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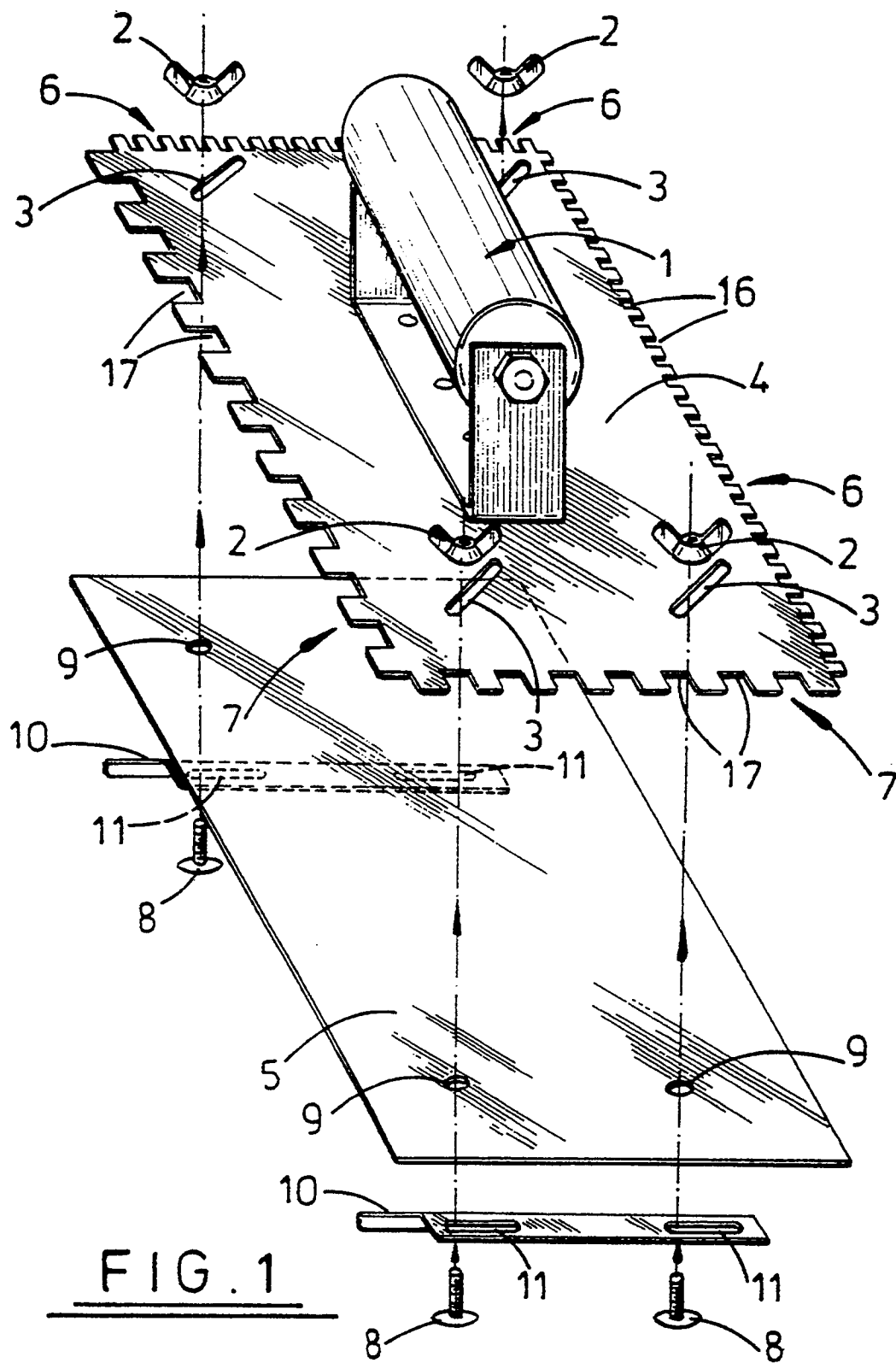
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㉙ **Tiling trowel.**

㉚ A tilers trowel having at least one edge (6, 7) which is notched (16, 17) and wherein adjustment means is provided for limiting the depth of material which can be applied, ie. by adjusting the size of the notching. In one embodiment the trowel comprises two plate-like members (4, 5) which are cooperable and adjustable slidably with respect to one another. One or both members may have notching and preferably the plate members are rectangular with notching to all four edges. A handle (1) is secured to one plate member.

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This invention relates to a tiling trowel.

Tilers use a notched trowel to apply adhesive to a surface. Depending upon the surface and the type of tile or vinyl used, a different depth of adhesive is required. To accomodate this the tiler needs a series of trowels with different notch sizes for the different jobs. The need for several different sizes is disadvantageous.

It is an aim of the present invention to overcome this disadvantage.

According to the present invention there is provided a trowel having at least one edge provided with adjustable means for limiting the depth of material which can be applied to a surface.

Said edge and adjusting means is preferably constituted by mutually cooperable members mounted for movement with respect to one another (preferably slidable movement) conveniently at least one of said member is notched, wherein movement of the members relative to one another varies the effective depth of the notching and hence the depth of material applied. In one embodiment both members are notched. The members preferably comprise two plate like members which may be substantially rectangular.

For practical purposes it is advantageous if all four edges of the trowel are notched, and advantageously with two or more different sizes of notch available simultaneously for different tasks. Notches may be rectangular, V-shaped or in any other convenient shape, with sizes and shapes combined as required. The notching may be in a part of the trowel fixed with respect to a handle of the trowel and/or in a movable part.

A notched blade construction may be combined with slidably adjustable depth gauges, thereby providing a further means of adjusting the depth of material applied.

The means for limiting the depth of material applied could be adjustable to discrete settings but are preferably adjustable continuously over a range for flexibility of use. The slidable adjusting means are preferably provided with fixing means to prevent slippage once the desired limit has been set for the material depth.

The present invention will now be described further, by way of example only, with reference to the accompanying drawings, in which:-

Figure 1 is an exploded perspective view of a trowel according to one embodiment of the invention;

Figures 2, 3 and 4 are plan views of the trowel of Figure 1 shown adjusted to produce different depths of adhesive; and

Figure 5 and 6 are fragmentary plan views of an edge of a trowel according to a second embodiment of the invention.

A first embodiment of the invention is shown in Figures 1-4. A tiler's trowel for applying adhesive

comprises an upper plate 4 having a handle 1, and a lower plate 5 securable thereto. Two adjacent edges 7 of the upper plate are provided with large rectangular notches 17 for laying ceramic floor tiles, and two adjacent edges 6 are provided with smaller rectangular notches 16 suitable for ceramic wall tiles. The lower plate 5 is without notching.

The upper plate 4 is provided with diagonal slots 3. The lower plate 5 has corresponding smaller holes 9. When assembled the holes 9 in the lower plate 5 and the slots 3 in the upper plate 4 are aligned and loosely held by screws 8 and wing nuts 2. Then depth of notch revealed by the plate 4 and 5 can be adjusted by means of sliding the plates relative to one another with the screws 8 able to travel along the slots 3, while remaining substantially stationary relative to the holes 9. When the desired depth of notch is reached the wing nuts 2 are tightened into place to fix the plates.

Depth gauges 10 are securable to the lower plate 5, said depth gauges being provided with slots 11 for taking the fixing means passing through holes 9 in the lower plate. The length of a depth gauge 10 is adjusted by sliding relative to plate 5 with the screws 8 travelling along the slots 11. Wing nuts 2 are tightened to fix the gauges.

Figure 2 shows an extreme position of the adjusting means with fixing means located at the end of the slots 3. The plates are set to show the entirety of notches 17 on the edges 7, suitable for a thick adhesive bed.

Figure 3 shows an intermediate adjustment where the fixing means are in a middle part of the slots 3 so that both notches 17 and 16 are made effectively smaller by plate 5, to provide a shallower depth of adhesive.

Figure 4 shows detachable depth gauges 10 fixed to plate 5 and protruding from the trowel edge to provide a very thick adhesive bed.

Although in this example the upper plate has notched edge it will be understood that the trowel could have straight edges on the upper plate with the lower plate notched along its edge or edges.

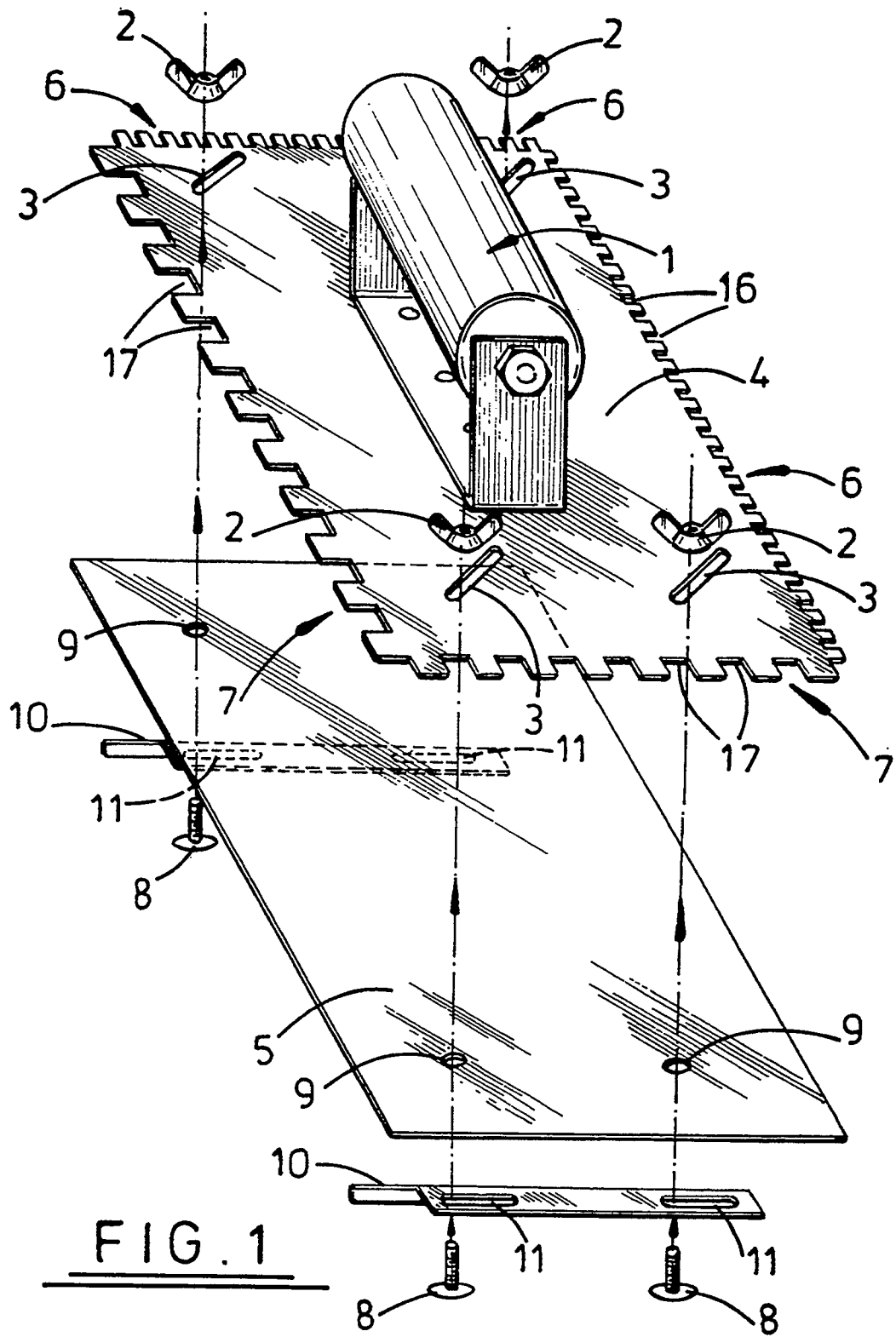
In a second embodiment shown in figures 5 and 6, the trowel has V-shaped notches and the adhesive depth is adjustable by using two notched plates 40, 50 with equal size notches 110 and 120 respectively. Here slots 30 are horizontal to the trowel edges. Adjustment occurs as before by way of loosely held screws which pass through holes in the lower plate 50 and move along slots 30 in the upper plate, covering the plates to move relative to one another. Figure 5 shows one extreme of the range of adjustment, notches 110 and 120 in lower and upper plates coincide to give a thick bed of adhesive. Figure 6 shows the notches 110 and 120 off set making a smaller effective notch size.

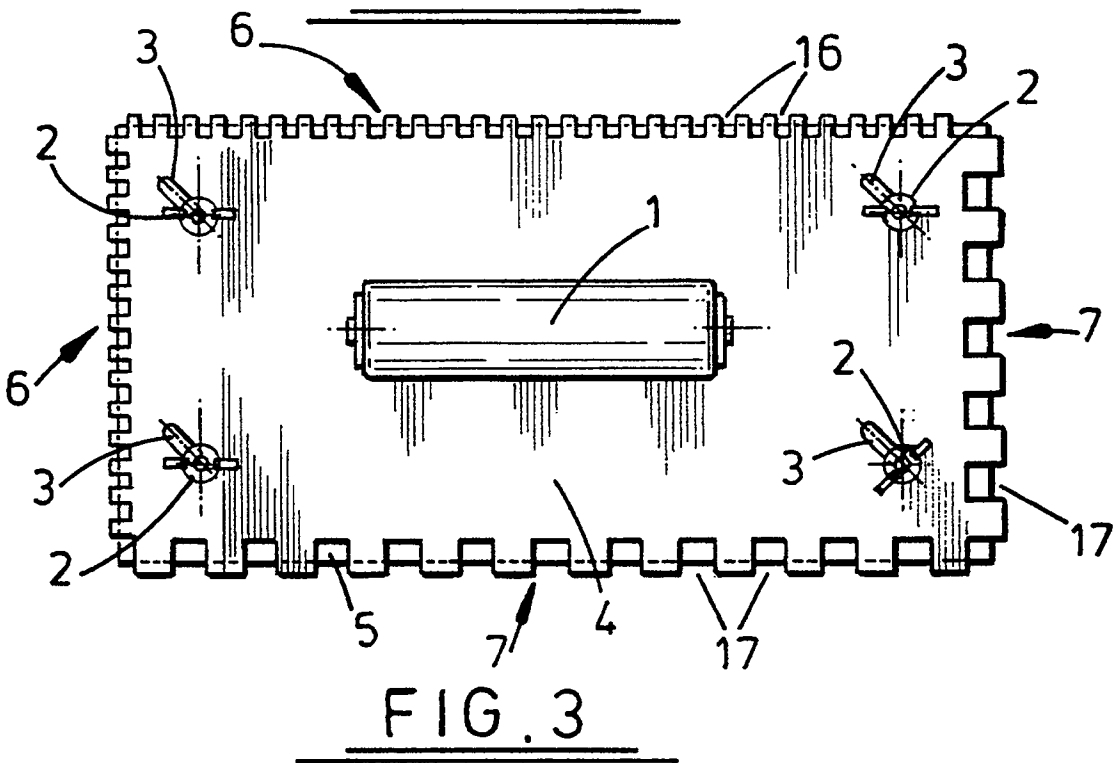
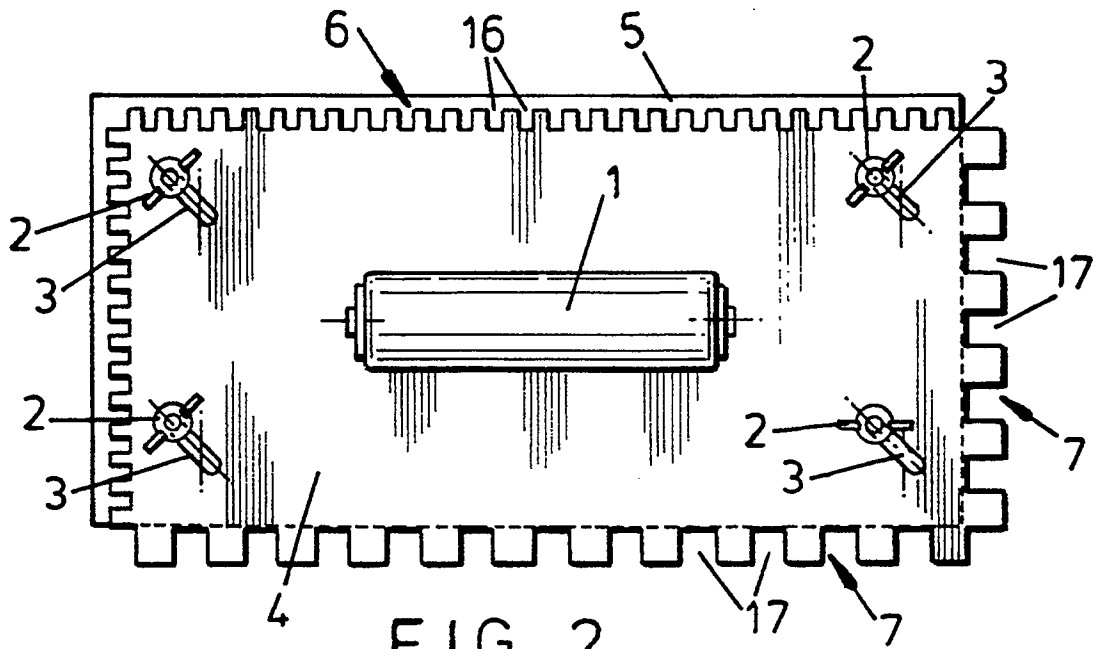
In the illustrated embodiments, four slots are provided, but an alternative, especially where the

additional depth gauge is disposed with, is to have two slots positioned, say in alignment with the handle, and to opposite sides thereof.

Claims

1. A trowel having at least one edge (6, 7) and characterised by adjustable means (4, 5) associated with said at least one edge for limiting the depth of material which can be applied to a surface. 10
2. A trowel as claimed in claim 1 in which said edge and adjusting means comprise mutually cooperable (4, 5; 40, 50) members mounted for movement with respect to one another. 15
3. A trowel as claimed in claim 2 in which at least one of said members (4) is notched (16, 17; 110, 120). 20
4. A trowel as claimed in claim 3 in which movement of the members (4, 5; 40, 50) relative to one another varies the effective depth of the notching and hence the depth of material applied. 25
5. A trowel as claimed in claim 3 or 4 in which both members (40, 50) are notched (110, 120). 30
6. A trowel as claimed in claim 3 or any claim appendant thereto in which two or more different sizes of notch are available simultaneously to respective edges. 35
7. A trowel as claimed in any one of claims 2 to 6 in which one of the members is fixed with respect to a handle (1) of the trowel. 40
8. A trowel as claimed in any one of claims 2 to 7 in which the members are slidable with respect to one another and clamp means is provided for selectably locating the two members with respect to one another to set the maximum depth of material which can be applied. 45
9. A trowel as claimed in claim 8 in which the direction of slidable movement of the two members for adjustment is angled with respect to at least one edge of the trowel. 50





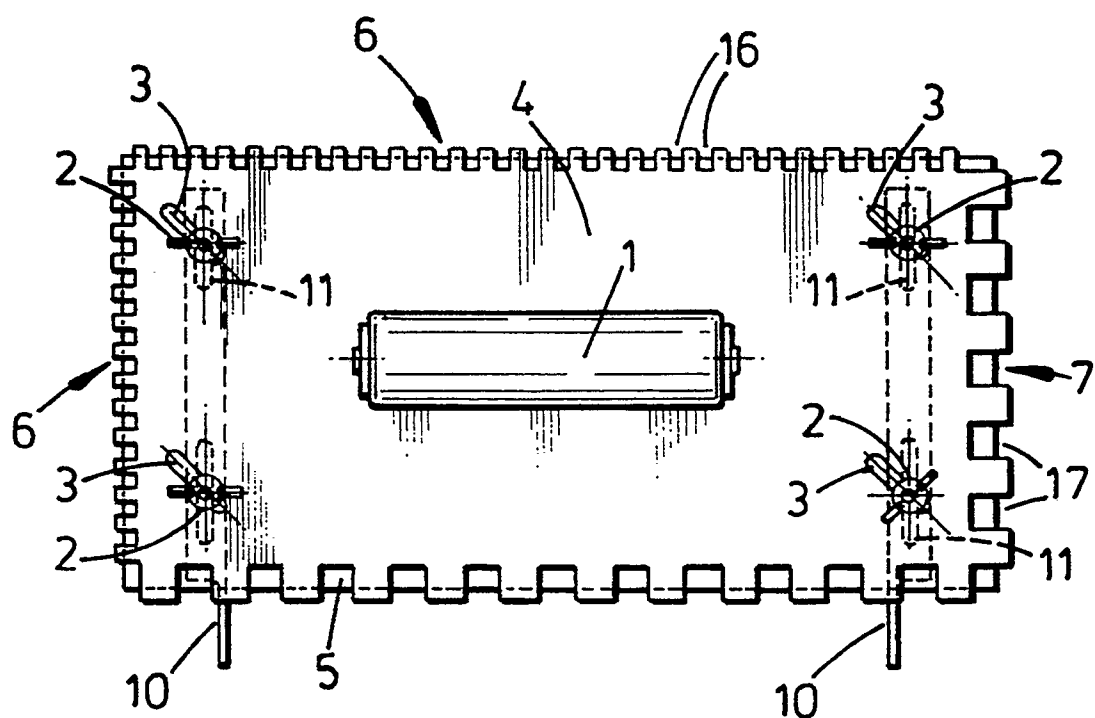


FIG. 4

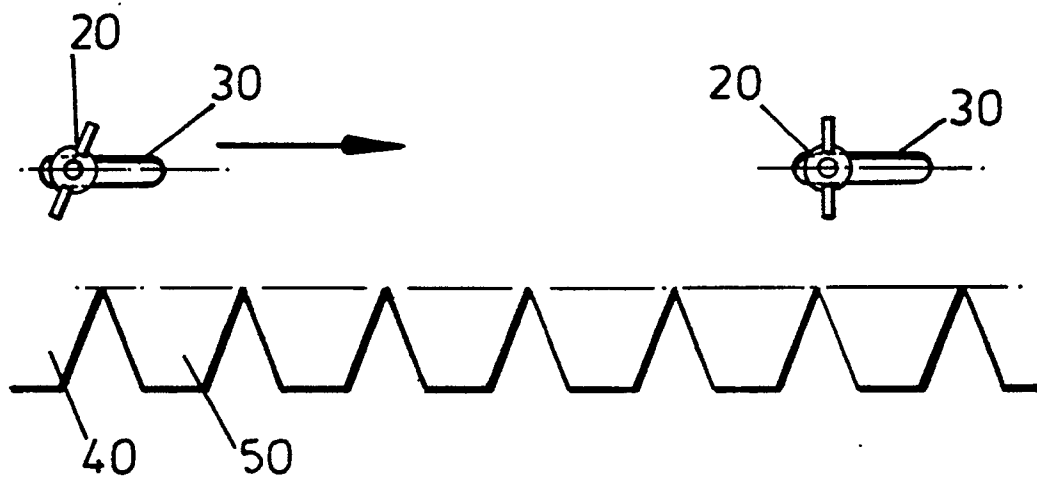


FIG. 5

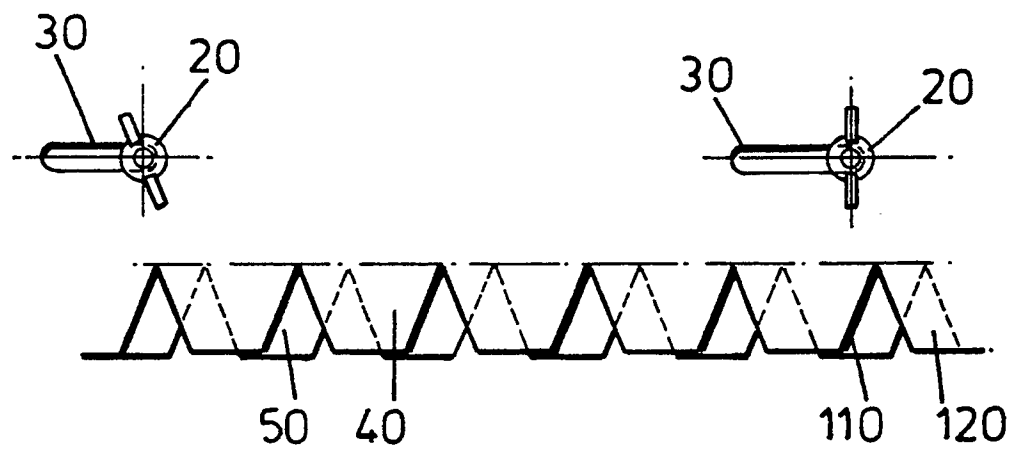


FIG. 6



European Patent
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EUROPEAN SEARCH REPORT

Application Number

EP 91 30 4038

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)
X	DE-C-674 083 (REINERS)	1,2,8	E04F21/16
A	* the whole document *	3	B44D3/10

X	FR-A-2 453 962 (OMERIN)	1-3,7,8	
Y	* page 3, line 14 - page 4, line 35; figures 1-7	9	
	*		
A		4,5	

Y	GB-A-501 769 (OAKLEY)	9	
A	* page 3, line 111 - line 127 *	8	
	* page 4, line 44 - line 82; figure 3 *		

			TECHNICAL FIELDS SEARCHED (Int. Cl.5)
			E04F B44D
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 08 AUGUST 1991	Examiner AYITER J.
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