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(71) Applicant: **MOVE S.p.A.**
I-31053 Pieve di Soligo (TV) (IT)

(72) Inventor: **Piazzalunga, Guido**
I-24068 Seriate (BG) (IT)

(74) Representative: **D'Agostini, Giovanni, Dr.**
D'AGOSTINI ORGANIZZAZIONE
Via G. Giusti 17
I-33100 Udine (IT)

(54) Vertical modular structure particularly for the realization of wall panelling and/or as improved cupboard-back, of the type able to be equipped

(57) Vertical, modular structure, particularly for the realization of improved wall panelling of the type able to be equipped, comprising:

- hooking means that consist of a plate preferably metallic to be interposed astride of the edges of the panels (1) to be joined and interposed between the panelling and the wall, from one side provided with threaded pegs being insertable in correspondent holes (4) made along the edges of said correspondent panels (1) to be joined, from the other side providing holes for the anchorage to the wall or cupboard-back;
- at least one cupboard-back to which the width of a vertical panel (1) is equal to the amplitude of the internal opening of the cupboard plus the thickness of the side;
- as well as providing a base which acts as a foot, adjustable in height, able to be fixed from one side to the lower profile of the vertical panel (1).

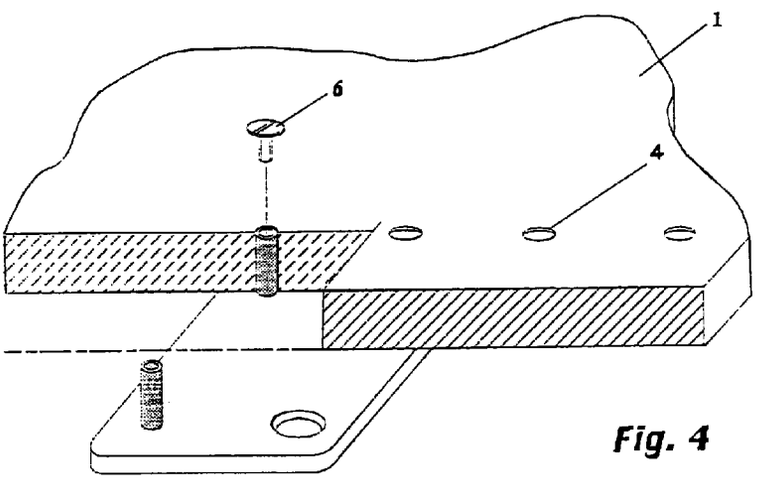

Fig. 4

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Description

This invention has as object a vertical, modular structure, particularly for the realization of improved wall panelling, of the type able to be equipped.

The innovation finds particular even if not exclusive application in the sector of the rational internal furniture.

At the present stage of technology, walls to equip are well known. Amongst the most simple, there exist various types but some of these, because of their structural peculiarities and a certain versatility, find wide use also in association with a certain type of furniture, for example for beds or kitchens, being able to adapt according to the positions adjustable to support shelves, containers and every other type of accessories horizontally.

We refer more particularly to the modular walls to be predominantly vertically assembled. These resort to the use of a series of flat panels, joined side to side by means of the interposition of suitable profiles mounted in aluminium, which section can mainly remind one of an "H" shape. Each panel along both edges, in both cases smaller, provides the realization of a vertical groove within which one inserts, by joining, the corresponding tooth in the adapt shape for its hold obtained on the long side the mount. A logic continuity of the wall formed with said panels is obtained in such a way, spaced by a series of vertical guides that space each panel from the subsequent one. Alternatively, with an analogous interposition system, the use may be provided for a classic mount with a "U" profile to be disposed on the same plane of the wall to allow the anchorage of this by means of screws and therefore of the entire structure. On the base of the mounts, generally at full height, the constant step of a series of louvers is obtained which allow the joining of accessory hooks obtained at the extremity of a series of protruding metallic segments overhanging perpendicularly in respect to the wall and which act as support beams for shelves and in this way adjustable in height.

In the above highlighted solution various drawbacks are noted, amongst these and above all cited, is the fact that it would result very limited in the use allowing the vertical adjustability of the shelves, or even in height. In the second place the wheelbase of every guide is particularly showy marking negatively on the whole aspect, and additionally said system allows the anchorage only to the wall, not being able to be used as integral part of furniture. Finally it results to be a somewhat complex solution because it requires a multitude of profiles, which involves excessive installation times and a consequent increase of costs.

With the scope to obviate some of the problems shown above, a system of assembly is known for modular walls but horizontal rather than vertical comprising substantially three elements for the support of the panelling. Two of these constitute symmetric profiles to engage in contraposition along overhanging edges of two or more panels to assemble in a contiguous way, said edges being previously milled to give the form in negative of said profile, and comprising a longitudinal groove for the joining of a holding tooth obtained perpendicularly to said profile. The protruding part towards the outside of the profile engaged along the edge of the panel, provides a particular conformation with toothed connection and relative reception groove of the specular shape in a like profile but in such a case rotated 180°. In such a case both the tooth and the groove are tapered with a certain conicity in order to allow an easier joint, such union of the two panels along the edges of which said profiles have been previously applied, allows to obtain some longitudinal guides. The third element finally is constituted of at least one support hook for shelves, which extremity from one side consists of a slightly arcuate tongue to carry out the insertion on the inside of said longitudinal guide and then be lowered until disposing said extremity until a stop on the internal surface; from the other side comprising a longitudinal clamping seat for the edge of a shelf.

However, even in such a case drawbacks can be observed. In the first place the fact that it is not versatile. Its structure in fact is exclusively adapted for the use in association with furniture, unable to be utilized viceversa for the anchorage to a wall. In the second place it results somewhat onerous because of the fact that it requires the use of at least three profiled elements, involving besides an increase of costs, also long installation times. Finally, besides not appearing very robust in structure, because of the conformation of profiles that determine the joint between the two panels it would leave in sight particularly showy guides that could mark on the aesthetic plan.

Similar systems are known, furthermore simplified if compared to the preceding, which are likewise able to achieve advantages. These, varyingly combined, are applied according to empirical criterias, still being almost artisan works, that do not give the possibility to obtain structures that are really functional nor less sufficiently modular. Said systems help particularly in the coating of walls by means of panelling, above which it is possible to engage in a second time the accessories required. The panelling is composed in turn of an ensemble of panels placed vertically, held together complanarly and contiguously, through a plurality of hooking means disposed at intervals and astride of the edges, in practice the last being constituted of a type of ovalized clip and turned towards the environment to be furnished. The noticeable drawbacks, consist firstly in a low grade finish, but above all, the clips that are so much in sight result aesthetically unpleasant. In the second place, due to the type of anchorage, it is possible that an insufficient hold of said panels could occur. Finally, the problem of the anchorage of the panels to the wall remains, which, depending on the case may be dealt with differently, unfortunately not always in a correct manner.

The aim of the present finding is also that to obviate the above-mentioned drawbacks.

This and other aims are reached with the present innovation according to characteristics of the included claims solving exposed problems by means of a vertical,

modular structure, particularly for the realization of improved wall panelling, of the type able to be equipped, constituted of an ensemble of panels disposed perpendicularly in respect to the ground held and anchored together to the wall by hooking means, in which:

- said hooking means consist of a plate preferably metallic to be interposed astride of the edges of the panels to be joined and interposed between the panelling and the wall, on one side provided with threaded pegs being insertable in correspondent holes made along the edges of said correspondent panels to be joined, on the other side providing holes for the anchorage to the wall or cupboard-back;
- at least in one cupboard-back the width of a vertical panel is equal to the amplitude of the internal opening of the cupboard plus the thickness of the side;
- as well as providing a base which acts as a foot adjustable in height, able to be fixed from one side to the lower profile of the vertical panel.

In such a way through the notable creative contribution the effect of which constitutes an immediate technical progress different advantages are achieved amongst which it is possible to cite a greater harmonizing to the industrialization processes, assembly and modularization of the structure, with evident aesthetic benefits and a substantial qualitative improvement under the finishing aspect. Additionally, thanks to the plate thickness of approximately 5 mm., it is possible to observe a function even against humidity.

These and other advantages will appear from the subsequent specified description of preferential solutions of realization with the help of schematic drawings included, the particulars of execution of which are not to be considered limitative but only illustrative.

Figure 1 represents a frontal view of a plate for the anchorage of the panelling to the wall or cupboard-back.

Figure 2 represents a vertical section view of the plate of which in Figure 1, taken long the A-A axis.

Figures 2a and 2b, represent, in frontal view, further plates solutions, in case of single cases.

Figure 3 represents a perspective view of the plate of which in Figure 1.

Figure 4, represents a view, always in perspective, of a plate application evidencing only a portion of one of the two adjacent panels to be joined.

Figure 5, represents a frontal view of the plate of which in Figure 1., with recalls from the dotted lines a part of the concerned areas from two adjacent elements to be associated.

The Figures, respectively from 6. to 10., represent possible applications and compositions of the panelling able to be equipped and of the relative accessories.

Figure 11, finally, represents a schematic and plan view of an example of cupboard-back, obtained according to a panel to which the present invention.

Also referring to the figures, it is disclosed that a vertical, modular structure for example of the (A) type, particularly for the realization of improved wall panelling able to be equipped, in internal furniture, composes a series of panels (1, 1', 1", 1") of wood or wood substitute, fixed to the wall one adjacent to the other, and perpendicular in respect to the ground. Orthogonal to said panels, or on the inside of the area defined by such type of panelling it is possible to fix on it, according to known means, the accessories, which can be composed of shelves (2), drawers (3), tops and so on.

The particular versatility of the system, allows multifarious solutions, which go from the possibility to furnish specific areas, such as recesses, otherwise difficult to equip naturally supplying the relative doors, to the realization of true and proper multifunctional zones as may be the case for shop furniture. In this case the panels (1, 1', 1", 1") along the edges of the largest sides, have holes (4) previously obtained at established distances, which allow insertion in pre-determined positions, of pegs (5') provided in a means of anchorage (5). More in detail, the means of anchorage (5) composes § a plate preferably metallic and flat, on which are engaged, along a first side two pegs (5') of the cylindrical type and threaded internally at full height, while along the opposite side and parallel to said first, holes (5") are obtained. The joining of the wall panelling is by no means complicated, firstly one proceeds upon anchorage to the wall, according to the pre-determined distances, of a series of plates (5) disposed one above and in axis with the other, generally two or more, in a such way that the edge of the panel leaned above these, can use nearly half the plate (5), while the other half is concerned with the adjacent panel. The positioning of panels (1, 1', 1", 1") must make the holes (4) coincide obtained along vertical edges of the same, with the pegs (5') of said plates, in such a way that once the necessary insertion is carried out it is possible to screw a traditional screw (6) that ensures the hold of every single panel to said plate (5).

In the case of the realization of said cupboard-back (B) provided with partition elements which sides (7), as illustrated schematically in Figure 11, we will have that a self-supporting back is composed of a series of vertical panels (1, 1'), for example held together by means of analogous plates (5), in which the width of each one is the same as the existing wheelbase between two panels (7, 7') hanging defining an opening of said cupboard-back plus the thickness of a same side. In such a way it will be possible to complete the back, starting from the edge of a panel (1, 1') at the edge of a side (7) placed at an extremity of the cupboard, while on the opposite side, to complete the back it is possible to introduce a vertical mount (8) associable to the adjacent panel (1, 1'), and having a width at least equal to that of the concerned side (7). As a consequence, the edge of the preceding concerned side (7) can arrange itself in a direct stop on a full surface constituted by the mount (8), with full advantage of a greater strengthening of the structure. In the second place the edge of the intermediate side (7'), will concern only one junction of the two panels (1, 1'), disposing itself exactly astride of the two ends.

Claims

1. Vertical modular structure, particularly for the realization of improved wall panelling of the type able to be equipped, constituted from an ensemble of panels disposed perpendicularly in respect to the ground held together and anchored to the wall by hooking means, characterized in that:

   - said hooking means consist in a plate to be interposed astride of the edges of the panels to be joined and interposed between the panelling and the wall, from one side provided with threaded pegs being insertable in correspondent holes made along the edges of said correspondent panels to be joined, on the other side providing holes for the anchorage to the wall or side of the cupboard;
   - and in which, the width of the panels, that make up the panelling, is at least equal to the existing wheelbase between two overhanging dividing elements (7, 7'), constituting accessories for the realization of an equipped opening, plus the thickness of the same side;
   - as well as providing a base which acts as a foot adjustable in height able to be fixed from one side to the lower profile of the vertical panel.

2. Vertical structure according to claim 1., characterized in that a hooking means of panels, includes a plate preferably metallic and flat (5), and provides, along a first side, one or more pegs (5') of the cylindrical type and threaded internally to full height inserted at pressure on the inside of correspondent holes previously obtained, while along the opposite side and parallel to said first at least one hole (5'') is obtained.

3. Vertical structure according to claim 1., characterized in that at least in one cupboard-back, the width of a vertical panel is equal to the amplitude of the internal opening defined by the sides as dividing elements (7, 7') of the cupboard plus the thickness of a side (7, 7');

4. Vertical structure according to claims 1. and 3., characterized in that a vertical mount (8) is provided at completion of the panelling, which width is at least equal to the thickness of a side, said mount being associable to an adjacent vertical panel.

5. Vertical structure according to preceding claims, characterized in that said panels (1, 1', 1'', 1'''), have holes (4) along the edges, previously obtained according to a modular and reclosable logic by a covering means, which allow the insertion in predetermined positions, of pegs (5') provided in an anchorage (5) means.

6. Vertical structure according to preceding claims, characterized in that the width of a shelf is at least equal to the width of a panel (1, 1', 1'', 1''') of said structure.

7. Vertical structure according to claim 6a., characterized in that supporting sides of the shelf, protracting itself longitudinally to the concerned panel, are obtained in connection with underlying holes (4) previously obtained on said panels (1, 1'').

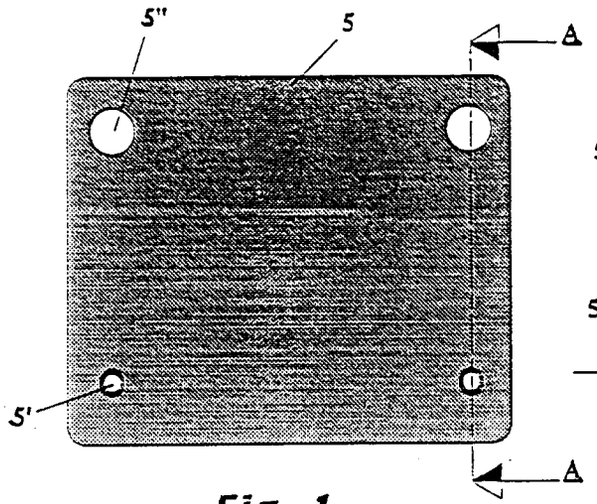

Fig. 1

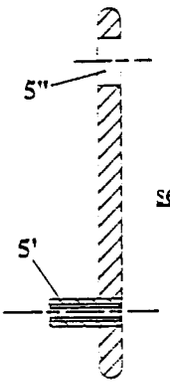

Fig. 2

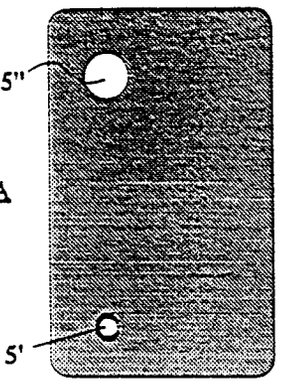

Fig. 2a

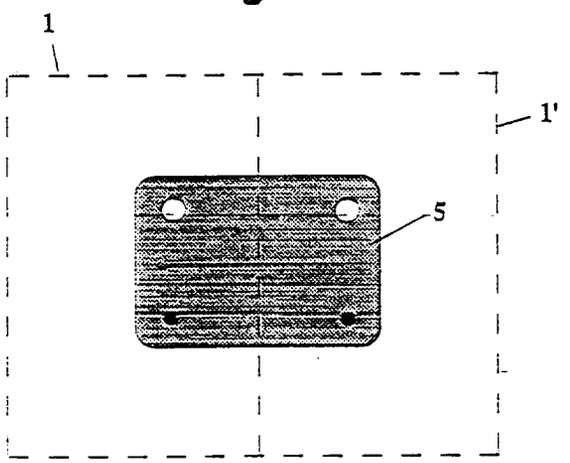

Fig. 5

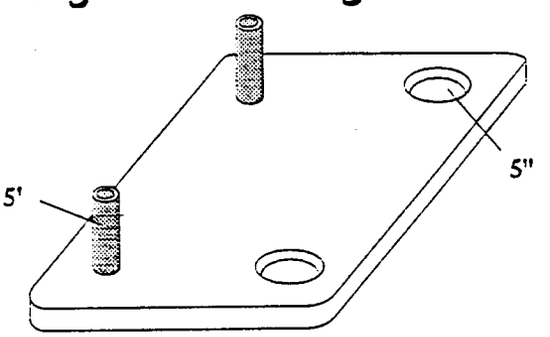

Fig. 3

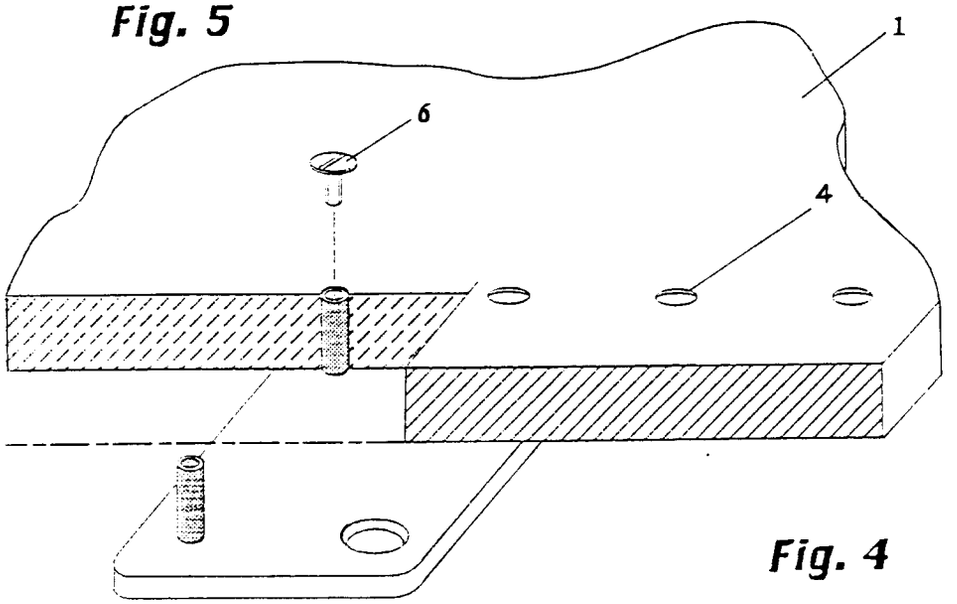

Fig. 4

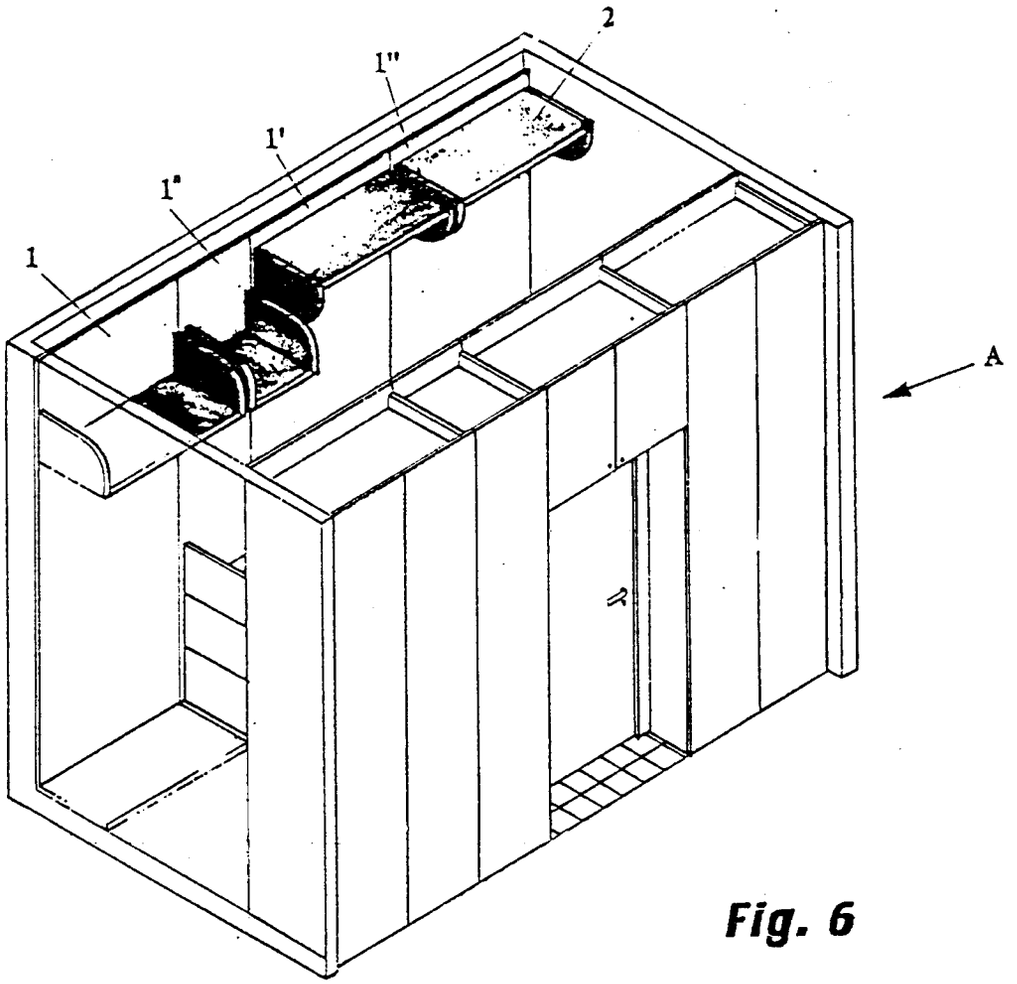

Fig. 6

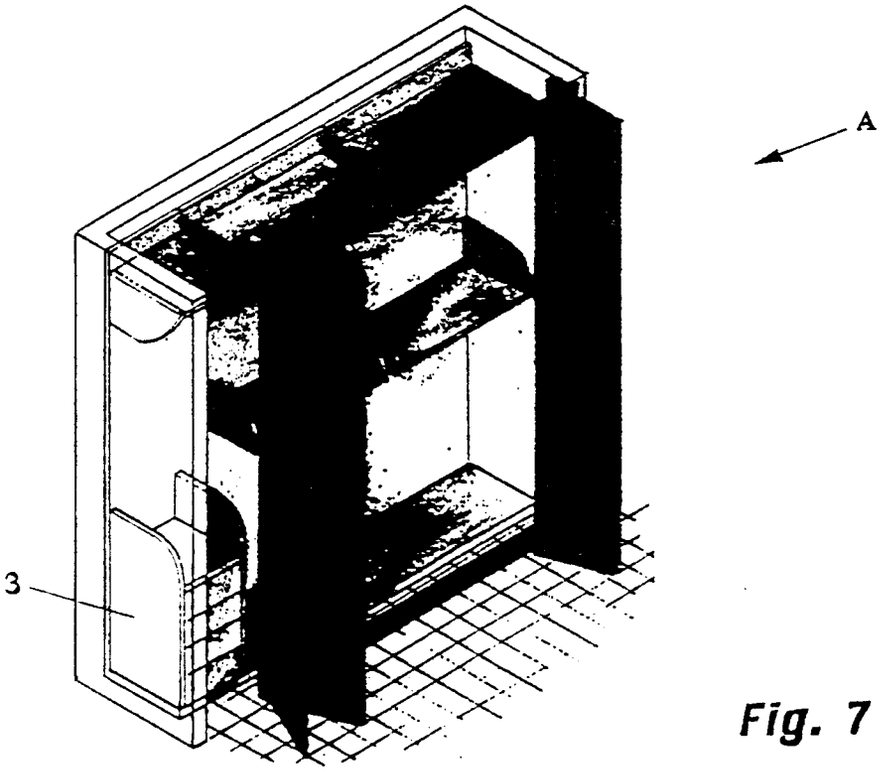

Fig. 7

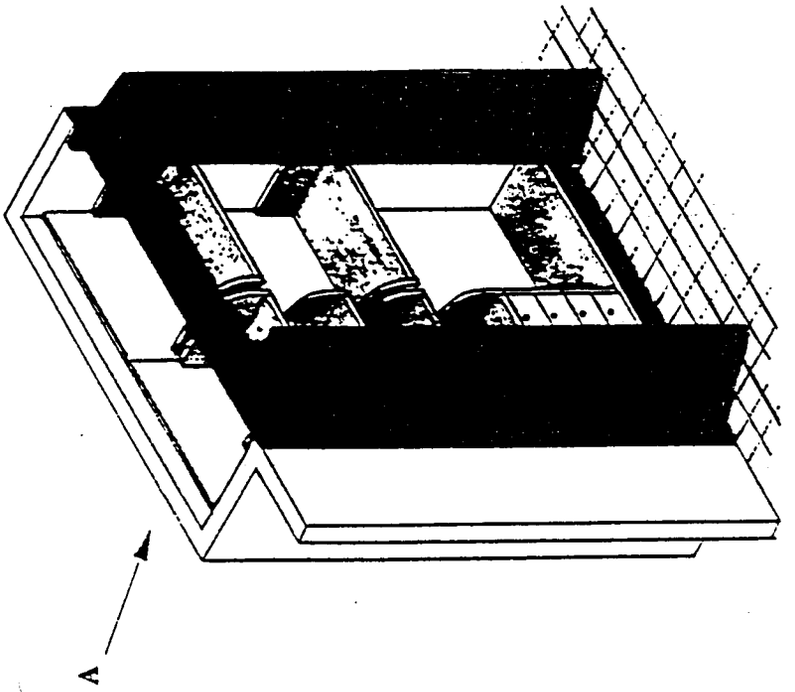

Fig. 8

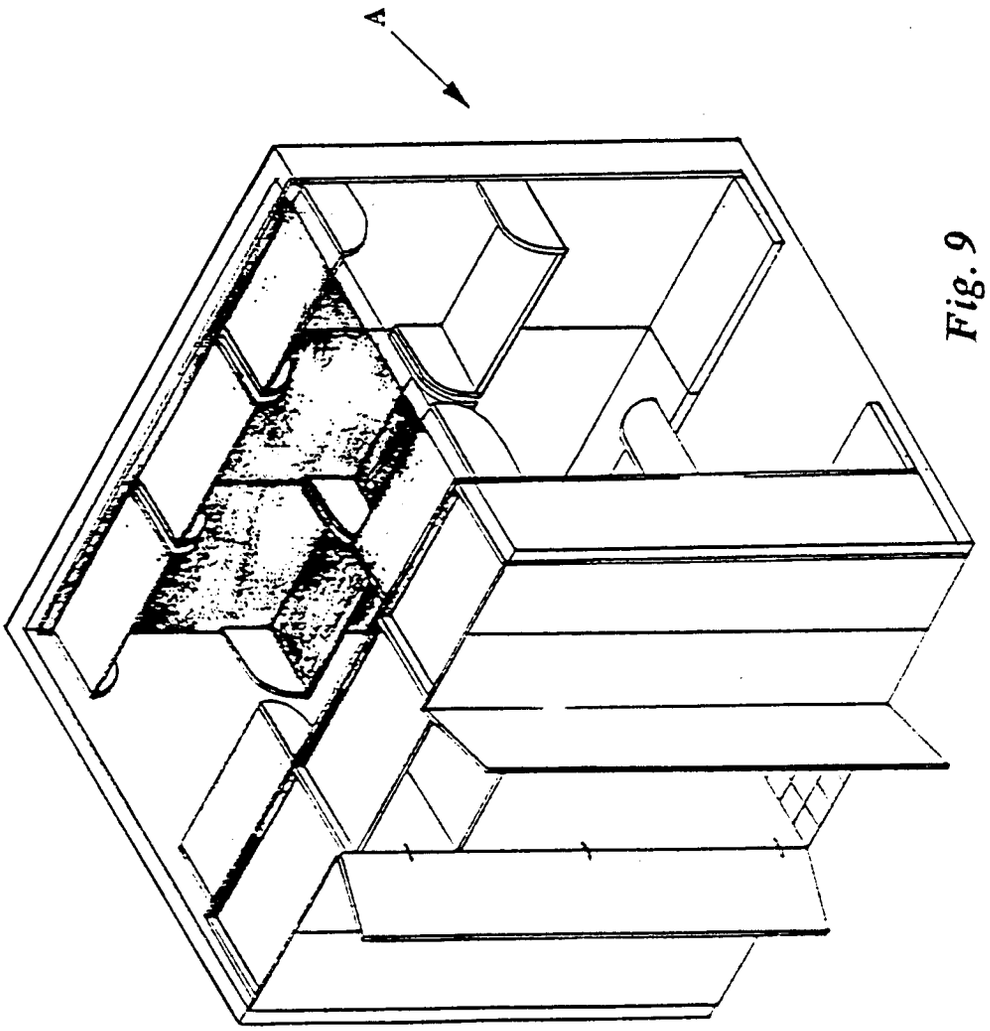

Fig. 9

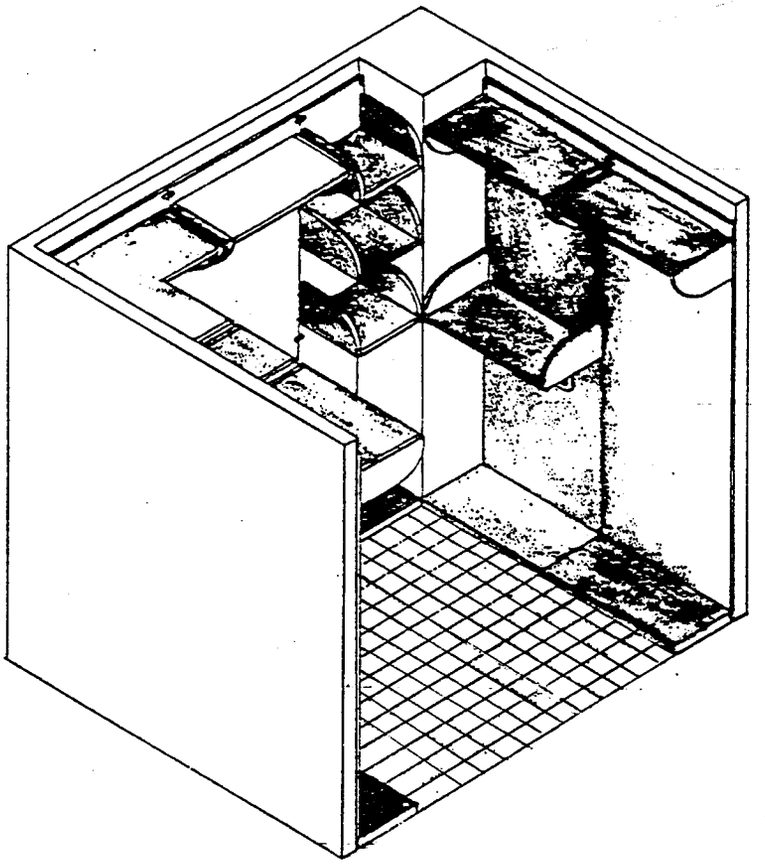

Fig. 10

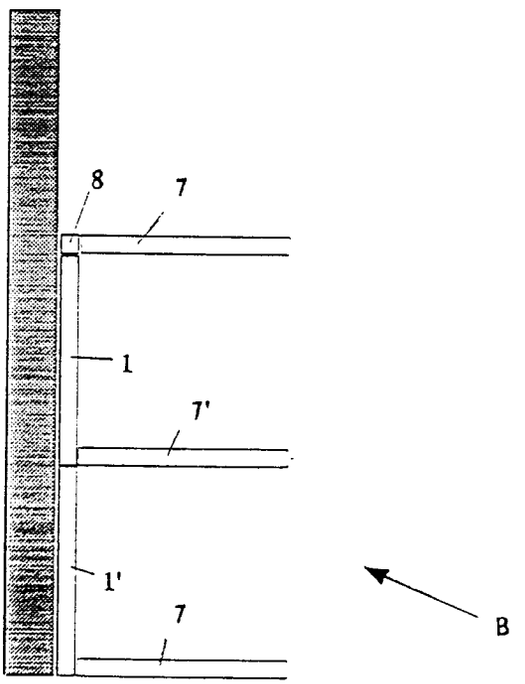

Fig. 11

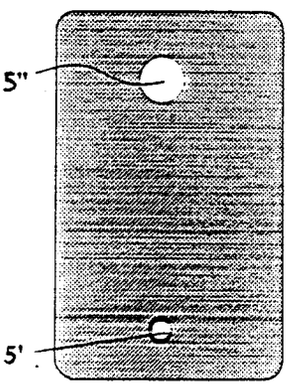

Fig. 2b

European Patent Office

EUROPEAN SEARCH REPORT

Application Number
EP 94 11 4833

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
A	GB-A-2 068 071 (FUKUBI KAGAKU KOGYO KABUSHIKI KAISHA) * page 2, line 6 - line 114; figures 1-10 * ---	1,2	E04F13/00 E04F13/08 E04F13/10
A	FR-A-2 321 022 (PAG PRESSWERK AG.) * page 4, line 2 - page 6, line 37; figures 1-5 * ---	1,2	
A	DE-A-41 40 683 (FLACHGLAS-SOLARTECHNIK GMBH) * column 4, line 18 - column 7, line 63; figures 1-8 * ---	1,2	
A	US-A-3 305 995 (ARMSTRONG ET AL) * column 4, line 20 - line 41; figures 1-3 * ---	1,2	
A	FR-A-2 568 919 (KOMMER) * page 2, line 19 - page 6, line 5; figures 1-8 * ---	1,3,5-7	TECHNICAL FIELDS SEARCHED (Int.Cl.6)
A	FR-A-2 574 266 (HUNAULT) * page 2, line 1 - page 6, line 236; figures 1-9 * ---	1,5-7	E04F
A	WO-A-86 00361 (HOVDE) -----		

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	12 September 1995	Ayiter, J

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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E : earlier patent document, but published on, or after the filing date
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