each other and mutually parallel, constituted from respective planks 12 and 13 (not shown in this figure), with a door 41 and possible windows (not shown for sake of simplicity); this whole is in the following also indicated by the phrase "wall structure" and by reference numeral 7. It is noted that the present invention is not exclusively applicable in the case of log cabins with four side walls and a rectangular floor surface, but is also applicable in the case of log cabins with for instance five, six or eight walls and a floor surface in the form of a pentagon, a hexagon or an octagon, respectively.

[0022] In the corners where the walls 2 and 3 meet each other, the log cabin comprises uprights 70 to which the planks 12, 13 of the walls 2, 3 are connected. Comparable uprights may also be present in the walls themselves, in situations where the walls are too long to be formed from planks over the entire length, but this is not shown for sake of simplicity. The uprights 70 may be implemented as the uprights 20 discusses with reference to figure 2, wherein the planks 12, 13 are individually fixed to the uprights, or as the uprights 30 discussed with reference to figure 3, wherein ends of the planks 12, 13 can slide vertically in vertical grooves 32, 33 in the side faces of the uprights 30. In the following explanation, it will be assumed that the log cabin is implemented as described in the above with reference to figures 4-6.

[0023] It has already been mentioned in the forgoing description that the roof unit 5 rests on the planks 12, 13 of the wall structure 7, and thus moves upwards and downwards with the shrinking and expanding of these planks. In the above, a solution has already been described for the problem that the roof unit is not able to move downwards any further with the shrinking of the planks if the roof unit rests on the uprights, but this solution is independent from the solution for the further problem of the wind load, which problem will now be discussed.

[0024] In the design of a log cabin, one has to take account of the fact that the log cabin may be exposed to ambient factors such as wind. Depending on the direction and speed of the wind, the wind exerts an upwards force on the roof unit 5, which will be indicated as wind lift. Obviously, the roof unit 5 has a substantial weight, so that a certain level of wind can be endured without problems, but there will always be a limit: when the wind lift exceeds this limit, the roof is lifted from the carrying wall structure 7. It goes without saying that this leads to enormous damage. In order to counteract this problem, it is already known to secure the roof unit 5 with respect to the wall structure 7.

[0025] Figures 8A and 8B illustrate a known design for securing the roof unit 5 with respect to the wall structure 7. Figure 8A is a schematic inner view of a rear wall of the log cabin 1, comprised of the transverse wall 2 of the wall structure 7 and the triangular wall segment 50 of the roof unit 5; the side walls 3 and further parts of the log cabin 1 are not shown in this figure for sake of simplicity. Figure 8B shows an enlargement of a part of figure 8A. A vertical slat 80 is attached to the rear wall. The vertical slat 80 has an upper end 81 that is fixed to the triangular

wall segment 50 of the roof unit 5, for instance by one or more screws or nails 82. The vertical slat 80 has a lower end 83, with a vertical groove 84 arranged therein, adjacent the lower side of the transverse wall 2. A screw 85 is screwed into the transverse wall 2, which screw extends through said vertical groove 84.

[0026] When the roof unit 5 moves upwards and downwards with the shrinking and expanding of the planks, the vertical slat 80 moves along with the roof unit 5, wherein the screw 85 displaces itself along the length of the vertical groove 84. The length of the groove 84 is chosen such that, under normal conditions, the screw 85 remains completely free from the ends of this groove 84. When the roof unit 5 is lifted by wind lift, the lower end edge 86 of this groove 85 abuts against the screw 85, so that the roof unit 5 can be lifted no further. Obviously, a plurality of such slats 80 may be present. It is further possible that the slat is mounted in a reversed manner: in that case, the slat 80 is stationary with the wall structure 7, and a screw attached to the roof unit moves in the vertical groove of the slat.

[0027] Although this solution as such suffices, the present invention aims to offer an alternative solution in which it is not necessary to attach a slat to a wall.

[0028] It is noted that DE-19.618.847 discloses a fixation bracket for a log cabin, which fixates the planks to an upright, which has a disadvantage that these planks are not capable any more of shifting vertically in order to compensate shrinkage, which may lead to undesirable gaps in a wall. US-5.170.977 also discloses a fixation bracket for a log cabin, with a complicated design for fixating planks to a corner upright, which has the same disadvantages.

[0029] Figure 9 is a schematic perspective view illustrating a wind anchoring as claimed in the dependent claims . The figure shows an inner view of a corner part of the log cabin 1. The upright 70 is visible, shown in cross section for sake of clarity, implemented in the manner as described with reference to figure 3, with the vertical grooves 32 and 33. Furthermore, the ends of planks 112 and 113, accommodated in these grooves, are shown. For these planks, the same applies as what has been mentioned in the above with reference to the planks 12 and 13, with the understanding that the planks 112 and 113 are no part of the wall structure 7 but of the roof unit 5.

[0030] A bracket 90 is attached to the planks 112 and 113, as already described with reference to figure 6, which bracket in the following will also be indicated as wind anchor. The wind anchor 90 has a shape that is bent according to a character W. More particularly, the wind anchor 90 has a central corner part 91 consisting of two mutually perpendicular plate parts 94 and 95, extending along the side faces 70a and 70b, respectively, of the upright 70. A third plate part 92 connects to the one plate part 94 in a perpendicular manner, extending along the one plank 112 and fixed with respect to this plank 112 by means of for instance screws. A fourth plate part 93 connects to the other plate part 95 in a perpendicular manner, extending along the second plank 113 and fixed with respect to this plank 113 by means of for instance screws. Thus, this wind anchor 90 is part of the roof unit 5. The central corner part 91 leaves the upright 70 free, so that the wind anchor 90 can move up and down with the roof unit 5 along the upright 70 in the case of expansion or shrinkage of the planks of the wall structure 7.

[0031] At least one vertical groove 96 is arranged in the central corner part 91. A screw 97 is screwed into the upright 70, which screw extends through said vertical groove 96. In the example shown, the groove 96 is arranged in the first plate part 94, and the screw 97 is screwed into the corresponding upright side face 70a. In principle, this is sufficient, but it is possible that a comparable groove 96b is also arranged in the second plate part 95, in which case the corresponding screw 97b is screwed into the corresponding upright side face 70b, which is also shown in the figure.

[0032] The wind anchor 90 not only has the function of connecting the walls of the log cabin. When the roof unit 5 moves up and down with the shrinking and expanding of the planks, the wind anchor 90 moves along with the roof unit 5, in which case the screw 97 displaces itself along the length of the vertical groove 96. The length of the groove 96 is chosen such that, under normal circumstances, the screw 97 remains completely free from the ends of this groove 96. When the roof unit 5 is lifted by wind lift, the lower end edge 98 of this groove 96 abuts against the screw 97, so that the roof unit 5 can be lifted no further. Obviously, multiple such wind anchors 90 may be present.

[0033] It is noted that the wind anchor is preferably made of a metal, more preferably steel plate. The four plate parts may be made separately and may be attached to each other, for instance welded, but preferably the anchor is manufactured as a whole from a single plate, for instance by three folding acts, or for instance in a punch machine wherein the necessary holes and grooves are punched at the same time. The height may for instance be in the order of 10-15 centimeter, while the length of the groove 96 may for instance be in the order of 5-6 centimeter.

[0034] Figure 10 shows a view of the front wall of a log cabin 1, seen from the interior of this log cabin, with the wind anchor 90 in a detail. The figure shows a view of a plank 112 and a cross section of a plank 113, which are part of the roof unit 5, with below that a plank 12 and a plank 13, respectively, being part of the walls 2 and 3. In this embodiment, the wind anchor 90 is larger (higher) than in figure 9, and is attached to the planks 112, 113 of the roof unit 5 as well as to the planks 12, 13 of the walls 2, 3 positioned below them, in order to achieve an even larger sturdiness.

[0035] Figure 11 shows a perspective view of the front wall and a side wall of the log cabin 1, seen from the interior of this log cabin, with the wind anchor 90 in a

detail- The figure shows a perspective view of the planks 112, 113, 12, 13 with the wind anchor 90 attached thereto.

[0036] Figure 12 shows, on a larger scale, a perspective view of the wind anchor 90, which in itself is already an embodiment of the present invention.

[0037] Summarizing, the present invention provides a log cabin comprising at least two walls 2; 3 meeting each other at an upright 30, having an upper surface 34 with therein two horizontal grooves 35; 36 crossing each other. The roof 5 is carried by a roof carrier plank 60 of the second wall and a roof carrier segment 50 of the first wall. The roof carrier plank extends over the upright, extending in the second horizontal groove, and at its lower side is provided with a recess 63 of which the side edges engage the upright on opposite sides and of which the bottom is located at a distance D1 from the bottom of the second horizontal groove.

[0038] The roof carrier segment extends over the upright, extending in the first horizontal groove, and at its lower side it is provided with a recess 56 of which the side edges engage the upright on opposite sides, and of which the bottom is located at a distance D2 from the bottom of the first horizontal groove.

[0039] Summarizing, the present invention further provides a log cabin comprising a wall structure 7 as well as a roof unit 5 resting on the wall structure 7, wherein the wall structure 7 comprises at least two walls 2; 3 as well as at least one upright 70 where walls 2; 3 meet each other; wherein the log cabin is further provided with at least one wind anchor 90, comprising a first plate part 94 with a vertical groove 96 therein, and a second plate part 92 perpendicular to the first plate part 94;

wherein the second plate part 92 is parallel to a first wall part 112 of the roof unit 5 and is fixed thereto, for instance by screws;

wherein the first plate part 94 is parallel to a first side face 70a of the upright 70;

and wherein a blocking member 97 is fixed in the upright 70, extending with play through the vertical groove 96 in the first plate part 94.

[0040] It will be clear to a person skilled in the art that the invention is not limited to the exemplary embodiments discussed in the above but that several variations and modifications are possible within the protective scope of the invention as defined in the attached claims. For instance, if it is not necessary that the wind anchor 90 connects the walls 2 and 3 to each other, it is possible to apply L-shaped wind anchors, which can be considered as being half versions of the W-formed wind anchors 90, wherein an L-formed wind anchor is comprised of two plate parts 92, 94 perpendicular to each other with a elongate groove 98 in one (94) of these plate parts, parallel to the intersection between said plate parts.

[0041] Further, a nail or the like can be used in stead of a screw 97.

[0042] Further, it is possible that the wind anchor is fixed to an upright, that the attachment flanges for coupling with the wall planks are provided with vertical grooves, and that a blocking member is fixed in at least one wall plank and extends in such vertical groove, in which case again a vertical displacement of this wall plank is possible within certain limits defined by the length of the vertical groove.

[0043] In the above, the invention has been described for corner uprights of a log cabin with a rectangular ground contour, where wall parts meet each other under an angle of 90°. However, it is also possible that a log cabin has a different ground contour, for instance a pentagon, an hexagon, an octagon, et cetera, such that wall parts meet each other under a different angle, for instance under 135°, 120°, 108°. The present invention is also applicable in such case, by a corresponding adaptation of the mutual angles between the plate parts.

[0044] In the above, the invention has been described for corner uprights, where wall parts meet each other under an angle of 90°. However, it is also possible that walls are so long that one or more uprights are included in a wall, where wall parts meet each other under an angle of 180°. The invention is also applicable in such case, by using a wind anchor with a U-shaped contour extending around the upright, provided at its ends with flanges for attachment to the wall planks.

[0045] The reference numerals used in the claims only serve as clarification for understanding the claims with a view to the exemplary embodiments described, and should not be interpreted in any limiting way.

[0046] Features which have only been described for a certain embodiment are also applicable in other described embodiments. Features of different embodiments may be combined to achieve another embodiment. Features not explicitly indicated as being essential may also be omitted. For instance, although the present invention has been described in the context of a log cabin with a triangular roof design, the basic concept of the present invention is also applicable for other roof designs, for instance planar roofs. In the case of a planar roof, there is obviously no triangular wall segment 50, but in stead thereof the log cabin has a roof carrier plank such as the roof carrier plank 60. For this, the covering phrase "roof carrier segment" will be used in the claims.

Claims

1. Log cabin, comprising an upright (30) and at least two walls (2; 3) meeting each other at the upright (30), which upright has a first side face (30a) with therein a first vertical groove (32) and a second side face (30b) with therein a second vertical groove (33); wherein a first one of said walls (2) comprises a system of planks (12) arranged on top of each other of which an end is accommodated in the first vertical groove (32) of the upright; wherein a second one of said walls (3) comprises a system of planks (13) arranged on top of each other of which an end is accommodated in the second vertical groove (33) of

the upright; wherein the log cabin is further provided with a roof (5);
characterized in that the upright (30) has an upper surface (34) with therein two horizontal groove (35; 36) crossing each other, wherein a first one of these horizontal grooves (35) is aligned with the first vertical groove (32) while a second one of these horizontal grooves (36) is aligned with the second vertical groove (33);
wherein the second wall (3) comprises a plank (60) carrying the roof, which plank extends beyond the upright (30) and extends in the second horizontal groove (36);
wherein said roof carrier plank (60) at its lower side is provided with a first recess (63) aligned with the upright (30) and of which the side edges (63a, 63b) on opposite sides engage on the bottom of the second vertical groove (33) and the opposite side face (30d) of the upright, respectively;
wherein said roof carrier plank (60) at its upper side is provided with a second recess (65) aligned with the first recess (33);
wherein the first wall (2) comprises a roof carrier segment (50) extending beyond the upright (30) and extending in the first horizontal groove (35) and in said second recess (65) of the roof carrier plank (60);
wherein said roof carrier segment (50) at its lower side is provided with a first recess (56) aligned with the upright (30) and of which the side edges (56a, 56b) on opposite sides engage the bottom of the first vertical groove (32) and the opposite side face (30c) of the upright, respectively;
wherein there is a first vertical distance (D1) larger than zero between the bottom (63c) of the first recess (63) of the roof carrier plank (60) and the bottom (36a) of the second horizontal groove (36) of the upright (30);
and wherein there is a second vertical distance (D2) larger than zero between the bottom (56c) of the first recess (56) of the roof carrier segment (50) and the bottom (35a) of the first horizontal groove (35) of the upright (30).

2. Log cabin according to claim 1, wherein the first vertical distance (D1) and the second vertical distance (D2) are equal to each other.

3. Log cabin according to claim 1 or 2, wherein a second recess (57) is arranged in the bottom (56c) of the first recess (56) of the roof carrier segment (50), the bottom of this second recess (57) resting on the bottom (65c) of the second recess (65) of the roof carrier plank (60).

4. Log cabin according to any of the previous claims, further provided with at least one bracket (90) connecting the walls (2, 3) to each other, which bracket comprises a central corner part (91) extending along two side faces (30a, 30b) of the upright (30), and two mutually perpendicular wings (92; 93) attached to the walls (2; 3), wherein the central corner part (91) is free from the upright (30).

5. Log cabin according to any of the claims 1-4, comprising a wall structure (7) as well as a roof unit (5) resting on the wall structure (7), wherein the wall structure (7) comprises at least two walls (2; 3) as well as at least one upright (70) where walls (2; 3) meet each other, wherein elements (12, 13) of the walls (2; 3) as well as the roof unit (5) resting thereon are coupled to the upright (70) while being vertically shiftable;
wherein the log cabin is further provided with at least one wind anchor (90), comprising a first plate part (94) with a vertical groove (96) therein, and a second plate part (92) making an angle with the first plate part (94);
wherein:

the second plate part (92) is parallel to a first wall part (112) of the roof unit (5) and is fixed thereto, for instance by screws;
wherein the first plate part (94) is parallel to a first side face (70a) of the upright (70);
and wherein a blocking member (97) is fixed in the upright (70), extending with play through the vertical groove (96) in the first plate part 994);

or wherein:

the second plate part (92) is parallel to a first side face (70a) of the upright (70) and is fixed thereto, for instance by screws;
wherein the first plate part (94) is parallel to a first wall part (112) of the roof unit (5);
and wherein a blocking member (97) is fixed in the first wall part (112) of the roof unit (5), extending with play through the vertical groove (96) in the first plate part (94).

6. Log cabin according to claim 5, wherein the blocking member (97) is implemented as a screw or a nail.

7. Log cabin according to claim 5, wherein the blocking member (97) is fixed in the upright (70) or in the first wall part (112) of the roof unit (5), respectively, by means of a screw or a nail.

8. Log cabin according to any of claims 5 to 7, wherein the wind anchor (90) has a W-formed contour, with a third plate part (95) making an angle with the first plate part (94) and a fourth plate part (93) making an angle with the third plate part (95);
wherein the third plate part (95) is parallel to a second side face (70b) of the upright (70);
and wherein the fourth plate part (93) is parallel to a

second wall part (113) of the roof unit (5).

9. Log cabin according to claim 8, wherein:

the fourth plate part (93) is fixed to the second wall part (113) of the roof unit (5);
wherein a second vertical groove (96b) is arranged in the third plate part (95), and wherein a second blocking member (97b) is fixed in the upright (70), extending with play through the vertical groove in the third plate part (95);

or wherein:

the third plate part (95) is fixed to the second side face (70b) of the upright (70);
a second vertical groove (96b) is arranged in the fourth plate part (93), and wherein a second blocking member (97b) is fixed in the second wall part (113) of the roof unit (5), extending with play through the vertical groove in the second plate part (93).

10. Log cabin according to any of the previous claims, wherein the wind anchor (90) is provided as a whole from a single piece of plate, for instance by folding or punching.

11. **Log cabin according to claim 10**, wherein the wind anchor (90) is made from metal.

12. Log cabin according to any of the previous claims 5-11, wherein said angles are always substantially equal to 90°.

Patentansprüche

1. Blockhütte, umfassend einen Ständer (30) und mindestens zwei Wände (2, 3), die sich an dem Ständer (30) treffen, wobei der Ständer eine erste Seitenfläche (30a) mit einer darin angeordneten ersten vertikalen Nut (32) und eine zweite Seitenfläche (30b) mit einer darin angeordneten zweiten vertikalen Nut (33) aufweist,
wobei eine erste der Wände (2) ein System von aufeinander angeordneten Brettern (12) umfasst, von dem ein Ende in der ersten vertikalen Nut (32) des Ständers aufgenommen ist,
wobei eine zweite der Wände (3) ein System von aufeinander angeordneten Brettern (13) umfasst, von dem ein Ende in der zweiten vertikalen Nut (33) des Ständers aufgenommen ist,
wobei die Blockhütte ferner mit einem Dach (5) ausgestattet ist,
dadurch gekennzeichnet, dass der Ständer (30) eine Oberseite (34) mit zwei darin angeordneten horizontalen Nuten (35, 36) aufweist, die sich kreuzen, wobei eine erste dieser horizontalen Nuten (35) zu der ersten vertikalen Nut (32) ausgerichtet ist, während eine zweite dieser horizontalen Nuten (36) zu der zweiten vertikalen Nut (33) ausgerichtet ist,
wobei die zweite Wand (3) ein Brett (60) umfasst, das das Dach trägt, wobei das Brett sich über den Ständer (30) hinaus und in der zweiten horizontalen Nut (36) erstreckt, wobei das Dachträgerbrett (60) an seiner Unterseite mit einer ersten Aussparung (63) versehen ist, die zu dem Ständer (30) ausgerichtet ist und deren Seitenränder (63a, 63b) auf gegenüberliegenden Seiten jeweils am Boden der zweiten vertikalen Nut (33) und an der gegenüberliegenden Seitenfläche (30d) des Ständers anliegen,
wobei das Dachträgerbrett (60) an seiner Oberseite mit einer zweiten Aussparung (65) versehen ist, die zu der ersten Aussparung (33) ausgerichtet ist,
wobei die erste Wand (2) ein Dachträgersegment (50) umfasst, das sich über den Ständer (30) hinaus und in der ersten horizontalen Nut (35) und in der zweiten Aussparung (65) des Dachträgerbretts (60) erstreckt,
wobei das Dachträgersegment (50) an seiner Unterseite mit einer ersten Aussparung (56) versehen ist, die zu dem Ständer (30) ausgerichtet ist und deren Seitenränder (56a, 56b) auf gegenüberliegenden Seiten jeweils am Boden der ersten vertikalen Nut (32) und an der gegenüberliegenden Seitenfläche (30c) des Ständers anliegen, wobei ein erster vertikaler Abstand (D1) größer als Null zwischen dem Boden (63c) der ersten Aussparrung (63) des Dachträgerbretts (60) und dem Boden (36a) der zweiten horizontalen Nut (36) des Ständers (30) existiert,
und wobei ein zweiter vertikaler Abstand (D2) größer als Null zwischen dem Boden (56c) der ersten Aussparung (56) des Dachträgersegments (50) und dem Boden (35a) der ersten horizontalen Nut (35) des Ständers (30) existiert.

2. Blockhütte nach Anspruch 1, wobei der erste vertikale Abstand (D1) und der zweite vertikale Abstand (D2) gleich groß sind.

3. Blockhütte nach Anspruch 1 oder 2, wobei eine zweite Aussparung (57) in dem Boden (56c) der ersten Aussparung (56) des Dachträgersegments (50) angeordnet ist, wobei der Boden dieser zweiten Aussparung (57) auf dem Boden (65c) der zweiten Aussparung (65) des Dachträgerbretts (60) aufliegt.

4. Blockhütte nach einem der vorstehenden Ansprüche, ferner ausgestattet mit mindestens einer die Wände (2, 3) miteinander verbindenden Klammer (90), wobei die Klammer einen zentralen Eckteil (91), der sich entlang zweier Seitenflächen (30a, 30b) des Ständers (30) erstreckt, und zwei beidseitig rechtwinklige Flügel (92, 93), die an den Wänden (2, 3) befestigt sind, umfasst, wobei der zentrale Eckteil

(91) losgelöst von dem Ständer (30) ist.

5. Blockhütte nach einem der Ansprüche 1 bis 4, umfassend eine Wandanordnung (7) sowie eine auf der Wandanordnung (7) aufliegende Dacheinheit (5), wobei die Wandanordnung (7) mindestens zwei Wände (2, 3) sowie mindestens einen Ständer (70) umfasst, an dem sich die Wände (2, 3) treffen, wobei Elemente (12, 13) der Wände (2, 3) sowie die darauf aufliegende Dacheinheit (5) an den Ständer (70) gekoppelt und dabei vertikal verschiebbar sind,
wobei die Blockhütte ferner mit mindestens einem Windanker (90) ausgestattet ist, der einen ersten Plattenteil (94) mit einer darin angeordneten vertikalen Nut (96) und einen zweiten Plattenteil (92), der mit dem ersten Plattenteil (94) einen Winkel bildet, umfasst,
wobei:

der zweite Plattenteil (92) parallel zu einem ersten Wandteil (112) der Dacheinheit (5) verläuft und daran befestigt ist, beispielsweise mittels Schrauben,
wobei der erste Plattenteil (94) parallel zu einer ersten Seitenfläche (70a) des Ständers (70) verläuft
und wobei ein Arretierungsteil (97) in dem Ständer (70) befestigt ist, das sich mit Spiel durch die vertikale Nut (96) in dem ersten Plattenteil (94) erstreckt,
oder wobei:
der zweite Plattenteil (92) parallel zu einer ersten Seitenfläche (70a) des Ständers (70) verläuft und daran befestigt ist, beispielsweise mittels Schrauben,
wobei der erste Plattenteil (94) parallel zu einem ersten Wandteil (112) der Dacheinheit (5) verläuft
und wobei ein Arretierungsteil (97) in dem ersten Wandteil (112) der Dacheinheit (5) befestigt ist, das sich mit Spiel durch die vertikale Nut (96) in dem ersten Plattenteil (94) erstreckt.

6. Blockhütte nach Anspruch 5, wobei das Arretierungsteil (97) als eine Schraube oder ein Nagel ausgebildet ist.

7. Blockhütte nach Anspruch 5, wobei das Arretierungsteil (97) in dem Ständer (70) oder in dem ersten Wandteil (112) der Dacheinheit (5) jeweils mittels einer Schraube oder eines Nagels befestigt ist.

8. Blockhütte nach einem der Ansprüche 5 bis 7, wobei der Windanker (90) ein W-förmiges Profil aufweist und mit einem dritten Plattenteil (95), der mit dem ersten Plattenteil (94) einen Winkel bildet, und einem vierten Plattenteil (93), der mit dem dritten Platten (95) einen Winkel bildet, ausgestattet ist,
wobei der dritte Plattenteil (95) parallel zu einer zweiten Seitenfläche (70b) des Ständers (70) verläuft
und wobei der vierte Plattenteil (93) parallel zu einem zweiten Wandteil (113) der Dacheinheit (5) verläuft.

9. Blockhütte nach Anspruch 8, wobei:

der vierte Plattenteil (93) an dem zweiten Wandteil (113) der Dacheinheit (5) befestigt ist,
wobei eine zweite vertikale Nut (96b) in dem dritten Plattenteil (95) angeordnet ist,
und wobei ein zweites Arretierungsteil (97b) in dem Ständer (70) befestigt ist, das sich mit Spiel durch die vertikale Nut in dem dritten Plattenteil (95) erstreckt,
oder wobei:

der dritte Plattenteil (95) an der zweiten Seitenfläche (70b) des Ständers (70) befestigt ist,
eine zweite vertikale Nut (96b) in dem vierten Plattenteil (93) angeordnet ist und
wobei ein zweites Arretierungsteil (97b) in dem zweiten Wandteil (113) der Dacheinheit (5) befestigt ist, das sich mit Spiel durch die vertikale Nut in dem zweiten Plattenteil (93) erstreckt.

10. Blockhütte nach einem der vorstehenden Ansprüche, wobei der Windanker (90) als Ganzes aus einem einzigen Plattenstück hergestellt ist, beispielsweise durch Biegen oder Stanzen.

11. Blockhütte nach Anspruch 10, wobei der Windanker (90) aus Metall hergestellt ist.

12. Blockhütte nach einem der Ansprüche 5 bis 11, wobei die Winkel immer im Wesentlichen 90° betragen.

Revendications

1. Cabane en rondins, comprenant un montant de support (30) et au moins deux parois (2 ; 3) se rejoignant l'une l'autre au niveau du montant de support (30), lequel montant de support comprend une première face latérale (30a) comportant une première rainure verticale (32) et une deuxième face latérale (30b) comportant une deuxième rainure verticale (33) ;
dans laquelle une première desdites parois (2) comprend un système de planches (12) disposées les unes sur les autres dont une extrémité est logée dans la première rainure verticale (32) du montant de support;
dans laquelle une deuxième desdites parois (3) comprend un système de planches (13) disposées les unes sur les autres dont une extrémité est logée dans la deuxième rainure verticale (33) du montant de

support;
dans laquelle la cabane en rondins est en outre munie d'un toit (5) ;
caractérisée en ce que le montant de support (30) a une surface supérieure (34) comportant deux rainures horizontales (35 ; 36) se croisant l'une l'autre, dans laquelle une première de ces rainures horizontales (35) est alignée avec la première rainure verticale (32) alors qu'une deuxième de ces rainures horizontales (36) est alignée avec la deuxième rainure verticale (33) ;
dans laquelle la deuxième paroi (3) comprend une planche (60) supportant le toit, cette planche avançant au-delà du montant de support (30) et s'étendant dans la deuxième rainure horizontale (36) ;
dans laquelle ladite planche de support de toit (60) au niveau de son côté inférieur est munie d'une première cavité (63) alignée avec le montant de support (30) et dont les bords latéraux (63a, 63b) sur des côtés opposés viennent porter sur la partie inférieure de la deuxième rainure verticale (33) et la face latérale opposée (30d) du montant de support, respectivement;
dans laquelle ladite planche de support de toit (60) au niveau de son côté supérieur est munie d'une deuxième cavité (65) alignée avec la première cavité (33) ;
dans laquelle la première paroi (2) comprend un segment de support de toit (50) avançant au-delà du montant de support (30) et s'étendant dans la première rainure horizontale (35) et dans ladite deuxième cavité (65) de la planche de support de toit (60) ;
dans laquelle ledit segment de support de toit (50) au niveau de son côté inférieur est muni d'une première cavité (56) alignée avec le montant de support (30) et dont les bords latéraux (56a, 56b) sur des côtés opposés viennent en contact avec la partie inférieure de la première rainure verticale (32) et la face latérale opposée (30c) du montant de support, respectivement;
dans laquelle il y a une première distance verticale (D1) supérieure à zéro entre la partie inférieure (63c) de la première cavité (63) de la planche de support de toit (60) et la partie inférieure (36a) de la deuxième rainure horizontale (36) du montant de support (30) ;
et dans laquelle il y a une deuxième distance verticale (D2) supérieure à zéro entre la partie inférieure (56c) de la première cavité (56) du segment de support de toit (50) et la partie inférieure (35a) de la première rainure horizontale (35) du montant de support (30).

2. Cabane en rondins selon la revendication 1, dans laquelle la première distance verticale (D1) et la deuxième distance verticale (D2) sont égales l'une à l'autre.

3. Cabane en rondins selon la revendication 1 ou 2, dans laquelle une deuxième cavité (57) est disposée dans la partie inférieure (56c) de la première cavité (56) du segment de support de toit (50), la partie inférieure de cette deuxième cavité (57) reposant sur la partie inférieure (65c) de la deuxième cavité (65) de la planche de support de toit (60).

4. Cabane en rondins selon l'une quelconque des précédentes revendications, comprenant en outre au moins une console (90) reliant les parois (2, 3) l'une à l'autre, cette console comprenant une partie angulaire centrale (91) s'étendant le long des deux faces latérales (30a, 30b) du montant de support (30), et deux ailes mutuellement perpendiculaires (92 ; 93) fixées aux parois (2; 3), dans laquelle la partie angulaire centrale (91) est libre par rapport au montant de support (30).

5. Cabane en rondins selon l'une quelconque des revendications 1 à 4, comprenant une structure de parois (7) ainsi qu'une unité de toit (5) reposant sur la structure de parois (7), dans laquelle la structure de parois (7) comprend au moins deux parois (2 ; 3) de même qu'au moins un montant de support (70) où les parois (2 ; 3) se rejoignent l'une l'autre, dans laquelle des éléments (12, 13) des parois (2 ; 3) ainsi que de l'unité de toit (5) reposant sur celles-ci sont accouplés au montant de support (70) tout en pouvant se déplacer verticalement ;
dans laquelle la cabane en rondins est en outre munie d'au moins un élément d'ancrage (90) contre l'action du vent, comprenant une première partie plaque (94) comportant une rainure verticale (96), et une deuxième partie plaque (92) formant un angle avec la première partie plaque (94) ;
dans laquelle :

la deuxième partie plaque (92) est parallèle à une première partie de paroi (112) de l'unité de toit (5) et est fixée à celle-ci, par exemple, par des vis ;
dans laquelle la première partie plaque (94) est parallèle à une première face latérale (70a) du montant de support (70) ;
et dans laquelle un élément de blocage (97) est fixé dans le montant de support (70), en s'étendant avec du jeu à travers la rainure verticale (96) de la première partie plaque (94) ;

ou dans laquelle :

la deuxième partie plaque (92) est parallèle à une première face latérale (70a) du montant de support (70) et est fixée à celle-ci, par exemple, par des vis ;
dans laquelle la première partie plaque (94) est parallèle à une première partie de paroi (112) de l'unité de toit (5) ;

et dans laquelle un élément de blocage (97) est fixé dans la première partie de paroi (112) de l'unité de toit (5), en s'étendant avec du jeu à travers la rainure verticale (96) s'étendant avec du jeu à travers la rainure verticale (96) de la première partie plaque (94).

6. Cabane en rondins selon la revendication 5, dans laquelle l'élément de blocage (97) se présente sous la forme d'une vis ou d'un clou.

7. Cabane en rondins selon la revendication 5, dans laquelle l'élément de blocage (97) est fixé dans le montant de support (70) ou dans la première partie de paroi (112) de l'unité de toit (5), respectivement, au moyen d'une vis ou d'un clou.

8. Cabane en rondins selon l'une quelconque des revendications 5 à 7, dans laquelle l'élément d'ancrage (90) contre l'action du vent a un profil en forme de W, une troisième partie plaque (95) formant un angle avec la première partie plaque (94) et une quatrième partie plaque (93) formant un angle avec la troisième partie plaque (95) ;
dans laquelle la troisième partie plaque (95) est parallèle à une deuxième face latérale (70b) du montant de support (70) ;
et dans laquelle la quatrième partie plaque (93) est parallèle à une deuxième partie de paroi (113) de l'unité de toit (5).

9. Cabane en rondins selon la revendication 8, dans laquelle :

la quatrième partie plaque (93) est fixée à la deuxième partie de paroi (113) de l'unité de toit (5) ;
dans laquelle une deuxième rainure verticale (96b) est formée dans la troisième partie plaque (95), et dans laquelle un deuxième élément de blocage (97b) est fixé dans le montant de support (70), en s'étendant avec du jeu à travers la rainure verticale (96) de la troisième partie plaque (95) ;

ou dans laquelle :

la troisième partie plaque (95) est fixée à la deuxième face latérale (70b) du montant de support (70) ;
une deuxième rainure verticale (96b) est formée dans la quatrième partie plaque (93), et dans laquelle un deuxième élément de blocage (97b) est fixé dans la deuxième partie de paroi (113) de l'unité de toit (5), en s'étendant avec du jeu à travers la rainure verticale de la deuxième partie plaque (93).

10. Cabane en rondins selon l'une quelconque des précédentes revendications, dans laquelle l'élément d'ancrage (90) contre l'action du vent est réalisé de façon intégrante à partir d'une seule pièce de plaque, par exemple, par pliage ou par poinçonnage.

11. Cabane en rondins selon la revendication 10, dans laquelle l'élément d'ancrage (90) contre l'action du vent est en métal.

12. Cabane en rondins selon l'une quelconque des précédentes revendications 5 à 11, dans laquelle lesdits angles sont toujours sensiblement égaux à 90°.

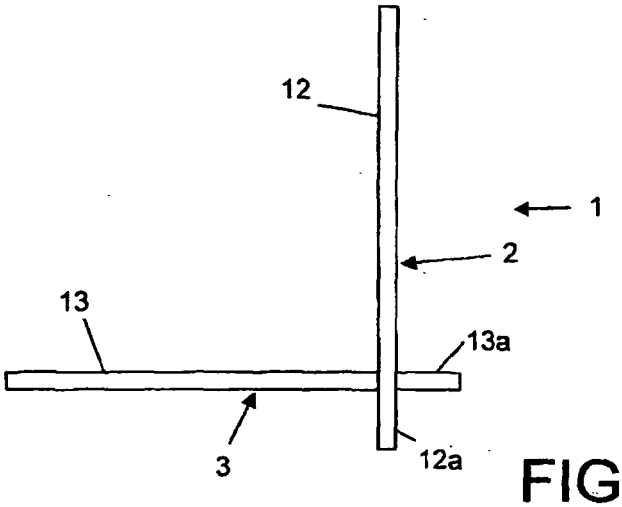


FIG. 1

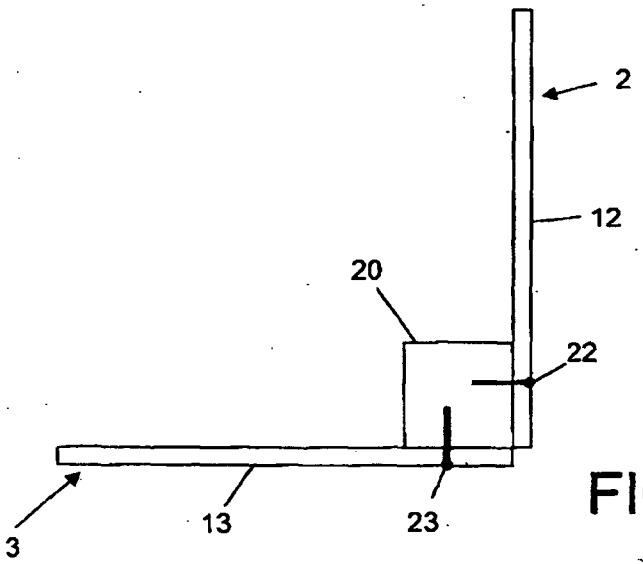


FIG. 2

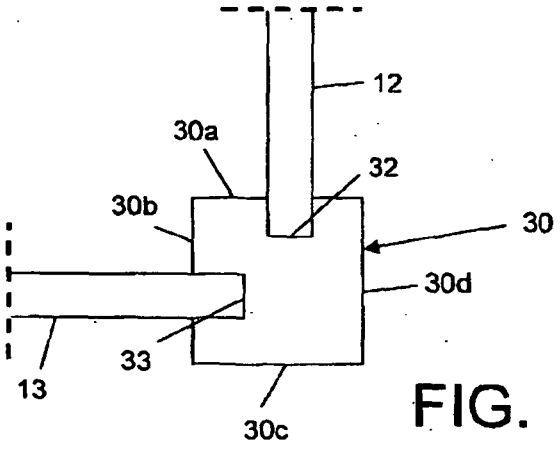


FIG. 3

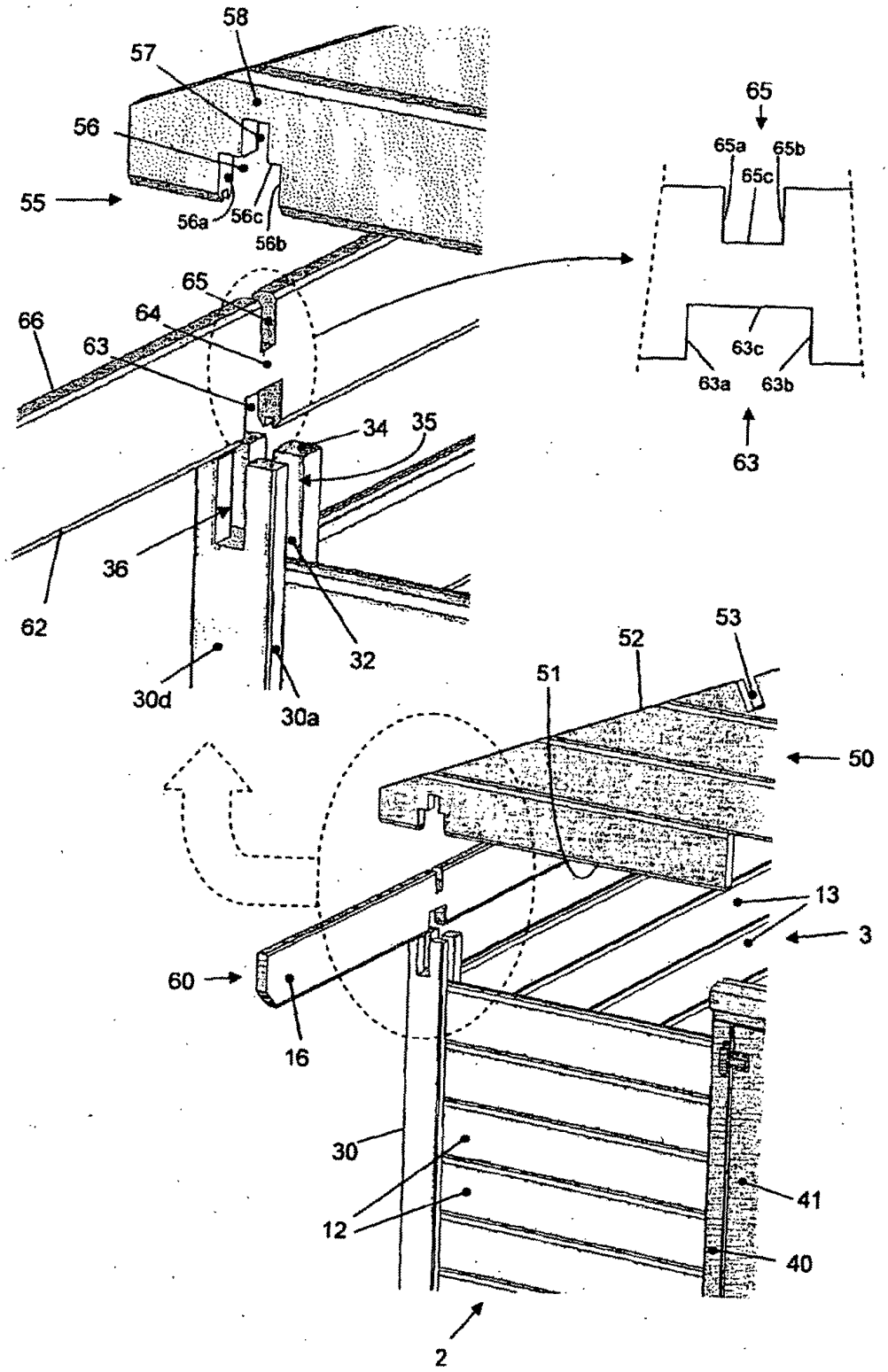

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56a
56c
56b
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65a
65b
65c
63c
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63b
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34
35
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2

FIG. 4A

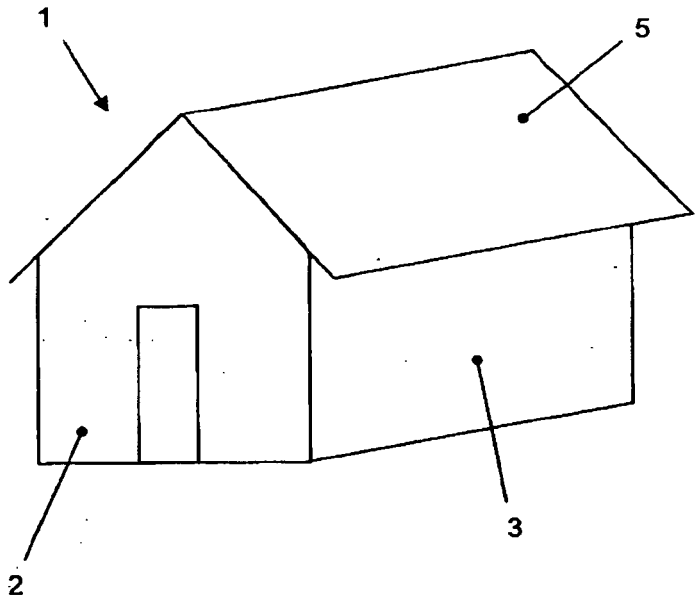


FIG. 4

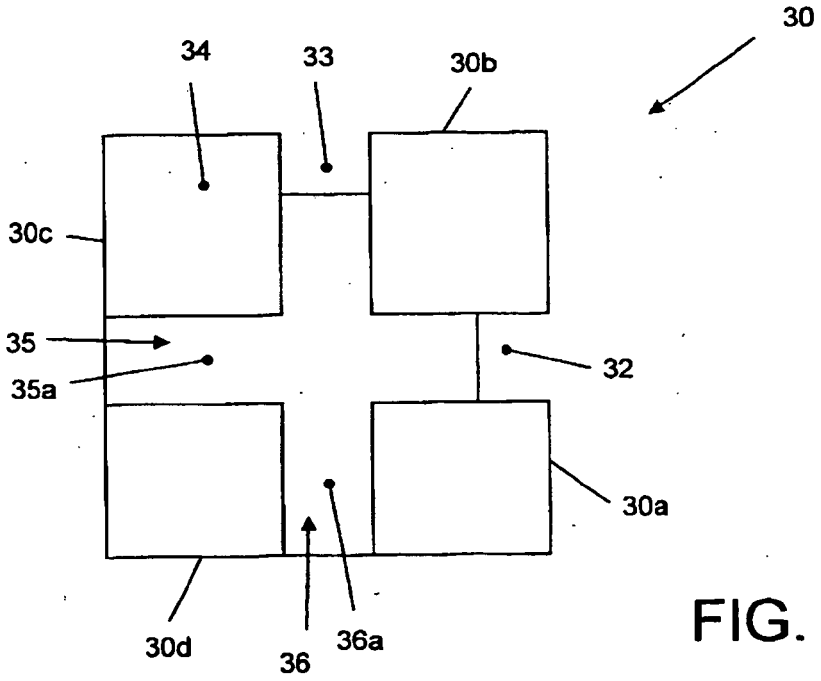


FIG. 4B

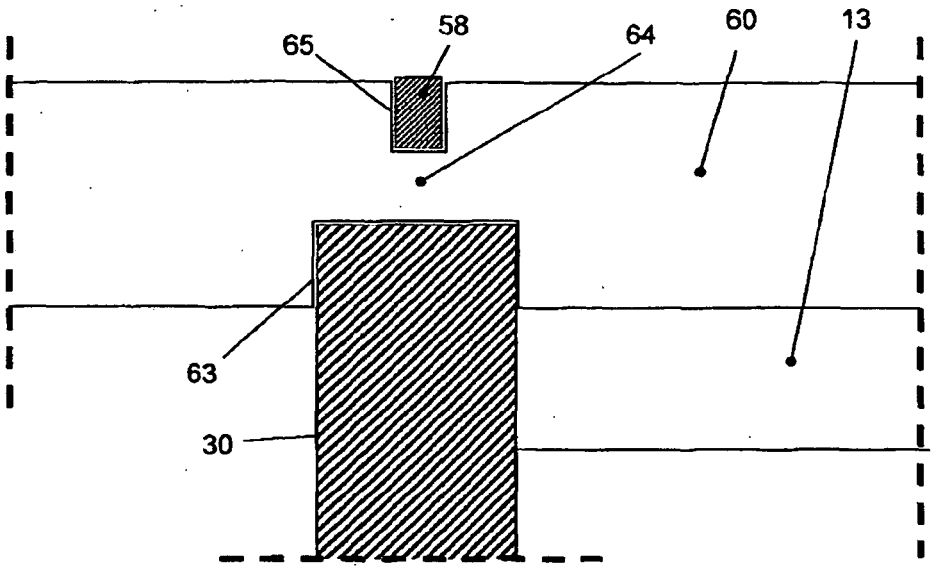


FIG. 4C

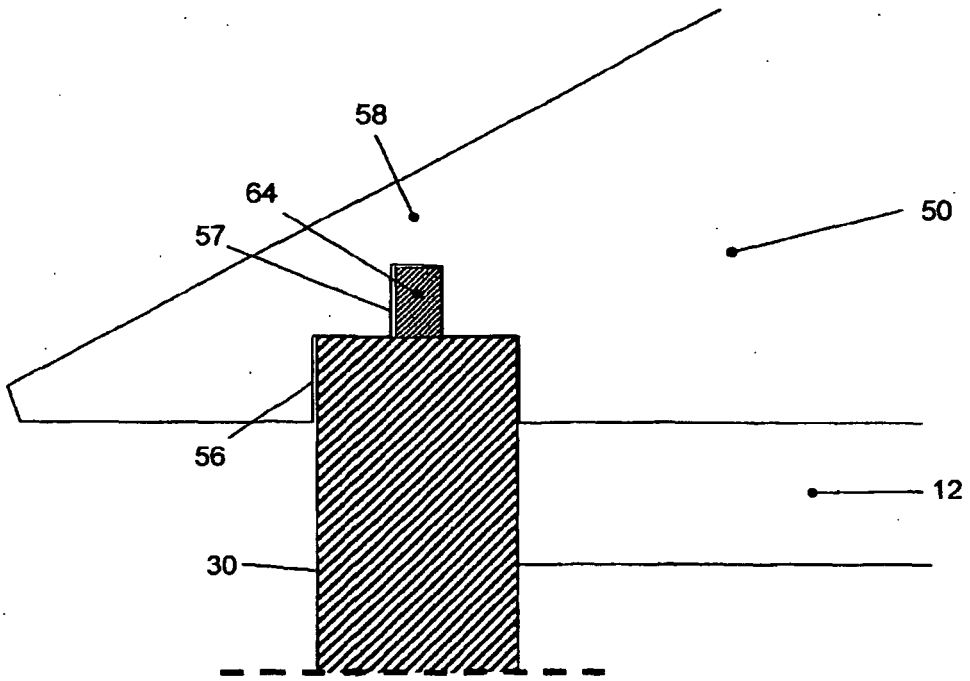


FIG. 4D

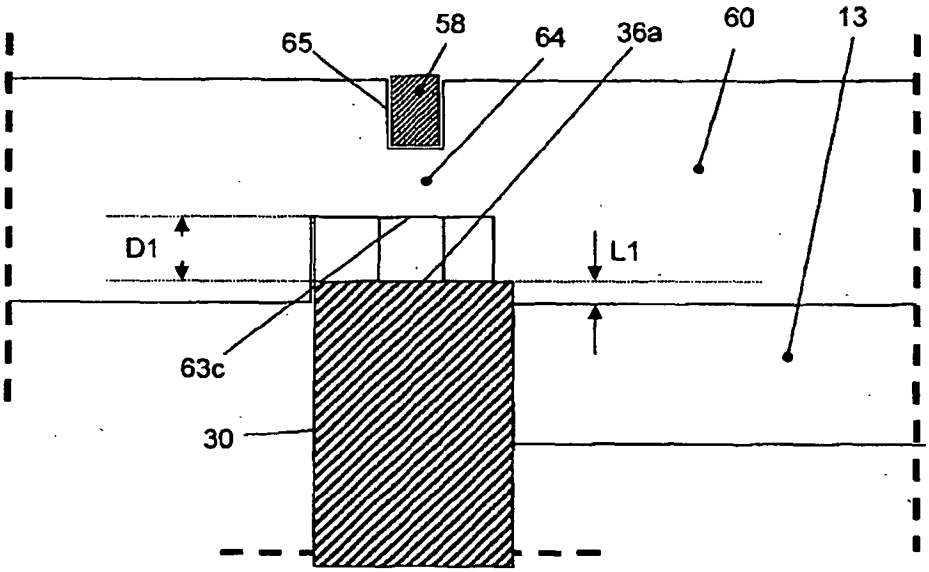


FIG. 5A

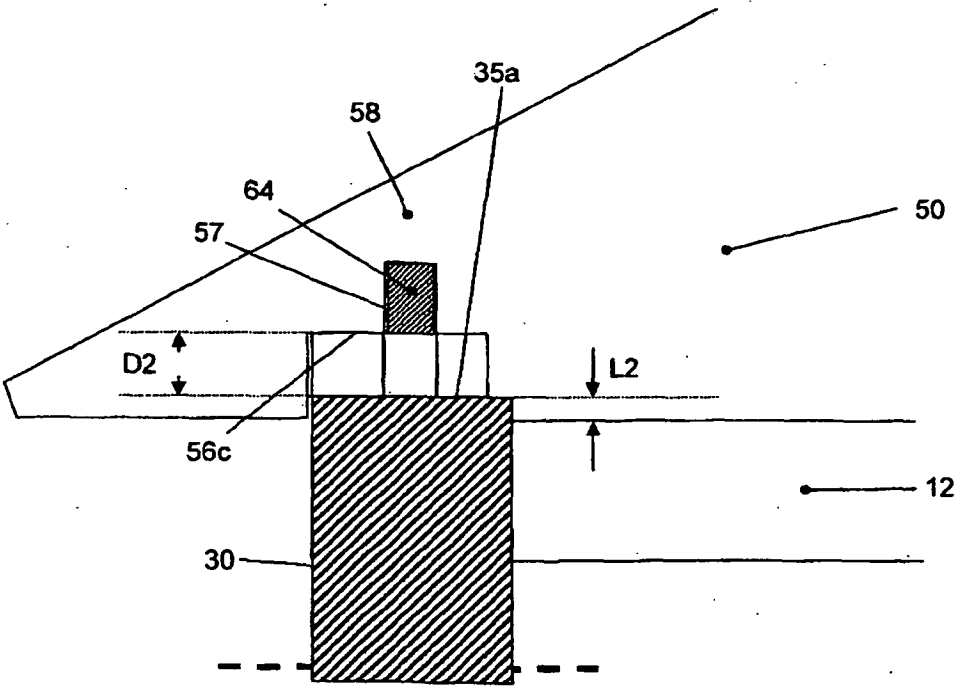


FIG. 5B

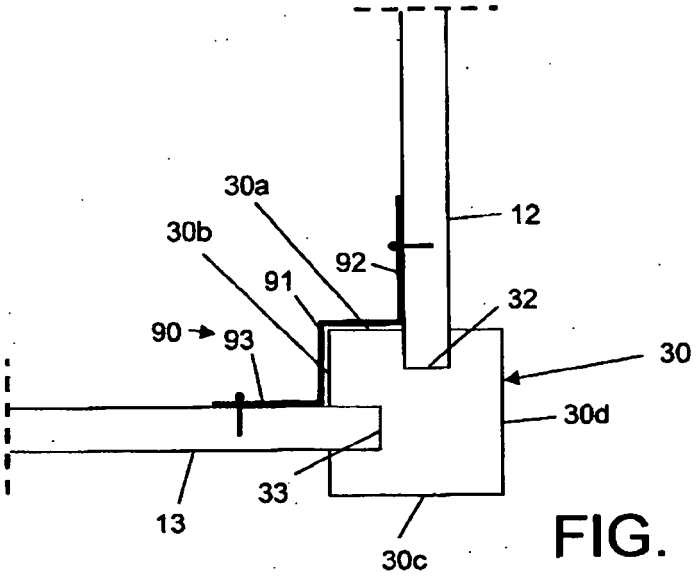


FIG. 6

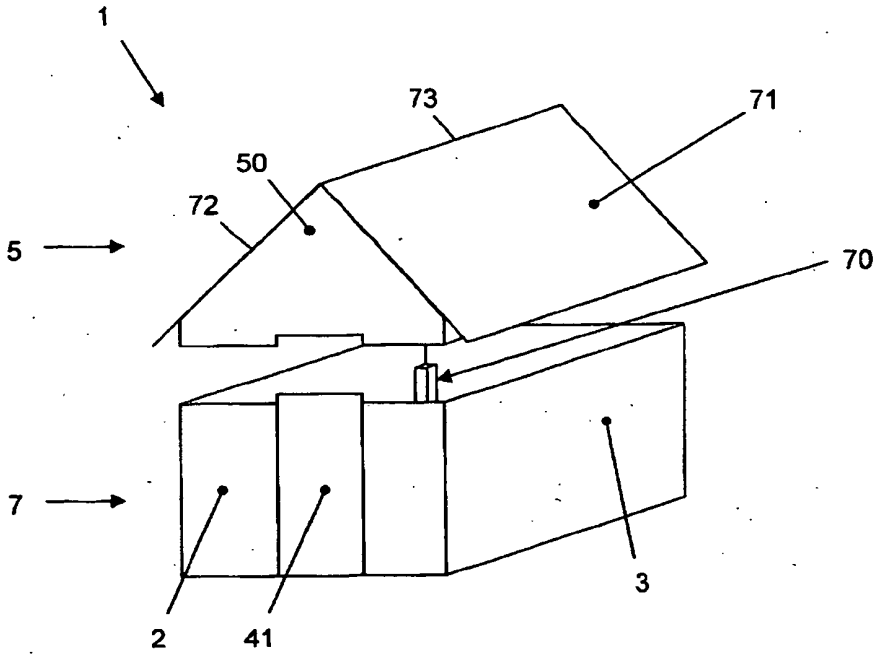


FIG. 7

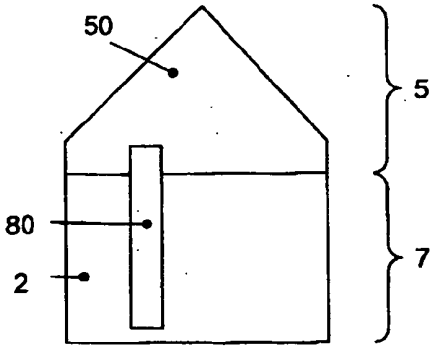


FIG. 8A

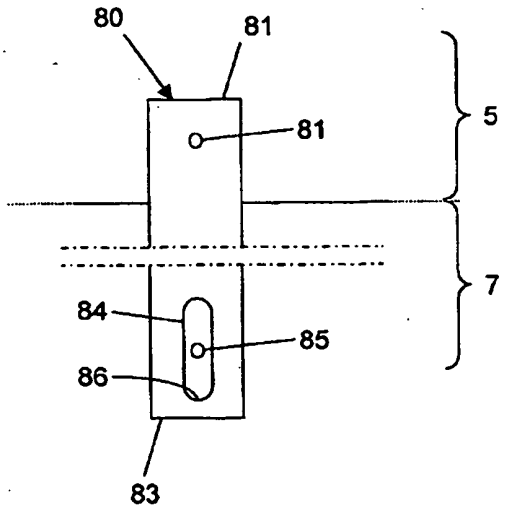


FIG. 8B

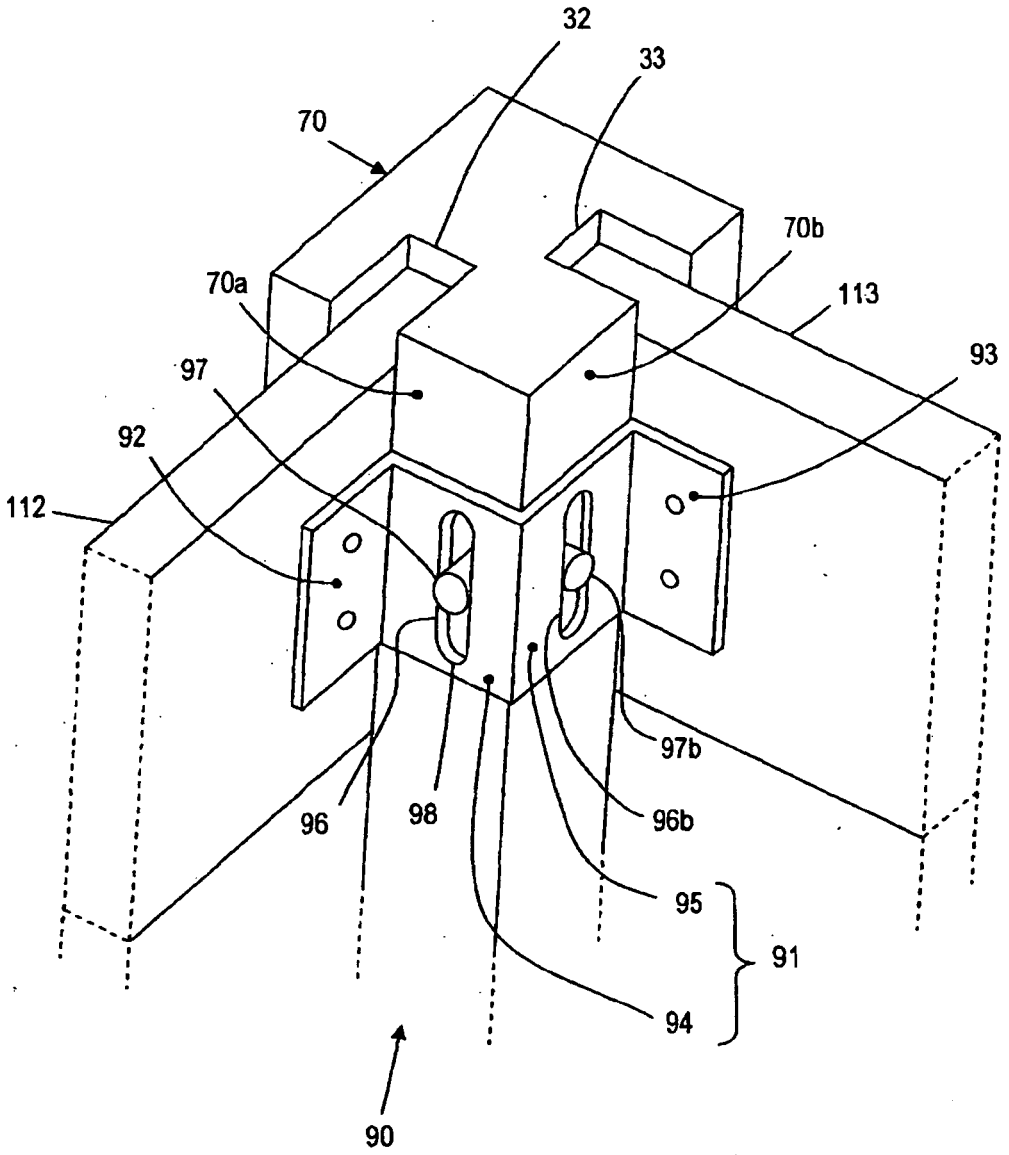


FIG. 9

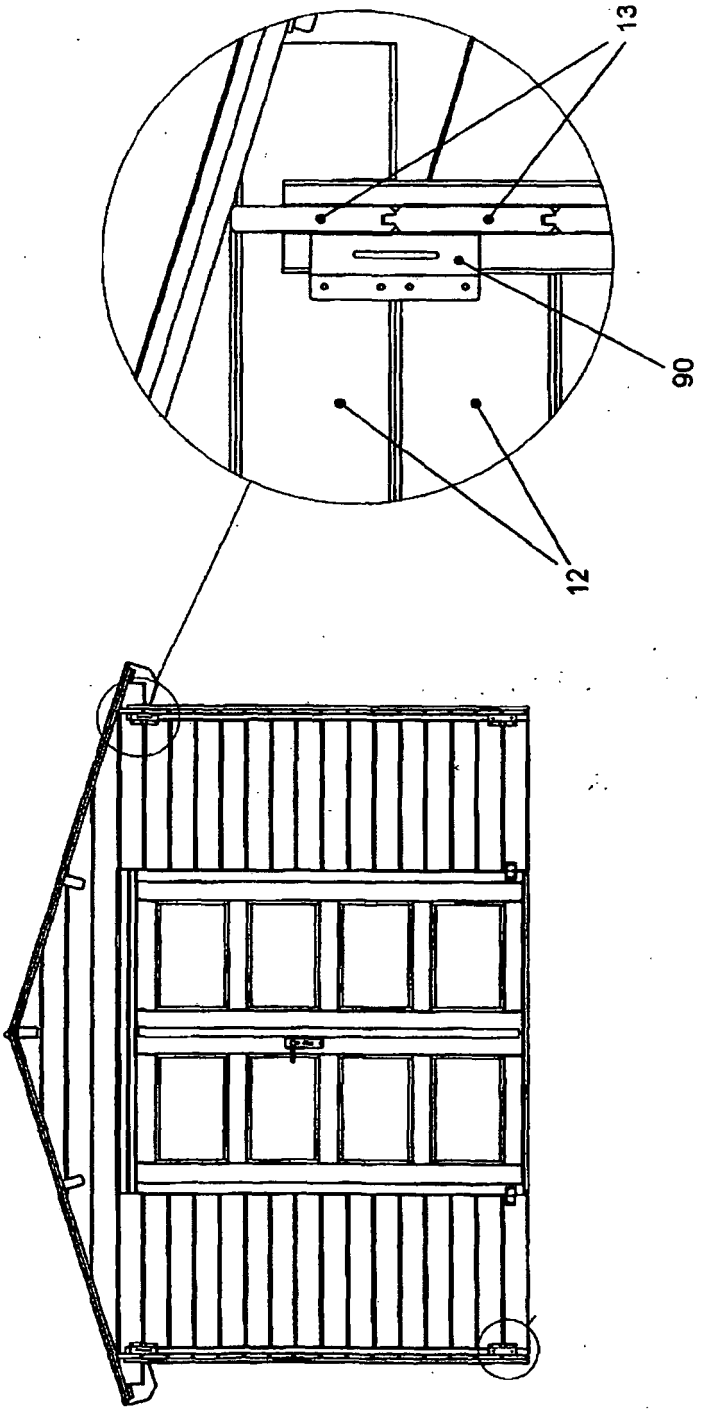


FIG. 10

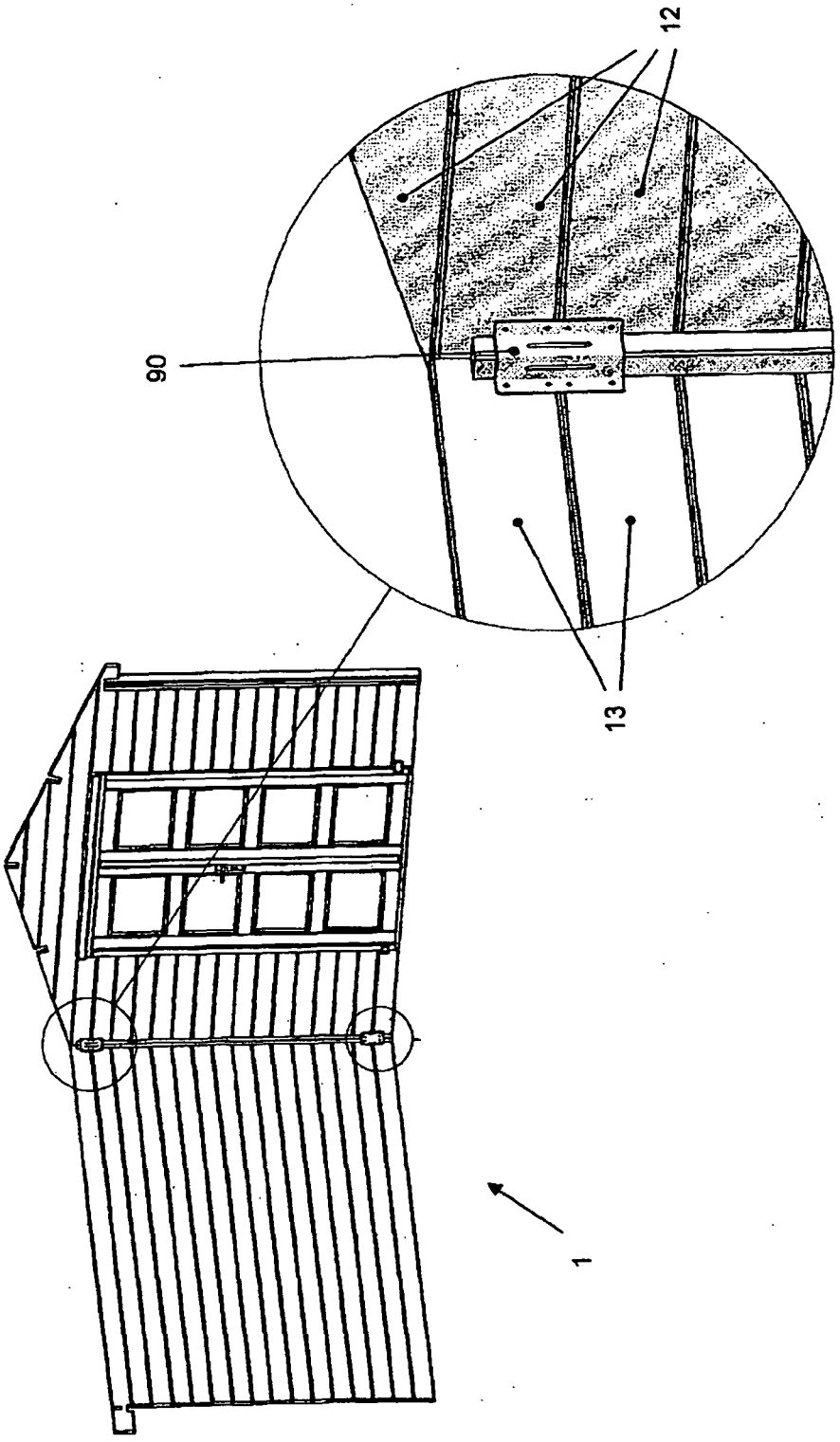


FIG. 11

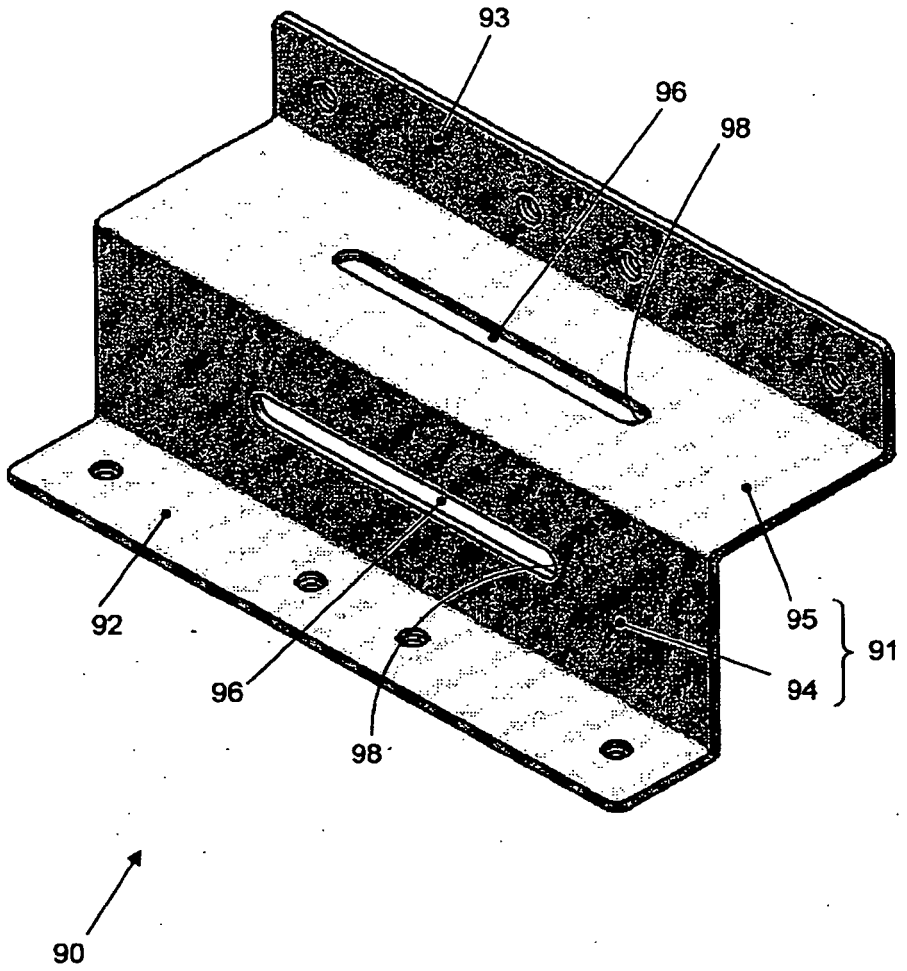


FIG. 12

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- DE 9010081 U1 **[0015]**
- DE 19618847 **[0028]**
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