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(54) **Ridge tile assembly**

(57) A ridge tile/support assembly comprises a supporting element having means adapted for attachment to the ridge region of a roof and having an upstanding flange member extending, in use, along the ridge region and a ridge tile having means for engagement with the

flange member, either the engagement means depending downwardly from the apex of the tile, the flange member or the engagement means comprising means defining a groove and the other of said flange member and engagement means comprising a tongue for insertion, in use, in the groove.

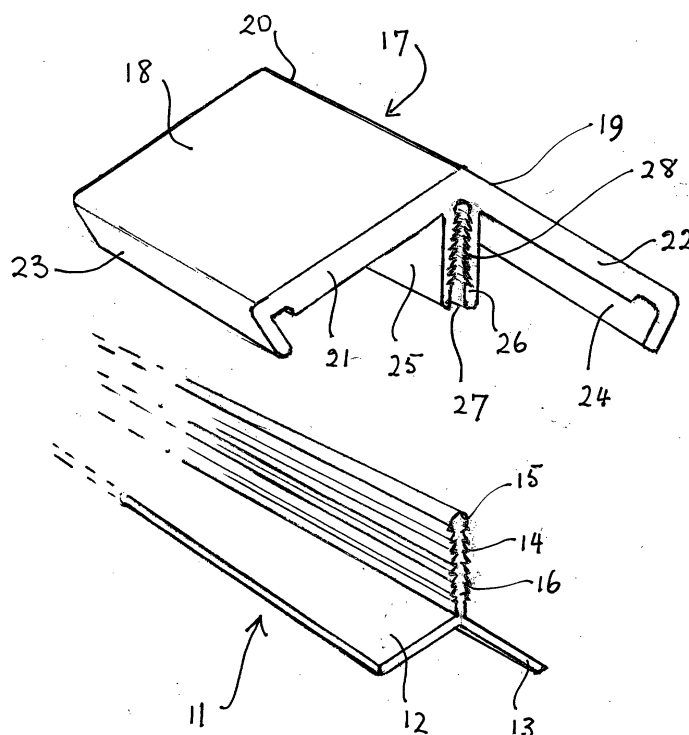


FIG. 1

Description

[0001] This invention relates to ridge tiles and in particular provides an assembly including a ridge tile and a supporting element by virtue of which the ridge tile can be secured to the apex of a roof.

[0002] In conventional building practice, ridge tiles, made either of clay or of concrete, are bedded on mortar applied along the apex of the roof. Such conventional tiles are heavy, costly, awkward to handle and to fix in place, and the mortar bedding for the tiles and the grouting of their joints requires constant attention during the bedding process to ensure that the mortar, while still wet, does not form "runs" which stain the roofing elements, that is, the slate or tile courses below the ridge tiles.

[0003] In an attempt to provide improved fixings for ridge tiles, it has been proposed in GB2196662A to provide a ridge tile supporting device comprising first and second interconnected members adapted respectively to be disposed on each side of the roof ridge with an upstanding support means to which ridge tiles can be attached via clips secured to the tiles with a screw. An alternative proposal is described in GB2352257A, according to which a ridge tile clamp is secured, preferably with adhesive, to the underside of a ridge tile for engagement about a connecting element attached to the ridge batten.

[0004] It is an object of the present invention to provide an improved ridge tile/support assembly.

[0005] According to one aspect of the present invention, a ridge tile/support assembly comprises a supporting element having means adapted for attachment to the ridge region of a roof and having an upstanding flange member extending, in use, along the ridge region and a ridge tile having means for engagement with the flange member, the engagement means depending downwardly from the apex of the tile, either the flange member or the engagement means comprising means defining a groove and the other of said flange member and engagement means comprising a tongue for insertion, in use, in said groove.

[0006] Preferably, the ridge tile has integrally-formed downwardly-depending and laterally spaced-apart wall members defining between them a groove or channel and the flange member comprises an upwardly-extending strip which is engagingly receivable in the groove. Engagement may merely be by force-fitting, that is, by virtue of the walls defining the groove being resiliently deformed outwardly on insertion therein of the flange member so as to exert gripping forces on the flange member although, optionally, the flange member and the interior surfaces of the groove or channel-defining members may be provided with co-operative conformations which enhance the gripping forces by means of snap action.

[0007] The ends of the tile may be provided with interlocking or interengaging formations to prevent in-

gress of rainwater and otherwise to assist in maintaining the ridge tiles in position so that the apices thereof substantially form a continuous straight line to an observer on the ground.

[0008] The support element includes, for attachment to the ridge region of the roof structure, suitable mounting means, for example one or more horizontal plates for attachment to the ridge batten or, in an alternative arrangement, angled plates for attachment to one or each side of the roof structure next to or immediately adjacent the apex. The angled plates may be angularly deformable to facilitate their attachment to roofs of different pitch or, alternatively, they may subtend a fixed angle between them but be attachable to differently-pitched roofs optionally with the insertion of suitable spacer or packing members to accommodate differences in angle as between the roof rafters and the mounting plates. The ridge tiles preferably include, at their distal longitudinal edges, downwardly-extending skirt members the lower edges of which, in use, contact the roofing elements and maintain the underside of the ridge tiles spaced apart from the roofing elements immediately beneath the ridge tiles. Such skirt members not only provide free space between the ridge tiles and the roofing elements, by virtue of which differently-pitched roofs may be accommodated with fixed-pitch ridge tiles, but also allow for air circulation between optional ventilation apertures formed in the ridge tiles, preferably in the skirts thereof, and the roof void. Ventilation apertures preferably include insect screens, as already known.

[0009] As a further feature, ridge tiles for use with assemblies according to the present invention may include end formations for cooperation with adjacent tiles to act to exclude rainwater from access to the roof between the ridge tiles and to maintain the ridge tiles substantially in alignment along the length of the ridge. Such formations may comprise a longitudinally-extending rib at one end of a ridge tile and a corresponding recess in the other end, whereby the rib of one tile engages or mates with the recess in the adjacent tile when the tiles are disposed on the apex of the roof and engaged in their intended positions with the support element. Tiles without cooperating end formations are preferably provided for the outermost tiles of a ridge array.

[0010] The assembly is preferably formed, for example by a suitable moulding or extrusion process, from a plastics material which can be pigmented to provide any desired colour according to whether the roofing materials are slate or tiles of any colour. However, the ridge tile is preferably more rigid than the support element although the latter may be formed from a metallic material such as extruded aluminium or alloy thereof. The ridge tiles can readily be formed to any required design similar to but without the production expense of designs in fired clay tiles and are considerably lighter in weight and, hence, easier to handle. A degree of flexibility in the ridge tiles, especially at or towards the distal longitudinal edges thereof, is desirable to enable the edges thereof

to be levered up as a preliminary step in removing them from a ridge.

[0011] Using a ridge tiling assembly according to the invention, ridge tiles can be applied quickly and accurately without any need for mortar and can be readily individually removed for replacement purposes in the event of damage occurring either to the ridge tiles themselves or to any of the roofing elements thereunder. If necessary, the tiles can easily be cut by a hard point saw and without the need for an angle grinder.

[0012] Embodiments of the invention will now be described by way of example with reference to the accompanying drawings, of which:

Figure 1 is a perspective exploded view of a ridge tile assembly according to the invention;

Figure 2 is a perspective view showing adjacent ridge tiles in spaced-apart relationship on a slate roof; and

Figures 3 and 4 are diagrammatic views showing an assembly according to the invention on respective roofs of different pitch.

[0013] With reference firstly to Figure 1, the assembly consists of a supporting profile 11 having base strips 12, 13 disposed at a downwardly-directed angle and extending longitudinally and an upstanding flange member 14 extending from the apex. The flange member is shown as having an upper beading 15 and intermediate longitudinal ridges 16 which slope outwardly and downwardly. The support element 11 is formed in long strips to be fixed to the ridge of the roof in end-abutting relationship with another such element and to be cut to the desired length, according to the dimensions of the ridge, as required.

[0014] A ridge tile is shown generally at 17 and has respective sloping side panels 18, 19 defining a ridge 20 where they meet. The ends of the panels are formed with downwardly-depending flanges 21, 22 and, at their lower or outer side extremities, with inwardly-turned skirts 23, 24. Depending from beneath the apex or ridge 20 are a pair of spaced-apart wall members 25, 26 defining therebetween a slot 27 and having grooves 28 which correspond with ridges 16 formed on the support element.

[0015] In use and having secured the base strips 12, 13 to the roof timbers, either over or abutting the upper edge of the roofing felt, individual ridge tiles are engaged thereon by offering the wall members 25, 26 to the flange member 14 so that the flange or male member engages in the slot or female member 27 and is retained therein by virtue of resilient snap action between the respective ridges 16 and grooves 28, the sloping profile of the ridges assisting in secure retention within the grooves. The lower edges of the skirts 23, 24 rest on the roof covering material, whether that be tiles or slates.

[0016] With reference now to Figure 2, the flange member 14 of a support element is shown extending upwardly above the apex of the roof covering material, here constituted by slates 29, the upper regions of the top course of slates covering the respective members 12, 13, as shown more clearly in Figures 3 and 4. The end regions of a pair of ridge tiles 30, 31 are shown in spaced-apart relationship for illustrative purposes; the end region of the skirt has an overhang portion 32 which, in use, mates with a corresponding protruding rib portion 33 formed on adjacent tile 31. The tiles 30, 31 are engaged with the support element 14 in the manner described with reference to Figure 1.

[0017] With reference to Figure 3 and 4, the supporting profile 35 has a centrally-disposed valley 36 from the bottom of which extends the flange member 37, ridged as previously described but not shown for the sake of clarity. The roof in Figure 3 has a steeper pitch than that of Figure 4 and, in Figure 3, the base strips 38, 39 of the profile 35 lie flat on battens 40, 41 whereas in Figure 4 the strips are in contact with the battens only at their outer edges, although a degree of resilient flexibility from a suitable plastics material (such as uPVC) would assist in maintaining closer contact at least in the outer regions where the attachment nails 42, 43 are passed through. In the arrangement shown in Figure 4, the male member 37 does not extend into the slot defined between the wall members 44, 45 as far as in the arrangement of Figure 3, since the supporting profile must be spaced further below the ridge tile to accommodate the shallower roof pitch.

[0018] With roofs of steeper pitch, the upper ends of the slates would be accommodated within the space below the ridge tile as created by the skirts 46, 47.

Claims

1. A ridge tile/support assembly comprising a supporting element having means adapted for attachment to the ridge region of a roof and having an upstanding flange member extending, in use, along the ridge region and a ridge tile having means for engagement with the flange member, the engagement means depending downwardly from the apex of the tile, the flange member or the engagement means comprising means defining a groove and the other of said flange member and engagement means comprising a tongue for insertion, in use, in said groove.
2. An assembly according to claim 1, in which the ridge tile has integrally-formed downwardly-depending and laterally spaced-apart wall members defining between them a groove or channel and the flange member comprises an upwardly-extending strip which is engagingly receivable in the groove.

3. An assembly according to claim 1 or claim 2, in which the flange member and the interior surfaces of the groove or channel-defining members are provided with co-operative conformations. 5
4. An assembly according to any preceding claim, in which the ends of the tile are provided with interlocking or interengaging formations.
5. An assembly according to claim 4, in which the interlocking or interengaging formations comprise a longitudinally-extending rib at one end of a ridge tile and a corresponding recess in the other end, whereby the rib of one tile engages or mates with the recess in the adjacent tile when the tiles are disposed on the apex of the roof and engaged in their intended positions with the support element. 10 15
6. An assembly according to any preceding claim, in which the supporting element includes one or more plates for attachment to the ridge batten. 20
7. An assembly according to claim 6, in which the plates are angularly deformable. 25
8. An assembly according to claim 6, in which the plates are angled and subtend a fixed angle between them.
9. An assembly according to any preceding claim, in which the tiles include, at their distal longitudinal edges, downwardly-extending skirt members. 30
10. An assembly according to any preceding claim, in which the ridge tile is more rigid than the support element. 35
11. An assembly according to any preceding claim, in which the distal longitudinal edge regions of the tile is relatively flexible and can be manipulated upwardly. 40

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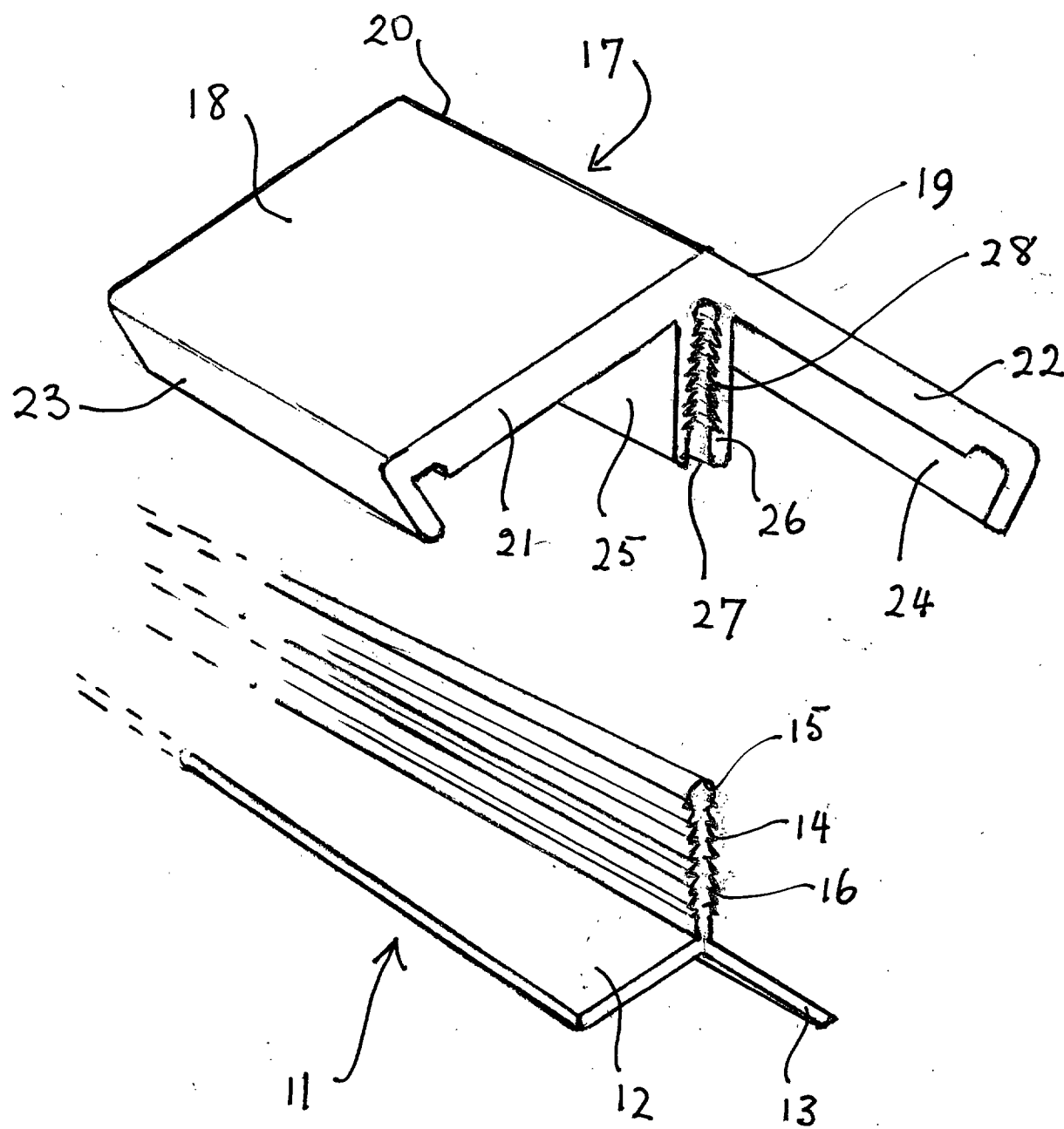


FIG. 1

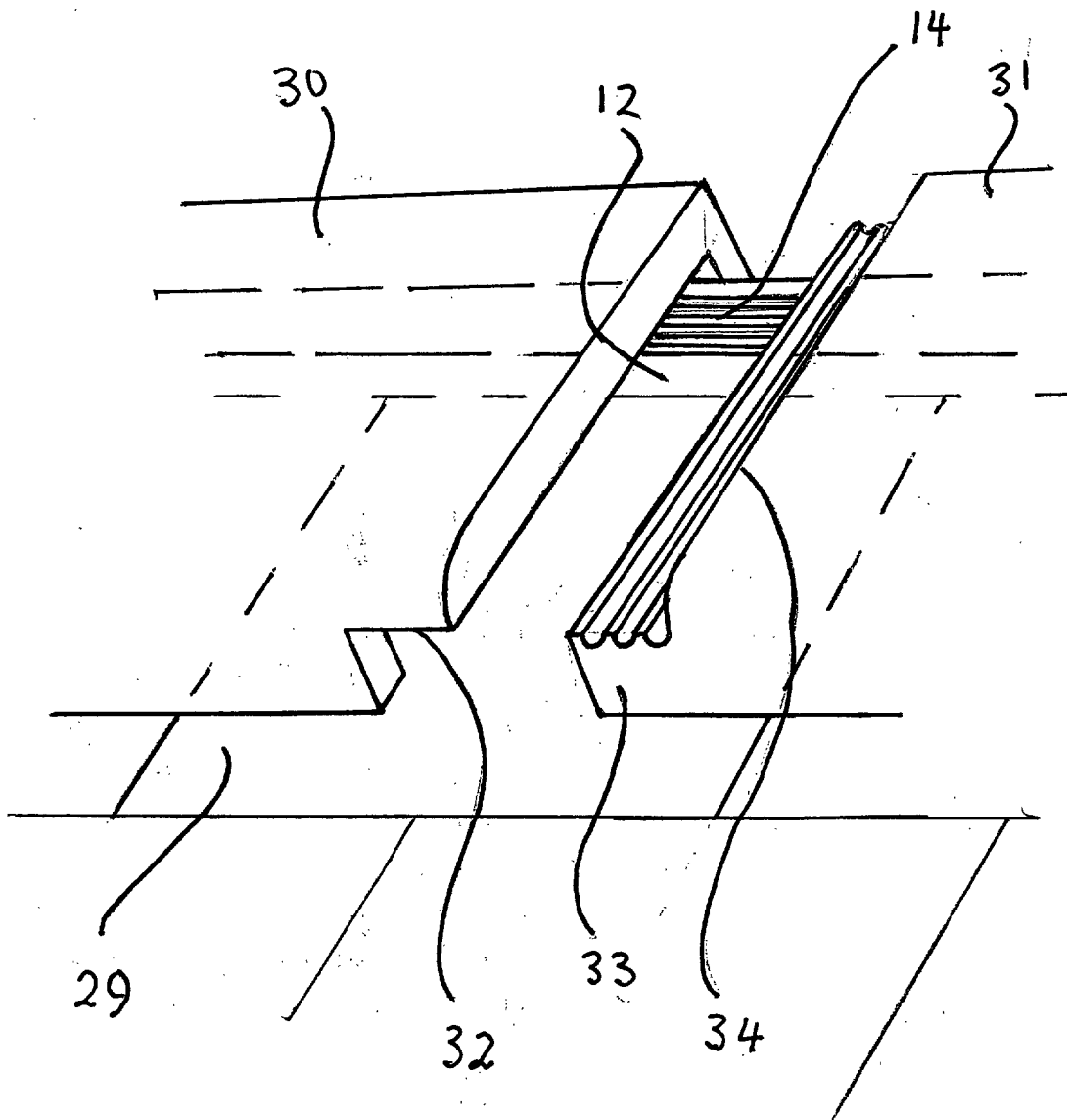


FIG. 2

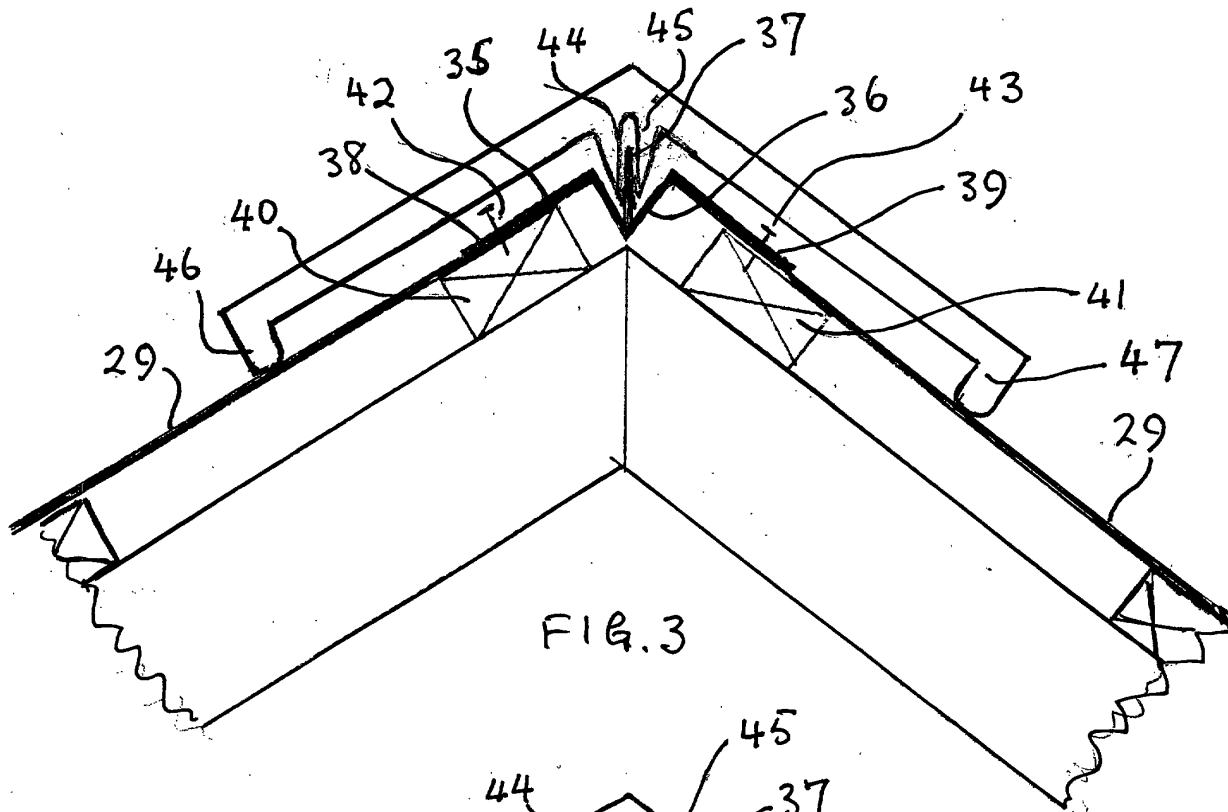


FIG. 3

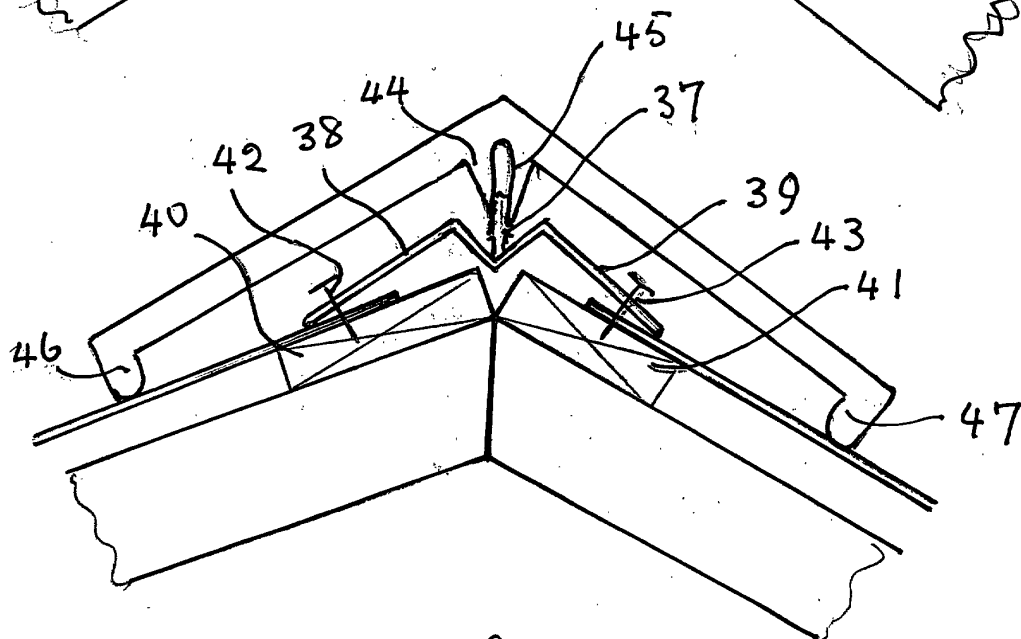


FIG. 4



European Patent
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EUROPEAN SEARCH REPORT

Application Number
EP 02 25 7182

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	GB 1 330 711 A (TENAPLAS LTD) 19 September 1973 (1973-09-19)	1-3,6-8, 10,11	E04D3/40 E04D1/30
Y	* page 2, column 1, line 41 - column 2, line 10; claim 6; figures 2,4 * * column 1, paragraph 2 *	4,5,9	E04D1/34
Y	GB 2 331 112 A (ROE STEPHEN FRANCIS) 12 May 1999 (1999-05-12) * figure 2 *	4,5	
Y	GB 1 253 835 A (BP CHEMICALS INTERNATIONAL LTD) 17 November 1971 (1971-11-17) * figures 1,4 *	9	
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			E04D
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 16 January 2003	Examiner Demeester, J
CATEGORY OF CITED DOCUMENTS 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 T : 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			

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**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 02 25 7182

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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16-01-2003

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GB 2331112	A	12-05-1999	NONE	
GB 1253835	A	17-11-1971	NONE	

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