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(54) Method of erecting a partition wall integrated with a concrete floor

(57) Procedure for construction of partitions with siding boards that comprises a profile that rests on the frame on which vertical profiles (3) are set from the floor to the ceiling. Between these posts is set another profile (2) raised from the floor. All ducts for the various installations are laid out on the floor and jut out of the bottom part of the raised profile (2). They are finally covered with mortar or concrete. In this way the mounting of the partions and the installations is simplified, so that in both cases the reduction in labour costs is considerable.

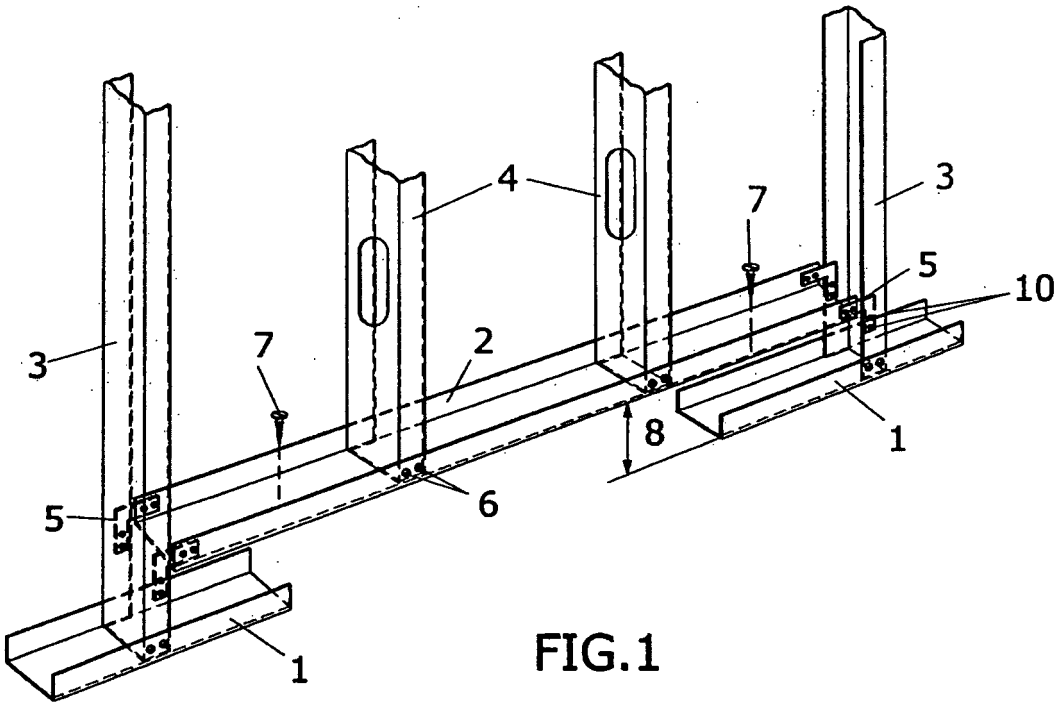

FIG.1

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Description

OBJECT OF THE INVENTION

[0001] The object of the present invention is a procedure for construction of partitions using siding boards, as well as the partitions obtained by this procedure. The materials used for the siding boards in the construction of the partitions may be various, including conglomerate panels, wood and layered plaster boards or molding plaster. Partitions constructed from layered plaster boards or other materials require, prior to mounting the layered plaster boards, to dispose a frame made of metal profiles to define a support for said boards.

[0002] Layered plaster boards used to construct partitions comprise a plaster frame covered with two layers of special multiple-sheet cellulose, and are provided as boards of different thickness.

[0003] At building sites, after the frames are built and cleared, the inner partitions must be set out. When the partitions are made of layered plaster boards or wooden boards the setting out must be performed placing the partition frame, made of metal profiles. Finally, after the partition frames are secured in place the layered plaster boards or wooden boards are attached.

[0004] The present invention of a construction procedure for partitions using siding boards is characterised in that this is performed in a conceptually different manner than currently and conventionally performed, resulting in reduced labour in the setting out of the partition and in the subsequent work on the various installations.

[0005] Therefore, the present invention lies in the field of civil works and specifically in construction of partitions formed from layered plaster or wooden boards.

BACKGROUND OF THE INVENTION

[0006] Hitherto, the construction of partitions with siding boards required setting out the frame or structure that supports said boards prior to any other work.

[0007] The setting out begins from the ceiling, placing the metal profiles on which the vertical posts will be placed later. After said profiles are attached to the ceiling, the various trades may begin their installation work, albeit only partially.

[0008] For example, after the partitions are set out on the ceiling the electricians may begin to lay out corrugated tubes, trays and the like, and to attach distribution boxes, using as a guide the profiles attached to the ceiling. Tubes leave from the distribution boxes to the approximate areas where electrical sockets, data connectors or switches will be placed, all of these only in an approximate position.

[0009] A similar situation occurs with the remaining trades, such as plumbers. Not all trades can work simultaneously, nor finish their installations completely. After the tubes and the like are first set in place the vertical posts are installed, placing only one of the partition sides so that the trades may continue their work; finally, the partition installers must place the siding boards and the various trades must finish their installations.

[0010] It is therefore necessary to coordinate the partition installers and the various trades, as they must alternate.

[0011] The construction procedure disclosed herein intends to avoid all of the aforementioned drawbacks, and more specifically to:

- improve the setting out of the partitions by constructing the entire frame of the partitions at once, instead of in several stages;
- Prevent having to coordinate the work of the partition installers and the installers of the various trades;
- Allow the installers of the various trades to perform almost all of their work at one time, except for the final touches;
- Allow the installers of the various trades to perform their installations in a much more accurate manner, leaving the connection points at their exact location instead of at an approximate one;
- Allow the installers of the various trades to operate simultaneously instead of consecutively.

DESCRIPTION OF THE INVENTION

[0012] The object of the invention of a procedure for construction of partitions with siding boards comprises the following stages:

- Setting out the cleared frame of the partition walls on the floor;
- Laying out and attaching the attachment profiles to the floor;
- Attaching the vertical posts from the floor to the ceiling; these vertical posts will be attached at strategic points;
- Laying out and attaching the raised support profiles placed between two end vertical posts; these support profiles will be placed at a height equivalent to the height of the mortar, so that the profiles will rest on the mortar or cement and can be accessed from the top;
- Laying out and attaching the raised profiles of the vertical posts; the vertical posts will be evenly spaced.

[0013] Then, to continue mounting the installations, the following is carried out:

- Laying out and attaching the ducts of all the installations on the floor: electrical, communications, heating, etc.;
- Making orifices on the raised profile;
- Passing the ducts through the orifices made on the base of the raised profile;
- Pouring the mortar or concrete to a height such that

the raised support profile rests on the concrete, so that all ducts are immersed in the mortar;
- Attaching the raised profile to the mortar or concrete after it has set using screws or the like.

The construction procedure for partition frames described above provides a number of advantages:

- The setting out of the partitions in much easier as it is performed directly on the floor
- Installers can lay out their ducts faster, more easily and with greater security regarding the location of the connection points;
- After the installation has been set out the installers can work simultaneously;
- The installers can leave the installations ready except for the final touches;
- 20% saving in the labour cost of constructing the partitions with siding boards;
- Similar 20% savings in the labour costs of trade installers;
- It is not necessary to plan a sequence of work for the installers and siding board mounters, so that the execution time of the work is substantially reduced.

DESCRIPTION OF THE DRAWINGS

[0014] To complete the description being made and in order to aid a better understanding of its characteristics, the present descriptive memory is accompanied by a set of drawings with figures representing the most significant details of the invention, for purposes of illustration only and in a non-limiting manner.

Figure 1 shows a perspective representation of the bottom part of the frame of the partitions made with siding boards.

Figure 2 shows an enlarged view of a right-angle union of two raised profiles.

PREFERRED EMBODIMENT OF THE INVENTION

[0015] A preferred embodiment of the invention taught is described below with reference to the figures.

[0016] Figure 1 shows the parts and components that conform the frame of the partition for partition boards, with a different arrangement of the profiles compared to what is commonly used, as well as the manner in which said partition frame is used and interferes the assembly of the partition itself and the remaining installations.

[0017] The frame made with conventional profiles has some bottom support profiles (1) on which vertical profiles or posts (3) are placed and attached, therefore resting on the frame and laid out reaching the ceiling, where they are attached by other profiles similar to those on the floor.

[0018] The vertical posts (3) resting on the floor are placed at strategic points such as wall changes or very long segments. Between each two vertical posts (3) an raised profile (2) is attached at a distance (8) from the floor frame.

[0019] The raised profiles (2) can be attached to the vertical posts (3) in various manners, such as a flat L-bar (5) attached to the flanges of both profiles by screws (10).

[0020] The profiles acting as vertical posts (4) are attached to the inside of the raised profiles (2). The attachment of said vertical posts (4) to the flanges of the raised profile (2) is performed by passing fixing screws (6) that attach both flanges of the profiles.

[0021] The height (8) at which the raised profile (2) is placed with respect to the floor or frame is the same as the thickness or depth of the mortar, so that after the latter is poured the raised profile (2) will rest on the mortar.

[0022] After the mortar of concrete poured has set, the raised profile (2) is secured by screws (7) or the like.

[0023] As mentioned above, before the mortar is poured the installers of the various trades will lay out the ducts and tubes on the ground, so that they jut out at the base of the raised profile (2) where required with great accuracy, as the base of said profiles has been previously drilled.

[0024] In this manner, after the mortar or concrete has been poured it is possible to place both faces of the siding boards, so that the installers can then finish their installations easily, as the ducts have been laid out accurately.

[0025] The siding boards may be made of layered plaster, molding plaster, solid wood or conglomerate covered in melamine, etc.

[0026] Figure 2 shows how two segments of raised profile (2) at an angle to each other are connected and attached by angle plates (9) secured by screws (11) to the flanges of both profiles.

[0027] Although the constructive end product is the same, the mounting process is different and has significant constructive consequences when mounting the partition and when carrying out installation work of the various trades, such as electricians or plumbers. In summary, this process provides a clearly different conception that implies savings of labour on the order of 20% for the partition mounters, as well as labour savings of also 20% for the trade installers.

[0028] The essence of this invention is not affected by variations in the materials, shape, size and arrangement of its component elements, described in a non-limiting manner that should allow its reproduction by an expert in the field.

Claims

1. Procedure for construction of partitions with siding boards, from among partitions having a frame made with metal profiles on which siding boards are attached, **characterised in that** it comprises the following stages:

- Setting out the cleared frame of the partition walls on the floor;
- Laying out and attaching the attachment profiles to the floor;
- Attaching the vertical posts from the floor to the ceiling; these vertical posts will be attached at strategic points;
- Laying out and attaching the raised support profiles placed between two end vertical posts;
- Laying out and attaching the raised profiles of the vertical posts; the vertical posts will be evenly spaced.

Then, to continue mounting the installations, the following is carried out:

- Laying out and attaching the ducts of all the installations on the floor: electrical, communications, heating, etc.;
- Making orifices on the raised profile;
- Passing the ducts through the orifices made on the base of the raised profile;
- Pouring the mortar or concrete to a height such that the raised support profile rests on the concrete, so that all ducts are immersed in the mortar;
- Attaching the raised profile to the mortar or concrete after it has set using screws or the like.

2. Procedure for construction of partitions with siding boards according to claim 1, **characterised in that** the height at which said raised support profiles are placed is equivalent to the height of the mortar, so that said profile rests on the mortar and is accessible from its top.

3. Procedure for construction of partitions with siding boards according to claim 1, **characterised in that** the raised profiles are attached to the vertical posts by an L-plate attached to the flanges of both profiles by screws.

4. Procedure for construction of partitions with siding boards according to claim 1, **characterised in that** the vertical posts are attached to the raised profiles on which they are placed by means of through screws that attach both flanges of the profiles.

5. Procedure for construction of partitions with siding boards according to claim 1, **characterised in that** to link and attach two raised profiles that are at an angle to each other angle plates (9) are used attached by screws (11) to the flanges of both profiles.

6. Procedure for construction of partitions with siding boards according to any of the previous claims, **characterised in that** the siding boards used are layered plaster boards.

7. Procedure for construction of partitions with siding boards according to any of the previous claims, **characterised in that** the siding boards used are wood boards.

8. Partition made with siding boards by the previously claimed procedure, **characterised in that** it consists of: bottom supporting profiles (1) attached to the frame on which vertical posts (3) are disposed and attached, which therefore rest on the frame, reaching the ceiling, where there are attached to other profiles similar to those on the floor; between two vertical posts (3) is attached one raised profile (2) at a height (8) above the floor of the frame. The profiles acting as vertical posts (4) are attached with a regular spacing to the interior of the raised profiles (2). After the mortar or concrete is poured the raised profiles will rest on the concrete, the entire assembly being enclosed by siding boards.

9. Partition made with siding boards by the previously claimed procedure, **characterised in that** the raised profiles (2) are attached to the vertical posts (3) by a flat L-bar (5) attached by screws (10) to the flanges of both profiles.

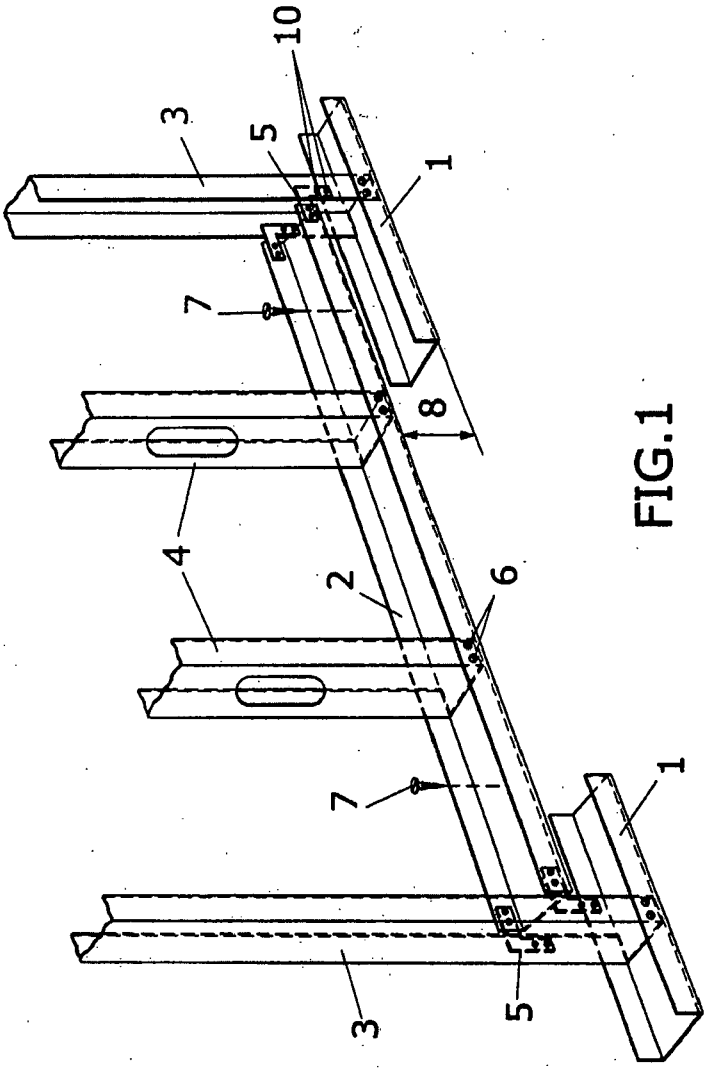

FIG.1

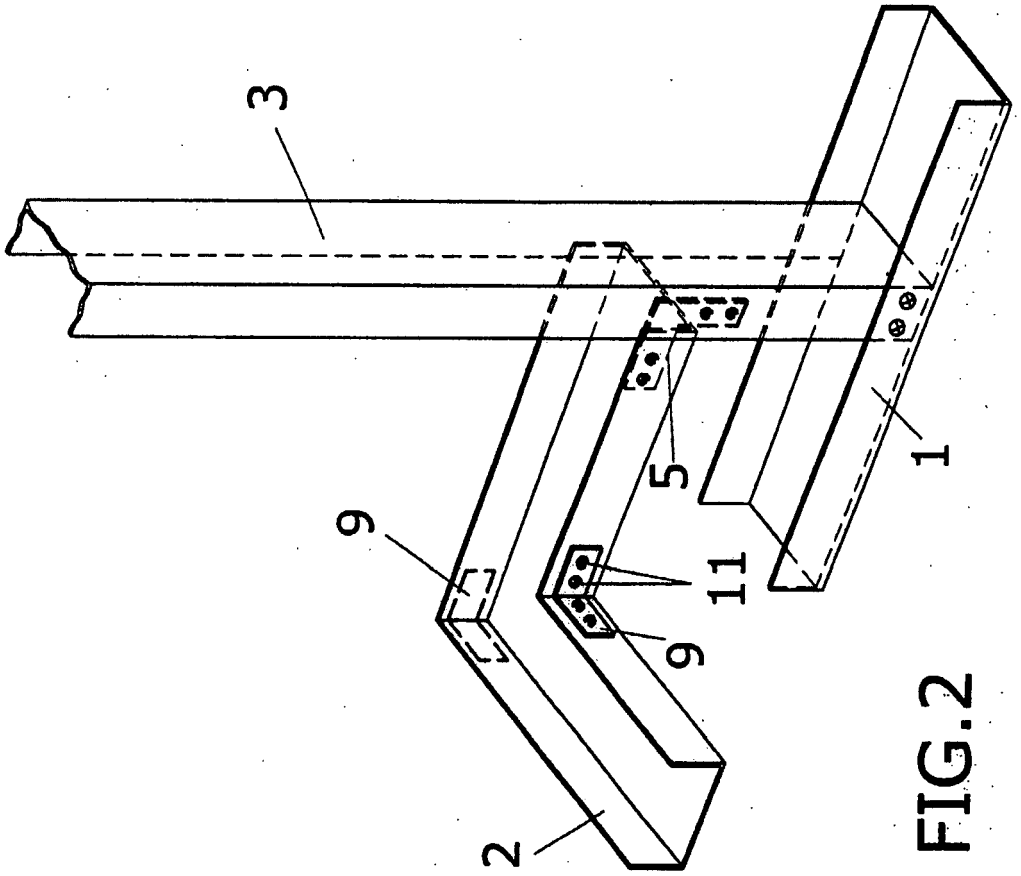

FIG.2

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EUROPEAN SEARCH REPORT

Application Number
EP 05 38 1025

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.7)
A	US 3 195 698 A (CODREA NICHOLAS D) 20 July 1965 (1965-07-20) * figures 1,4,11 *	1-9	E04B2/76
A	NL 8 603 201 A (FRANCISCUS JACOBUS MARIA DE VRIES TE DELFT, NICOLAAS JOHN HABRAKEN TE) 18 July 1988 (1988-07-18) * figures 1,2 *	1-9	
A	US 3 715 849 A (STRASSLE M,CH) 13 February 1973 (1973-02-13) * figures 1-13 *	1-9	

TECHNICAL FIELDS SEARCHED (Int.Cl.7)

E04B

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	15 September 2005	Rosborough, J

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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A : technological background
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T : theory or principle underlying the invention
E : earlier patent document, but published on, or after the filing date
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ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 05 38 1025

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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15-09-2005

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 3195698 A	20-07-1965	NONE	
NL 8603201 A	18-07-1988	NONE	
US 3715849 A	13-02-1973	AT 316815 B	25-07-1974
		AU 459151 B2	20-03-1975
		AU 3226771 A	15-02-1973
		BE 771443 A1	31-12-1971
		CA 957818 A1	19-11-1974
		CH 531624 A	15-12-1972
		CS 161911 B2	10-06-1975
		DE 2120904 A1	02-03-1972
		DE 2166879 A1	22-07-1976
		DK 135858 B	04-07-1977
		ES 203617 Y	16-05-1976
		FR 2102350 A1	07-04-1972
		GB 1339482 A	05-12-1973
		IL 37497 A	14-03-1974
		JP 50035730 B	18-11-1975
		LU 63466 A1	12-11-1971
		NL 7111375 A	22-02-1972
		NO 129810 B	27-05-1974
		SE 387149 B	30-08-1976
		YU 213871 A	31-10-1979
		ZA 7105323 A	26-04-1972

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82