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(54) Partitioning

(57) Elongate packing elements (12) fill gaps (11) between tiles (4) of a suspended-ceiling where the gaps (11) are traversed by a partition wall (1) that abuts the under-faces (10) of the tiles (4). Each element (12) has an adhesive backing (14), and before the wall (1) is extended to the ceiling during installation, the element (12) is affixed within its gap (11) to an I-section support (6) of a rectangular grid (7) through which the tiles (4) are hung. The header-channel (17) of the wall (1) is screwed to the support (6) through the element (12), sandwiching the element (12) between them to at least partially block the gap (11) there. A notch (20) in the element (12) allows it to be divided for use with walls of different thicknesses, and an alternative packing element (26) for use with an H-section header-channel (28) can be shortened for use with the channel (28) reversed.

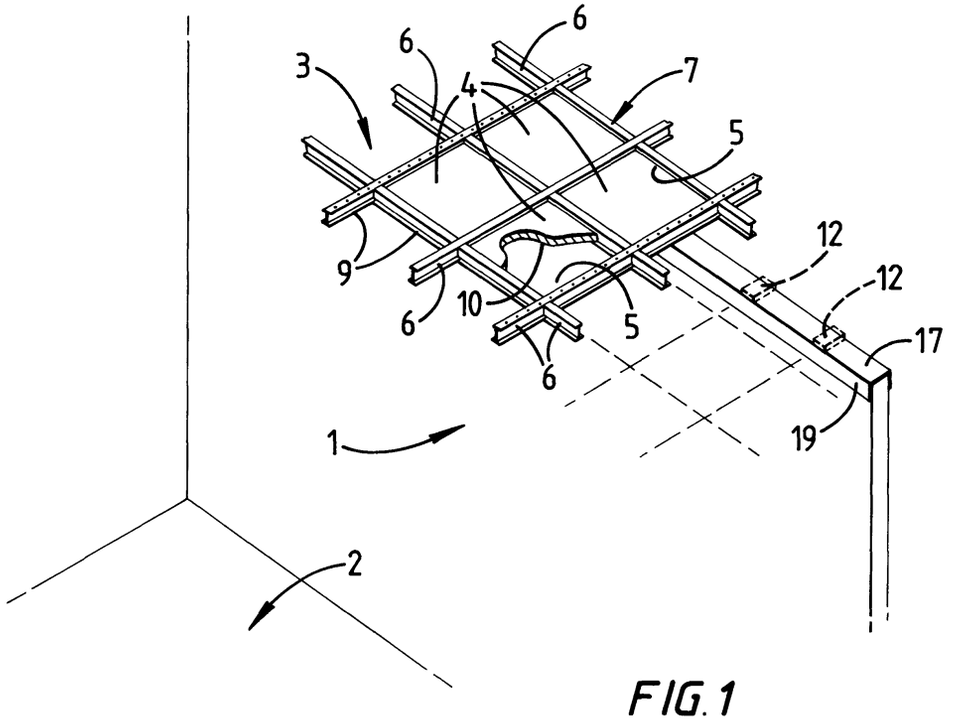

FIG. 1

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Description

[0001] This invention relates to partitioning and is particularly concerned with partitioning installations and methods of installing partitioning. The invention is also concerned with elements for use in these installations and methods.

[0002] According to one aspect of the present invention there is provided a partitioning installation in which tiles of a suspended-ceiling hang from a supporting grid to define the ceiling surface below the grid, wherein the top of a partitioning wall of the installation extends to the ceiling surface to abut the tiles and is secured to the grid through gaps between the tiles, and each such gap is occupied by a packing element that is sandwiched between the grid and the top of the wall at the ceiling surface.

[0003] The wall may be screwed to the grid through the packing element, and the tiles may be retained peripherally within respective apertures of the grid to hang part way down through it.

[0004] According to another aspect of the present invention there is provided a method of installing partitioning in which tiles of a suspended-ceiling are hung from a supporting grid to define the ceiling surface below the grid, wherein the top of a partitioning wall of the installation is extended to the ceiling surface to abut the tiles and is secured to the grid through gaps between the tiles, and each such gap is occupied by a packing element that is sandwiched between the grid and the top of the wall at the ceiling surface.

[0005] The packing element may be affixed adhesively to the grid prior to extension of the wall to the ceiling surface, and the packing element may have an adhesive backing for this purpose. Furthermore, the wall may be screwed to the grid through the packing element.

[0006] According to a further aspect of the invention a packing element for use between a supporting grid of a suspended-ceiling and the top of a partitioning wall which abuts tiles hung from the grid, comprises an elongate body having an adhesive backing for affixing the element to the grid prior to attachment of the wall to the grid.

[0007] One or more holes for screws may be provided through the body of the element, and the body may have a transverse notch to facilitate division of the element into two parts of unequal length.

[0008] Two partitioning installations and methods, together with packing elements for use therein, all in accordance with the present invention, will now be described, by way of example, in which:

Figure 1 is a perspective view from above, partly broken away, of a first of the two partitioning installations according to the invention;

Figure 2 is a sectional side elevation illustrating support of tiles of a suspended-ceiling that forms part of the partitioning installation of Figure 1;

Figures 3 to 6 are, respectively, a side elevation, a plan view from above, a plan view from below and an end-elevation of a form of packing element according to the present invention used in the partitioning installation of Figure 1;

Figure 7 is a cross-sectional view of part of the partitioning wall and suspended-ceiling of Figure 1, showing the packing element of Figures 3 to 6 in place;

Figure 8 is a cross-sectional view corresponding to that of Figure 7, of the second partitioning installation according to the invention; and

Figures 9 to 11 are, respectively, a plan view from above, a plan view from below and an end-elevation of a packing element forming part of the partitioning installation of Figure 8.

[0009] Referring to Figures 1 and 2, a partitioning wall 1 is installed to divide office or other space within a building, from floor 2 to ceiling 3. The ceiling 3 is of a suspended construction in which tiles 4 are retained within the apertures 5 between metal supports 6 of I-section, of a rectangular grid 7. The tiles 4 have peripheral lips 8 that, as illustrated in Figure 2, rest on the lower flanges 9 of the supports 6 so that each tile 4 hangs part way down through the grid 7, filling its respective aperture 5. The exposed surface of the ceiling 3 is accordingly formed by the under-faces 10 of the tiles 4, with narrow gaps 11 running between them beneath the supports 6.

[0010] With known installation-practice the partitioning wall 1 would be taken up into the ceiling-surface through the tiles 4 to butt onto the underside of the flanges 9 of the grid-supports 6 for screw-fixing to them. This practice involves cutting the tiles accurately so that they abut the wall without leaving unsightly gaps on either side of the wall along its length. Cutting the tiles hampers installation and adds to cost, as well as requiring the cut tiles to be replaced if and when the partitioning wall is removed.

[0011] In accordance with the present invention, and as illustrated more especially in Figure 2, the tiles 4 are not cut and the partitioning wall 1 (indicated in broken line) is taken up only to the ceiling surface formed by the under-sides 10 of the tiles 4. The wall 1 therefore does not enter the gaps 11, and although the gaps 11 are narrow enough to go largely unnoticed across the wide expanse of the ceiling, they break very distinctly the continuity of the narrow junction line along which the wall 1 butts onto the ceiling tiles 4. More especially, the gaps 11 allow transmission of sound from one side of the wall 1 to the other, and may reveal unsightly screw-fixings by which the wall 1 is held to the supports 6. The problem is overcome according to the invention in the present

case using packing elements 12 of the form shown in Figures 3 to 6, within the gaps 11. The elements 12 are secured between the top of the wall 1 and the supports 6 where the wall 1 is crossed by the grid 7 so as to fill-in the gaps 11 at those locations.

[0012] Referring to Figures 3 to 6, each packing element 12 has an elongate body 13 of plastics material and of rectangular cross-section and carries an adhesive strip 14. The adhesive strip 14 is a length of double-sided adhesive tape with one side adhered to the upper-surface 15 of the body 13. The other adhesive side of the tape-strip 14 is covered by a protective film (not shown) that is removed before the element 12 is pushed up into the gap 11 where the wall 1 is to cross the ceiling 3. The element 12 is pushed up into the gap 11 to bring the adhesive strip 14 hard on to the support 6 in that location. This ensures that the element 12 adheres firmly to the grid 7 in preparation for placing and fixing of the wall 1.

[0013] As illustrated in Figure 7, each element 12 is of a thickness to ensure that its under-surface 16 is flush with the under-faces 10 of the tiles 4, and is of a length corresponding to the width of the wall 1 to be installed. More especially, the length is sufficient to ensure that the element 12 occupies fully, or at least to a substantial extent, the gap 11 immediately above the header-channel 17 of the wall 1. The ends 18 of the element 12 are preferably, as illustrated, flush with the side-surfaces 19 of the channel 17 so as to obviate any break of the junction line of the surfaces 19 with the ceiling tiles 4. However, there is inevitably a degree of tolerance available from the practical point of view in the relationship between the length of the element 12 used and the thickness of the wall 1. A working tolerance of this nature is required where, as well may be the case, one (or more) of the grid-supports 6 is not truly in-line and there is accordingly a degree of misalignment between the wall 1 and the grid 7.

[0014] The acceptability of tolerance in location of the element 12 within the gap 11, aids in the setting out of the partitioning, in that placing of the element 12 on the grid 7 does not have to be very precise. In this respect, the tolerance available will in general enable the elements 12 to be positioned on the grid 7 simply by measuring off distances along individual supports 6. The necessity experienced with present installation-practice for straight lines to be drawn (normally in chalk) across the ceiling, can thus be avoided.

[0015] The element 12 in the present case is chosen to be of a length suitable for installation of a partitioning wall of the maximum thickness normally used. Provision is however made for shortening the element 12 where a thinner wall is involved, and in this respect a transverse notch 20 (Figures 3 and 5) in the under-surface 16 facilitates dividing of the body 13 into two parts 21 and 22, one part for use in the job on hand and the other for retention for possible future use. For example, the overall length of the element 12 may be 100 mm, and in this case the longer part 21 may be used where a wall-thickness of some 75 mm is involved, and the part 22 where the wall-thickness is some 25 mm. It is also possible to use the part 22, for example, for glass-silicon-jointed fully-glazed partitioning, where the wall-thickness is 45 mm. Although the gap 11 will not be filled fully in this latter case, it will be still be occupied to a substantial extent and adequately enough for practical purposes in blocking the gap.

[0016] Once an element 12 (or part 21 or 22, if shortened) has been adhered to the grid 7 in each location where the wall 1 is to traverse the supports 6, the header-channel 17 can be screwed in place sandwiching the element 12 between it and the support 6. To facilitate this, and as shown in Figures 3 and 5, a slotted hole 23 and a hole 24 are provided through the parts 21 and 22, respectively, for the screw or screws used. The hole 24 may be used in this respect as well as the slotted hole 23 when the whole length of element 12 is utilised.

[0017] The elements 12 may be provided in one or more ranges of size for use with varying forms of partitioning and suspended-ceiling constructions and styles. Also, the element may be of a modified form as illustrated in Figures 8 to 11 for use where a reversible header-channel is used at the top of the partitioning wall.

[0018] Referring to Figures 8 to 11, the packing element 26 in this case is also of plastics and carries a double-sided adhesive strip 27 for adhering to the underside of the support 6 as illustrated in Figure 8. The element 26 is for use where, as in Figure 8, an H-section header-channel 28 is utilised at the top of a partitioning wall 29. In particular, the element 26 has a hollow shank 30 so that when it is adhered to the support 6, it projects downwardly between the tiles 4 to stand on the web 31 of the channel 28 when the longer flanges 32 of the channel 28 abut the under-faces 10 of the tiles 4. Screws (not shown) which are secured through the web 31 into the support 6 pass through the hollow shank 30 and thereby hold the channel 28 firmly clamped to the grid 7.

[0019] The shank 30 can be shortened by removal of a lower portion 33. This enables the element 26 to be adapted to use of the header-channel 28 turned over for its shorter flanges 34 to abut the under-faces 10 of the tiles 4.

Claims

1. A partitioning installation in which tiles of a suspended-ceiling hang from a supporting grid to define the ceiling surface below the grid, wherein the top of a partitioning wall of the installation extends to the ceiling surface to abut the tiles and is secured to the grid through gaps between the tiles, and each such gap is occupied by a packing element that is sandwiched between the grid and the top of the wall at the ceiling surface.

2. A partitioning installation according to Claim 1 wherein the wall is screwed to the grid through the packing element.

3. A partitioning installation according to Claim 1 or Claim 2 wherein the tiles are retained peripherally within respective apertures of the grid to hang part way down through the grid.

4. A partitioning installation according to any one of Claims 1 to 3 wherein the packing element has an adhesive backing affixing it to the grid.

5. A method of installing partitioning in which tiles of a suspended-ceiling are hung from a supporting grid to define the ceiling surface below the grid, wherein the top of a partitioning wall of the installation is extended to the ceiling surface to abut the tiles and is secured to the grid through gaps between the tiles, and each such gap is occupied by a packing element that is sandwiched between the grid and the top of the wall at the ceiling surface.

6. A method according to Claim 5 wherein the packing element is affixed adhesively to the grid prior to extension of the wall to the ceiling surface.

7. A method according to Claim 6 wherein the packing element has an adhesive backing for affixing it to the grid.

8. A method according to any one of Claims 5 to 7 wherein the tiles are retained peripherally within respective apertures of the grid to hang part way down through the grid.

9. A method according to any one of Claims 5 to 8 wherein the wall is screwed to the grid through the packing element.

10. A packing element for use between a supporting grid of a suspended-ceiling and the top of a partitioning wall which abuts tiles hung from the grid, wherein said element comprises an elongate body having an adhesive backing for affixing the element to the grid prior to attachment of the wall to the grid.

11. A packing element according to Claim 10 wherein there are one or more holes for screws through said body.

12. A packing element according to Claim 10 or Claim 11 wherein said body has a transverse notch to facilitate division of the element into two parts of unequal length.

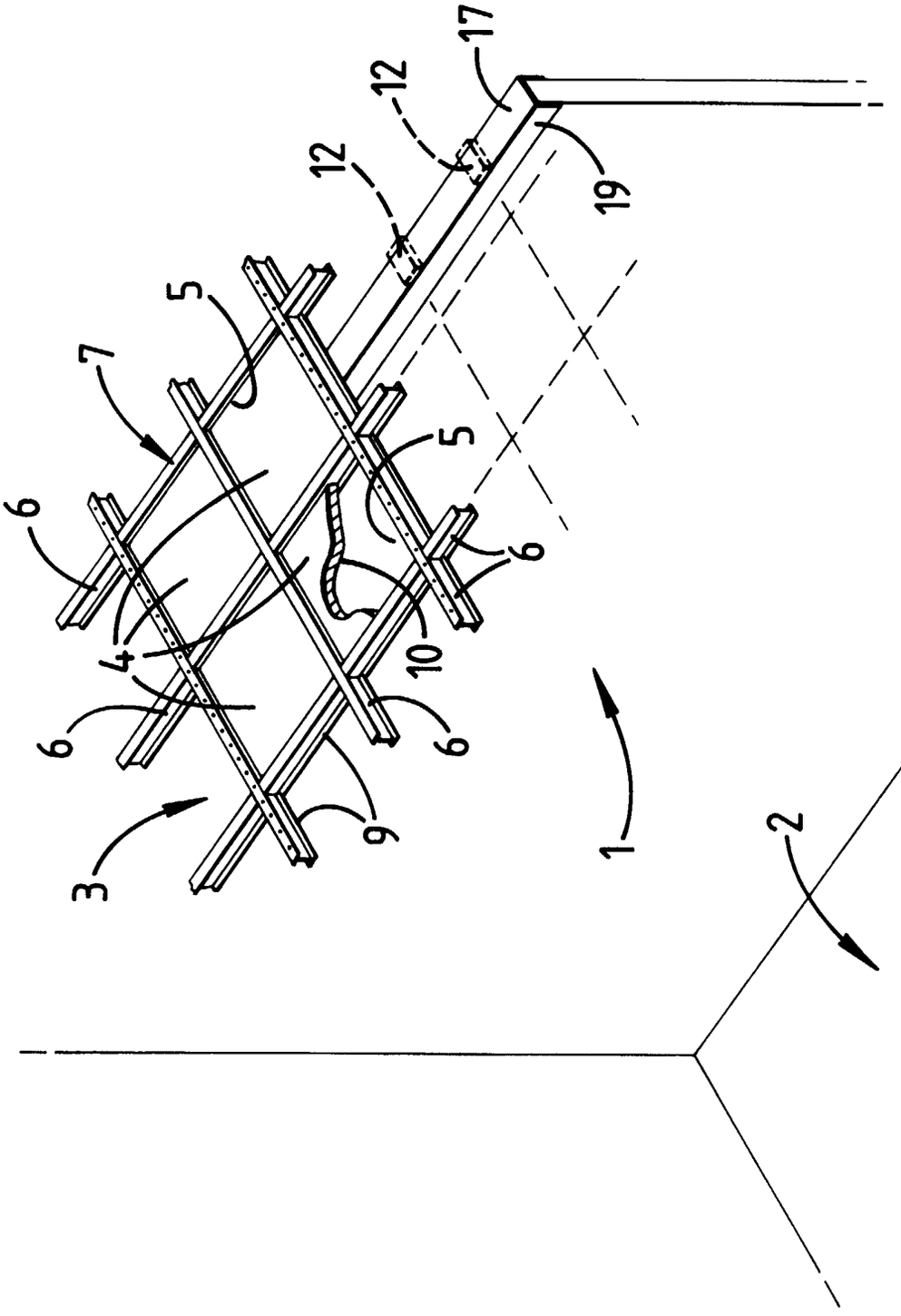


FIG.1

FIG. 2

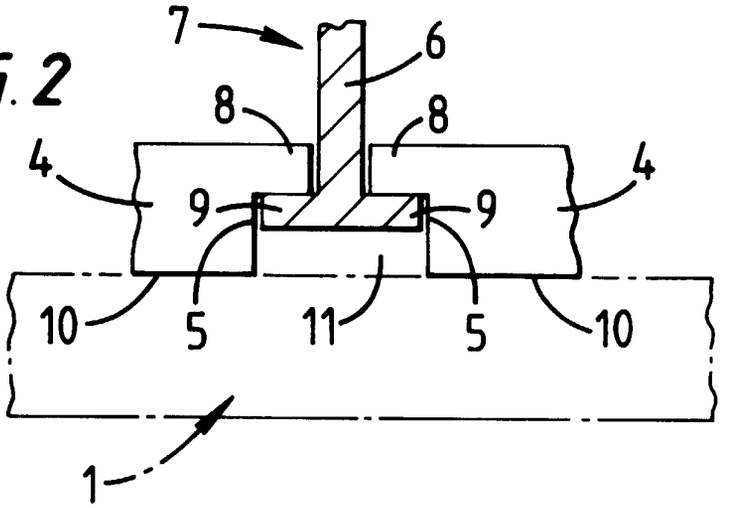


FIG. 3

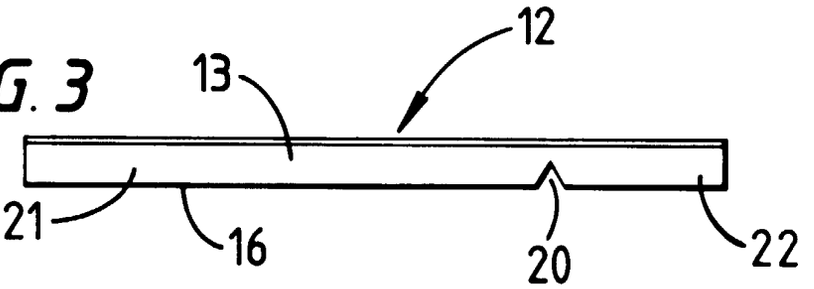


FIG. 4

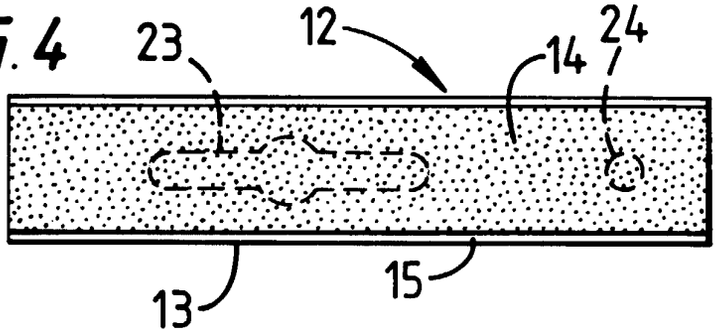


FIG. 5

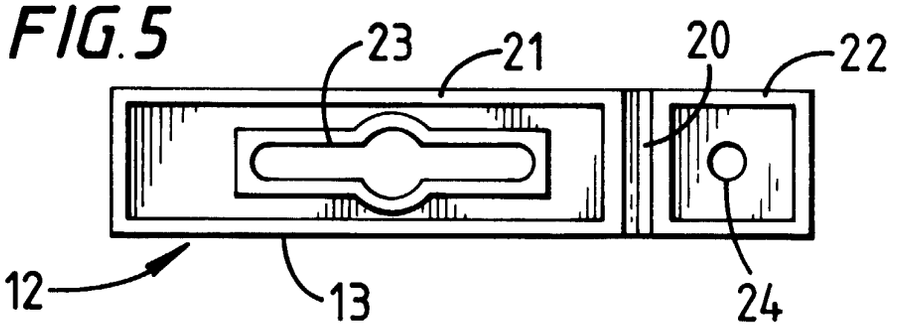


FIG. 6

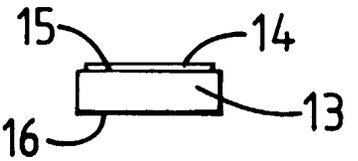
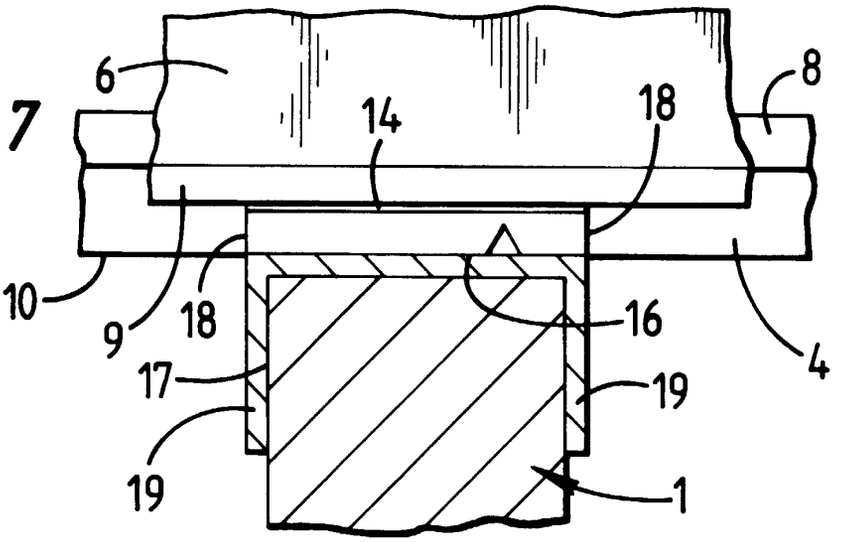


FIG.7



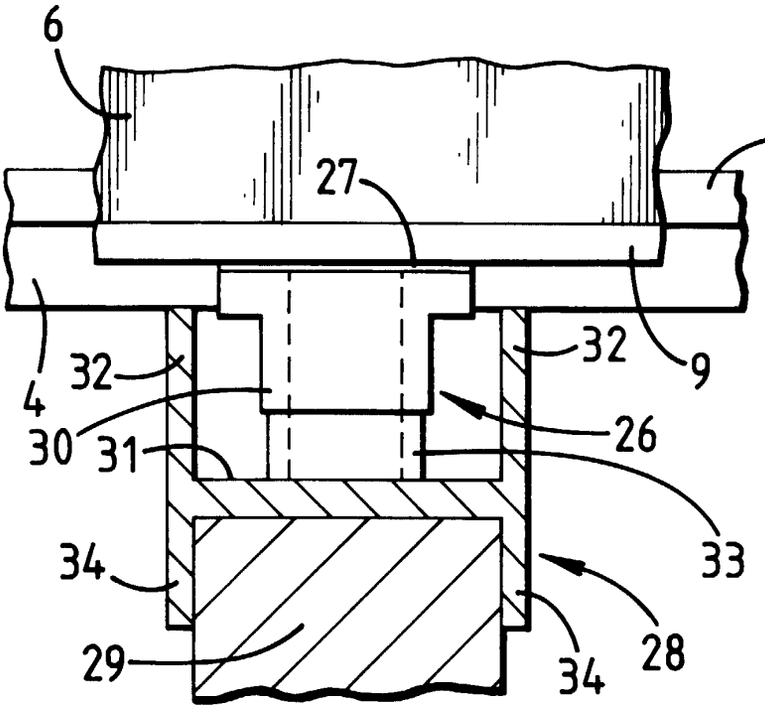


FIG.8

FIG.9

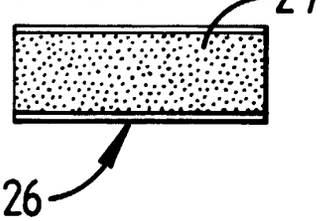


FIG.10

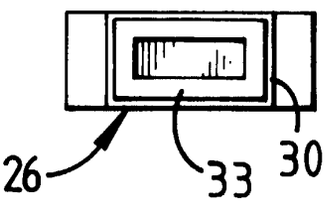
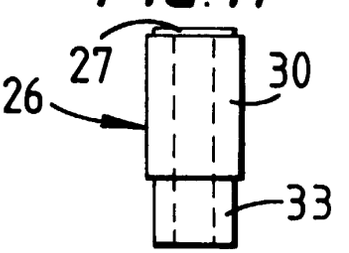


FIG.11



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EUROPEAN SEARCH REPORT

Application Number
EP 99 31 0227

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)
X Y	FR 2 710 089 A (HOPENKO MARIE FRANCOISE) 24 March 1995 (1995-03-24) * page 2, line 23 - page 3, line 5 * * figures 1,2 *	1,2,4-7, 9,10 3,8,11, 12	E04B9/00
Y	US 4 912 899 A (PLASKER JOHN C ET AL) 3 April 1990 (1990-04-03) * column 2, line 48 - column 2, line 63 * * figure 1 *	3,8	
Y	US 4 232 068 A (HOH THOMAS L ET AL) 4 November 1980 (1980-11-04) * column 2, line 54 - column 2, line 62 * * column 3, line 10 - column 3, line 18 * * figures 1-4 *	11,12	
A	US 4 073 108 A (WILLIAMS ARTHUR C) 14 February 1978 (1978-02-14) * column 4, line 53 - column 4, line 55 * * figures 1,2 *	12	
			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
THE HAGUE	9 March 2000	Hendrickx, X

CATEGORY OF CITED DOCUMENTS

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09-03-2000

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
FR 2710089 A	24-03-1995	NONE	
US 4912899 A	03-04-1990	CA 2001963 A,C	30-09-1990
US 4232068 A	04-11-1980	NONE	
US 4073108 A	14-02-1978	NONE	

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