(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) Publication number: **0 382 278 A1**

(12) EUROPEAN PATENT APPLICATION

(21) Application number: **90200177.5**

(51) Int. Cl.5: **E04C 2/54**

(22) Date of filing: **24.01.90**

(30) Priority: **06.02.89 BE 8900117**

(43) Date of publication of application:
16.08.90 Bulletin 90/33

(84) Designated Contracting States:
AT CH DE DK ES FR GB GR IT LI LU NL SE

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(54) Panel for wall construction.

(57) Panel for wall construction, characterised in that it principally consists of a proper panel (8) in a suitable material whether or not transparent or translucent that is held in a frame (6), whereby the latter is provided on two opposite sides with two anchoring elements (22) which are installed protruding and at an angle in relation to the panel side in question, all of which such that the attachment points (24) in the anchoring elements (22) are situated in mutually parallel paired common lines (26, 27, 28, 29, 30, 31, 32, 34) in relation to the panel sides.

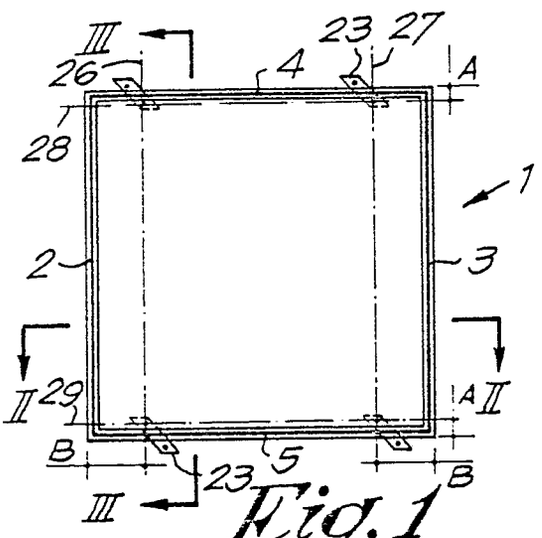

Fig. 1

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Panel for wall construction

The present invention relates to a panel for a wall construction as well as to wall constructions which are obtained by means of such panels.

Still more especially the present invention concerns a panel that is completely assembled and finished in the workshop and that as such can be installed in a simple and very efficient manner in the place of use and this in such a manner that the subsequent replacement and/or removal of a panel that is installed between other panels can also be effected without this having any influence on the neighbouring panels or those lying above or below which do not need to be detached or dismounted.

Another object of the panel according to the invention is that the attachment points of it are all situated in parallel, horizontal and/or vertical lines so that all attachment points can be fixed on the actual assembly of the panels beforehand, then the anchoring elements in which the attachment points are installed are so placed that these can be adjusted to an already existing framing structure.

Such panels according to the invention are principally intended for wall constructions more especially outer wall constructions which are intended to be installed on concrete or steel frames or as renovated outer wall for existing houses.

The panel according to the invention principally consists of a proper panel in a suitable material whether or not transparent or translucent that is held in a frame profile, whereby the latter is provided on two opposite sides with two anchoring elements which are installed protruding and at an angle in relation to a panel side in question, all of which such that the attachment points in the anchoring elements are situated in mutually parallel paired common lines.

The aforementioned frame profiles are so realised that, outside the space for holding the panel edge, they show two parallel L-shaped ribs directed in the same sense on the rear side with which L-shaped directed ribs of the anchoring elements can also work together, through which it is obtained that the anchoring elements are always placed in the same position in relation to the frame, whereby the anchoring elements are connected to the frame in this position, for example by screws, and whereby these anchoring elements have a rib which extends past the side edge of the panel and in which attachment points are provided which are situated outside the panel frame.

In a preferred embodiment the anchoring elements are placed at an angle of 45 degrees in relation to the panel edge.

In order to show better the characteristics according to the present invention, a preferred embodiment of a panel is described hereafter, as well as a wall construction realised by means of such panels according to the invention, as example and without any restrictive character, with reference to the enclosed drawings, in which:

Figure 1 shows a front view of a panel according to the invention;

figures 2 and 3 show on a larger scale cross-sections according to the lines II-II, respectively III-III in figure 1;

figures 4 and 5 are similar to that of figure 1, but for panels with other length dimensions;

figure 6 shows a schematic vertical cross-section through a wall realised with panels according to the invention;

figures 7, 8, 9, 10 and 11 show on a larger scale the parts which are indicated respectively by F7, F8, F9, F10 and F11 in figure 6;

figure 12 shows a view according to arrow F12 in figure 6;

figure 13 shows on a larger scale the part that is indicated by F13 in figure 12.

In figure 1 a panel 1 according to the invention is shown that principally consists of stanchions 2, 3 and joists 4, 5 formed by a single profile 6 whereby the latter principally shows an L-shaped space 7 for holding the panel edge of the actual panel 8; a U-shaped space 9 in which a pressing seal 10 can be mounted, whereby for this purpose the space 9 is provided with ribs 11-12; a surrounding space 13 in which a connecting seal 14 can be mounted, whereby for this purpose the space 13 is provided with ribs 15-16; a rectangular space 17 in which a leg of a corner joint profile, which in itself is known but not shown in the drawings, can be installed, and on the rear side of the profile 6, two parallel L-shaped ribs 18-19 directed in the same sense.

Ribs 20-21 of an anchoring element 2 that shows a U-shape of which a flange has a rib 23 which is at right angles to the flange in question can work together with the aforementioned ribs 18-19.

Such anchoring element 22 will be cut at an angle, preferably an angle of 45 degrees, from a suitable profile.

It is thus achieved that the anchoring elements 22 are placed at an angle of 45 degrees in relation to the panel edges, when the ribs 18-19 of an anchoring element 22 rest against the ribs 15-16 of a panel.

The anchoring elements 2 are mounted on the panel frame 6 by means of a screw 24, for example of a self-drilling and self-tapping type, which pushes against the profile 6 with its free extremity and thus through reaction causes the securing of

the anchoring element 22 on the profile 6.

The anchoring elements 22 are, as indicated in figure 1, so installed that the attachment points 24 which are provided in the bottom of the U-shape are always situated on lines 26, 27, 28 and 29 which are parallel to the side edges of the panel 1 and which are situated at a same distance A, respectively distance B, from the panel edges in question, through which a corresponding positioning of the attachment points 25 in the ribs 23 of the anchoring elements is automatically and always obtained for each panel.

In figure 4 a panel with greater length is shown in which anchoring elements 22 are also provided in the length so that additional lines 30, 31, and 32, 33 are obtained on which the aforementioned attachment points 24 are situated at distances A and C from the panel edges.

In figure 5 a panel with still greater length is shown whereby still one or more rows of anchoring elements are provided of which the points 24 are situated on lines 34 which are always situated at distances D from parallel lines 30, 31, or 34. It is clear that distance D can vary, depending on the supporting structure.

In this manner it is obtained that a solid grid for the attachment points 25 is formed that can be fixed onto the supporting structure beforehand.

In the figures 6 through 13 a wall construction is shown which is produced with panels according to the invention.

In figure 7 is shown that between the adjacent panels 1 a joint can be formed by a sealing joint 14 which is for example produced in plastic and which is mounted between the ribs 15-16 of the adjacent frame profiles 6.

The sealing joint 14 shows a part 35 that allows the joint to bend in one way or another depending on the necessity.

In figure 3 is also shown that by means of screws 36 under a panel 1 a drip moulding 37 can be provided.

Figure 9 shows that the synthetic sealing joint 8 can also be applied pushed in the other direction while the figures 10 and 11 show a seal which is formed by a mass of foam filling 38 with a sealing kit 39 in front of it.

Depending on the supporting structure either simple filling means 40 will still applied, or profiles, whether or not in combination with such filling means, which are suitably folded in order to allow further securing of the panels 1. Such profiles are shown in the aforementioned figures 8 through 11 by respective L-profiles 41, 42, 43 and 44, on the one hand, and possibly a flat plate 45 as shown in figure 10, on the other hand.

According to the invention the aforementioned panels 1 are each provided with so-called anchoring elements 22 which are connected to the panels 1 at suitable locations by means of screws 46 which in a suitable manner, can be secured also by means of screws 46 either with the supporting structure 47, or with a filling means 40, or with intermediate profiles 41, 42, 43, 44 or 45.

Both the screws 24 and the screws 46 can be of the self-drilling and self-tapping type.

Although the anchoring elements 22 are so installed that the attachment points 24 are always located on the parallel lines it remains possible, if the underlying supporting structure would necessitate it, to secure the anchoring elements on another location of the panel.

The panels used can show all kinds of dimensions, but in the spirit of the invention modules will always be used for example panels of 1000 x 1000 millimetres, panels of 1000 x 1500 millimetres, panels of 1000 x 3000 millimetres, etc.

It is clear that the present invention principally relates to panels for wall constructions as described above as well as the wall constructions hereby obtained and more especially panels 1 of the type which are formed by a surrounding frame profile 6, whereby the panel 1 on at least two opposite sides is provided with anchoring elements 22, whereby the latter are placed at an angle in relation to the panel, preferably an angle of 45 degrees, all of which such that the attachment alignment of such panels occurs according to vertical and/or horizontal lines in relation to the supporting structure 47.

The present invention is in no way restricted to the embodiment described as example and shown in the drawings, but such panels 1, respectively the constructions obtained with such panels 1 can be implemented in all kinds of forms and dimensions without departing from the scope of the present invention.

Claims

1.- Panel for wall construction, characterised in that it principally consists of a proper panel (8) in a suitable material whether or not transparent or translucent that is held in a frame (6), whereby the latter is provided on two opposite sides with two anchoring elements (22) which are installed protruding and at an angle in relation to a panel side in question, all of which such that the attachment points (24) in the anchoring elements (22) are situated in mutually parallel paired common lines (26, 27, 28, 29, 30, 31, 32, 34) in relation to the panel sides.

2.- Panel according to claim 1, characterised in that the frame (6) is formed by a profile that shows a space (7) for holding the panel edge; a space for

a pressing seal (10); a surrounding space (13) for a connecting seal (14); a space (17) for a leg of a corner joint profile and on the rear side two parallel L-shaped ribs (18, 19) directed in the same sense.

3.- Panel according to claim 2, characterised in that the spaces (7, 9 and 13) are realised in U-shape.

4.- Panel according to claim 2, characterised in that the space (17) is realised in a right angle.

5.- Panel according to claim 2, characterised in that the ribs (18, 19) are directed toward the middle of the panel.

6.- Panel according to one of the claims 1 through 5, characterised in that the stanchions (2, 3) and joists (4, 5) of the frame (6) are connected to each other by corner joint profiles.

7.- Panel according to one of the claims 1 through 5, characterised in that the stanchions (2, 3) and joists (4, 5) of the frame (6) are connected to each other by welding.

8.- Panel according to one of the preceding claims, characterised in that each anchoring element (22) consists of a basically U-shaped profile that is cut off at an angle and that shows on one side two parallel L-shaped ribs (20, 21) directed in the same sense which can hook behind the L-shaped ribs (18, 19) of the frame profile (6) and of which one flange of the U-shape of the anchoring element, a protruding rib (23), in which the aforementioned anchoring points (46) are or are provided, protrudes outside the frame (6).

9.- Panel according to one of the preceding claims, characterised in that it is implemented in a square with two anchoring elements (22) on each of two opposite edges which all form an angle of 45 degrees with the panel edges and are directed parallel to each other.

10.- Panel according to one of the preceding claims 1 through 8, characterised in that it is implemented in a rectangle with two anchoring elements (22) on each of two opposite edges which all form an angle of 45 degrees with the panel edges and are directed parallel to each other while the long side shows at least, also two anchoring elements (22) which are placed at an angle of 90 degrees with the first anchoring elements and are directed parallel to each other.

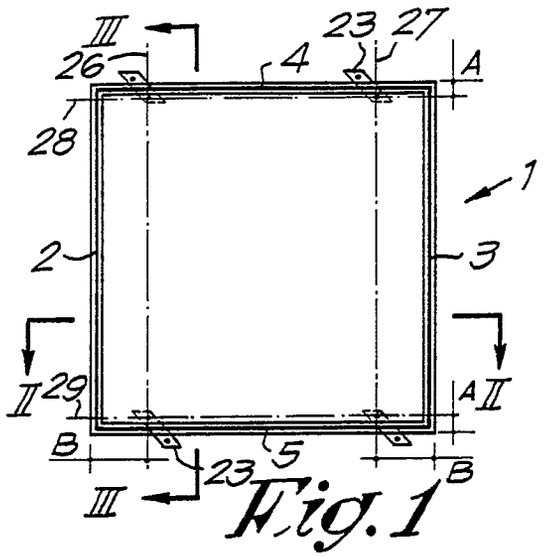


Fig. 1

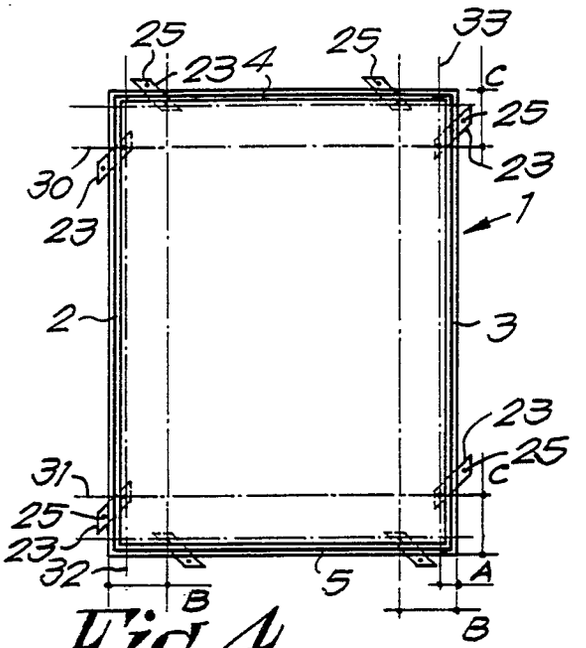


Fig. 4

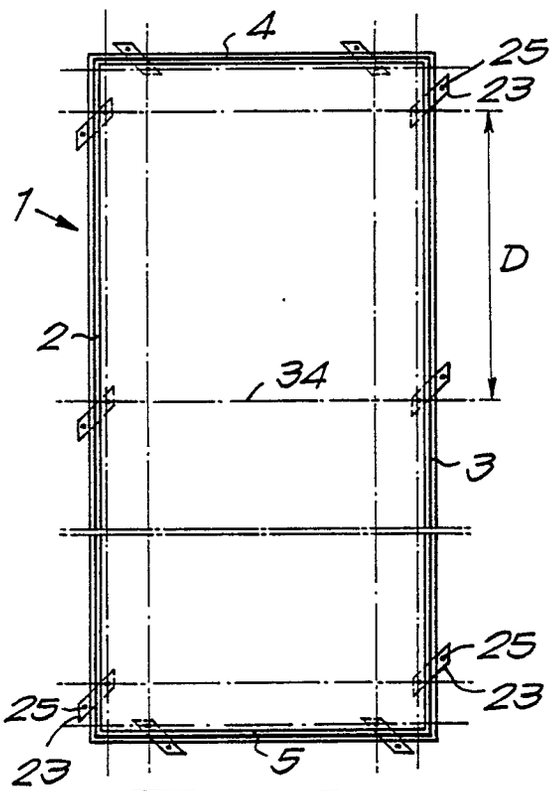


Fig. 5

Fig. 3

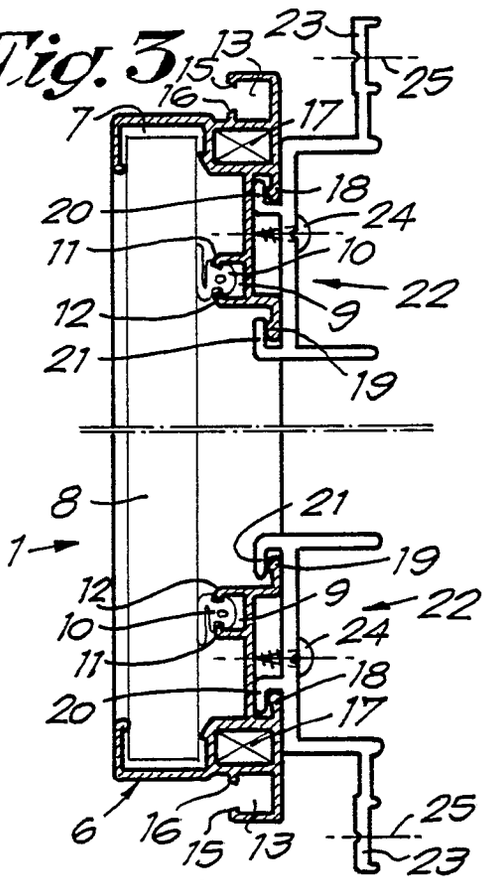


Fig. 2

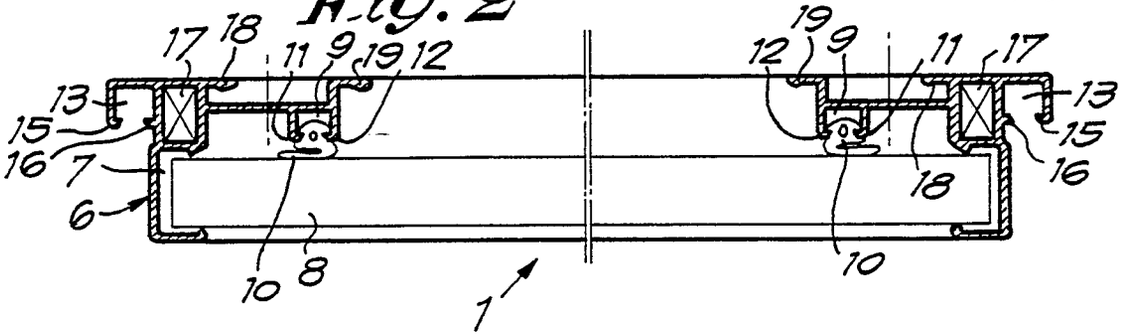


Fig. 6

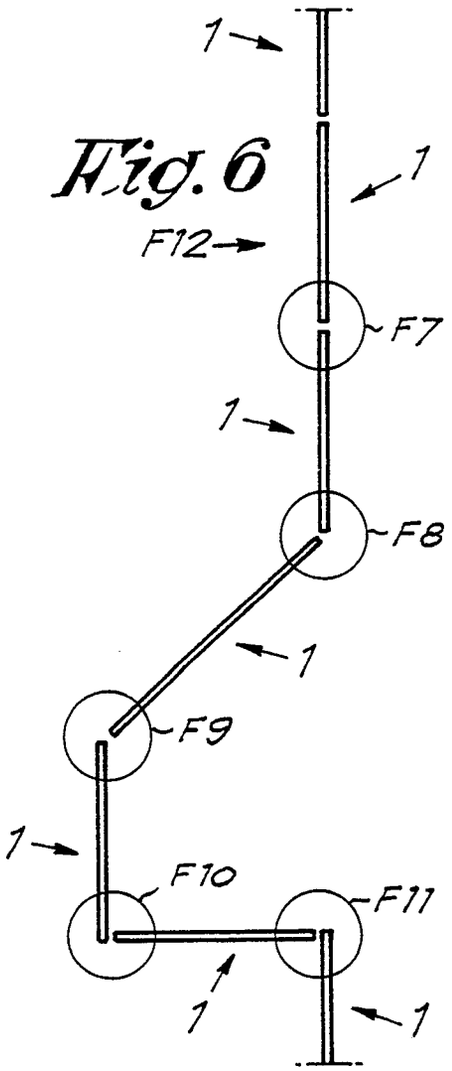


Fig. 7

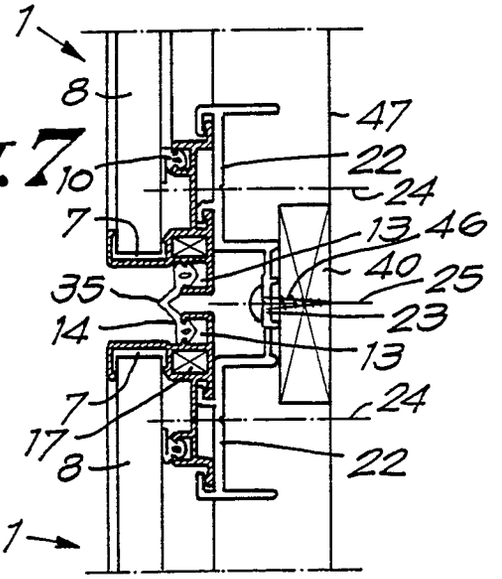


Fig. 8

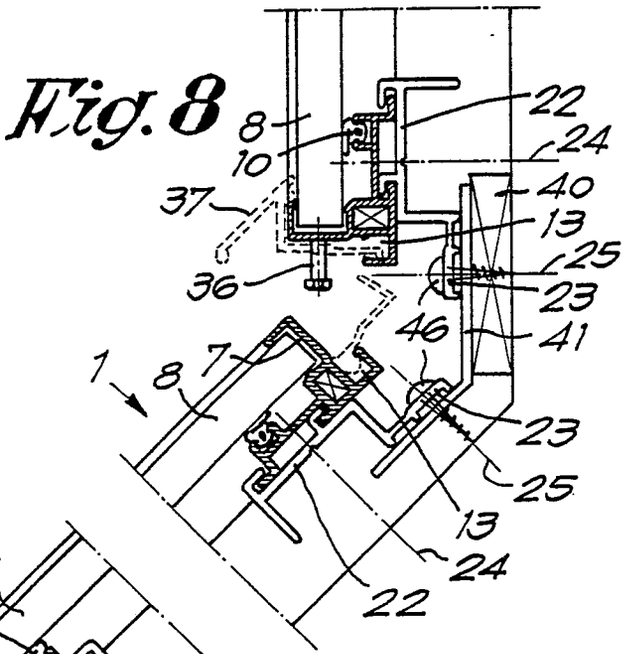
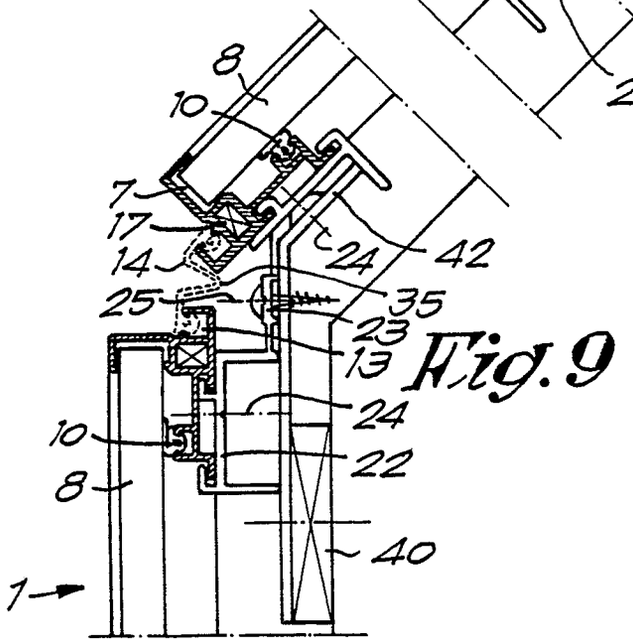


Fig. 9



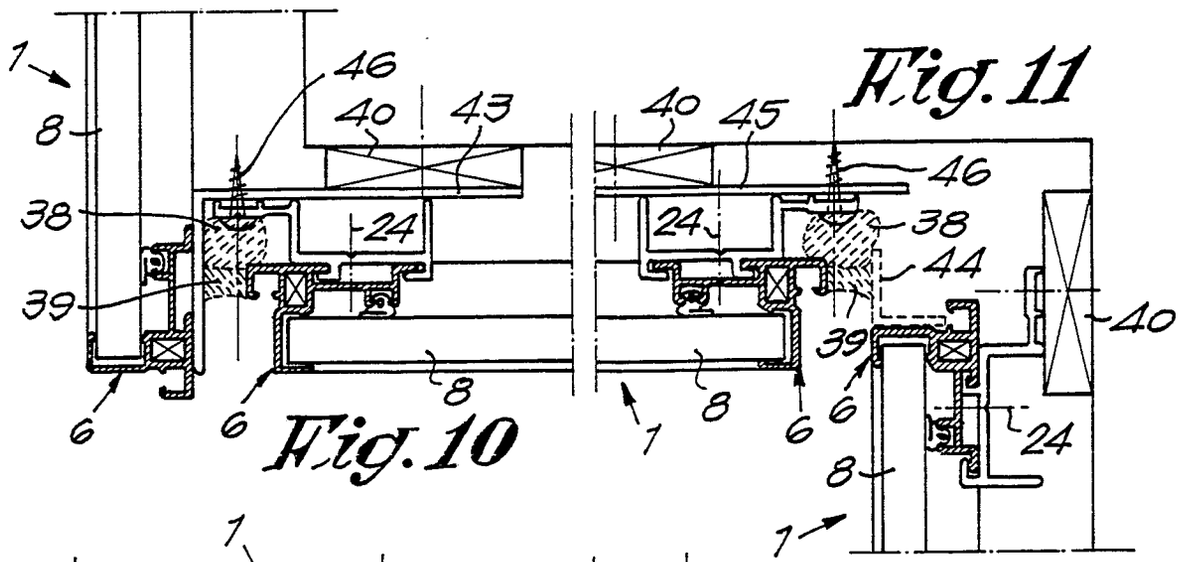


Fig. 10

Fig. 11

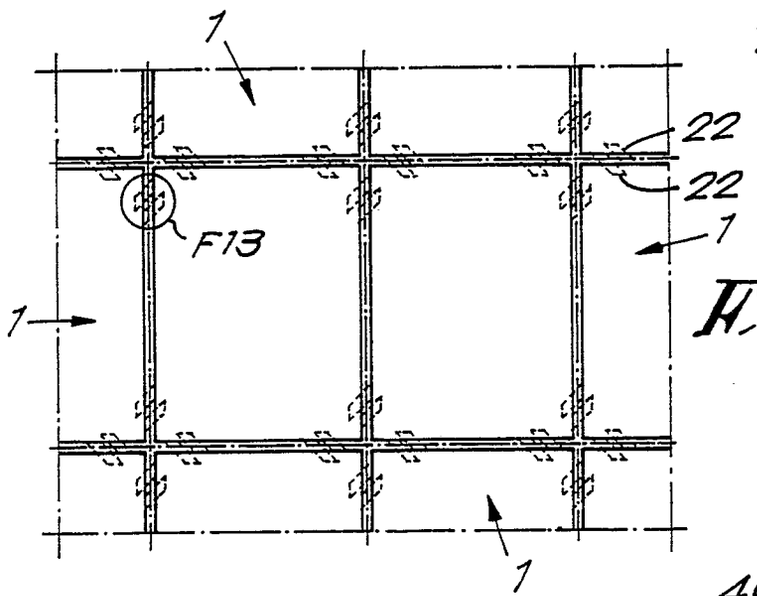


Fig. 12

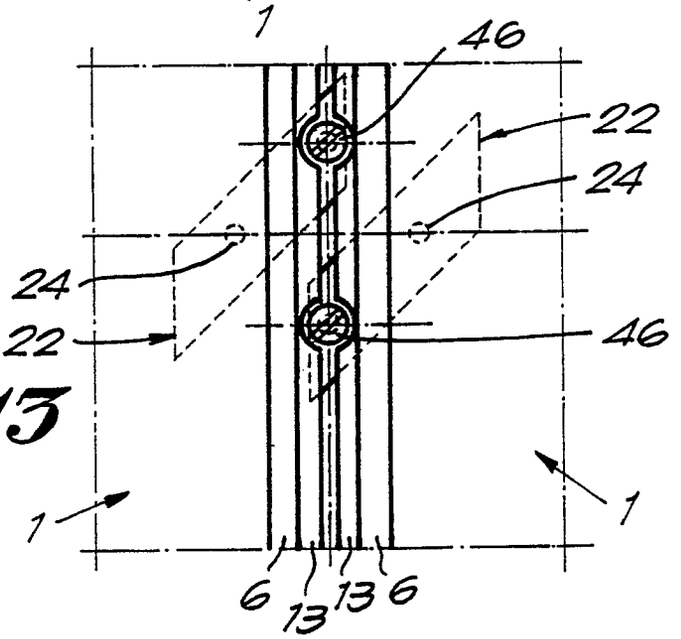


Fig. 13

European Patent Office

EUROPEAN SEARCH REPORT

Application Number

EP 90 20 0177

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	GB-A-2 164 837 (HARTE WOODWORKING LTD) * Fig. 4 *	1	E 04 C 2/54
A	EP-A-0 215 993 (WYSS) * Fig. *	1	
A	FR-A-1 486 424 (HOUILLERES DU BASSIN DU NORD ET DU PAS-DE-CALAIS) * Fig. 2 *	1	
A	US-A-3 038 568 (MORGAN) * Figs. 4,5 *	6	

TECHNICAL FIELDS SEARCHED (Int. Cl.5)

E 04 B
E 04 C
E 04 F

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	18-04-1990	MYSLIWETZ W.P.

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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