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(54) Modular system for equipped walls

Modulares System für ausgestattete Wand

Système modulaire pour mur équipé

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Description

[0001] The present invention relates to a modular system for equipped walls.

[0002] As it is known, "equipped walls" are walls designed to support shelves, which can be covered with wooden or similar panels.

[0003] Metal boxed bars are traditionally used to obtain similar equipped walls, being mounted in vertical position to support both the horizontal shelves and the vertical panels that are used to cover the masonry wall.

[0004] Said boxed bars are provided along the entire height of the lateral sides with grooves designed to exactly receive the vertical border of an adjacent panel or, vice versa, ribs designed to be exactly received inside corresponding grooves obtained on the vertical border of the adjacent panel.

[0005] In order to support said horizontal shelves, each boxed bar is frontally provided for the entire height with a rectilinear groove that can be accessed from the front opening, which can be defined as "space".

[0006] In particular, the groove has a basically C-shaped cross-section, being bordered by a pair of edges on the two sides and by an intermediate bottom wall on the back.

[0007] The bottom wall is provided, approximately for the entire height, with a regularly spaced series of holes with horizontal axis that are designed to act as selective fixing points for the horizontal shelf-holding arm.

[0008] Obviously, the presence of a plurality of fixing holes allows the final user of a similar pair of boxed bars to fix the shelves at the desired height.

[0009] In spite of its large diffusion, such a technology is evidently impaired by some significant drawbacks. The first drawback is of technical-functional type and consists in the fact that dust and fine impurities of various type accumulate in the groove used to fix the shelf-holding arms of each traditional boxed bar, and are very difficult to remove in view of the small width of the "access" space.

[0010] Moreover, said traditional boxed bars are aesthetically impaired by the presence of the aforesaid series of holes that act as selective fixing points for the horizontal shelf-holding arms on the bottom of the vertical grooves.

[0011] So far, these two disadvantages have been remedied with rather complicated and expensive solutions.

[0012] According to the first solution, said vertical spaces of traditional boxed bars are provided with suitable rubber seals that are cut to size according to the position selected by the user for the horizontal shelves fixed to the boxed bars.

[0013] This long delicate operation must be repeated every time the user of a similar series of boxed bars wants to change the fixing height of the horizontal shelves that are mounted in projecting position on the front of said bars.

[0014] Alternatively, another solution consists in "seal-

ing" the vertical spaces of traditional boxed bars with suitable brush seals that are commonly found on the market.

[0015] Such a solution is even longer and must be carried out by specialised workers, without considering the cost for purchasing said brush seals.

[0016] GB 2 235 621 discloses a support and interior guiding column, and profiles forming said column wherein each profile has one or more longitudinal rows of identical anchorage aperture.

[0017] The specific purpose of the present invention is to devise a modular system for equipped walls that is able to solve all the aforementioned problems of the prior art technique.

[0018] Such a result has been achieved by giving a special innovative configuration to the boxed bars used in said modular system.

[0019] In addition to reducing the penetration of fine dirt and covering the unaesthetic series of fixing holes, the new configuration allows each bar to support a shelf regardless of the fact that the bar is positioned in vertical or horizontal position.

[0020] More precisely, the peculiarity of the boxed bar of the invention consists in the fact that, unlike traditional boxed bars, the front rectilinear space does not provide direct access to the C-shaped grooves used to fix the horizontal shelf-holding arms.

[0021] According to the new configuration of boxed bar, the front rectilinear space gives access to a C-shaped groove that is faced sideward with inclination angle of approximately 45°.

[0022] In view of the aforesaid inclination, the bottom of said groove (and the traditional series of fixing holes) is no longer visible through the front space.

[0023] As mentioned above, the inclination of said groove also reduces the penetration of dust and fine dirt. In any case, being impossible to prevent accumulation of dirt on the bottom of the groove, it is practically impossible to see it from the front of the bar of the invention.

[0024] Moreover, the new front configuration of the new boxed bar of the invention has required a new innovative configuration also for the arms and brackets that are used to support the shelves. Thereby, also these arms and brackets must be considered as integral parts (or modules) of the system according to the present invention.

[0025] For purposes of clarity, the description of the invention continues with reference to the enclosed drawings, which are intended for purposes of illustration only and not in a limiting sense, wherein:

- Figure 1 is a top view of two pieces of a first embodiment of the boxed bar from the system of the invention, with a panel mounted between them;
- Figure 2 is the same as Fig. 1, except in that it illustrates the coupling of said boxed bars with corresponding shelf-holding arms;
- Figure 3 is the same as Figure 1, except in that it refers to a second embodiment of the aforesaid

boxed bar;

- Figure 4 illustrates a different mounting mode of the same boxed bar of Figure 3;
- Figure 5 illustrates a third embodiment of the afore-said boxed bar;
- Figure 6 illustrates a fourth embodiment of the afore-said boxed bar;
- Figure 7 illustrates a fifth embodiment of the afore-said boxed bar;
- Figure 8 is an axonometric view of Fig. 2, wherein the two shelf-holding arms are illustrated during insertion for fixing purposes.

[0026] Referring to Figs. 1, 2 and 8, the first module of the system according to the present invention consists in a metal boxed bar (1) that is open on the back and comprises a front wall (11) and two lateral walls (12).

[0027] In particular, said figure illustrates two pieces of the aforesaid bar (1) with a panel (P) mounted between them to close the masonry wall vertically.

[0028] To that end, each bar (1) is provided on the lateral walls (12) with suitable means of known type to guarantee exact support and firm coupling of the panel (P), possibly with the use of suitable fixing screws.

[0029] According to the bar illustrated in fig. 1, the means provided on each bar (1) to favour the support and coupling of the panel (P) consist in a pair of back boxed sections (20) integrated on the lateral walls (12) and provided with a basically C-shaped cross-section with concavity facing the front of the bar (1).

[0030] Once the panels (P) provided on the right and left side of the bar (1) are arranged against the lateral walls (12) of the bar (1), the back surfaces of the panels (P) are engaged with the boxed sections (20) in such a position that allows for stable fixing with suitable connection strips (L).

[0031] It must be noted that said connection strips (L) could be applied on the back of the corresponding panel (P), or obtained "in one piece" in the structure of the panel by milling.

[0032] A notch (13) or "space" is traditionally obtained on the front wall (11) of such a bar (1).

[0033] The space (13) gives access to a niche (14) joined with a basically C-shaped groove provided with a regularly spaced series of holes (16) on the bottom wall (15a).

[0034] The peculiarity of the groove (15) consists in the inclination of about 45° with respect to the front space (13) that gives access to said groove (15) (or, more precisely, with respect to the front wall (11) on which the space is obtained).

[0035] Referring to fig. 1, it must be noted that, because of such a solution, an observer positioned in front of the bar (1) is only able to see a section of the continuous wall that borders the longitudinal niche (14) through the space (13).

[0036] From the same visual perspective, the observer is not able to see the groove (15) and, most of all, the

unaesthetic regularly spaced series of holes (16) obtained on the bottom wall (15a) of the groove (15).

[0037] Moreover, this solution gives an aesthetically uniform aspect to the front wall (11) of the bar (1), in case the user wants to give it a special surface finish (such as concave or raised).

[0038] In fact, in case of a traditional bar, the surface finish of the front wall, on the right and left side of the space, would lack visual continuity due to the visible presence of the series of holes obtained on the bottom of the groove.

[0039] In the bar of the invention (1), the surface finish of the front wall (11), on the right and left side of the space (13), can be given perfect continuity, being it possible to obtain said finish also in the internal wall of the niche (14), in the area that is directly seen through the space (13).

[0040] Referring to fig. 1, it must be noted that the "inclined" groove (15), together with the corresponding series of holes (16), is commonly the means for engaging and selectively fixing the back end (21) of a horizontal shelf-holding arm (21 a).

[0041] Evidently, the need to obtain perfect coupling between the back end (21) of the arm (21 a) and the housing and fixing groove (15) requires the back end (21) to be given approximately 45° inclination with respect to the arm (21 a), which is perfectly compatible with the inclination given to the groove (15) with respect to the front space (13).

[0042] Attention is drawn on the fact that, referring to fig. 1, the two pieces of bar (1) are given a symmetrical direction, meaning that the first piece is provided with a rightward groove (15) and the second piece is provided with a leftward groove (15), being two pieces of the same bar (1) mounted in opposite mode.

[0043] In view of the above, the grooves (15) of the two adjacent bars (1) are faced one against the other, according to a configuration that requires using shelf-holding arms (21 a) provided with symmetrically opposite inclined ends (21).

[0044] Nothing prevents using two pieces of the same bar (1) with grooves (15) in the same direction to support a panel (P). Obviously, in such a case, the same lateral inclination must be given to the ends of the corresponding shelf-holding arms (21 a) (as illustrated in fig. 2).

[0045] Referring to fig. 3, the same bar can be obtained according to a first alternative embodiment (10) that differs from the one illustrated in fig. 2 in that it is provided with different lateral means to support and fix the afore-said panels (P).

[0046] In such a case, longitudinal ribs (22) protrude centrally from the lateral walls (12) of the bar (1), which are adapted to be exactly engaged inside corresponding grooves (S) obtained on the border of the panel (P), when the panel (P) is arranged against the corresponding lateral wall (12) of the bar (10).

[0047] Fig. 4 illustrates the mounting modes of the bar (10) in horizontal position (that is to say in intermediate

position between two panels (P) overlapped in "edge-ways"), while maintaining the capability to support a shelf (R).

[0048] Such a result can be obtained by using another component of the modular system of the present invention, which consists in a special bracket (30) adapted to be mounted on the internal longitudinal border of a shelf (R).

[0049] According to a cross-sectional view, the bracket (30) comprises a first vertical section (30a) with basically identical height as the thickness of the shelf (R), against which the longitudinal border of the shelf (R) must be exactly engaged and fixed.

[0050] The first vertical section (30a) of the bracket (30) is connected with a second shorter vertical section (30c) by means of a backwards facing short horizontal section (30b).

[0051] Fig. 4 illustrates the mounting of the bracket (30) with respect to the bar (10) in horizontal position.

[0052] In particular, the upper section (30c) of the bracket (30) is inserted and engaged inside the space (13) of the bar (10) from down upwards.

[0053] In view of the above, the horizontal intermediate section (30b) of the bracket (30) rests on a horizontal stop (13a) in lower position with respect to the space (13), whereas the upper vertical section (30c) is fitted on the back of the section (13b) of the front wall (11) that is situated above the space (13).

[0054] Fig. 5 illustrates an alternative embodiment (1A) of the bar (1) of fig. 1.

[0055] The bar (1 A) is characterised in that it is not provided with the niche (14) on the back of the space (13).

[0056] In such a case, the space (13) is the opening of the inclined groove (15).

[0057] Likewise, fig. 6 illustrates an alternative embodiment (10A) of the bar (10) of fig. 3.

[0058] Also in this case, while maintaining all the other structural features, the bar (10A) is characterised in that the space (13) is the opening of the inclined groove (15).

[0059] Fig. 7 illustrates an additional embodiment (1 B) of the bar (1) of fig. 1, whose peculiarity consists of the fact that it is provided with a side-by-side parallel pair of inclined grooves (15).

[0060] Obviously, the embodiment (1 B) of the bar of the invention must be considered compatible with a shelf-holding arm (21 a) provided with a side-by-side parallel pair of inclined ends (21), in such a way that they can be exactly inserted in the two aforesaid grooves (15) and fitted to the corresponding holes (16).

[0061] Attention is drawn on Fig. 8 to point out that the boxed bar can also be obtained in a version adapted to act as "end module" for the equipped wall.

[0062] To that end, the bar (1 C) illustrated on the left side of said Fig. 8 differs from the bar shown on the right side in that, starting from the external lateral wall (12), it is provided with a boxed section (20a) with basically L-shaped cross-section with backwards concavity.

[0063] Obviously, in such a case, the wing of the sec-

tion (20a) with higher width is adapted to act as end module of the entire equipped wall.

[0064] It is understood that the L-shaped ending section (20a) can also be provided in embodiments of the bar of the invention other than the one that is expressly illustrated in Fig. 8.

[0065] Likewise, nothing prevents making the bars according to the different embodiments, without the lateral means (20, 22) used to fix and support adjacent panels.

[0066] In such a case, bars of this type would only be adapted to support protruding shelves frontally, without giving continuity to a series of panels.

15 Claims

1. Modular system for equipped walls, comprising:

- a first module that consists in a boxed bar (1, 1 A, 10, 10A, 1 B, 1 C) comprising:

- a front wall (11),
- lateral walls (12) comprising a first lateral wall (12) and a second lateral wall (12),
- a longitudinal front space (13) obtained in said front wall (11),
- at least one longitudinal groove (15) having a C-shaped cross-section communicating with said longitudinal front space (13), said longitudinal groove (15) being provided with a bottom wall (15a) and a pair of edges,
- a regularly spaced vertical row of holes (16) obtained in said bottom wall (15a) of the longitudinal groove (15), said holes (16) being designed to act as selective fixing points for a back end (21) of a shelves-holding arm (21 a) of a second module,

characterised in that

said pair of edges of the longitudinal groove (15) has an inclination angle (α°) of 45° with respect to said front wall (11) of the boxed bar.

2. Modular system as claimed in claim 1, **characterised in that** said boxed bar has two sides provided with support means (20, 22) designed to support panels (P).

3. Modular system as claimed in claim 2, **characterised** said support means used to support panels (P) consist in a pair of back boxed sections (20) that protrude from the lateral walls (12) of the boxed bar (1, 1A, 10, 10A, 1 B) and are provided with a basically C-shaped section with frontward concavity.

4. Modular system as claimed in claim 2, **characterised in that characterised in that** said support means used to support panels (P) consist in a sym-

metrically opposite pair of longitudinal ribs (22) facing outwards that protrude from the lateral walls (12) of the boxed bar (1, 1A, 10, 10A, 1B).

5. Modular system as claimed in claim 1, **characterised in that** the boxed bar (1, 1A, 10, 10A, 1B, 1C) is provided on the first lateral wall (12) with a back boxed section with basically C-shaped section, with concavity towards the front of the bar and on the second lateral wall (12) with a boxed section (20a) with basically L-shaped section with backward concavity. 5
6. Modular system as claimed in anyone of the preceding claims, **characterised in that** the boxed bar (1, 10) is provided, immediately behind the front longitudinal space (13), with a niche (14) that is connected to the inclined groove (15). 10
7. Modular system as claimed anyone of claims 1 to 5, **characterised in that** the boxed bar (1A, 10A) is provided with the inclined groove (15), immediately behind the space (13). 20
8. Modular system as claimed in anyone of claims 1 to 5, **characterised in that** the boxed bar (1B) is provided with a parallel pair of inclined grooves (15), immediately behind the spaces (13). 25
9. Modular system as claimed in anyone of the preceding claims, **characterised in that** it comprises a second module that consists in a shelves-holding arm (21a) with at least one back end (21) designed to penetrate inside the groove (15) of the boxed bar (1) and be selectively fixed into one of the holes (16) of the bar (1), wherein the back end (21) of the shelves-holding arm (21) is inclined with respect to the longitudinal axis of the arm (21) by an angle " α " equal to the inclination angle of the corresponding groove (15) of the boxed bar. 30
10. Modular system as claimed in anyone of the claim 1 to 6, **characterised in that** said bar (1) is disposed in horizontal position and the modular system comprises a second module that consists in a bracket (30) with a basically S-shaped section designed to be inserted and fitted into the space (13) of the bar (1), the bracket (30) being composed of a lower section (30a) and an upper section (30c), which are basically parallel, connected by a short orthogonal intermediate section (30b) that is designed to rest above a horizontal stop (13a) in lower position with respect to the space (13), wherein the upper section (30c) is designed to be fitted on the back of the section (13b) of the front wall (11) of the bar that is situated above the space (13). 35

Patentansprüche

1. Modulare Einbauausstattung zur Herstellung von ausgestatteten Wänden, umfassend

- ein erstes Modul, bestehend aus einer kastenprofilförmigen Stange (1, 1A, 10, 10A, 1B, 1C), umfassend:

eine Vorderwand (11),
Seitenwände (12), die eine erste Seitenwand (12) und eine zweite Seitenwand (12) umfassen,

- eine vordere, längs verlaufende Zugangsfuge (13), die an der Vorderwand (11) herausgearbeitet ist,

- mindestens eine längs verlaufende Rille (15) mit einem C-förmigen Querschnitt, die mit der längs verlaufenden, vorderen Fuge (13) in Verbindung steht, wobei die längs verlaufende Rille (15) mit einer Bodenwand (15a) und einem Paar Kanten versehen ist,

- eine Reihe regelmäßig beabstandete Löcher (16), die in der Bodenwand (15a) der längs verlaufenden Rille (15) herausgearbeitet sind, wobei die Löcher (16) dazu bestimmt sind, als wahlweise Einhängpunkte für ein hinteres Ende (21) eines Fachboden-Halterarmes (21a) eines zweiten Moduls verwendet zu werden, **dadurch gekennzeichnet, dass**

das Kantenpaar der längs verlaufenden Rille (15) einen Neigungswinkel (" α ") von 45° bezogen auf die Vorderwand (11 der kastenprofilförmigen Stange aufweist.

2. Modulare Ausstattung nach Anspruch 1, **dadurch gekennzeichnet, dass** an ihren beiden Seiten Mittel (20, 22) verwendet werden, die zur Halterung von Füllpaneelen (P) geeignet sind.

3. Modulare Ausstattung nach Anspruch 2, **dadurch gekennzeichnet, dass** die Mittel zur Halterung der Füllpaneele (P) aus einem Paar dahinter liegender, kastenprofilförmiger Profile (20) bestehen, die jeweils aus einer der Seitenwände (12) der Stange (1, 1A, 10, 10A, 1B) auskragen und einen im Wesentlichen C-förmigen Querschnitt aufweisen, dessen Konkavität dieser gegenüberliegt.

4. Modulare Ausstattung nach Anspruch 2, **dadurch gekennzeichnet, dass** die Mittel zur Halterung der Füllpaneele (P) aus einem Paar symmetrisch gegenüberliegender, nach außen gerichteter Längsrippen

(22) bestehen, die aus den Seitenwänden (12) der kastenprofilförmigen Stange (1, 1A, 10, 10A, 1 B) auskragen.

5. Modulare Ausstattung nach Anspruch 1, **dadurch gekennzeichnet, dass** die Stange (1, 1 A, 10, 10A, 1 B, 1 C) an der ersten der beiden Seitenwände (12) ein dahinter liegendes, kastenprofilförmiges Profil aufnimmt, das einen im Wesentlichen C-förmigen Querschnitt aufweist, dessen Konkavität zur Vorderseite der Stange (1, 1 A, 10, 10A, 1 B, 1 C) hin gerichtet ist, und dass sie an der zweiten ihrer beiden Seitenwände (12) ein kastenprofilförmiges Profil (20a) aufnimmt, das einen im Wesentlichen L-förmigen Querschnitt aufweist, dessen Konkavität nach hinten gerichtet ist. 5 10 15
6. Modulare Ausstattung nach einem oder mehreren der vorstehenden Ansprüche, **dadurch gekennzeichnet, dass** die kastenprofilförmige Stange (1, 10) unmittelbar auf der Rückseite der entsprechenden längs verlaufenden, vorderen Fuge (13) eine Nische (14) aufweist, die mit der geneigten Rille (15) verbunden ist. 20 25
7. Modulare Ausstattung nach einem oder mehreren der Ansprüche 1 bis 5, **dadurch gekennzeichnet, dass** die kastenprofilförmige Stange (1 A, 10A) eine geneigte Rille (15) unmittelbar auf der Rückseite der entsprechen Zugangsfuge (13) aufweist. 30
8. Modulare Ausstattung nach einem oder mehreren der Ansprüche 1 bis 5, **dadurch gekennzeichnet, dass** die kastenprofilförmige Stange (1 B) ein Paar nebeneinander liegende, geneigte Rillen (15) aufweist, die in einer Stellung unmittelbar hinter den jeweiligen Zugangsfugen (13) angeordnet sind. 35 40
9. Modulare Ausstattung nach einem beliebigen der vorstehenden Ansprüche, **dadurch gekennzeichnet, dass** sie ein zweites Modul umfasst, das einen Fachboden-Haltearm (21 a) umfasst, der mindestens ein rückwärtiges Ende (21) aufweist, das in mindestens eine Rille (15) der kastenprofilförmigen Stange (1) einzudringen und sich wahlweise in eines der Löcher (16) derselben einzuhängen geeignet ist, **dadurch gekennzeichnet, dass** mindestens ein hinteres Ende (21) des Fachboden-Haltearms (21) bezogen auf die Längsachse desselben in einem Winkel " α " geneigt ist, der dem Neigungswinkel entspricht, der für die entsprechende Rille (15) vorgesehen ist. 45 50
10. Modulare Ausstattung nach einem beliebigen der Ansprüche 1 bis 6, **dadurch gekennzeichnet, dass** sie ein drittes Modul umfasst, das aus einem Bügel (30) besteht, der ein im Wesentlichen S-förmiges Profil aufweist und dazu geeignet ist, in dem Moment

in die vordere Fuge (13) der Stange (1) einzugreifen, wenn diese sich in horizontaler Stellung befindet; wobei der Bügel (30) aus einem unteren Abschnitt (30a) und einem oberen Abschnitt (30c) besteht, die im Wesentlichen parallel und mittels eines kurzen Zwischenabschnitts (30b) miteinander verbunden sind, der im Wesentlichen rechtwinklig zu ihnen steht, wobei der Zwischenabschnitt (30b) in der Lage ist, oberhalb eines horizontalen Anschlags (13a) aufzuliegen, der unterhalb der Fuge (13) angeordnet ist, während der obere Abschnitt (30c) in der Lage ist, auf der Rückseite des Abschnitts (13b) der Vorderwand (11) anzuliegen, die eine oberhalb der Fuge (13) befindliche Stellung einnimmt.

Revendications

1. Equipement modulaire composable pour la réalisation de parois équipées, comprenant

- un premier module qui consiste en une barre caissonnée (1, 1 A, 10, 10A, 1 B, 1 C) comprenant :

- une paroi antérieure (11),
- des parois latérales (12) composées d'une première paroi latérale (12) et d'une seconde paroi latérale (12),
- une fuite à accès frontal et longitudinal (13) réalisée dans la dite paroi antérieure (11),
- au moins une rainure longitudinale (15) ayant une section en forme de "C" et qui communique avec la dite fuite frontale longitudinale (13), la dite rainure longitudinale (15) étant dotée d'une paroi de fond (15a) et d'une paire de bords,
- une file de trous (16) régulièrement intercalés réalisés dans la dite paroi de fond (15a) de la rainure longitudinale (15), les dits trous (16) étant destinés à fonctionner en tant que points d'accrochage sélectif pour une extrémité postérieure (21) d'un élément porte-étagères (21 a) d'un second module,

caractérisé en ce que

dite paire de bords de la dite rainure longitudinale (15) a un angle d'inclinaison (" α ") de 45° par rapport à la dite paroi frontale (11) de la barre caissonnée.

2. Equipement modulaire selon la revendication 1, **caractérisé en ce que** la dite barre caissonnée adopte, en correspondance de ses côtés, des moyens (20, 22) aptes à soutenir des panneaux de mur-rideau (P).

3. Equipement modulaire selon la revendication 2, **caractérisé en ce que** les dits moyens aptes à soutenir les panneaux de mur-rideau (P) consistent en une paire de profils caissonnés positionnés postérieurement (20), chacun desquels débordant de l'une des parois latérales (12) de la dite barre caissonnée (1, 1 A, 10, 10A, 1 B) et dotés d'une section pratiquement en forme de "C" avec la concavité tournée vers la façade de l'une des parois latérales. 5
4. Equipement modulaire selon la revendication 2, **caractérisé en ce que** les dits moyens aptes à soutenir les panneaux de mur-rideau (P) consistent en une paire opposée de manière symétrique de côtes longitudinales (22), tournées vers l'externe, qui débordent des parois latérales (12) de la dite barre caissonnée (1, 1 A, 10, 10A, 1 B). 10
5. Equipement modulaire selon la revendication 1, **caractérisé en ce que** la dite barre caissonnée (1, 1 A, 10, 10A, 1 B, 1 C) incorpore, en correspondance de la première de ses parois latérales (12), un profil caissonné positionné en face arrière doté d'une section ayant substantiellement une forme en "C", dont la concavité est tournée vers la face antérieure de la barre même (1, 1 A, 10, 10A, 1 B, 1 C) et, en correspondance de la seconde de ses parois latérales (12), un profil caissonné (20a) doté d'une section ayant substantiellement une forme en "L" avec la concavité tournée vers l'arrière. 20 25 30
6. Equipement modulaire selon l'une ou plusieurs des revendications précédentes, **caractérisé en ce que** la dite barre caissonnée (1, 10) adopte, immédiatement derrière sa respective fuite frontale longitudinale (13), une niche (14) qui résulte reliée à la dite rainure inclinée (15). 35
7. Equipement modulaire selon l'une ou plusieurs des revendications de 1 à 5, **caractérisé en ce que** la dite barre caissonnée (1 A, 10A) adopte la dite rainure inclinée (15) immédiatement derrière à sa respective fuite (13). 40
8. Equipement modulaire selon l'une ou plusieurs des revendications de 1 à 5, **caractérisé en ce que** la dite barre caissonnée (1 B) adopte une paire juxtaposée des dites rainures inclinées (15), placées en position immédiatement derrière leurs respectives fuites d'accès (13). 45 50
9. Equipement modulaire selon l'une ou plusieurs des revendications précédentes, **caractérisé en ce qu'il** comprend un second module consistant en un bras porte-étagères (21 a) présentant au moins une extrémité postérieure (21) apte à pénétrer dans au moins une des dites rainures (15) de la barre caissonnée (1) et à s'accrocher sélectivement dans l'un des trous prévus à cet effet (16) sur la dite barre (1), où l'une des extrémités postérieures (21) du dit bras porte-étagères (21) résulte inclinée par rapport à l'axe longitudinal du bras (21) d'un angle " α " égal au dit angle d'inclinaison prévu sur la rainure correspondante (15) de la barre caissonnée. 55
10. Equipement modulaire selon l'une quelconque des revendications de 1 à 6, **caractérisé en ce qu'il** comprend un second module consistant en un étrier (30) doté d'un profil ayant substantiellement une forme en "S" apte à s'introduire et à s'accrocher dans la dite fuite frontale (13) de la barre (1) lorsque celle-ci est disposée en position horizontale ; le dit étrier (30) étant constitué d'un segment inférieur (30a) et d'un segment supérieur (30c), substantiellement parallèles, reliés au moyen d'un bref segment intermédiaire (30b) substantiellement orthogonal aux dits segments, sur lesquels le dit segment intermédiaire (30b) est en mesure de s'appuyer au-dessus d'un battement horizontal (13a) disposé inférieurement à la dite fuite (13), tandis que le dit segment supérieur (30c) est en mesure de se disposer sur la partie arrière du segment (13b) de la paroi frontale (11) qui est positionnée au-dessus de la fuite même (13).

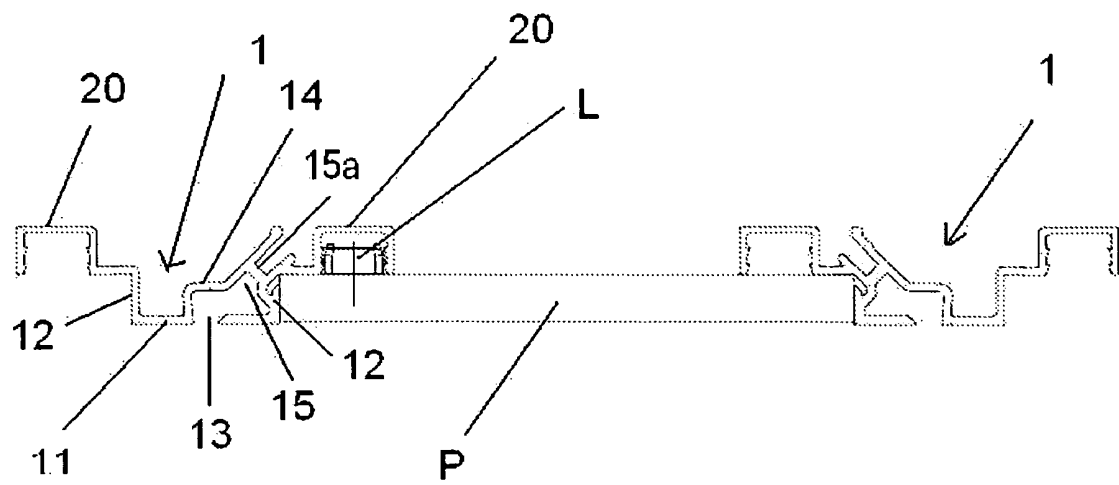


FIG. 1

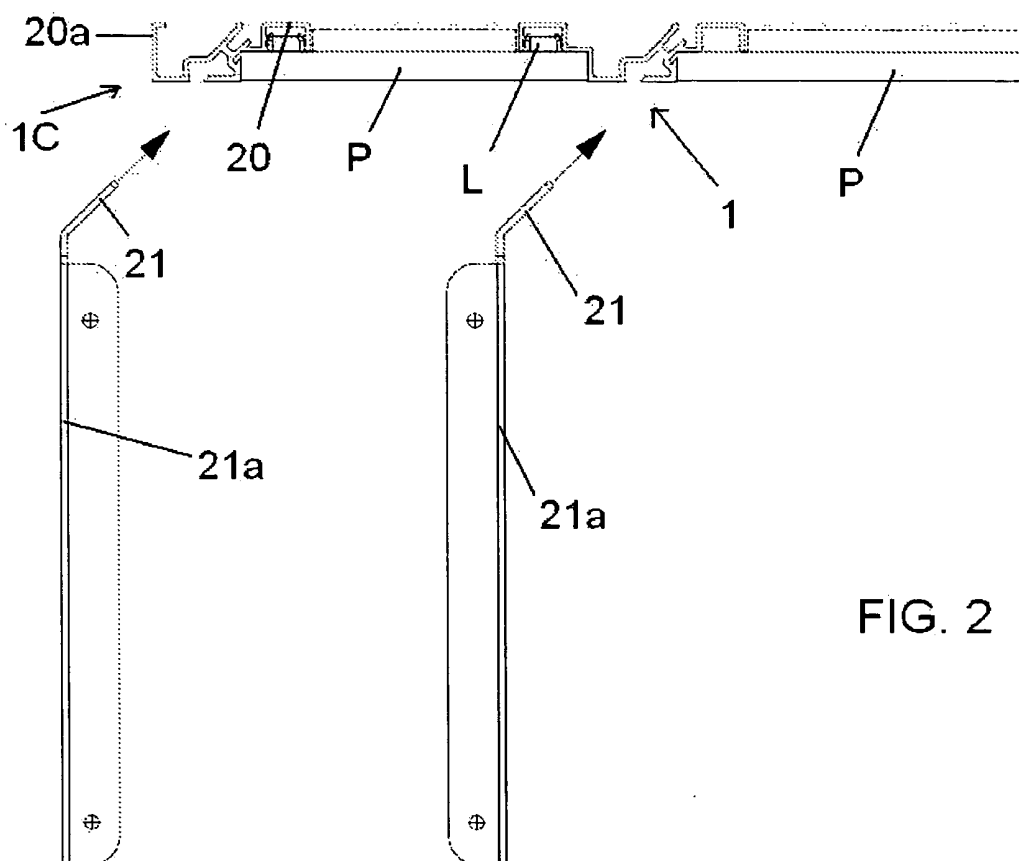


FIG. 2

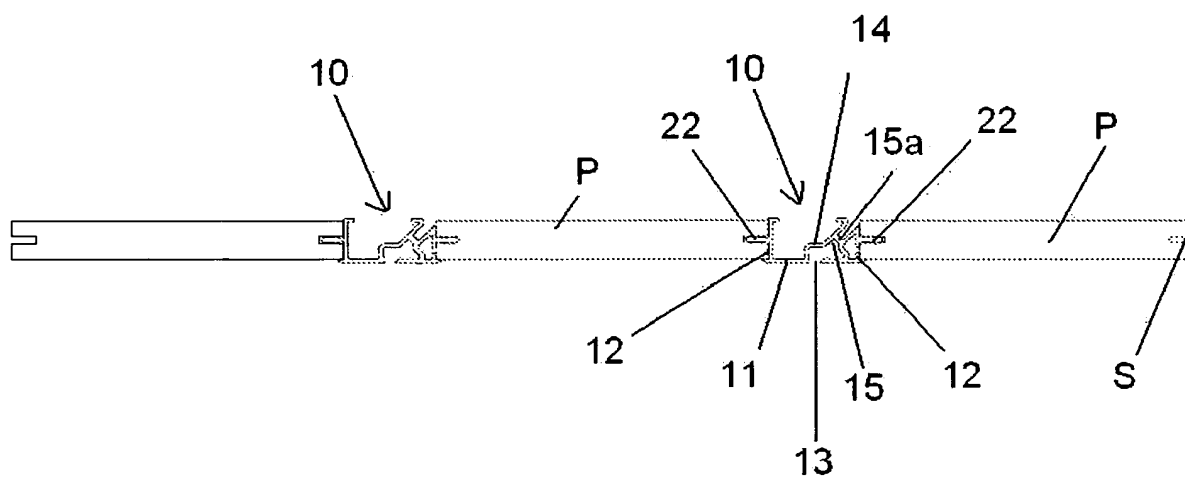


FIG. 3

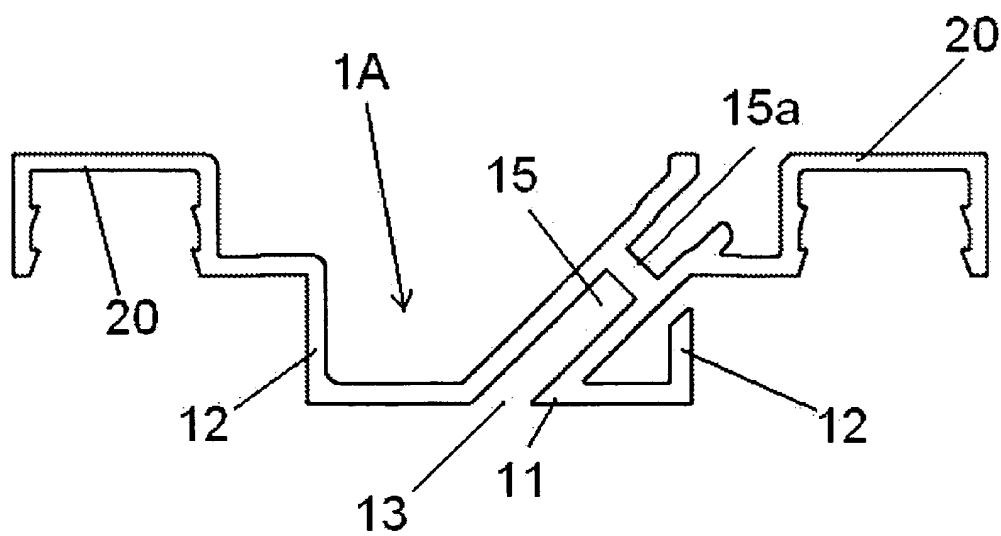
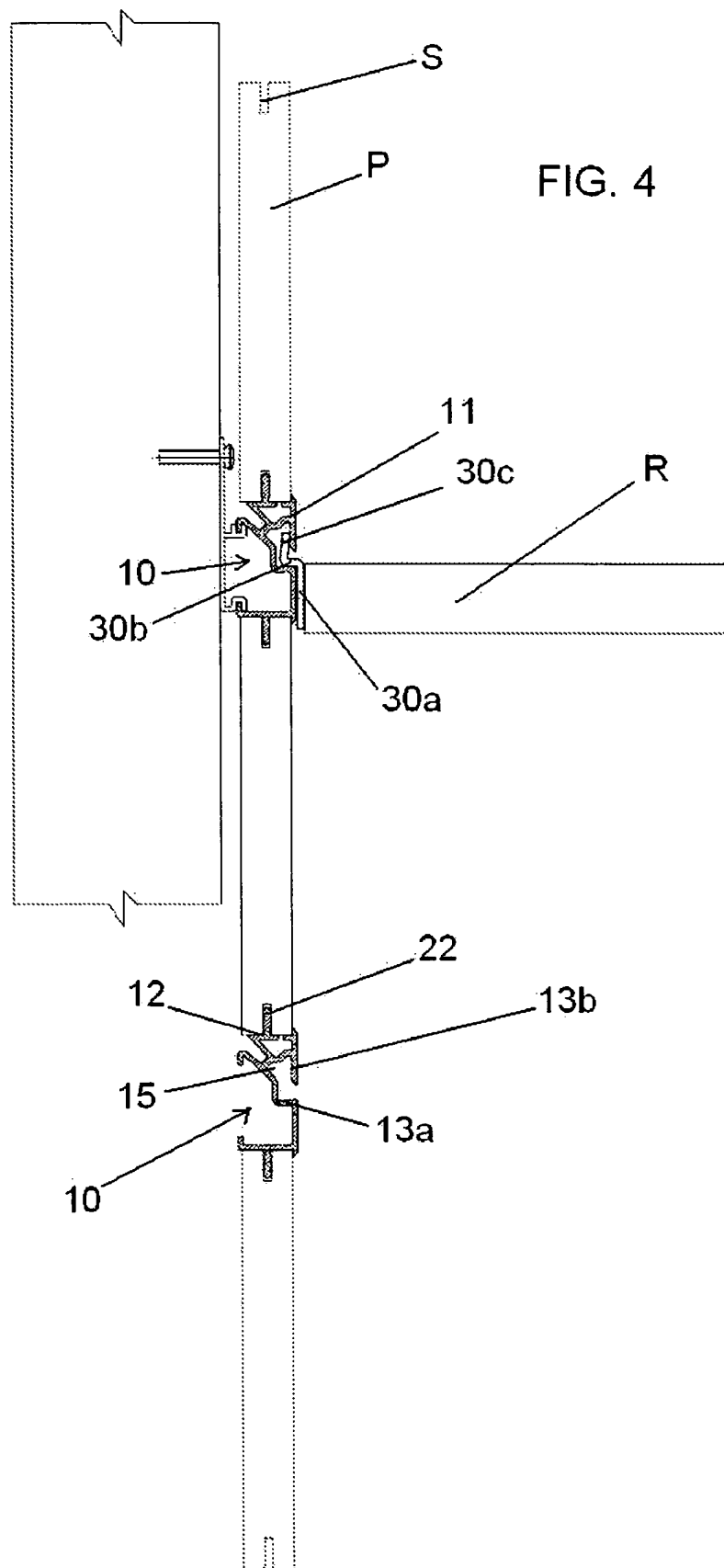


FIG. 5



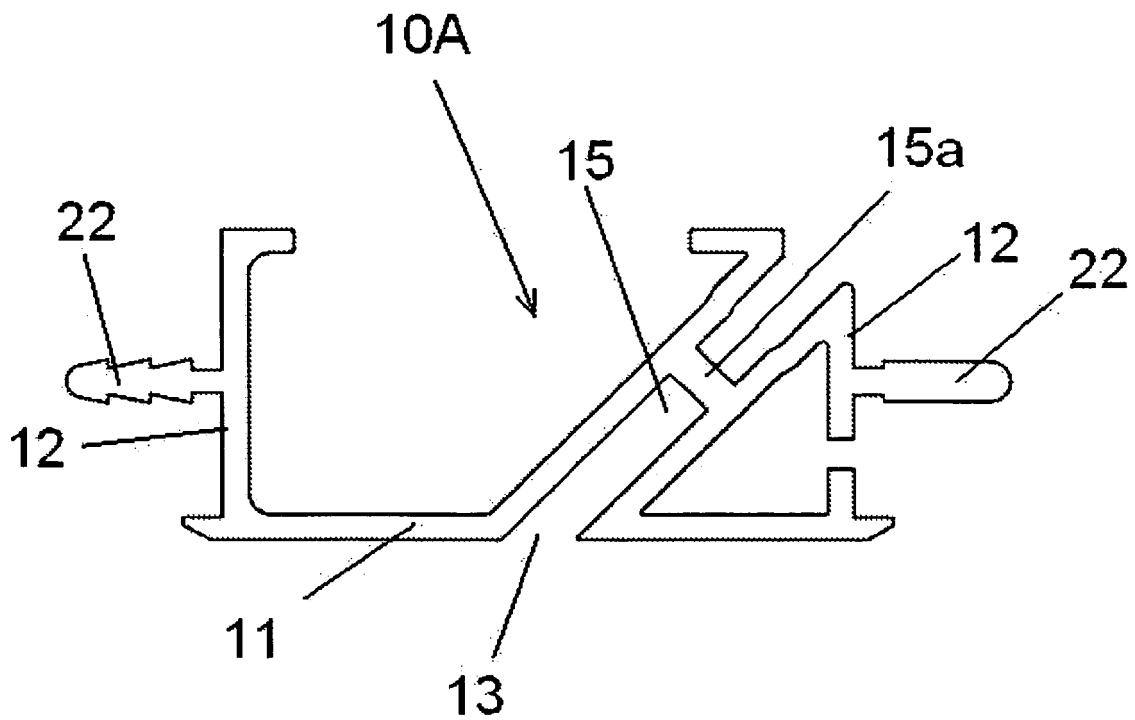


FIG. 6

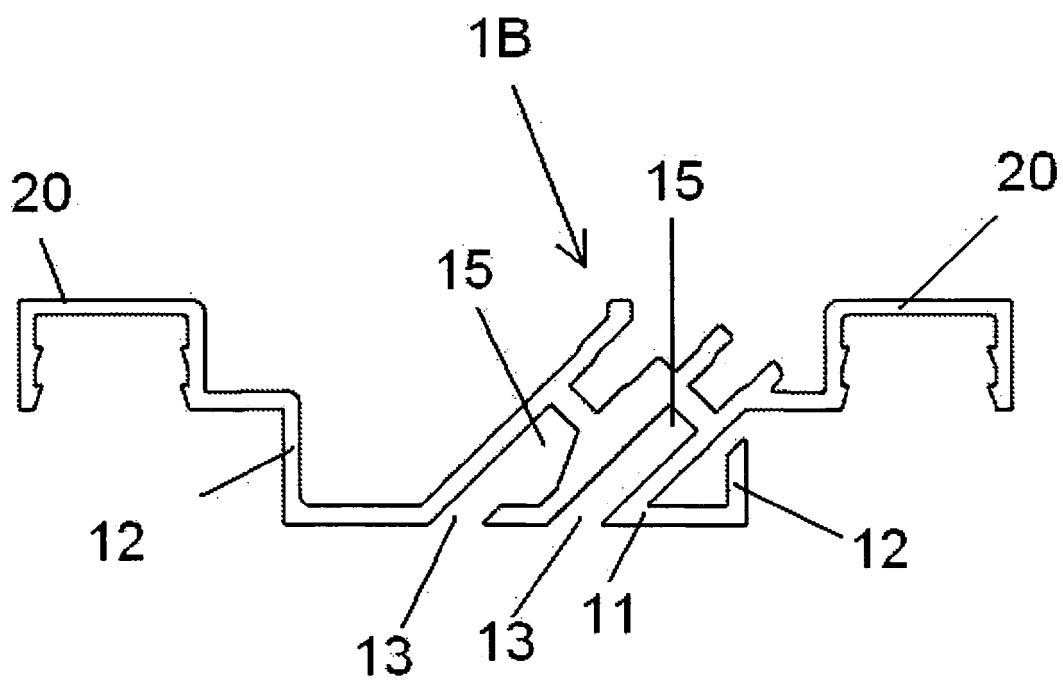
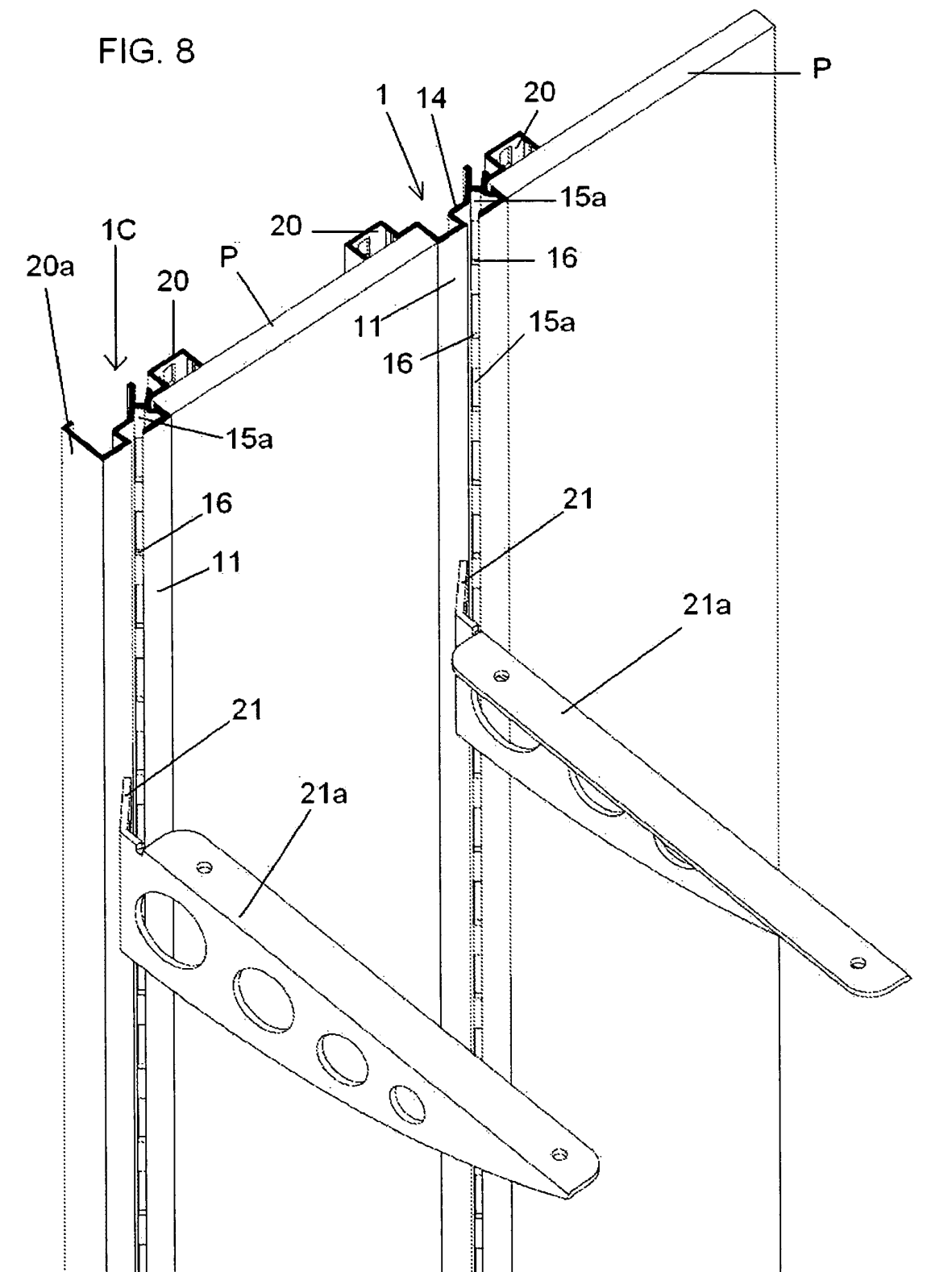


FIG. 7

FIG. 8



REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

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