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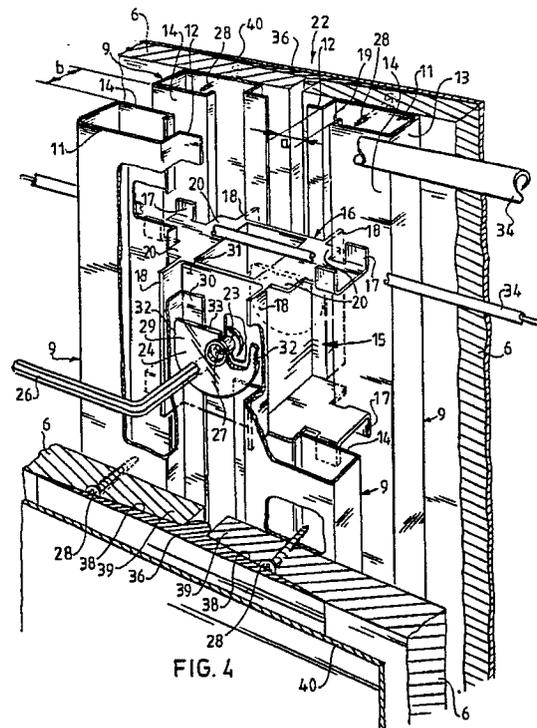
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54 **Partition wall.**

57 A partition wall (1) in which conduits (34) can be arranged is fixed to the ceiling (2) and to the floor (3) by means of rails (84), two layers of panels (6) being disposed at an interval from one another, for instance of plasterboard. Each of four panels is fastened to a separate associated profile (9), which is situated on the inner surface of said panels and said four profiles are mutually attached by means of locking means (24) in a detachable way.



**EP 0 390 276 A1**

## PARTITION WALL

The invention relates to a partition wall as designated in the preamble of claim 1.

Such a partition wall is known from NL 70.00365. Double partitions are therein mutually connected at their edges. Each double partition has on its joint edge a profile which unifies the two panels mutually into a double-walled profile.

The invention has for its object to provide a partition wall of the type stated in the preamble to claim 1, wherein conduits can be arranged in simple manner in a partition wall already in position and/or a robust wall is realized with little use of metal.

To this end the partition wall of claim 1 is proposed according to the invention.

Herein the profile considerably reinforces the relevant panel. When conduits are later laid the panels can be individually removed per joint, while the rest of the partition wall can remain in place.

Mentioned and other characteristics according to the invention will be elucidated in the description following hereinafter with reference to a drawing. In the drawing:

Fig. 1 shows a perspective view of a portion of a partition wall according to the invention;

Fig. 2 shows on a larger scale a broken away, perspective view of fraction II from fig. 1;

Fig. 3 shows on a larger scale a perspective, broken away view of detail III from fig. 2;

Fig. 3a shows a variant of fig. 3; and

Fig. 4 and 5 show on a larger scale broken away, perspective views of details IV and V respectively from fig. 1.

The partition wall 1 comprises a rail 4 fixed to the ceiling 2 and the floor 3 and consisting of an omega-shaped metal profile. The outer flanges 5 thereof serve as stops for two layers of panels 6 which extend practically along the whole room height from floor 3 to ceiling 2. Each panel 6 has substantially delta-shaped profiles 9 of thin metal plate close to its two vertical joint edges and attached thereto by means of self-tapping screws 28. The profiles 9 have a flange 11 standing against the panels 6 and having a Z-shaped edge 12, a body 13, a flange 14 and an inwardly turned edge 19 at a distance  $a$  from the edge 12.

Four connecting members 15 are present per joint, which substantially divide the room height into three equal pieces. Two connecting members 15 are placed against the rails 4. Each connecting member 15 comprises a metal support piece 16, which is provided on the top and bottom sides with two U-shaped hooks 17 which grip close-fittingly onto rail 4.

The support piece 16 has four outward reach-

ing, vertically directed stops 18 which stop against the inner sides of the Z-shaped edges 12, as well as horizontal stops 20 which stop against the edges 19, while the outer sides of the hooks 17 stop against the flanges 14. A good mutual positioning in one and the same vertical plane can thus be easily effected between two adjacent panels 6 at the location of the joint 22.

The connecting member 15 further comprises two locks 24 each rotatable about a horizontal shaft 23 and which can each be engaged and turned by means of an Allen key 26 inserted into their hexagonal opening 27 in the joint 22.

Each lock 24 has two locking bolts 29 which have a section decreasing radially outward so that the locking bolts 29 can fasten with extra clearance an edge flange 30 between themselves and a stop surface 31 of the support piece 16 and later, after turning, can lock it practically without clearance. Each locking bolt 29 has a milled edge 32 with which it clamps a Z-shaped edge 12 between itself and a stop 18 with some extra friction. The radial size of the locking bolt 29 preferably increases slightly towards the milled edge in the rotation direction. Each lock 24 has a chord-shaped limitation 33, in order that after turning one of both profiles 9 can be released, while the other profile 9 still remains locked. In this way one panel 6 at a time can be removed as desired, for instance for carrying out work on electrical or sanitary conduits 34 which are arranged inside the partition wall 1. These conduits 34 are hardly or not at all obstructed by connecting means at the location of the joint 22. The connecting members 15 have a support piece 16 with a stop distance  $b$  which is greater than the conduit diameters to be used. A strip 36 of plastic can be placed into the joint 22. The strip 36 can however also consist of applied plaster material which fills up a chamfered portion 38 of the panel edges 39 and covers the screws 28. The outside of the partition wall 1 can optionally be covered with a finishing layer 40 such as paint, wallpaper or the like.

When the partition wall 1 is displaced or when work is carried out on conduits 34 the finishing layer 40 and the strip 36 are removed and the relevant panels 6 are unlocked.

The panels 6 may consist of plasterboard, fiberboard, plastic sheets, wood panels and the like. If desired, insulating layers, for instance rock wool or plastic foam, can be arranged in the space between the panels 6.

Since the metal profiles 9 are held in place at a considerable distance from each other, fixedly clamped to each other in firm manner by means of

connecting members 15, they form together an assembly with bending stiffness which forms a robust frame for the partition wall 1, although the use of metal of thin-walled folded sheet material is small.

In fig. 3 the lock 24 has a stop boss 43 which in the two end positions strikes against a stop 44. The lock 24 preferably has as according to fig. 3a a boss 41 which in the three possible lock positions works in snap-in co-action with one of three corresponding holes 42 of the stop surface 31 of the support piece 16.

means (41, 42) fixedly holding said lock (24).

9. Partition wall (1) as claimed in any of the preceding claims, characterized in that at least one stop piece (17) of the connecting means (15) grips close-fittingly onto a rail (4), which is preferably substantially omega-shaped.

10. Partition wall (1) as claimed in any of the preceding claims, characterized in that panels (6) are fixed by means of screws (28) to the associated profiles (9), wherein said screws (28) are screwed into said profiles (9) while deforming the material of said profiles (9).

**Claims**

1. Partition wall (1) comprising rails (4) fixed to the ceiling (2) and to the floor (3), two layers of panels (6) disposed at an interval from one another, for instance of plasterboard, metal profiles (9) attached to said panels (6) and connecting means (15) present at a joint (22) for mutual connecting said profiles (9) present at said joint, characterized in that close to a joint (22) each of four panels (6) is fastened to a separate associated profile (9) which is situated on the inner surface of said panels (6) and that the four profiles (9) are mutually attached by means of at least one connecting member (15), whereof locking means (24) engage behind edges (12) of said profiles (9).

2. Partition wall (1) as claimed in claim 1, characterized in that the connecting member (15) consists of a stop piece (16) and at least one lock (24) connected to said stop piece and rotatable about a horizontal shaft (23).

3. Partition wall (1) as claimed in claim 2, characterized in that the lock (24) is disc-shaped and is cut off along a chord.

4. Partition wall (1) as claimed in claim 2 or 3, characterized in that the lock (24) can be turned through a joint gap with a tool, preferably an Allen key (26).

5. Partition wall (1) as claimed in any of the preceding claims, characterized in that the connecting member (15) consists of a stop piece (16) and two separately controllable locks (24).

6. Partition wall (1) as claimed in any of the preceding claims, characterized in that the joint (22) is covered on at least one side surface of the wall (1) with a joint closing means (36), preferably a filler mass, for instance plaster mortar.

7. Partition wall (1) as claimed in any of the preceding claims, characterized in that the panels (6) have a chamfered portion (38) on their outer surface adjacent to the joint (22).

8. Partition wall (1) as claimed in any of the claims 2-8, characterized in that a lock (24) works in snap-in co-action with the position of positioning

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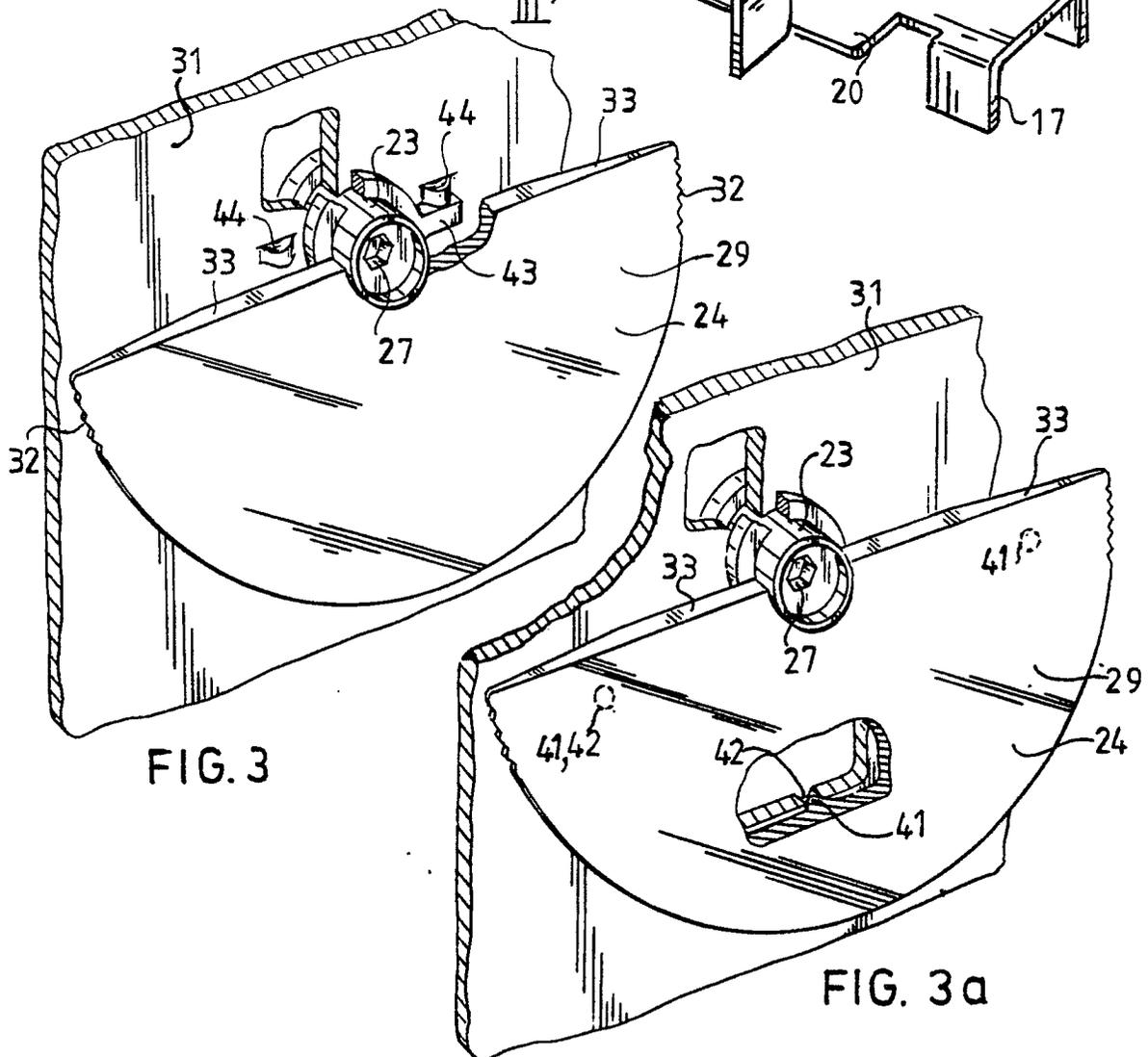
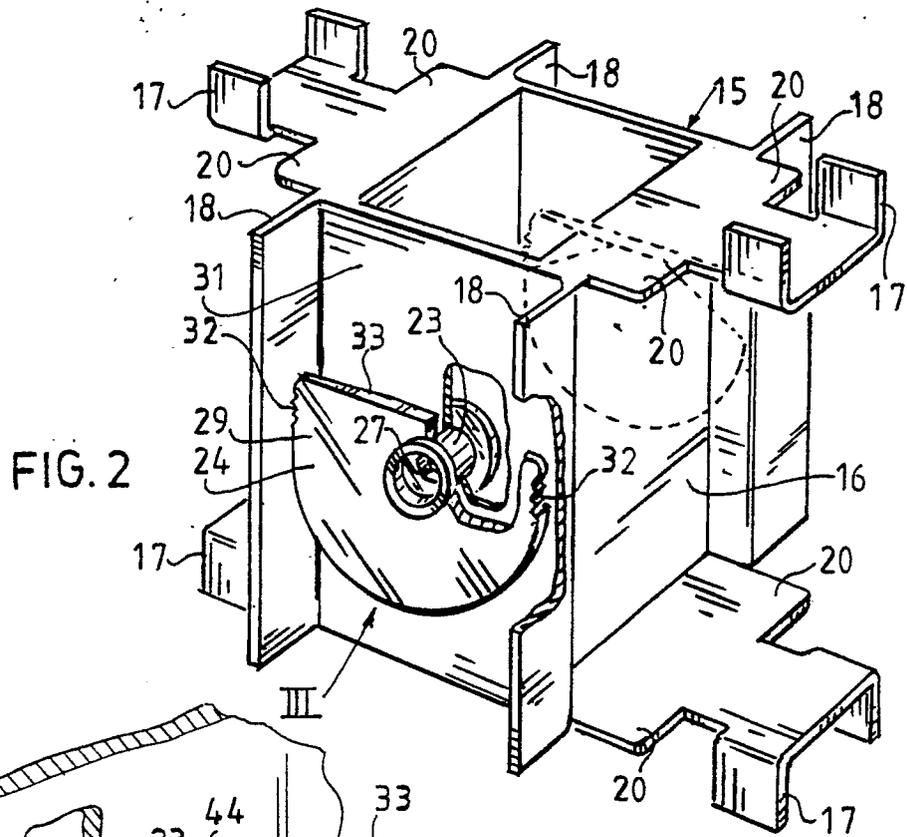
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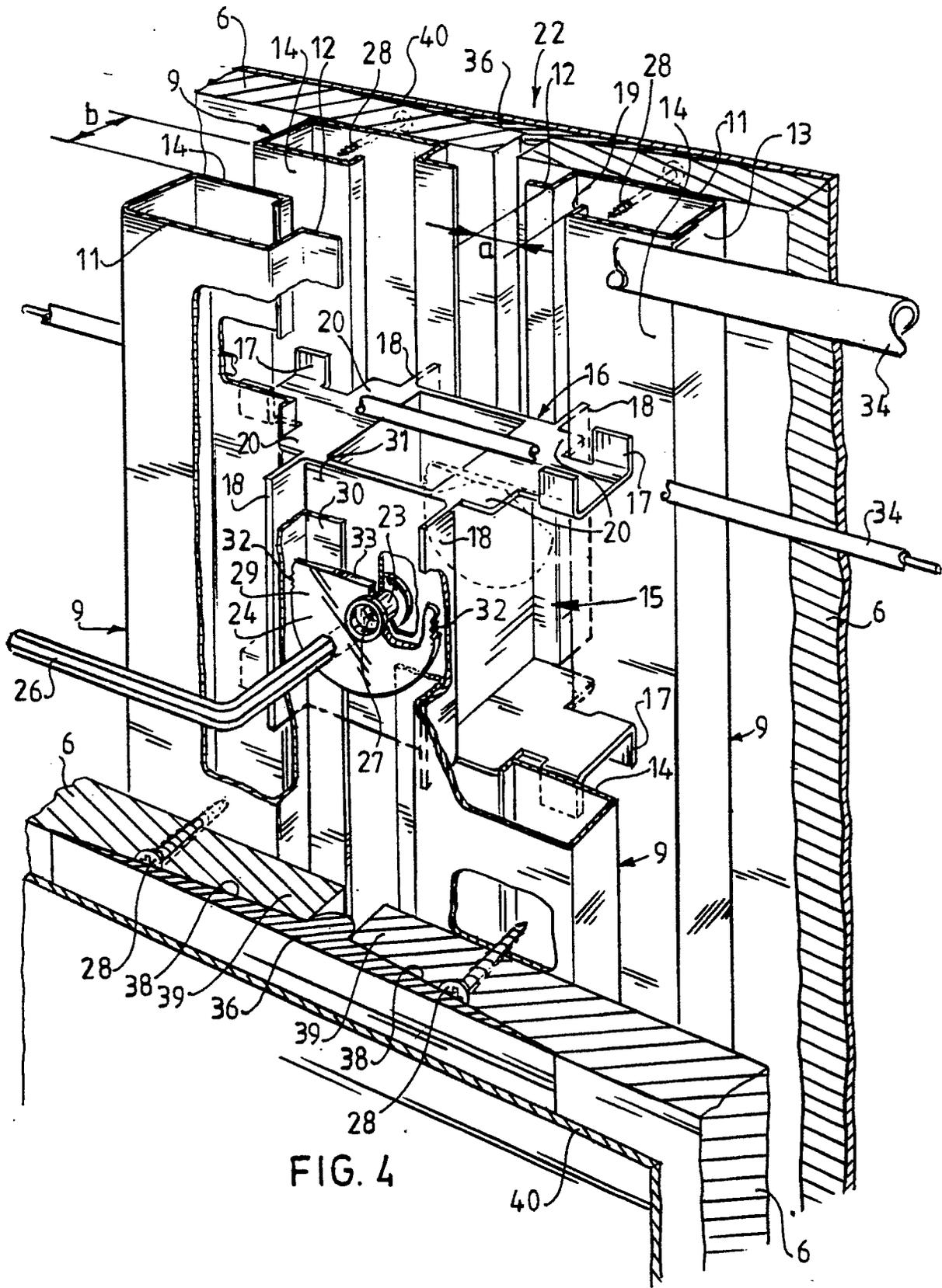
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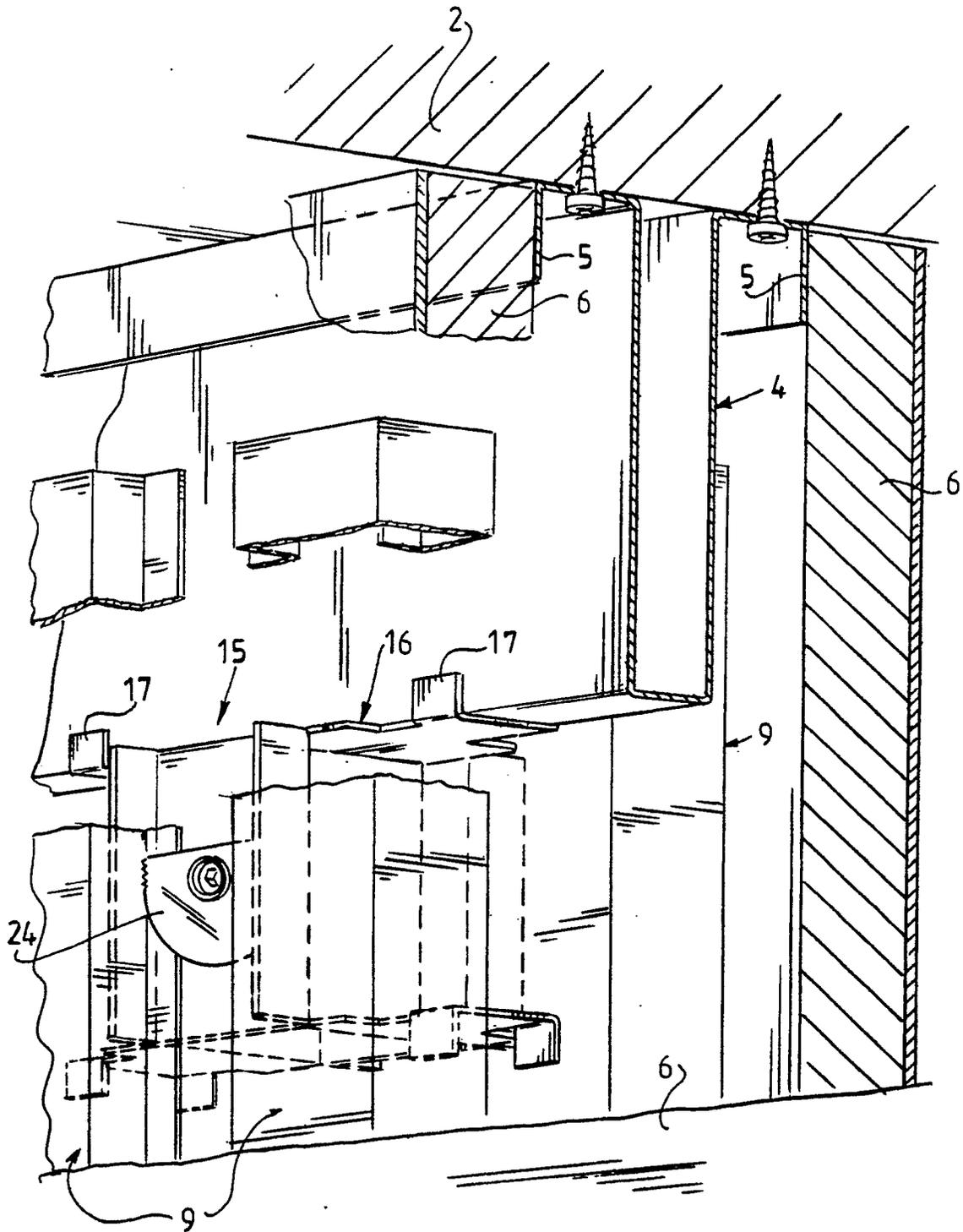
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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
A	DE-A-1 947 191 (KNAUF) * Page 4, lines 8-14; page 5, lines 1-8; page 6, line 18 - page 7, line 6; figures 1,3,5-8 *	1	E 04 B 2/74 E 04 B 1/61
A	US-A-1 898 543 (JOHNSON) * Page 1, line 64 - page 2, line 28; figures 1-8 *	1-4	
A	BOUWERELD, vol. 77, no. 12, 5th June 1981, pages 51-53; "Universeel in woningbouw toepasbare scheidingswand" * Pages 51-53 *	1,6,7	
			TECHNICAL FIELDS SEARCHED (Int. Cl.5)
			E 04 B F 16 B E 05 C
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 12-06-1990	Examiner DE COENE P.J.S.
CATEGORY OF CITED DOCUMENTS		I : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ..... & : member of the same patent family, corresponding document	
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document			

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