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(71) Applicant: **INDUSTRIA MOBILI MIO DINO srl**
Via Montecassino 16
I-30020 Summaga di Portogruaro (VE)(IT)

(72) Inventor: **Savorgnan, Valerio**
Industria Mobili Mio Dino SRL. Via Montecassino 16
I-30020 Summaga di Portogruaro (VE)(IT)

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

(54) Supporting structure for the realization of partition walls.

(57) A panelling supporting structure to realize partition walls composed by:
A primary supporting structure (1) comprising simultaneously operable panelling hooking means (4-4'-S-S'-3-6);
A secondary intersecating supporting structure crossing the first one, comprising crossing elements (2) connected ones with the other, vicing said primary supporting structure (1);
Panel coating means (B) comprising corresponding hooking receiver means (8-7) for being hooked by said primary supporting structure (1).
Push terminals of the primary supporting structure for tight profiles by means of spacing interposition means(11-12).

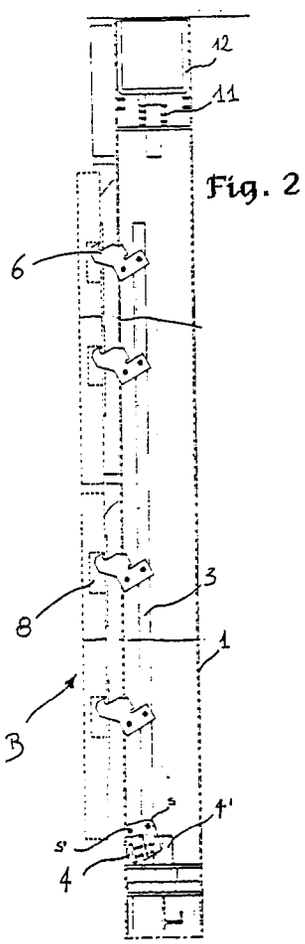

Fig. 2

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SUPPORTING STRUCTURE FOR PANELS FOR THE REALIZATION OF PARTITION WALLS

The present invention has for object a structure for panels for the realization of partition walls.

The invention finds particular even if not exclusive application in the realization of partition walls as support skeleton for coating panels.

In prior art supporting structure for panels for the realization of partition walls is well known.

In a first solution a primary and secondary supporting structure are made in wood; the first being composed by mullions the second comprising the respective mullion crossing connecting elements. To allow the placement of said supporting structure it is necessary to install on the floor and in the ceiling an "U" profile in which by screws means said mullions are fixed in abutment. The mullion crossing connectin elements are secured in head abutment directly in said mullions. The installation of the coating panels on the supporting structure is carried out by hanging by a series of hangers able to be inserted in analog hooking seats on the supporting structure. Such application presents notable disadvantages. In first place the held inefficacy of the panel due mainly to the inadequacy of the hooking means and an absolute lack of solidity. In fact it concerns partition walls that do not allow the obtainment of a structure with a uniform solidity and of consequence involve a very bad anchorage. Furthermore it presents gaps concerning approximately the security of the structure, for the fact that the panels can unhook with an extreme easiness having the possibility of damaging to persons and things. Furthermore the absence of a standard structure that allows the reutilization and the maxim versatility both for the looms application for frames that in the possibility to equip conveniently the wall. Nevertheless, such solution does not allow an easy distribution of the water and electric connections being the space for internal installations not sufficient.

A second solution for solving the mentioned problems had given poor result, this solutions provides a supporting structure comprising mullions with pushing terminals for the anchorage in the profile on the floor and under the ceiling. The hanging of the coating panels in said mullions are obtained by longitudinally guide means inside which is sliceably a small plate, adjustable so in height, comprising a hangers male protruding couple if compared to the mullion. Also this solution presents more or less the analog disadvantages of the previous one.

A third solution comprises the panels in which a rotatable perpendicular hanger is inserted by means of actuation of a screw transversely connected with it.

Naturally the application of such wall involves an adapted mullion which supposes utilization of cross connecting elements from side to side of the profile on which said hooking means operate.

This solution presents additional drawbacks if compared to the previous ones. In fact in this case we can expect high production cost and the insertion point of the panels can break easily due to the excessive effort to which is subdued.

Scope of the present invention is to obviate to the mentioned drawbacks.

This and other scopes are reached with the present innovation according to the characteristics of the annexed claims solving the exposed problems by means of a panelling supporting structure to realize partition walls composed by:

A primary supporting structure comprising simultaneously operable paneling hooking means;

A secondary intersecating supporting structure crossing the first one, comprising elements connected ones with the other, vicing said primary supporting structure;

Panel coating means comprising corresponding hooking means for being hooked on said primary supporting structure;

Primary supporting structure pushing terminal means for tight profiles by means of spacing interposition means.

In such a way we obviate the mentioned drawbacks, allowing firstly the realization of a simple and solid structure obtaining an all one with a perfect anchorage. Furthermore thanks to the particular hooking system, installation is extremely simplified avoiding successive settlements and increasing the functionality. Panelling unhinging is avoided, being conveniently associated with equal easiness (E.g. the looms for frames).

Finally the particular conformation allows an optimal distribution of the plant and particularly in the tight profile being increased the space having the possibility to allow the insertion even of piping network for discharging liquids.

These and other further advantages will appear from the specified successive preferential solution in the description of realization with the help of the accompanying drawings which particulars of execution are not to be considered limitative but exemplificative solely.

Figure 1 represents a frontal partial view of the skeleton comprising primary supporting structure, secondary structure and tight profiles.

Figure 2 represents a section view of a mullion of the primary supporting structure in hooking phase of the coating panels.

Figure 3 represents a section view of the mullion

with the respective hooked panels.

Figure 4 represents a plant view of the head connection of the crossing elements of the secondary supporting structure.

Figure 5 represents a schematic view of the hooking small plates to fix to the coating panels.

The Figures disclose that a supporting structure (A) for partition walls composed by a primary supporting structure comprising mullions (1) on which the respective coating panels (B) is hinged, and a stiffening secondary supporting structure composed by crossing elements ensemble between them connected (2).

More in particular, the mullions (1) are endowed of hooking means essentially composed by a vertical-longitudinal bar (3) vertically movable by means of actuation of a screw means (4) placed at one end of the mullion (1). The screw (4) is pledged in an overturned "L" lever (5) wherein at least a side (s′) of this is hinged (s′) on the mullion (1) and hinged (s) in opposed on said bar (3), along which are hinged a series of hangers (6) analogously hinged (s′) on the mullion (1). The conformation of the hangers (6) is with crook shape in protrusion if compared to the border of the mullion (1). Operating the screw (4) being in abutment of a treat means (4′) and being hinged in (s) in the bar (3) this determines the hoisting or viceversa of the bar making the hangers (6) to rotate in fixed hinging point (s′), allowing panel hooking seats (8-7) preventively applied on the internal side of the panel to apply (B) be hinged by the hangers (6). In this case any mullion (1) provides a bars couple (3) and relative hooking means (6) moved by a unique screw means (4), in order to be able to act in the same plane to hook the edges of the respective panels (B). In correspondence of any seat (8) where is applied a receiving seat plate hinging means (7) composed by a small plate in which a crack (c) is longitudinally obtained to allow the insertion of the hanger and superiorly to this a hole (c) able to contain the hooking end (9) of the hanger (6). For the installation it is sufficient to bear the respective panels (B) on the supporting structure (A) until the hangers (6) insert through the small plates (7) in the seats (8). Since the panel is placed, for holding steadily the panel it is sufficient to operate the screw means (4) which determine the lowering of the bar (3) allowing the recall in rotation the hangers (6) which crook (9) that will pledge in the hole (c) of the small plates (7). Any crossing connecting bar (2) is disposed between mullion and mullion (1) pledging itself with the successive (2) determining a structural continuity by means of a tie rod (13) keyed on the respective ends and throughole through the mullion (1). In this way besides to determine the continuity of the crossing elements (2) it is viced simultaneously even the mullion (1) contributing notably to the uniform stiffening of the structure. Finally any mullion (1) in correspondence of the end disposes of adjustable terminals (12) for the anchorage on the floor and under the ceiling. In particular pledged screws on the mullion (1) of which at least one with yielding pushing means (11) are used. The basis end is pledged in an "U" support spacer (12) of less size of the tight profile (14) for the scope to allow an easy utilization of the available space for the passage of the water and electric connections .

Claims

1. A panelling supporting structure to realize partition walls composed by:
A primary supporting structure (1) comprising simultaneously operable panelling hooking means (4-4′-S-S′-3-6);
A secondary intersecating supporting structure crossing the first one, comprising crossing elements (2) connected ones with the other, vicing said primary supporting structure (1);
Panel coating means (B) comprising corresponding hooking receiver means (8-7) for being hooked by said primary supporting structure (1).

2. A supporting structure, according to claim 1., characterized in that the primary supporting structure is composed by a series of mullions (1), at least one comprising said hooking means for the panels simultaneously operable essentially composed by at least a longitudinal bar (3) vertically movable along which are hinged (s′) a series of hangers (6) on the mullion (1).

3. A supporting structure, according to claims 1. and 2., characterized in that the longitudinal bar (3) is movable by means of actuation of a screw means (4) placed in proximity of the end of the mullion and being said screw means (4) pledged in an "L" shaped lever (5) wherein at least a side of this is hinged (s′) on the mullion (1) and its corner is hinged (s) on said tie rod (3).

4. A supporting structure, according to claim 1., characterized in that the crossing elements (2) pledging itself with the successive vice at least a mullion (1) with a structural continuity by means of a tie rod (13) keyed on the respective ends and throughole through said mullion (1).

5. A supporting structure, according to claim 1., characterized in that any mullion (1) presents yelding pushing terminals associated by spacing means being pledged in "U" shaped support spacers (11-12).

6. A support structure according to claims 1., 2. and 3, characterized in that the hangers (6) is in crooking shape (9) in order to protrude if compared to the front edge of the mullion means (1).

7. A support structure according to claim 1., characterized in that on the internal side of the panel (B) seats (8) are obtained corresponding with analog disposition of the smal plate hangers (6) to be hinged by the mullion (1).

8. A support structure according to claims 1. and 7., characterized in that the panel seat hooking means (8) by the primary supporting structure (1) comprises each one a small plate hook receiving means (7) in by longitudinally a crack (c) to allow the insertion of the respective mullion hanger (6) and superiorly to this a hole (c') able to contain the end with crook (9) of the hanger so inserted (6).

9. A support structure according to the previous claims, characterized in that any mullion (1) provides a bar couple (3) and relative hooking means (6), having the possibility to act in the same plane to hook the edge of the respective panels (B) in both oppoeed faces.

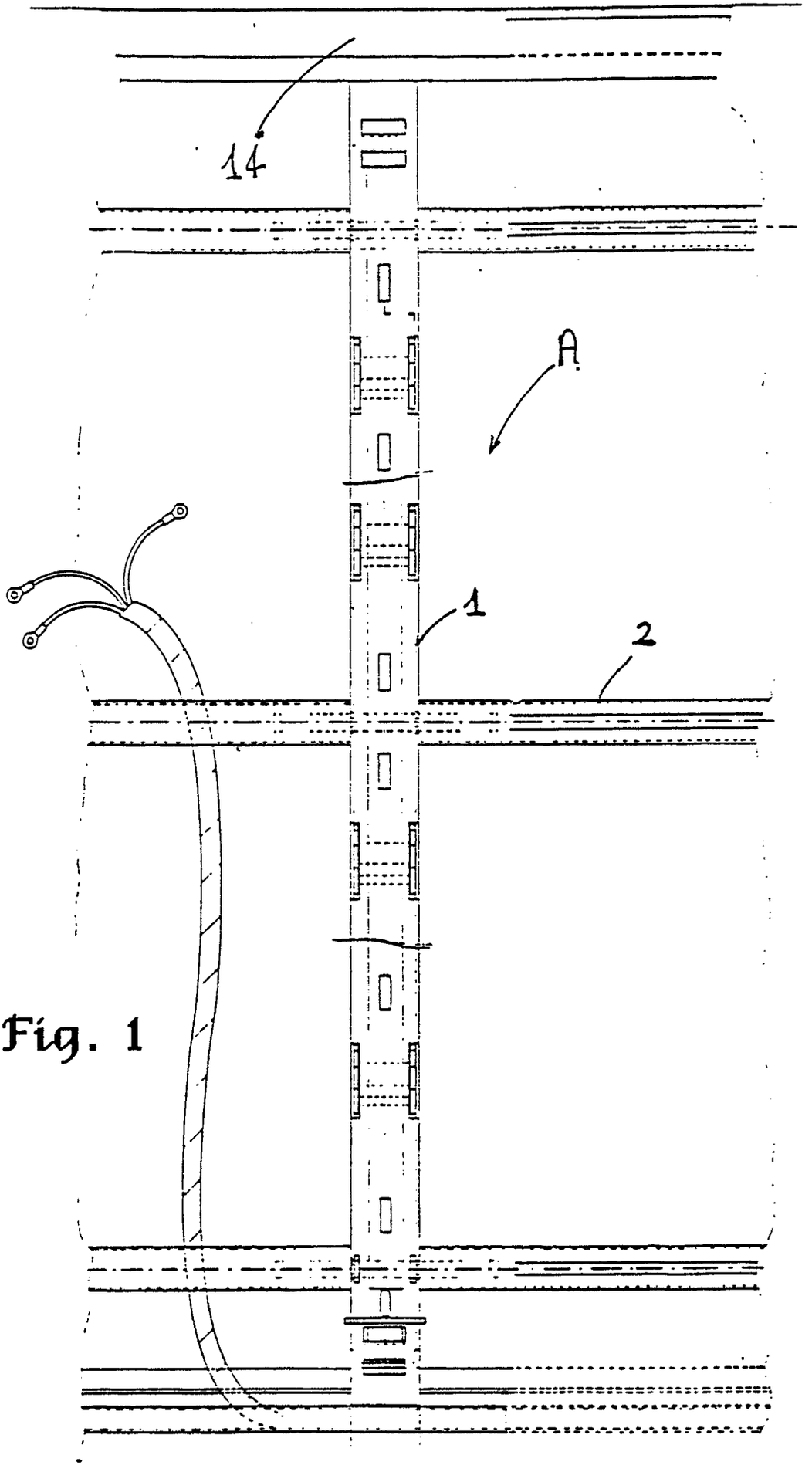

Fig. 1

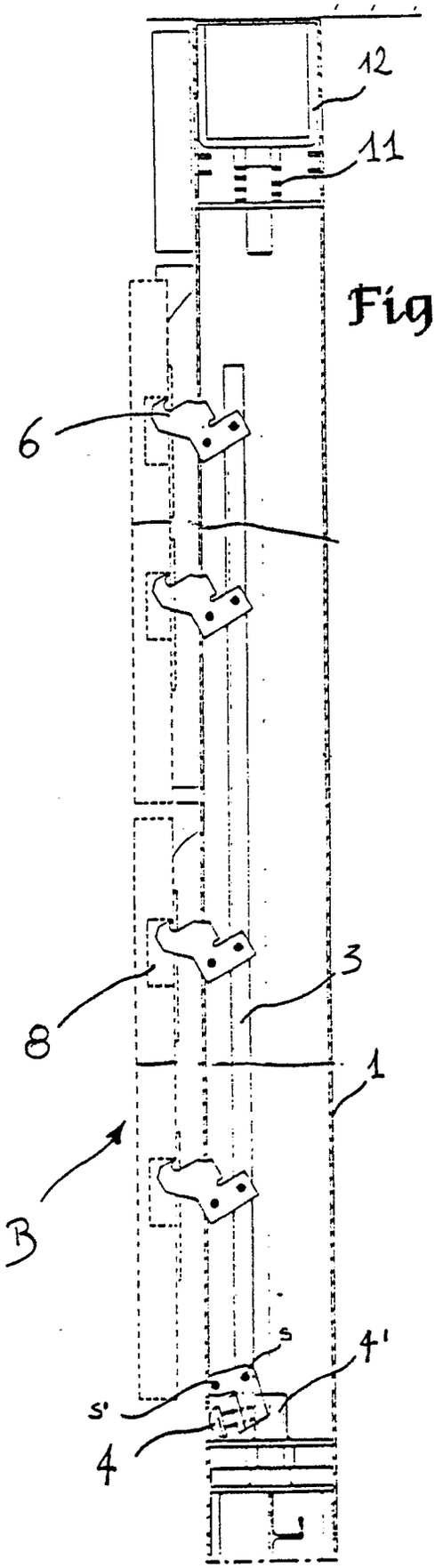

Fig. 2

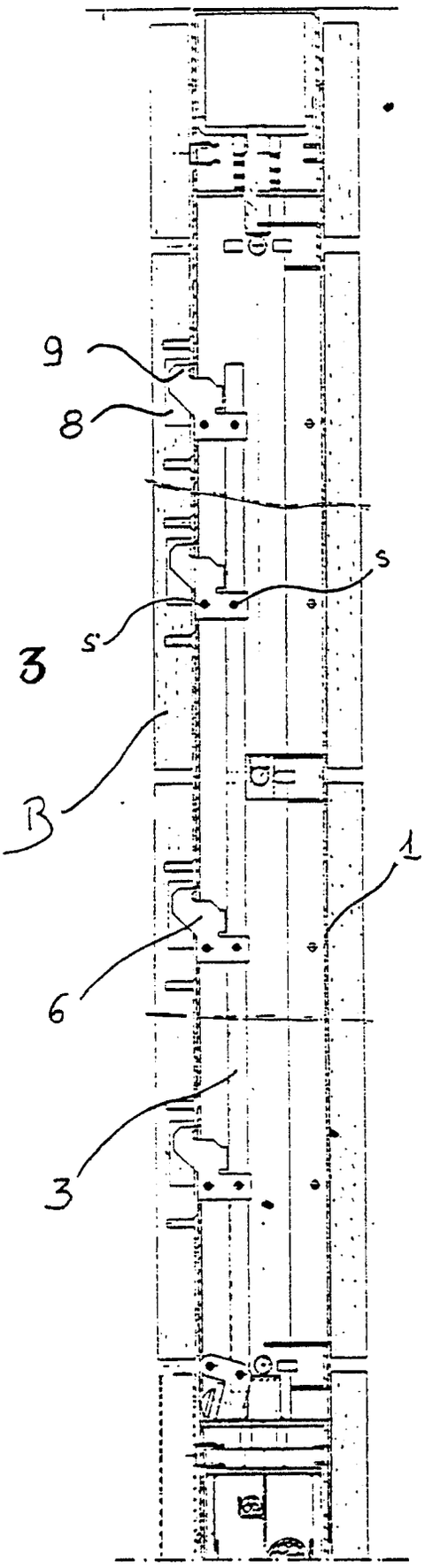

Fig. 3

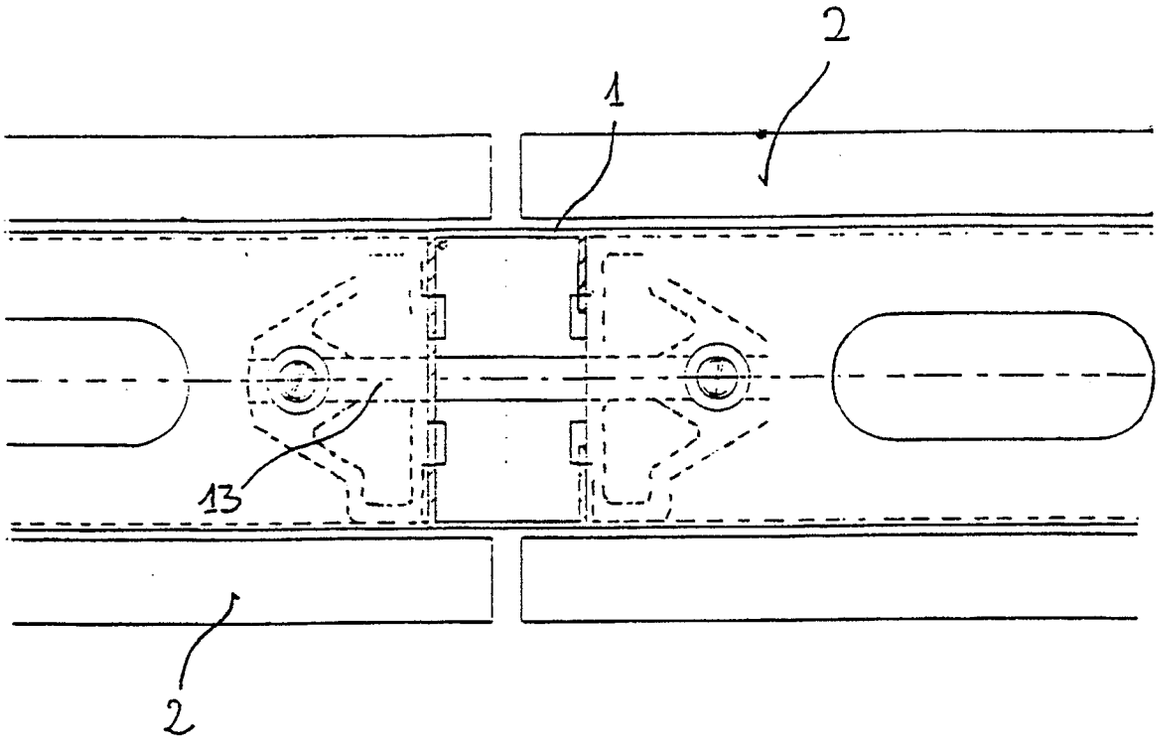

Fig. 4

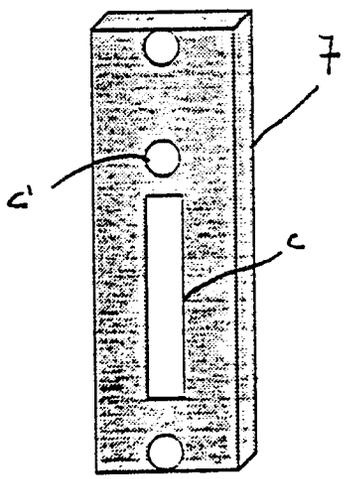

Fig. 5