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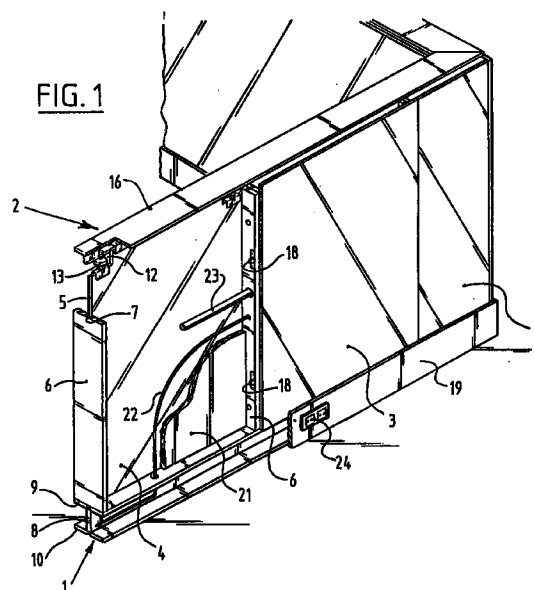
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(54) **Partition wall assembly**

(57) A wall assembly for partitioning a space in residential or public utility building, substantially consisting of a skirting construction (1) and placed thereon a frame (2) and panel (3) assembly which can be fixed between the ceiling and the skirting, wherein the frame (2) is formed from a panel surface (4) which is provided along the standing edges with end strips (6) which are mounted perpendicularly of and fixedly to the panel, wherein the end strip is provided on the side of the panel surface with coupling members (18) for releasable coupling of a cover panel (3) extending from the one end strip to the end strip (6) located opposite, whereby a very robust construction is obtained, wherein the cover panels (3) only have to be fixed to the edges of the standing end (6) strips.



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Description

The invention relates to a wall assembly for partitioning a space in residential or public utility building, substantially consisting of a skirting construction and placed thereon a frame and panel assembly which can be fixed between the ceiling and the skirting.

It is becoming increasingly usual to arrange partition walls in room areas which in the prior art are mostly constructed from steel frameworks which are fixed between the floor and ceiling of the room area and covered on both sides with panels of different types of material. The interspace can be filled with a sound-damping means or the like. Once they have been fitted such wall assemblies are usually no longer movable without causing great damage. Such wall assemblies are moreover difficult to adapt for passage of cables or pipes for various public services. In the best case there already exist skirting systems on which walls are placed but these still do not form a mutually integrated unit.

The invention has for its object to provide a wall assembly wherein the above mentioned drawbacks are obviated and which can be easily disassembled without damage in order to enable moving into a different configuration.

The wall assembly according to the invention is distinguished in that the frame is formed from a panel surface which is provided along the standing edges with end strips which are mounted perpendicularly of and fixedly to the panel, wherein the end strip is provided on the side of the panel surface with coupling members for releasable coupling of a cover panel extending from the one end strip to the end strip located opposite.

Owing to the panel-like dividing wall of the wall assembly a very robust construction is obtained, wherein the cover panels only have to be fixed to the edges of the standing end strips. Removal of these cover panels proceeds in the same manner as mounting, but in reverse sequence, without any damage being done to the cover panel and therefore to the finishing of the cover panel. Since the wall panel forms a double hollow construction, the conduits for the public services are easy to arrange in this box shape, and this separated from each other, depending on the desired facility. The double chamber formed in the wall assembly likewise provides excellent acoustic damping. Mounting of the frame part takes place easily in that the standing panel surface of the frame can easily absorb the fixing forces, particularly the pressure forces. This is all the more so the case if use is made of pressure members, for instance screw jacks, close to the end strips of the frame panel. Mounting of the wall is then possible without extra provisions on the ceiling and/or floor. This also enables damage-free disassembly of the wall.

It is recommended according to the invention to embody the panel surface with the end strips as a standard element with a width dimension corresponding with the standard dimension prevalent in the building industry. Such elements can easily be manufactured in

the factory and taken without damage to the construction site where the elements can be easily assembled.

In an embodiment the panel surface is displaced relative to the end strips out of the middle thereof. This gives an asymmetrical standard element, the advantage of which is that the pipes for public services can easily be accommodated on one side in view of the greater depth there. The double chamber construction is nevertheless retained, which contributes to a reduction of sound transmission. This moreover provides the advantage that for instance sliding doors can be arranged in the middle of the standard element.

In an embodiment the skirting construction is embodied as an I-profile, the body of which lies under the panel surface of the frame part. The mounting forces are hereby transmitted simply from the frame panel part to the body of the I-profile, which increases the robustness of the wall assembly.

It is recommended herein to embody the skirting profile on the outside with a continuous groove for receiving the bottom edge of the frame panel surface. This simplifies assembly operations.

In a preferred embodiment the coupling members for the cover panels are embodied on one side as a pin which is preferably fixed to the end strip and on the other side as a hook-like member which is preferably fixed to the cover panel. The cover panel can hereby be hung on the pins by means of a simple press/sliding movement, these pins providing accurate mutual flushing of the cover panels, which improves the aesthetic appearance of the wall.

Above mentioned and other features are further elucidated in the figure description of an embodiment hereinbelow. In the drawing:

- fig. 1 shows a perspective standing view of a wall assembly according to the invention,
- fig. 2 shows a standing cross-section of the wall of fig. 1,
- fig. 3 shows a top view of a possible wall configuration,
- fig. 4 shows a standing cross-section of a closing panel above a door opening according to the construction of the invention,
- fig. 5 is a perspective view of a second possible embodiment of a system wall according to the invention,
- fig. 6 shows on enlarged scale a perspective view corresponding with fig. 5 of a detail thereof,
- fig. 7 shows a perspective view corresponding with fig. 5 and 6 of a detail of the system wall at the sliding door construction.

Designated in fig. 1 with the numeral 1 is a skirting construction on which the frame part 2 with cover panels 3 is placed.

The frame part 2 consists of a central panel surface 4 which is provided with end strips 6 on the standing longitudinal edges 5. For this purpose each end strip 6

is embodied with a longitudinal groove 7 into which the standing edge part 5 fits. The fixing of end strip 6 to panel surface 4 can take a random form, but is preferably performed with glue. Seen in top view the frame part 2 is therefore an H-construction, which is supplied as prefab element from the factory. The width of this prefab element corresponds to for instance the standard dimension of 60 cm usual in the building industry. These elements are arranged adjoining each other, as shown in fig. 1, this on a continuous skirting construction 1. The preferred skirting construction is an I-profile, consisting of a body 8 with an upper flange 9 and a lower flange 10. The lower flange 10 rests on the ground, ground covering or other ground construction. The flanges 9, 10 can be embodied on the outside, i.e. the side remote from body plate 8, with a groove 11 which can receive the panel surface 4 of the frame part. This serves to place the frame part 4 centrally above the body part 8 of the I-profile.

On the upper part the panel surface is embodied with recesses 12 in which is placed a pressure element 13. The pressure element is provided with a support 14, see fig. 2, a helical jack part 15 which supports against a pressure strip 16 pre-arranged against the ceiling. By extending the screw element 15 relative to panel surface 4 a pressure force will be exerted on the panel surface 4 and therewith clamp the frame part fixedly on the skirting construction 1. These pressure elements 13 are preferably arranged on the edge strips of the panel surface 4, i.e. as close as possible to the end strip 6, which allows a great pressure force.

In order to complete the wall assembly, cover panels 3 are arranged which are each provided on the inside with hook-like coupling members 17 which co-act with pin-like protrusions 18 arranged on the inside of the end strips 6. The cover panels 3 can therefore be placed directly on the frame part by a simple pressing movement followed by a downward sliding movement. This mounting requires no other fixing methods, such as screws or glue, so that the cover panels can also be removed again by first pushing them upward and then pulling them forward. Since each cover panel can be provided straightaway with a finishing covering, for instance wallpaper or the like, no damage to this finishing covering takes place, so that the cover panel can be used again if the whole wall has to be rearranged to a different configuration. For this purpose only the pressure member 15 has to be released, whereby disassembly and configuration to another form can take place.

The skirting construction 1 can be covered on both sides by a covering strip 19 which can if desired be fixed to the lower flange 10 of the I-profile by means of a hinge 20. For this purpose the covering strip can be carried from the dashed position in fig. 2 to the upward folded position drawn in full lines and vice versa.

Both the skirting board and the wall have hollow chambers which can be used to accommodate diverse auxiliary elements. An acoustic layer 21 can thus be

arranged in the chamber of the wall, see fig. 1, and the space is also suitable for accommodating wiring 22 respectively pipes 23 for public services. Holes only have to be drilled for this purpose in the standing end strips 6. It will be apparent that the wall can be provided with different wires on either side of panel surface 4 depending on the room areas separated by the wall.

The skirting board 1 is also provided with longitudinal chambers running under the panels of the wall which can likewise be used for leading through wires, for instance wiring 22, for which purpose a hole only has to be drilled in the upper flange 9.

If this is for instance electrical wiring, the covering strip 19 can then also be used for arranging wall sockets 24.

Fig. 3 shows that the wall can be constructed from mutually perpendicular frame parts. Only slight adaptations have to be made to cover panels 3, for instance in the width, see 3' in fig. 3, for which purpose a dividing strip 25 must be placed for arranging the coupling members 17, 18.

If a door opening is desired, a door frame 26 can then be placed along an outer side of the end strip 6 of the upper frame part 2' in fig. 3 for receiving a door 27 which can open with hinges 28.

Fig. 4 shows a cross-section of the upper frame 26 of the door 27, which frame is fixed to an upper plank 29 which runs from the one frame part to the other and on which is placed a bottom plank 30 which is likewise provided with a groove 11 for receiving the panel surface 4 of the closing panel above the door. This closing panel above the door is constructed in the same manner as the main panel in fig. 1 and is also provided with a pressure element 15 which supports against pressure strip 16.

It is noted that the upper part of the wall can be covered with an acoustic means 31 which extends over the whole length of the wall between the ceiling and the upper edge of the frame parts and which is covered by the cover panels 3.

Fig. 5, 6, and 7 show an alternative embodiment of the partition wall according to the invention.

The most essential difference from the embodiment according to fig. 1 and following is that the panel surface 4 is displaced out of the middle relative to the end strip. Thus created on the front side in fig. 5 is a greater depth of the chamber formed by the panel surface 4, the end strip 6 and the front panel for hanging 3.

This chamber can be filled with sound-damping or thermal insulation material 39. Another essential feature is that the end strips 6 stop some distance above the bottom edge of panel surface 4. This enables passage of public services pipes N of random type from the one standard element to the other.

Due to the deeper chamber on the one side of the panel surface it is also possible to accommodate larger pipes, for instance relatively large drain pipes, in the wall assembly.

The other chamber is shallower but this only has to be filled with a sound-damping or thermal insulation material without pipes and the like having to be accommodated therein.

Hanging of the panels 3 on both sides takes place in the same manner as described above with reference to the embodiment of fig. 1.

As shown in fig. 5, various appliances or means can be arranged on the cover panels 3, wherein however a wash basin W can be supported by a filler block 40 situated behind panel 3 and fixed to panel surface 4 in suitable manner.

It is noted that the skirting construction is embodied here as a flat ground plate 1' which is likewise provided with a groove 11 displaced out of the middle for receiving the bottom edge of panel surface 4.

The space on the underside of cover panel 3 and the floor of the building can be filled with a skirting strip 19, which is for instance provided with hooks 41 which can be hooked behind the bottom edge of the cover panel by a tilting movement of the skirting strip. A complete sealing can thus be realized in simple manner, which sealing is however easy to remove again (see fig. 6).

Due to the displacement out of the middle of the panel surface 4 it is also possible to arrange a sliding door in the deep chamber on the front side of panel surface 4 (see also fig. 7), which door nevertheless lies in the centre of the total wall assembly.

The door construction itself is of random type, but is embodied at the top with a guide system 43, here in the form of a rail 45 which is fixed to a horizontal partition 44 and in which a runner system 46 is movable. The runner system is coupled to the upper part of door panel 47.

The standard wall element is not embodied with an end strip at the door opening but leaves clear an opening to the front chamber between panel wall 4 and cover panel 3. This passage is sealed on either side of the door with a covering strip 48 of suitable width. On the underside the door panel 47 is embodied with a spring 49 which protrudes into a groove 50 of the skirting strip 1.

The standard wall element is embodied on the closing side of the sliding door in fig. 7 with a closed end strip 6 onto which the panel surface 4 connects, which end strip 6 is covered on the side remote from panel surface 4 with a frame strip 51 for receiving the free edge 52 of the door panel.

It will be apparent from the foregoing that assembly and disassembly of such a wall can take place without special assist means. The wall is therefore easy to build into determined room areas in order to create living areas, kitchens and the like, whereafter the subsequent occupant can simply disassemble and move the wall. Only the conduits for public services require adapting.

It is also possible to use the wall without cover panels 3, for which purpose washbasins, bookcases etc. are placed in the space formed by the panel surface 4 with the end strips 6.

The invention is not limited to the above described embodiment.

Claims

1. Wall assembly for partitioning a space in residential or public utility building, substantially consisting of a skirting construction and placed thereon a frame and panel assembly which can be fixed between the ceiling and the skirting, **characterized in that** the frame is formed from a panel surface which is provided along the standing edges with end strips which are mounted perpendicularly of and fixedly to the panel, wherein the end strip is provided on the side of the panel surface with coupling members for releasable coupling of a cover panel extending from the one end strip to the end strip located opposite.
2. Wall assembly as claimed in claim 1, **characterized in that** the panel surface with end strips has a standard width dimension in accordance with the standard dimension prevalent in the building industry.
3. Wall assembly as claimed in claim 1 or 2, **characterized in that** the skirting construction is formed from an I-profile, the body of which lies under the panel surface of the frame part.
4. Wall assembly as claimed in claim 3, **characterized in that** the surface of the I-profile remote from the body is provided with a continuous groove for receiving the bottom edge of the frame panel surface.
5. Wall assembly as claimed in claim 3 or 4, **characterized in that** the skirting profile is closed off by a covering strip co-acting with the underside of the cover panel.
6. Wall assembly as claimed in any of the foregoing claims, **characterized in that** the panel surface is displaced relative to the end strips out of the middle thereof.
7. Wall assembly as claimed in any of the claims 1-6, **characterized in that** an adjustable pressure element acts between the panel surface and the ceiling.
8. Wall assembly as claimed in any of the claims 1-7, **characterized in that** the coupling member is formed on one side by a pin and on the other side by a hook falling round the pin.

FIG. 1

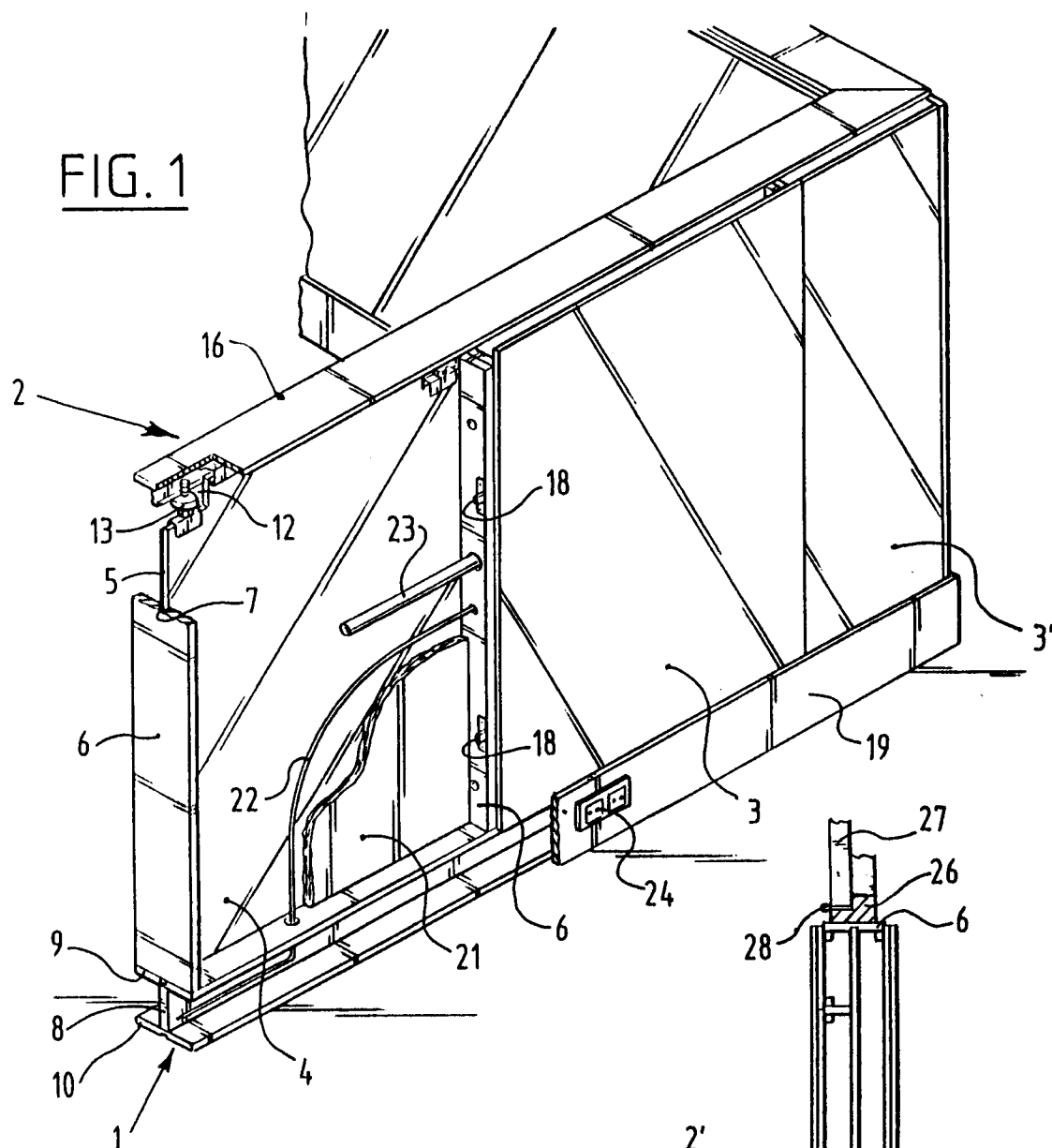
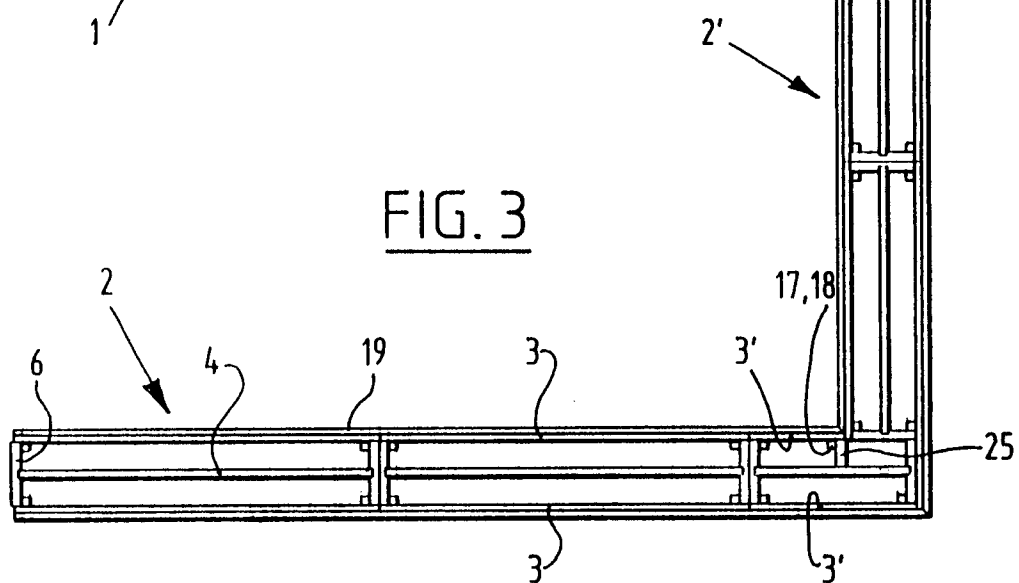


FIG. 3



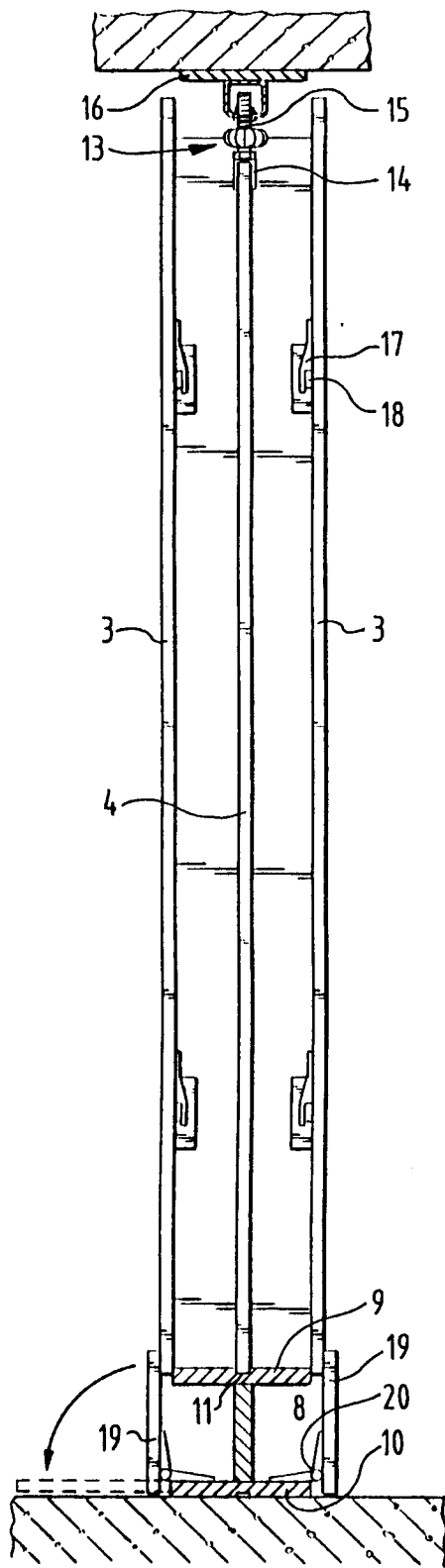


FIG. 2

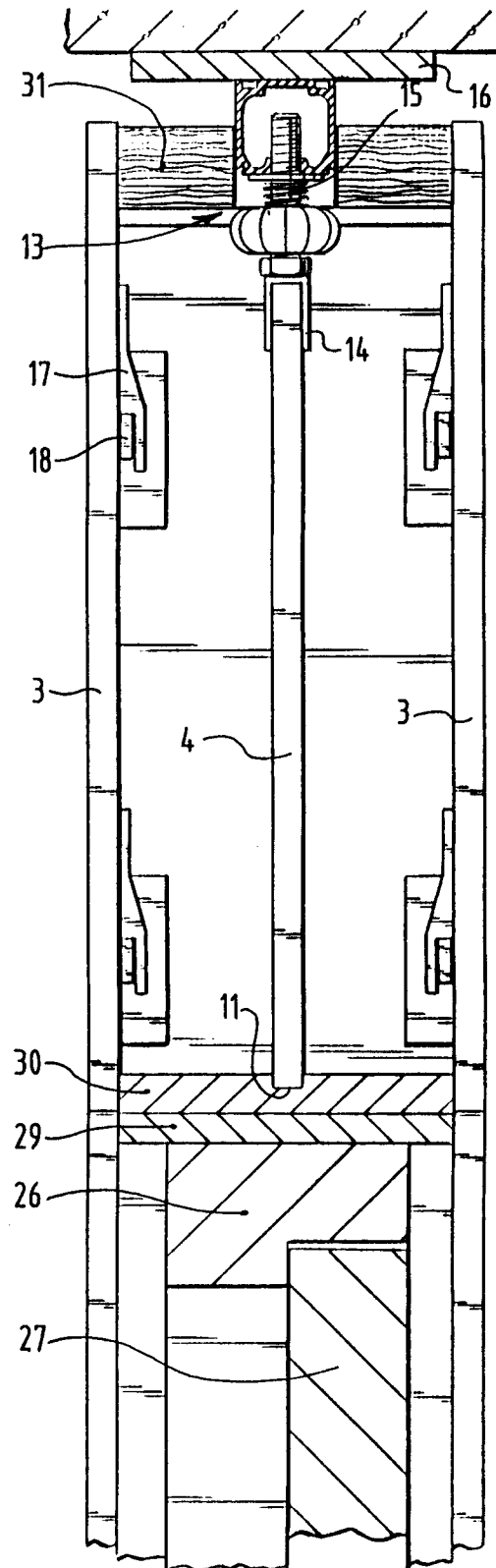


FIG. 4

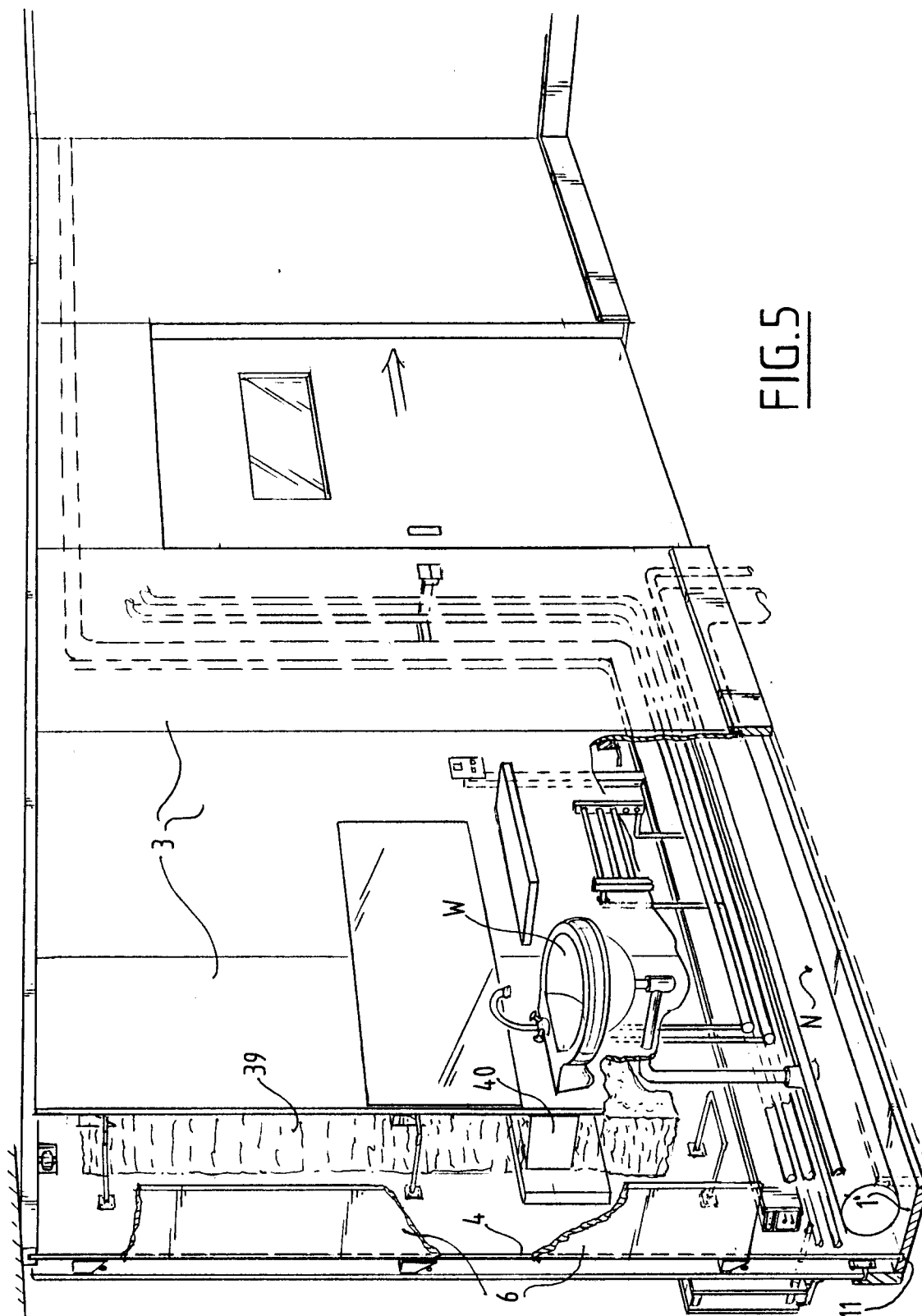
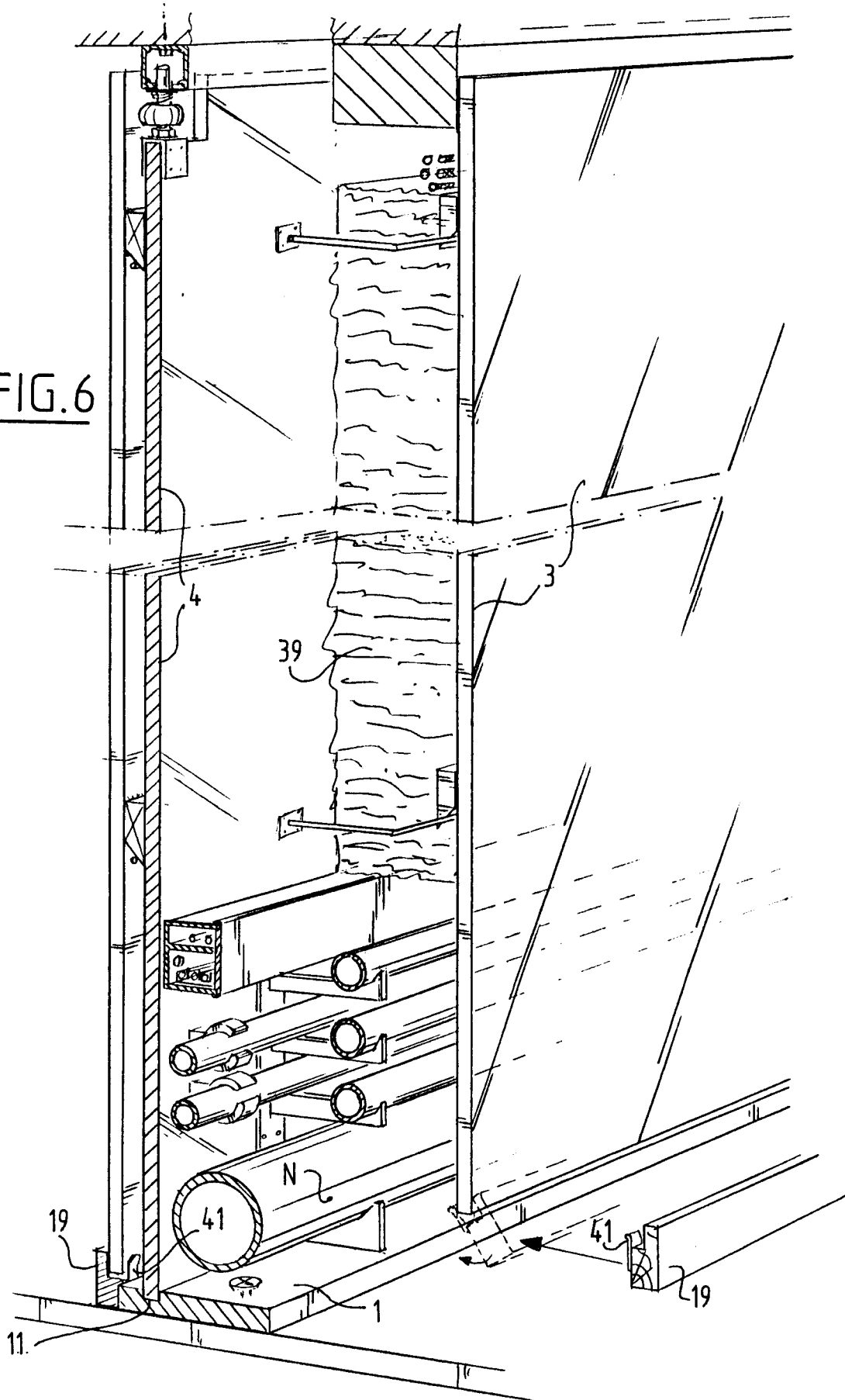


FIG. 6



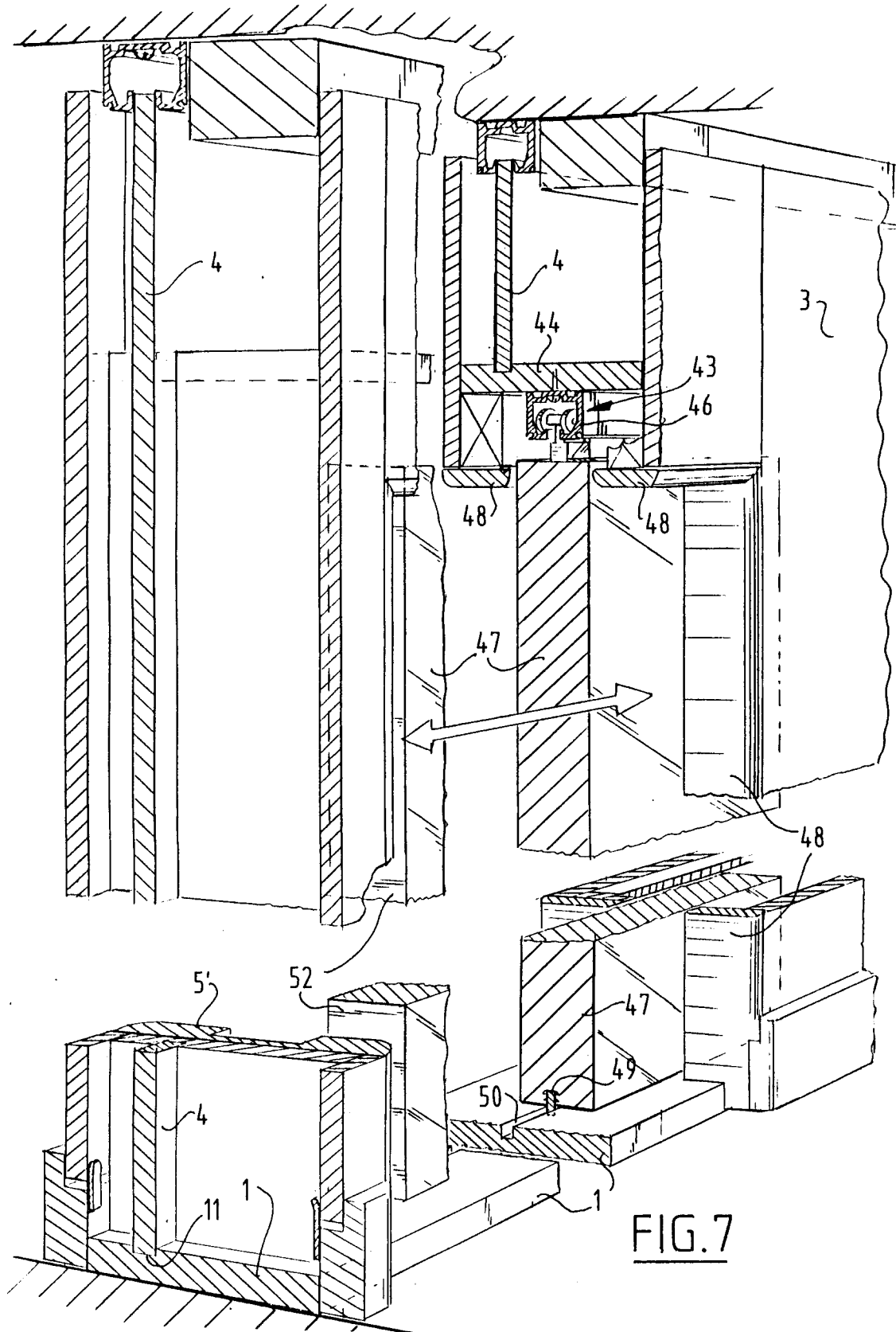


FIG. 7



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EUROPEAN SEARCH REPORT

Application Number
EP 96 20 0211

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	CH-A-365 515 (SIEGER) 29 December 1962 * page 1, line 24 - line 55; figures 2-4 * ---	1	E04B2/82 E04B2/74
A	EP-A-0 418 595 (INDUSTRIA MOBILI MIO DINO) 27 March 1991 * abstract; figure 2 * ---	1,7	
A	FR-A-1 283 834 (MAZE) 2 January 1962 * page 1, paragraph 3 - paragraph 7; figures 1-3 * ---	1	
A	DE-A-21 44 737 (ECKERT) 15 March 1973 ---		
A	FR-A-2 386 655 (LE COZE) 3 November 1978 -----		
			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			E04B
The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
THE HAGUE		10 May 1996	Clasing, M
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