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(54) **System of component parts of an elevator system at the floors of the elevator shaft and mounting method thereof**

System von Komponententeilen eines Aufzugsystems an den Boden des Aufzugschachts und zugehöriges Montageverfahren

Système de composants d'un système d'ascenseur aux étages de la cage d'ascenseur et procédé de montage correspondant

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Description

Field of the invention

[0001] The present invention relates to a system of component parts of an elevator system at the floors of the runway, and relative mounting method, adapted to allow the mounting of doors at the floors, and interchangeable modular infill of the runway of said elevator system.

State of the art

[0002] Elevator systems are installed inside an elevator runway that is generally constructed at the same time as the structural elements of buildings.

[0003] Said elevator runway is therefore made of reinforced concrete to define a parallelepiped that runs for at least the entire height of the building and which has an opening for each landing served by the elevator system.

[0004] Therefore, during construction of a building the structure or carcass is first produced, and subsequently the electrical, plumbing and heating systems, and the elevator system with relative landing doors, are installed. Only after this is it possible to carry out the finishes.

[0005] For safety reasons, it is preferable not to have different teams of workers working simultaneously at the building site.

[0006] This means that when those in charge of installing the elevator mount the doors at the landing, the floors, marble and/or wood defining the jambs of the openings of the elevator runway have not yet been installed.

[0007] However, it is not possible to reverse the order of installation as centering and squaring of the doors at the various floors must necessarily be ensured in the same position.

[0008] Moreover, masonry works are required after said installation works, which interfere with the quality of the final finish.

[0009] Therefore, installation of said finishing works results in a considerable loss of time and money.

[0010] In practice, the doors of the various floors must be equidistant and perfectly aligned with one another, so that the motors of the car can, by means of suitable couplings, open the doors correctly on each landing.

[0011] According to another aspect related to safety, during the works to build the carcass, the openings of the elevator runway must be blocked off in order to prevent people from accidentally falling into the elevator runway.

[0012] For this purpose, carpenters provide a barrier, generally made of wood, nailed to the walls defining the stairwell, until it is time for the team of workers to mount the doors at the floors.

[0013] Consequently, these workers must remove said barrier before starting to mount the doors at the landing, losing further time.

[0014] Therefore, a principal problem is that of reducing to a minimum any adjustments to the finishes after mounting of the doors at the floors, and another no less important problem concerning safety is that of ensuring that the openings of the elevator runway are blocked off on each landing.

[0015] EP 1 679 281 A1 discloses a system according to the preamble of apparatus claim 1.

Summary of the invention

[0016] The object of the present invention is to provide a system of component parts of an elevator system at the floors of the runway, and relative mounting method, adapted to solve said mounting and safety problems, and to allow mounting of doors at the floors, and modular infill of the runway of the elevator system.

[0017] A particular object of the present invention is a system of component parts of an elevator system at the floors of the runway, and relative mounting method, as better described in the claims, which form an integral part of the present description.

Brief description of the figures

[0018] Further features and advantages of the invention will be more apparent in the light of the detailed description of preferred, but not exclusive, embodiments thereof, shown by way of non-limiting example with the aid of the accompanying drawings, wherein:

Fig. 1 represents a section of an elevator runway in which a system according to the present invention is mounted;

Fig. 2 represents an enlargement of a portion of the preceding figure;

Figs. 3 and 6 represent a front view from the landing side of an elevator runway in which the system forming the subject of the present invention is mounted, respectively before and after mounting of infill panels and of the doors;

Fig. 4 represents a variant of the invention according to the preceding figures;

Fig. 5 represents an exploded view of the structural elements of the system, according to a preferred embodiment.

[0019] The same reference numbers and letters in the figures identify the same elements or components.

Detailed description of a preferred embodiment of the invention

[0020] The system forming the subject of the present invention provides for the mounting of an upper cross-piece 1 and a lower jig 2.

[0021] Said crosspiece and said jig define the exact position of the suspensions and of the thresholds of the

doors of all the floors.

[0022] Mounting these in an elevator runway VA for each of the openings at the floors, before laying the flooring of a respective landing PT, ensures perfect centering of the various openings with respect to elevator travel.

[0023] Advantageously, preliminary positioning of a jig 2 and of an upper crosspiece 1 for each opening of the elevator runway allows constructional inaccuracies of the structures to be corrected, as workers called to lay flooring and apply plaster are obliged to take said jigs and crosspieces as reference for finishing each landing. Moreover, it is no longer necessary to carry out any structural preparation for positioning of the doors at each opening of the elevator runway, as positioning of the upper crosspiece 1 and of the jig 2 allows filling panels, defining the edge margins of the opening of the doors, to be installed.

[0024] Further, in conformity with the present invention, said upper crosspiece 1 is of a length equivalent to the width of the side of the elevator runway in which the opening is produced and is anchored to the runway at the ends, abutting against the side walls, to define a fixed-end beam.

[0025] This anchoring ensures that the position of the crosspiece can be adjusted to ensure it is plumb in relation to the respective jig 2 and consequently to all the other jigs of all the other openings of the runway at other floors.

[0026] Moreover, the lower jig 2 is also of the same length as the width of the side of the elevator runway in which the opening is produced, minus the dimensions of the finishes 37 and a further adjustment margin 38 (Fig. 3).

[0027] According to the invention, said lower jig has an S-shaped section in which an upper plate 2' and a lower plate 2'' are parallel and staggered and joined by a transverse plate 2''' to the first two (Fig. 2).

[0028] Said jig 2 is mounted so that said upper plate 2' defines the level of the floor PV for the subsequent flooring step.

[0029] Said lower plate 2'', being staggered with respect to the upper plate 2', projects into the elevator runway for application of the threshold for sliding of the doors at the landing, which slide inside the elevator runway.

[0030] Preferably, said upper crosspiece 1 is produced by means of a box element, for example with a C-section with internal (or also external) folded edges, although other shapes can be used.

[0031] To anchor the upper crosspiece 1 against the lateral walls it is advantageous to use at least one pair of L-shaped elements 6, positioned symmetrically to each other with the supporting part arranged so as to exit from the shape of the upper crosspiece 1, for simple anchoring and coupling of the crosspiece to the lateral walls of the elevator runway.

[0032] Until the doors are mounted, one or more fall prevention rails 3 (preferably two) can be positioned between said upper crosspiece 1 and said lower plate 2'' of

said lower jig 2 to define a fall prevention barrier (Fig. 4).

[0033] For this purpose, said lower plate 2'' and said upper crosspiece 1 comprise a suitable number of holes through which to anchor, for example with screws, or by interlocking, said fall prevention rails 3.

[0034] Advantageously, connection of said fall prevention rails 3 to said jig and to said crosspiece is such as to maintain the rails inside the elevator runway, avoiding any interference with the application of plaster, marble, wood or tiles.

[0035] Fig. 1 shows a section of an elevator runway VA at a landing PT. It can be clearly seen that the floor PV has been laid so as to pass under the upper plate 2' of the jig 2.

[0036] According to further variants of the invention, the floor can be taken perfectly to the level of said first plate 2' or can be at a slightly higher level to said plate. In fact, according to a preferred variant of the finding, said upper plate 2' is provided with an anti-slip covering (not shown).

[0037] According to another aspect of the invention, the plastering of the ceiling and of the walls can be applied with continuity up to the inner edge of the openings of the elevator runway VA, taking as reference the transverse plate 2''' of the jig and the edge of the upper crosspiece 1 outside the runway.

[0038] The jig 2 is associated with the floor of a landing PT, for example by means of two or more first square support elements 4. With reference to Fig. 4, in addition to or alternatively to said first square elements 4, second square elements can be provided, adapted to be associated with the lateral walls to support said jig 2 in proximity of the respective ends. Said square support elements comprise slots extending sufficiently to allow adjustable mounting of said lower jig 2 with respect to the runway VA, both vertically and horizontally.

[0039] Fig. 4 shows installation of said rails 3 associated with said crosspiece and with said jig. Said rails 3, in a preferred variant comprise one or more hooked elements 31, for insertion of planks or other suitable horizontal fall prevention elements 32 contributing towards blocking off access to the elevator runway.

[0040] Said rails 3 can comprise different anchoring means of horizontal fall prevention elements.

[0041] As can be seen from the figures, said elevator runway VA is preferably completely open, in the sense that at each landing its opening is defined at the perimeter by the floor, by the ceiling and by the lateral walls of the runway itself. In other words, instead of being formed of four sides, the elevator runway can be formed of only three sides, without counting the surface of the soffit depth which at each landing faces the elevator runway.

[0042] Fig. 5 shows an exploded view of the component parts for installation of the system at a landing, in a situation in which the opening of the elevator runway is complete. Horizontal 10 and vertical 11, 12 infill panels are also shown.

[0043] It can be noted that the upper crosspiece 1 and

the lower jig 2 are advantageously of a length such as to almost entirely cover the width of the elevator runway.

[0044] In Fig. 5 it is assumed that the doors slide telescopically only on one side (left in the figure) but it is evident that in other installations the doors can open symmetrically, with one door opening to the left and one door opening to the right. The infill panels (10, 11, 12), installed subsequently, are composed of sheets comprising bends at the edges and structural support elements, inserted in the edge bends, in the inner part of the sheets facing the elevator runway. The edge bends are preferably only present on two opposite sides of the panel: for example, in the vertical panels 11 and 12 bends 20, 21 are present on the vertical sides, while in the horizontal panel bends 22, 23 are present on the horizontal sides. In the present context vertical and horizontal refer to the direction when mounted. More in particular, an upper support bar 30 is inserted horizontally between the bends 20, 21 of the vertical sheet 11, and anchored there in a slightly higher position to that corresponding to the crosspiece 1, with rivets. At least one square 31 in the shape of an S facing the inside of the panel is anchored to the upper bar 30. When mounting the panel, the square is used to hang the panel to the upper crosspiece.

[0045] A lower bar 32 is inserted horizontally between the bends 20, 21 of the vertical sheet 11 on the bottom thereof. After having hung the panel to the crosspiece, the upper bar is anchored to the crosspiece 1, while the lower bar is anchored to the jig 2, for example with screws.

[0046] Further reinforcing elements are formed by a further horizontal bar 33 and a box rail 15 anchored between the two bars 32 and 33 and anchored to the inner side of the panel 11, for example by gluing.

[0047] The further reinforcing elements can be omitted depending on the width of the panel, for example in the narrower vertical panel 12, which is however installed in the same manner as the panel 11, on the opposite side of the runway. Therefore, the panel 12 comprises, similarly to the panel 11, an upper bar 30' and a lower bar 32', and a square 31'.

[0048] Two box elements 34, 35 are inserted vertically at opposite sides of the horizontal panel 10, in the bends 22, 23. Squares 36, 36' are anchored to the box elements. The horizontal panel 10 is installed in the same manner as the vertical ones, first hung on the crosspiece 1 through the squares, then anchored to the crosspiece and to the vertical panels.

[0049] After installation of the panels, appropriate beading strips are inserted at the edge to cover the gaps remaining between the wall and ceiling edges, and the external edges of the panels.

[0050] L-shaped beading strips 17 are inserted at the vertical edges.

[0051] A horizontal crosspiece 16, with C-shaped profile with folded edges, internal on the upper edge and external on the lower edge, is firstly installed on the upper edge of the panels, starting from the side of the runway. The horizontal crosspiece 16 is anchored with rivets to

the upper end of the panels 10, 11, and 12, and contributes towards the alignment thereof.

[0052] An L-shaped beading strip 18 is then inserted, anchored to the upper side of the crosspiece 16. The enlargement of the profiles of the crosspiece 16 and of the beading strip 18 can be seen in the enlargement of Fig. 5.

[0053] A vertical stop 40, to stop the doors in closed position, and a horizontal element 41 can also be present laterally.

[0054] It can easily be noted that the infill is composed of panels with anchoring system to the structural part that allows them to be substituted in time with a simple and rapid operation without work on the structural part, on the suspensions and on the landing door panels which remain installed also during this operation.

[0055] Therefore, a single panel, several panels or all the entire infill can be replaced at any time without any work on the elevator system.

[0056] The use of infill panels also simplifies positioning of the elevator call button, as it can be produced directly on the infill panel. See, for example, Fig. 6 in which the call buttons 28 are installed directly on the panel 11.

[0057] By a preliminary operation of the elevator mounting team to position said jig and said upper crosspiece, there are advantages in terms of:

- certainty of the tolerances of the finishes,
- simple subsequent mounting of the elevator
- quality of execution of the works as a whole,
- simple blocking off of the elevator runway during building finishing works.

[0058] The mounting method of the invention makes it possible, for the entire time required for this mounting, to avoid masonry works, as work takes place with the runways fully open at the floors.

[0059] Moreover, even if said jig 2 and said upper crosspiece 1 are soiled by building finishing works, they are not destined to remain in view.

[0060] The system of the invention also allows installation of door openings on different sides at the various floors, in the case in which it is necessary to provide the elevator car with doors on more than one side, for door opening on different sides at different floors of the building.

[0061] Although the present description refers explicitly to an elevator, the same concepts can also be applied to any lift system having the same problems as elevators. Variants of embodiment to the non-limiting example described are possible, without departing from the scope of protection of the present invention, comprising all equivalent embodiments for those skilled in the art.

[0062] The advantages deriving from application of the present invention are apparent. Besides those already listed above, the following can also be mentioned.

[0063] There are evident advantages for the firm installing the elevator system:

- absence of interaction and, consequently, independence from the programming of the building firm;
- simplicity, with automatic positioning of the suspensions of the landing: only centering must be checked;
- the elevator system can be sold complete with all its parts including the infill panels of the elevator runway with a customized system in modules;
- after sales management: any request from the customer to change the construction and finishing material can be satisfied, by replacing the panels at any time in a simple, rapid and consequently inexpensive manner, without work on any component of the elevator system;
- no time lost in general cleaning and for checking system operation of equipment soiled by the finishing material of the building firm;
- hand-over of the system to the customer in perfect finished condition.

[0064] There are also advantages for the building firm:

- it is no longer necessary to construct customized jambs and headers;
- finishing operations are no longer necessary after installation of the doors of each landing by the firm installing the elevator system;
- the structural part is used as jig to apply the plaster or other type of finish and lay the floors;

[0065] it is possible to finish the building completely, with regard to the floor and also paint the stairwell, having installed only the mechanical part of the elevator system and the structural part of the system.

[0066] There are also advantages for the building planner:

- no information is required for positioning of jambs or lowering of the header during planning of the elevator runway.

[0067] Moreover, the advantages in terms of safety are evident:

- the system is designed for installation of supports for laying wooden planks to protect against falling into the elevator runway;
- the supports for installation of the wooden planks have standard thickness necessary to prevent falling into the elevator runway;
- the system also comprises the standard safety sign to install at the center of the top wooden plank indicating falling hazard;
- the building firm only needs to provide the wooden planks, without also having to worry about how these are anchored.

[0068] From the description above those skilled in the art are able to produce the subject of the invention without

introducing further constructional details.

Claims

1. A system of component parts of an elevator system at the floors of the runway (VA) of the system, comprising:

a lower jig (2),
 an upper crosspiece (1) comprising anchoring means (6) adjustable to anchor said crosspiece (1) abutting against the side walls of the runway so as to be plumb with respect to said jig (2)
characterized in that said lower Jig (2) has an S-shaped section in which an upper plate (2') and a lower plate (2'') are parallel and staggered and joined by a transverse plate (2'''), said lower Jig (2) is adapted to be mounted to define on a first side, with said upper plate (2'), a level of a floor and on a second opposite side, with said lower plate (2''), to define a sliding guide of the doors of the elevator system in the runway (VA).

2. The system according to claim 1, further comprising one or more fall prevention rails (3) and wherein said lower jig (2) and said upper crosspiece (1) comprise anchoring means to hold said one or more fall prevention rails (3) vertically between said lower jig (2) and said upper crosspiece (1).

3. The system according to claim 1, wherein the upper plate (2') is adapted to be mounted flat on the floor, said lower plate (2'') being staggered with respect to the upper plate (2'), projecting into the elevator runway for application of the threshold for sliding of the doors at the landing, for sliding inside the elevator runway.

4. The system according to claim 1, wherein said upper crosspiece (1) is C-shaped with folded edges, and/or wherein said anchoring means (6) are L-shaped adapted to be coupled to a perimeter wall of the runway and to a surface defining said upper crosspiece, perpendicular with respect to said perimeter wall.

5. The system according to claim 2, wherein said one or more fall prevention rails comprise at least one hooked element (31) for anchoring of one or more horizontal fall prevention elements (32).

6. The system according to any one of the preceding claims, further comprising an infill comprising one or more modular panels (10, 11, 12) connected to said lower jig (2) and/or to said upper crosspiece (1) to finish and cover the runway at the floors, excluding the area of the doorways.

7. The system according to claim 6, wherein said panels (10, 11, 12) comprise bends at the edges and structural support elements (30, 32, 33, 30', 32'), and/or box-shaped elements (34, 35) inserted in said bends. 5
8. The system according to claim 7, wherein one or more squares (31, 31', 36, 36') adapted to allow said modular panels to be hung on said crosspiece during mounting, are anchored to at least one structural support element and/or box-shaped element. 10
9. The system according to claim 8, wherein said panels (10, 11, 12) comprise one or more box-shaped rails (15) adapted to be anchored between said structural support elements. 15
10. The system according to claim 6, comprising covering beading strips (16, 17, 18) on the edge of said infill. 20
11. The system according to claim 3, further comprising first (4) and/or second square elements (5) to support said lower jig (2) comprising appropriate slots so as to allow adjustable mounting of said lower jig (2). 25
12. A method of mounting a system according to any one of the preceding claims, in at least one runway (VA) of an elevator system comprising the following steps: 30
- applying said lower jig (2) to said runway (VA) before laying the floor of a respective landing (PT), so that said upper plate (2') defines a level of a floor of said landing (PT) and said lower (2'') defines a sliding guide of the doors of the elevator in the runway (VA), said lower plate facing the runway (VA); 35
 - mounting said upper crosspiece (1) so that it is plumb with respect to said lower jig (2). 40
13. The method according to claim 12, wherein application of said lower jig is carried out perpendicular and parallel with respect to a further lower jig (2) of another opening of the runway (VA). 45
14. The method according to claim 12, comprising a step of hooking one or more fall prevention rails (3) at the top to said upper crosspiece (1) and at the bottom to said lower jig (2), it being possible to subsequently apply further fall prevention elements (32) to said one or more fall prevention rails. 50
15. The method according to claim 12, comprising further steps of: 55
- mounting said infill panels (10, 11, 12) through hooking to said crosspiece (1) and subsequent

anchoring to the crosspiece and to said jig (2);
- anchoring said covering beading strips (16, 17, 18) to the edge of said infill.

Patentansprüche

1. System von Komponententeilen eines Aufzugsystems an den Stockwerken des Aufzugschachtes (VA) des Systems, umfassend:
- eine untere Montagevorrichtung (2),
ein oberes Querstück (1), das Verankerungsmittel (6) umfasst, die einstellbar sind, das Querstück (1) anliegend an die Seitenwände des Aufzugschachtes so zu verankern, dass es lotrecht in Bezug auf die Montagevorrichtung (2) ist, **dadurch gekennzeichnet, dass** die untere Montagevorrichtung (2) einen S-förmigen Abschnitt aufweist, in dem eine obere Platte (2') und eine untere Platte (2'') parallel und versetzt zueinander angeordnet und durch eine quer laufende Platte (2''') miteinander verbunden sind, wobei die untere Montagevorrichtung (2) angepasst ist, montiert zu werden, um an einer ersten Seite, mit der oberen Platte (2'), eine Höhe eines Bodens zu definieren, und an einer zweiten entgegengesetzten Seite, mit der unteren Platte (2''), eine Gleitführung der Türen des Aufzugsystems in dem Aufzugschacht (VA) zu definieren.
2. System nach Anspruch 1, des Weiteren umfassend ein oder mehrere Absturzsicherungsleisten (3), wobei die untere Montagevorrichtung (2) und das obere Querstück (1) Verankerungsmittel umfassen, um die ein oder mehreren Absturzsicherungsleisten (3) senkrecht zwischen der unteren Montagevorrichtung (2) und dem oberen Querstück (1) zu halten.
3. System nach Anspruch 1, wobei die obere Platte (2') angepasst ist, flach auf dem Boden montiert zu werden, wobei die untere Platte (2'') in Bezug auf die obere Platte (2') versetzt angeordnet ist und zur Anwendung als Türschwelle zum Gleiten der Türen an dem Stockwerk in den Aufzugschacht hineinragt, zum Gleiten in dem Aufzugschacht.
4. System nach Anspruch 1, wobei das obere Querstück (1) C-förmig mit Faltkanten ist, und/oder wobei die Verankerungsmittel (6) L-förmig sind und angepasst sind, an eine Umfassungswand des Aufzugschachtes und an eine Fläche, die das obere Querstück definiert, senkrecht in Bezug auf die Umfassungswand, gekoppelt zu werden.
5. System nach Anspruch 2, wobei die ein oder mehreren Absturzsicherungsleisten zumindest ein haakenförmiges Element (31) zum Verankern von ein

oder mehreren horizontalen Absturzsicherungselementen (32) umfassen.

6. System nach einem der vorangegangenen Ansprüche, des Weiteren umfassend eine Ausfachung, die ein oder mehrere modulare Paneele (10, 11, 12) umfasst, die mit der unteren Montagevorrichtung (2) und/oder dem oberen Querstück (1) verbunden sind, um dem Aufzugschacht, mit Ausnahme des Bereichs der Türöffnungen, an den Stockwerken ein Finish zu geben und ihn abzudecken. 5
7. System nach Anspruch 6, wobei die Paneele (10, 11, 12) Biegungen an den Kanten und strukturelle Stützelemente (30, 32, 33, 30', 32') und/oder kastenförmige Elemente (34, 35), die in die Biegungen eingebracht sind, umfassen. 10
8. System nach Anspruch 7, wobei ein oder mehrere Winkel (31, 31', 36, 36'), die angepasst sind, es zu ermöglichen, dass die modularen Paneele während der Montage an das Querstück gehängt werden, an zumindest einem strukturellen Stützelement und/oder kastenförmigen Element verankert sind. 20
9. System nach Anspruch 8, wobei die Paneele (10, 11, 12) ein oder mehrere kastenförmige Leisten (15) umfassen, die angepasst sind, zwischen den strukturellen Stützelementen verankert zu werden. 25
10. System nach Anspruch 6, umfassend abdeckende Sickenstreifen (16, 17, 18) an der Kante der Ausfachung. 30
11. System nach Anspruch 3, des Weiteren umfassend erste (4) und/oder zweite rechtwinklige Elemente (5), um die untere Montagevorrichtung (2) zu stützen, umfassend geeignete Schlitze, um eine einstellbare Montage der unteren Montagevorrichtung (2) zu erlauben. 35
12. Verfahren zum Montieren eines Systems nach einem der vorangegangenen Ansprüche in zumindest einem Aufzugschacht (VA) eines Aufzugsystems, umfassend die folgenden Schritte: 40
 - Anbringen der unteren Montagevorrichtung (2) an dem Aufzugschacht (VA) vor einem Verlegen des Bodens eines jeweiligen Stockwerks (PT), so dass die obere Platte (2') eine Höhe eines Bodens des Stockwerks (PT) definiert und die untere Platte (2'') eine Gleitführung der Türen des Aufzugs in dem Aufzugschacht (VA) definiert, wobei die untere Platte dem Aufzugschacht (VA) zugewandt ist; 45
 - Montieren des oberen Querstückes (1) so, dass es lotrecht in Bezug auf die untere Montagevorrichtung (2) ist. 50

13. Verfahren nach Anspruch 12, wobei das Anbringen der unteren Montagevorrichtung senkrecht und parallel in Bezug auf eine weitere untere Montagevorrichtung (2) einer anderen Öffnung des Aufzugschachtes (VA) durchgeführt wird.

14. Verfahren nach Anspruch 12, umfassend einen Schritt des Einhakens eines oder mehrerer Absturzsicherungsleisten (3) oben an dem oberen Querstück (1) und unten an der unteren Montagevorrichtung (2), wobei es möglich ist, anschließend weitere Absturzsicherungselemente (32) an den ein oder mehreren Absturzsicherungsleisten anzubringen.

15. Verfahren nach Anspruch 12, umfassend weitere Schritte des:

- Montierens der Ausfachungspaneele (10, 11, 12) durch Einhaken an dem Querstück (1) und anschließendes Verankern an dem Querstück und an der Montagevorrichtung (2);
- Verankerns der abdeckenden Sickenstreifen (16, 17, 18) an der Kante der Ausfachung.

Revendications

1. Système de pièces composantes d'un système d'ascenseur au niveau des étages de la cage (VA) du système, comportant :

un gabarit de montage inférieur (2),
une pièce transversale supérieure (1) comportant des moyens d'ancrage (6) pouvant être réglés pour fixer ladite pièce transversale (1) en butée contre les parois latérales de la cage de façon à être en aplomb par rapport au dit gabarit de montage (2),

caractérisé en ce que ledit gabarit de montage inférieur (2) comporte une section configurée en forme de S dans laquelle une plaque supérieure (2') et une plaque inférieure (2'') sont parallèles et en décalage et reliées par une plaque transversale (2'''), ledit gabarit de montage (inférieur 2) est adapté pour être monté afin de définir sur un premier côté, avec ladite plaque supérieure (2') un niveau d'un étage et sur un second côté opposé, avec ladite plaque inférieure (2'') afin de définir un guide de coulissement des portes du système d'ascenseur dans la cage (VA).

2. Système selon la revendication 1, comprenant, de plus, un ou plusieurs rails de prévention de chute (3) et dans lequel ledit gabarit de montage inférieur (2) et ladite pièce transversale supérieure (1) comportent des moyens d'ancrage afin de maintenir ledit rail ou lesdits rails de prévention de chute (3) verticalement entre ledit gabarit de montage inférieur (2)

et ladite pièce transversale supérieure (1).

3. Système selon la revendication 1, dans lequel la plaque supérieure (2') est adaptée pour être montée à plat sur le plancher, ladite plaque inférieure (2'') étant décalée par rapport à la plaque supérieure (2'), s'avancant dans la cage de l'ascenseur en vue d'une application du seuil pour faire coulisser les portes au niveau de l'arrivée à l'étage, en vue de coulisser à l'intérieur de la cage d'ascenseur. 5
4. Système selon la revendication 1, dans lequel ladite pièce transversale supérieure (1) est configurée en forme de C avec des bords repliés, et/ou dans lequel lesdits moyens d'ancrage (6) sont configurés en forme de L adaptés pour être couplés avec une paroi périphérique de la cage et à une surface définissant ladite pièce transversale supérieure, perpendiculaire par rapport à ladite paroi périphérique. 15
5. Système selon la revendication 2, dans lequel ledit rail ou lesdits rails de prévention comporte(nt) au moins un élément à crochet (31) pour l'ancrage d'un ou de plusieurs élément(s) horizontal (horizontaux) de prévention de chute (32). 20
6. Système selon l'une quelconque des revendications précédentes comprenant, de plus, un élément de remplissage comprenant un ou plusieurs panneau (x) modulaire(s) (10, 11, 12) raccordé(s) au dit gabarit de montage inférieur (2) et/ou à ladite pièce transversale supérieure (1) pour finir et couvrir la cage au niveau des étages, en excluant la surface des encadrements de porte. 25
7. Système selon la revendication 6, dans lequel lesdits panneaux (10, 11, 12) comportent des coudes au niveau des bords et des éléments de support de la structure (30, 32, 33, 30', 32') et/ou des éléments configurés en forme de caisson (34, 35) insérés dans lesdits coudes. 30
8. Système selon la revendication 7, dans lequel une ou plusieurs équerre(s) (31, 31', 36, 36') conçue(s) pour permettre aux dits panneaux modulaires d'être suspendus sur ladite pièce transversale pendant le montage, sont fixés à, au moins un, élément de support de la structure et/ou à un élément configuré en forme de caisson. 35
9. Système selon la revendication 8, dans lequel lesdits panneaux (10, 11, 12) comportent un ou plusieurs rail(s) configuré(s) en forme de caisson (15) conçu(s) pour être fixé(s) entre lesdits éléments de support de la structure. 40
10. Système selon la revendication 6, comprenant des bandes de bourrelet de couverture (16, 17, 18) sur 45

le bord dudit élément de remplissage.

11. Système selon la revendication 3 comprenant, de plus, un premier (4) et/ou un second élément(s) d'équerre(5) pour supporter ledit gabarit de montage inférieur (2) comportant des fentes appropriées de façon à permettre une fixation réglable dudit gabarit de montage inférieur (2). 5
12. Procédé de montage d'un système selon l'une quelconque des revendications précédentes, dans au moins une cage (VA) d'un système d'ascenseur comportant les étapes suivantes comprenant le fait de : 10
 - appliquer ledit gabarit de montage inférieur (2) sur ladite cage (VA) avant d'établir le sol d'un palier respectif (PT) de sorte que ladite plaque supérieure (2') définit un niveau du sol dudit palier (PT) et que ladite plaque inférieure (2'') définit un guide de coulissement des portes de l'ascenseur dans la cage (VA), ladite plaque inférieure faisant face à la cage (VA) ;
 - monter ladite pièce transversale supérieure de façon qu'elle soit d'aplomb par rapport au dit gabarit de montage inférieur (2). 15
13. Procédé selon la revendication 12, dans lequel l'application dudit gabarit de montage inférieur est réalisée de façon perpendiculaire et parallèle par rapport à un autre gabarit de montage inférieur (2) d'une autre ouverture de la cage (VA). 20
14. Procédé selon la revendication 12 comprenant une étape consistant à accrocher un ou plusieurs rail(s) de prévention de chute (3) au niveau du haut à ladite pièce transversale supérieure (1) et au niveau du bas au dit gabarit de montage inférieur (2), cela étant possible pour appliquer ultérieurement des éléments de prévention de chute supplémentaires (32) au dit rail ou aux dits plusieurs rails de prévention de chute. 25
15. Procédé selon la revendication 12 comportant, de plus, les étapes comprenant de : 30
 - monter lesdits panneaux d'éléments de remplissage (10, 11, 12) en les accrochant à ladite pièce transversale (1) et en fixant ensuite à la pièce transversale et au dit gabarit de montage (2) ;
 - fixer lesdites bandes de bourrelet de couverture (16, 17, 18) au bord dudit élément de remplissage. 35

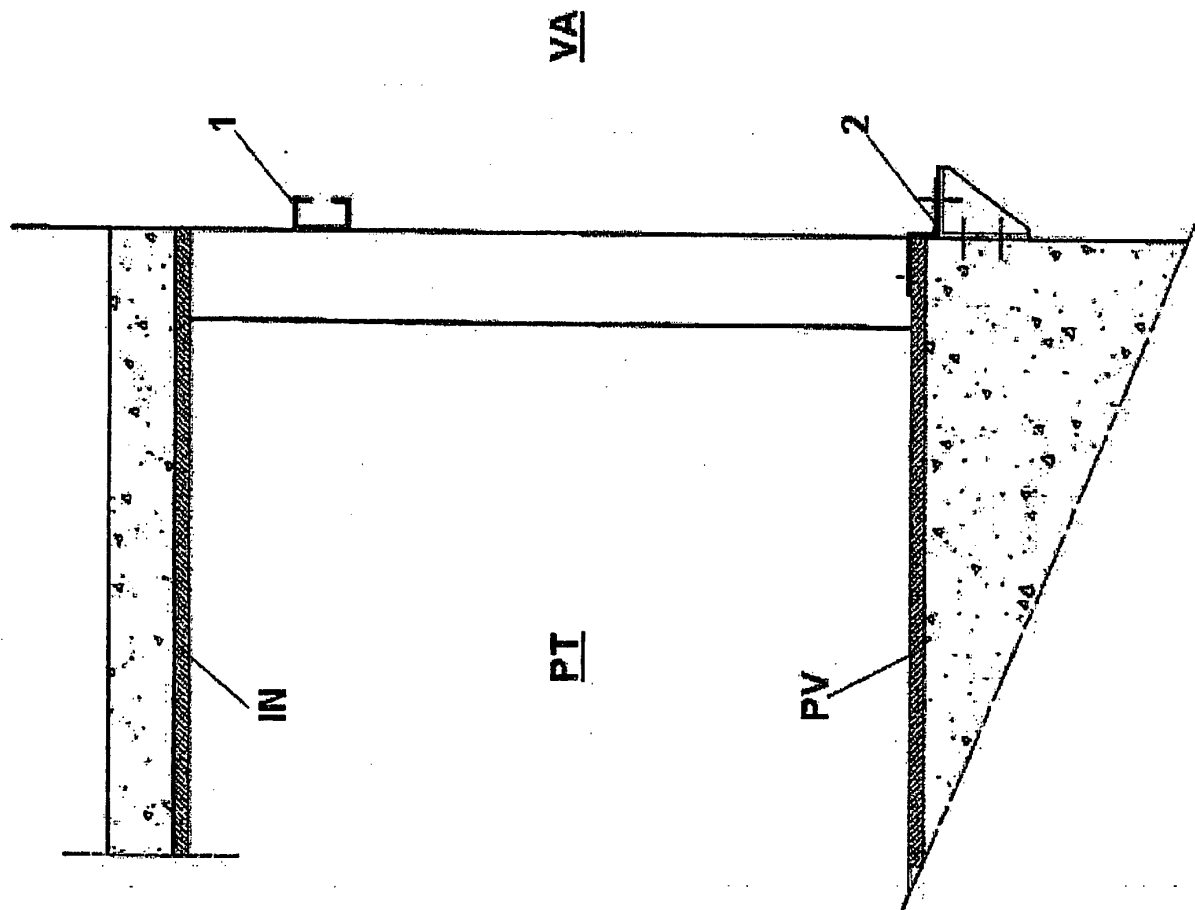


FIG. 1

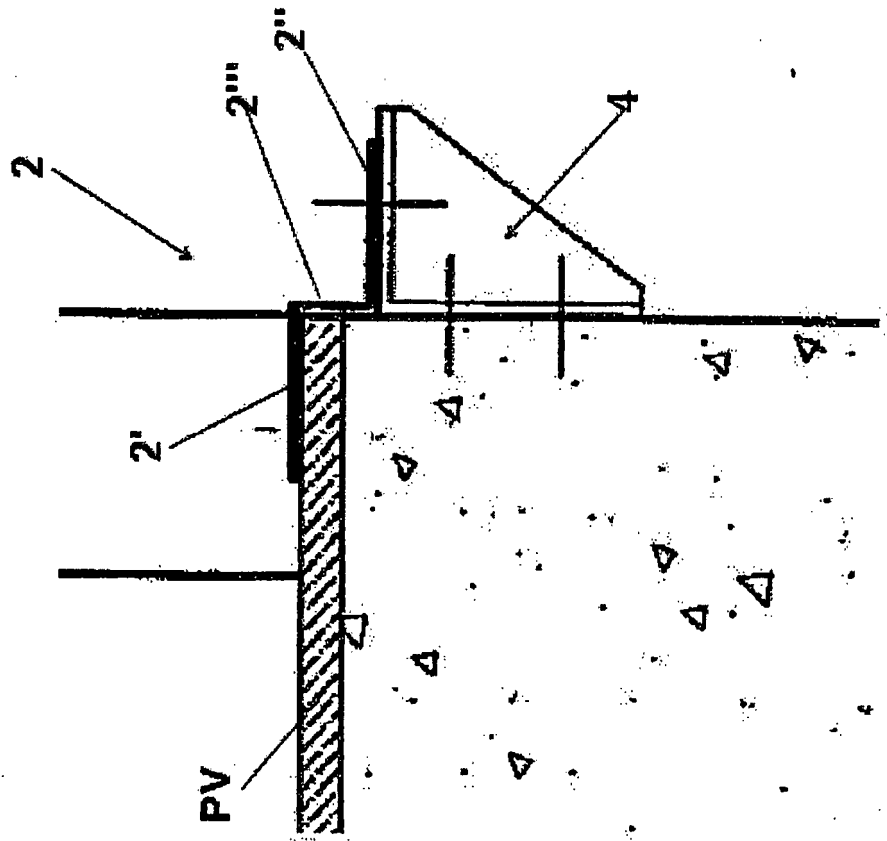


FIG. 2

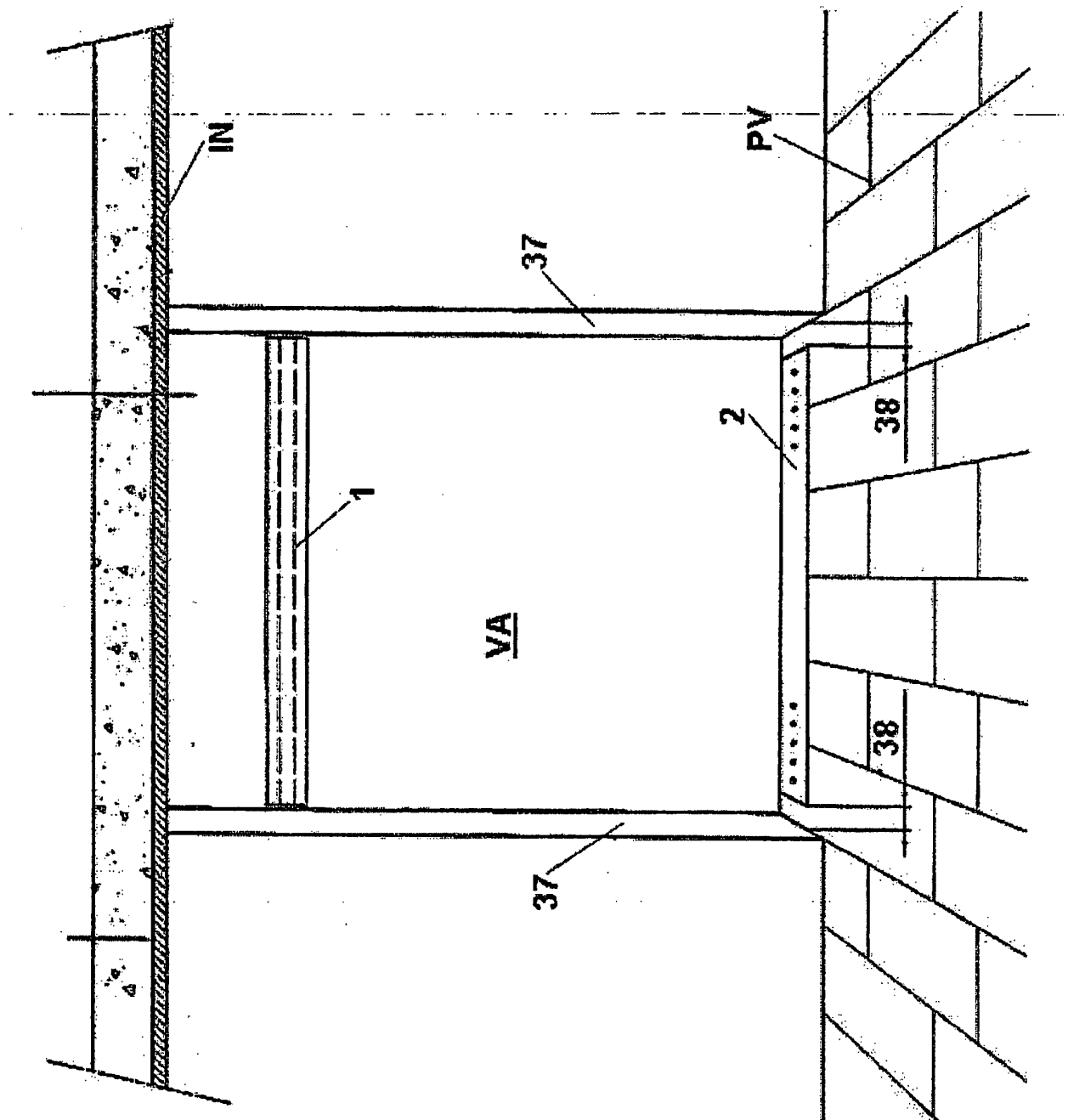


FIG. 3

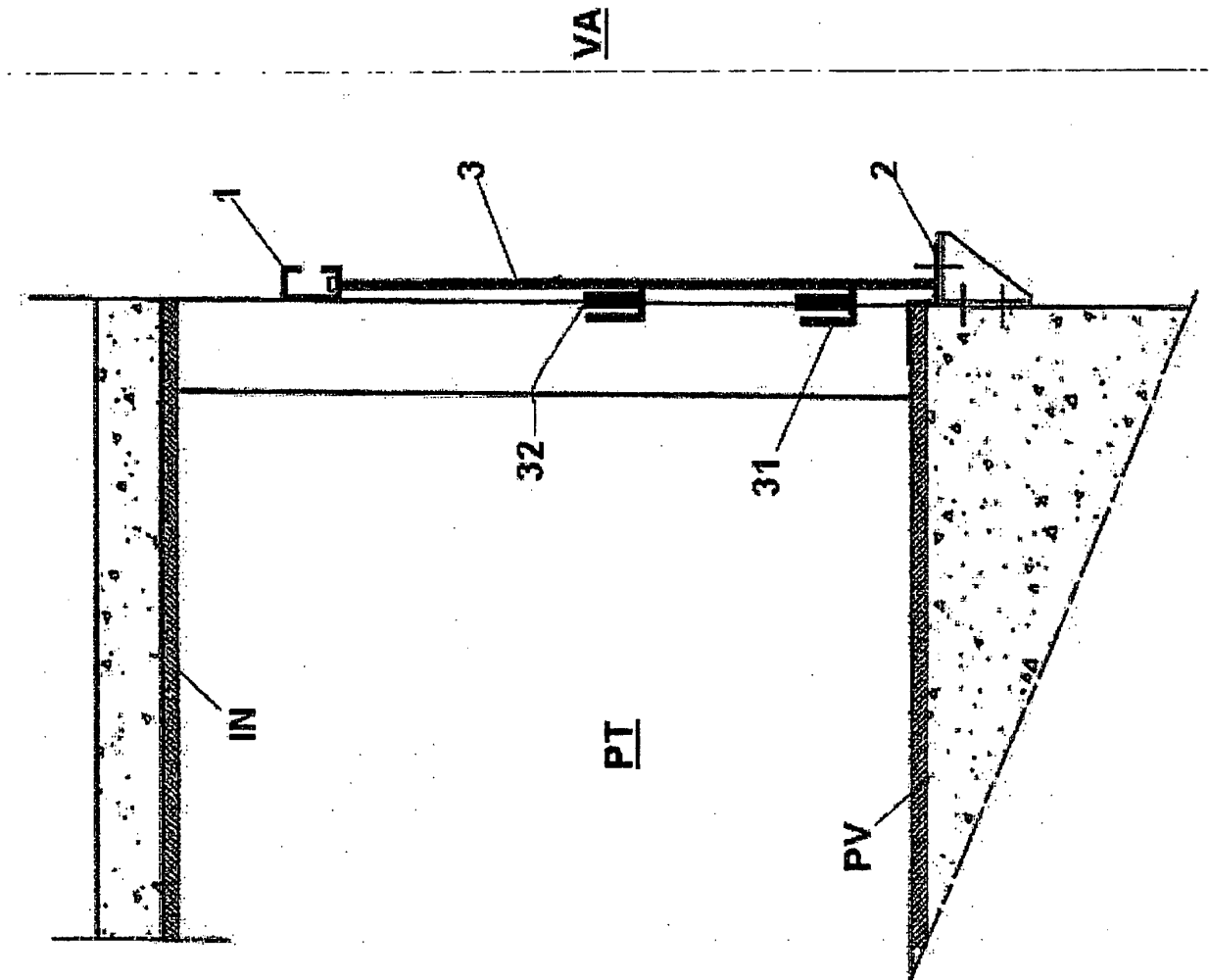
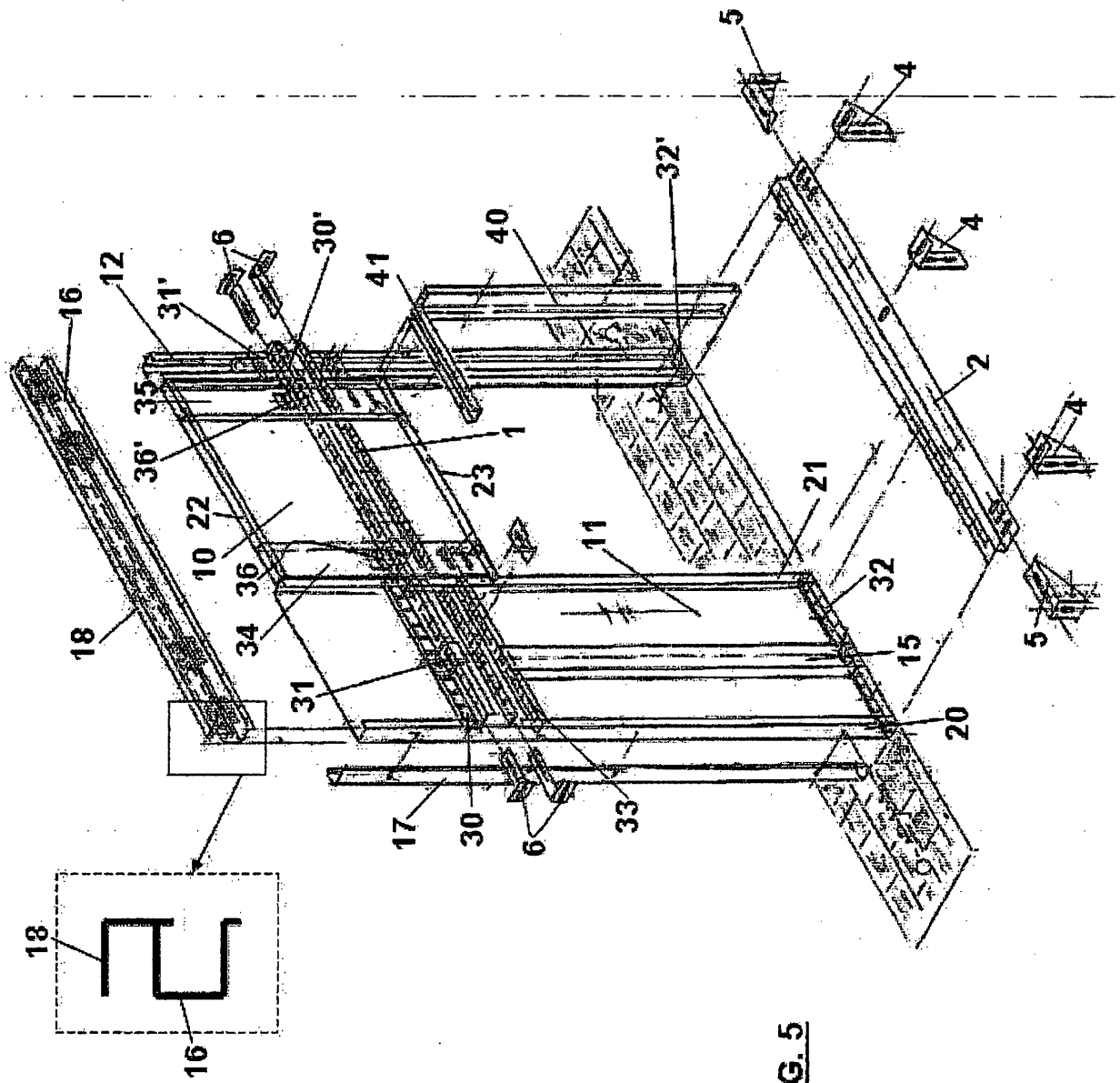


FIG. 4



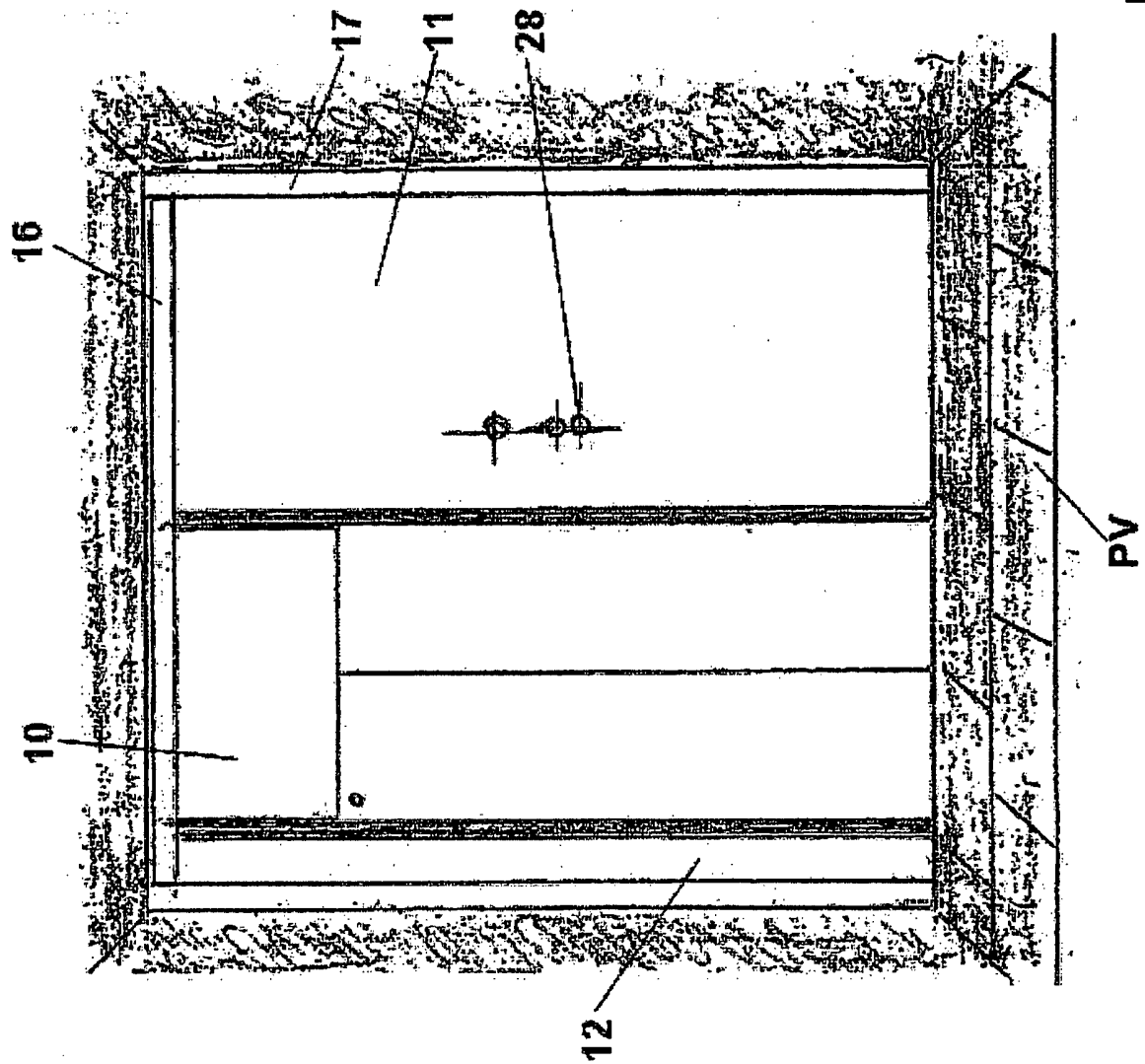


FIG. 6

REFERENCES CITED IN THE DESCRIPTION

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