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(12) # EUROPEAN PATENT APPLICATION

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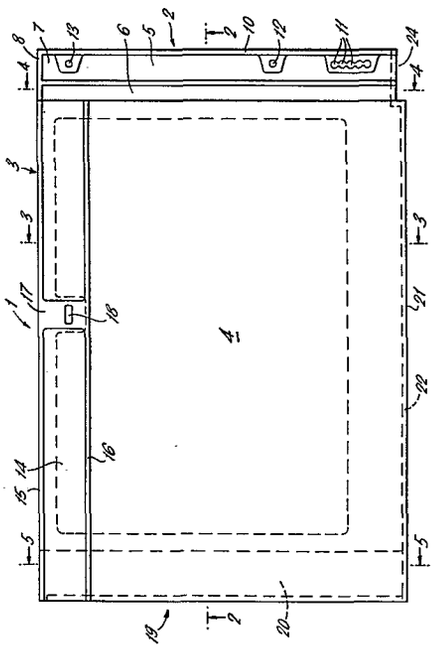
(54) **Improvements in roofing tiles and tiled roofs.**

(57) A roofing tile or "artificial slate" (1) has a first side lock portion (2) including upwardly facing channels and a second side lock portion (19) including a downwardly facing channel (20). The tile also has a head lock (3) and a downwardly extending lower end wall (22). A series of interconnected holes (11) is provided in the first side lock and a single hole (18) is provided in the head lock. When the tiles are arranged on a roof in mutually overlapping relationship, the side lock (2, 19) of sideways adjacent tiles interengage and the lower end walls (22) overlie the head lock (3) of downwardly adjacent tiles. Nails passing through one of the interconnected holes (11) and the holes (18) of downwardly adjacent tiles secure the tiles to a roof structure and the series hof holes (11) permits adjustment of the amount of overlap between downwardly adjacent tiles.



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AN IMPROVED ROOFING TILE

The present invention relates to roofing tiles and provides a roofing-tile, or so called "artificial slate", of generally planar configuration comprising a first side lock portion defined by upwardly facing channels extending along one edge portion thereof, and a second side lock portion defined by at least one downwardly facing channel adapted in use to overlie the upwardly facing channels of an adjacent similar tile in which there is a series of fastener receiving apertures provided in said first side lock portion adjacent one end thereof, the arrangement being such that in use, a fastener is placed in one of the said apertures for fastening the tile to a roof member, the series of apertures providing for adjustment of the tile relative to the roof member to permit variation of overlap with an adjacent tile.

Preferably the tile comprises an interconnected series of fastener receiving apertures.

Preferably the tile also comprises a head lock portion defined by an upwardly facing channel extending along an upper edge portion of the tile.

Preferably another aperture is provided in said head lock portion for passage of a fastener for securing an overlapping similar tile to the roof member, the fastener passing, in use, through one of the series of apertures in the overlapping tile and then through the said other aperture.

Conveniently the slate comprises a downwardly extending wall portion at its lower edge portion adapted, in use, to overlap the head lock portion of an underlying adjacent similar slate or slates, and preferably also adapted to abut the ends of the channels of the first side lock portion of a sideway adjacent similar tile.

A preferred embodiment of an artificial roofing slate provided by the present invention will now be described by way of example, with reference to the accompanying drawings, in which:-

Figure 1 is a plan view from above of a roofing tile or "artificial slate";

Figure 2 is a section view of the slate of Figure 1 taken along the line 2-2 of Figure 1 and also showing portions of adjoining similar slates on

each side of the slate when in position on a roof;

Figure 3 is a section view of the slate of Figure 1 taken along the line 3-3 of Figure 1 and also showing portions of adjoining slates above and below the subject slate when located on a roof;

Figure 4 is a section along the line 4-4 of Figure 1, and

Figure 5 is a section along the line 5-5 of Figure 1.

A roofing tile or "artificial slate" 1 is generally recentagular in plan and of generally planar configuration having a right hand side lock portion 2 and a head lock portion 3, see Figure 1.

The upper surface 4 of the slate is provided with a riven finish to simulate the surface of natural slate.

The side lock portion 2 is double channel shape in cross-section, see Figure 2. Two channels 5 and 6 thereof extend the length of the side lock portion 3 and face upwardly, see Figure 2. At their upper end 7, the channels 5 and 6 are closed by a wall portion 8.

The channel 5 nearer the edge of the slate is provided with a wall 10 extending the length of the channel at the edge of the slate and juxtaposed the wall towards the lower end of the channel 5 is a series

of interconnected holes 11 to facilitate nailing of the slate to roof battens, not shown. In a preferred embodiment the slates are mounted on a solid frame timber roof structure. There are five holes 11 which allow for adjustment of the overlap of the slate 1 with an adjacent similar slate in an up the roof direction, as will be described below.

The channel 5 is also provided with two further holes 12 and 13 to allow for extra nailing at the eaves of the roof.

The head lock portion 3 has a single channel configuration 14 extending thereacross which is defined by two upwardly extending walls 15 and 16, see particularly Figures 3, 4 and 5. The channel 14 is broken at its mid portion by a boss 17 in which is provided a slot 18 to enable the nail for fixing an overlapping slate 1 to pass therethrough as will be described below.

The left hand side lock portion 19 of the slate 1 comprises a downwardly facing channel 20 adapted in use to overlie the upwardly facing channels 5 and 6 of an adjoining slate, see Figure 2.

A lower edge 21 of the slate 1, see Figures 1, 3, 4 and 5 is provided with a downwardly extending wall 22 which in use extends beyond the wall 16 of the channel

14, see Figure 3. In the region of the side lock 2 of the slate 1, the slate includes a cut-out portion 24 and in use, the portion of wall 22 at the left hand portion 19 of an adjacent similar slate extends into the cut-out portion 24 and abuts the end of the cut-out and the channels 5 and 6 of the slate.

When slates 1 are laid on a roof, a horizontal row of slates is laid with respective side-locks 2 and channels 20 interengaged as described above. The next row of slates vertically up the roof is then laid, the slates in this next row having their lower edge 21 overlapping the head lock portions 3 of the first row and being arranged in half-bond relationship with the first row so that the holes 11 overlie the holes 18 of the slates in the first row. The slates are then fixed to the roof battens by nails passing through one of the holes 11 in each slate in the second row and a corresponding hole 18 in a slate of the first row. It will be appreciated that the provisions of five interconnected holes 11 allows for adjustment of the degree of overlap of the second row of slates with the first between determined upper and lower limits.

With slates as described above, a roof may be covered quickly and easily without the need for clips

of the type used for securing plain natural slates and plain artificial slates to a roof such that part of the clip appears on top of the slate. Such a clip is commonly used nowadays. Thus the slate described above is more aesthetically pleasing and acceptable.

It will be appreciated that the terms right, left, upper and lower used in the description of the slate 1 are adopted for convenience and simplicity of description and as an indication of the usual orientation of the slates on a roof. These terms are not to be construed as limiting on the possible orientations of the slates 1.

The slate 1 may be made from any suitable moulding composition and particularly from the composition described in our co-pending Application No. 7917939 dated 23rd May, 1979 and entitled "An Improved Moulding Composition".

Although the product is described as a roofing tile, it will be appreciated that it may also be used for cladding purposes.

SDM/TBA/TJ/

CLAIMS:-

1. A roofing tile of generally planar configuration comprising a first side lock portion defined by upwardly facing channels extending along one edge portion thereof, and a second side lock portion defined by at least one downwardly facing channel adapted in use to overlie the upwardly facing channels of an adjacent similar tile characterised in that there is a series of fastener receiving apertures (11) provided in said first side lock portion (2) adjacent one end thereof, the arrangement being such that in use, a fastener is placed in one of the said apertures for fastening the tile to a roof member, the series of apertures providing for adjustment of the tile relative to the roof member to permit variation of overlap with an adjacent tile.

2. A roofing tile as claimed in claim 1 characterised in that the fastener receiving apertures (11) are interconnected.

3. A roofing tile as claimed in claim 1 or claim 2 further characterised by a head lock portion (3) defined by an upwardly facing channel (14)

extending along an upper edge portion of the tile.

4. A roofing tile as claimed in claim 3 characterised in that a further aperture (18) is provided in said head lock portion (3) for passage of a fastener for securing an overlapping similar tile to the roof member, the fastener passing, in use, through one of the series of apertures (14) in the overlapping tile and then through the said outer aperture.

5. A roofing tile as claimed in claim 3 or claim 4 further characterised by a downwardly extending wall protion (22) at its lower edge portion adapted, in use, to overlap the head lock portion (3) of an underlying adjacent similar slate or slates.

6. A roofing tile as claimed in claim 5 characterised in that the downwardly extending wall portion (22) is also adapted to abut the ends of the channel (5,6) of the first side lock portion (2) of a sideway adjacent similar tile.

7. A tiled roof comprising a roof structure and a plurality of roofing tiles as claimed in any one

of the preceding claims, the tiles being arranged in mutually overlapping relationship and each being secured to the roof structure by a fastener passing through one of said fastener receiving apertures.

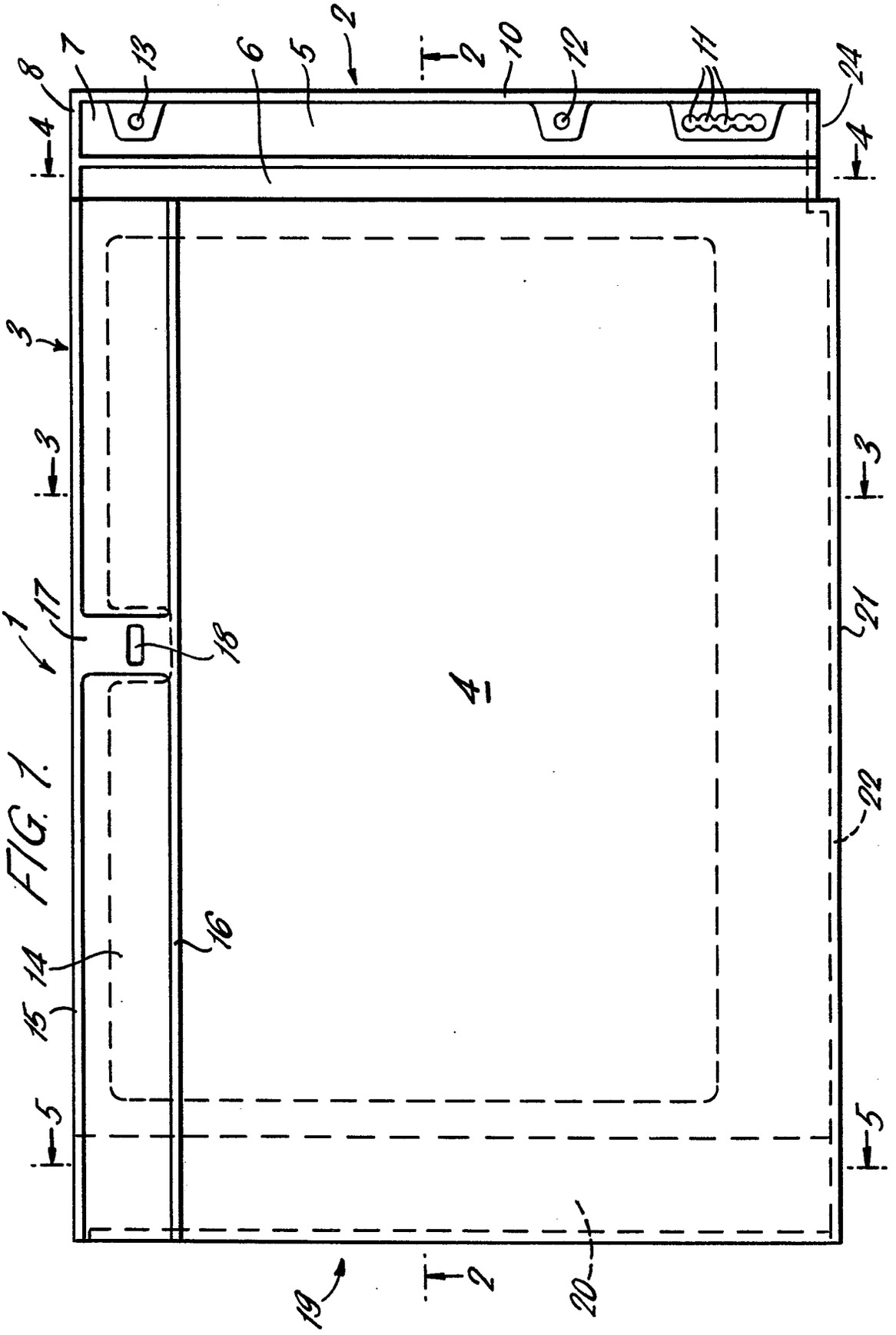

FIG. 1.

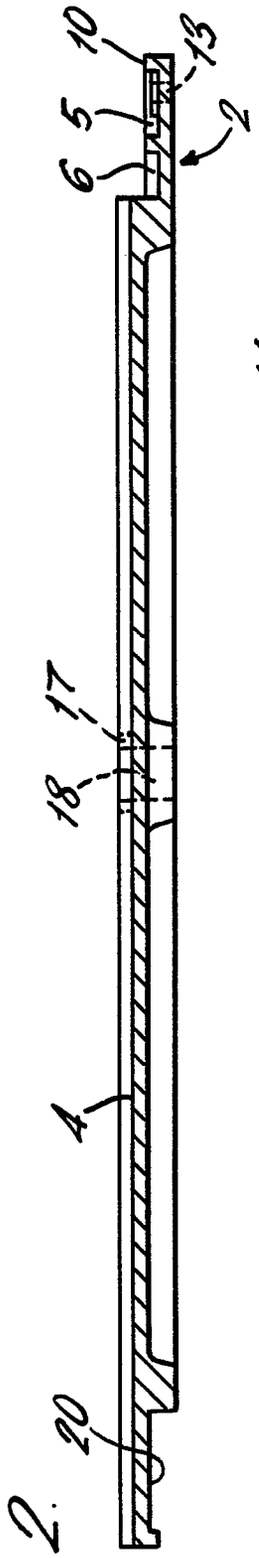

FIG. 2.

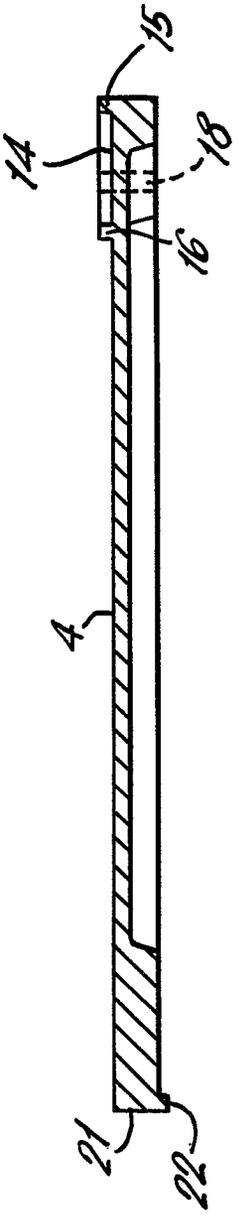

FIG. 3.

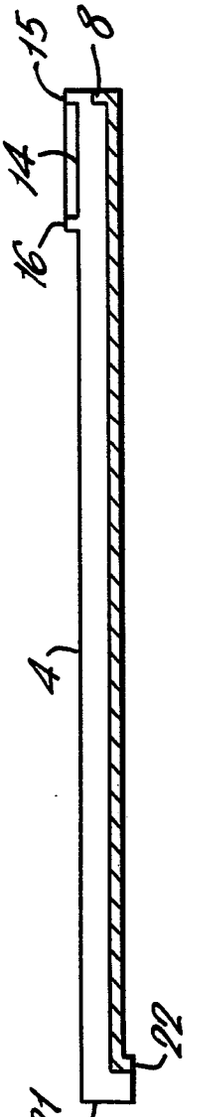

FIG. 4.

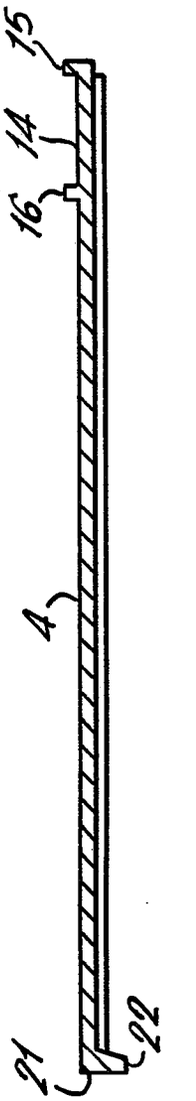

FIG. 5.