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GB 1156654
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GB 0574717
GB 1345029
GB 1161838
GB 1445860
GB 1438859
GB 0692815
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(54) Roofing system

(57) A roofing system comprises a plurality of roofing panels 10 each moulded to resemble a desired roofing material, for example slates, tiles, or the like, and each provided with means, for example castellations and depressions 14, 16, whereby adjacent panels overlap and interlock. The panels are moulded from glass-fibre reinforced synthetic resinous materials and are considerably less expensive to manufacture and install than the traditional roofing material which they resemble.

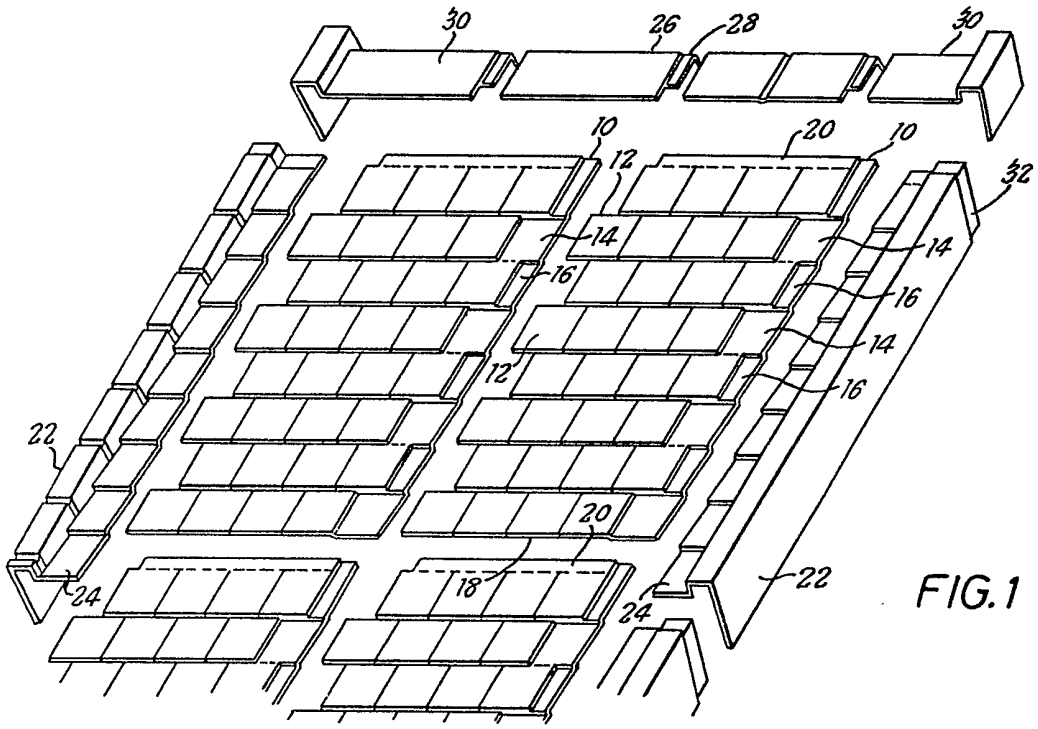


FIG.1

GB 2 094 365 A

The drawings originally filed were informal and the print here reproduced is taken from a later filed formal copy.

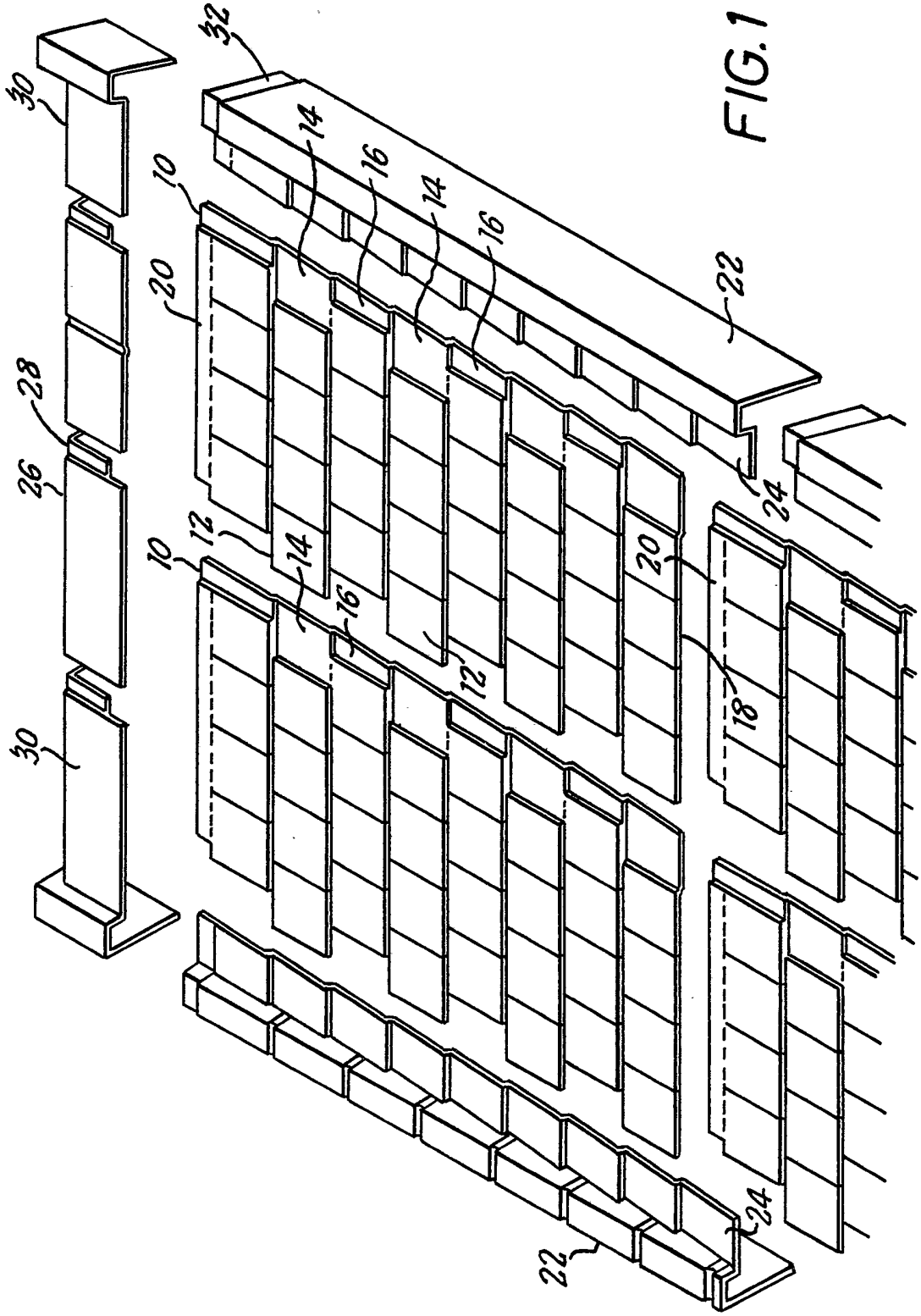


FIG. 1

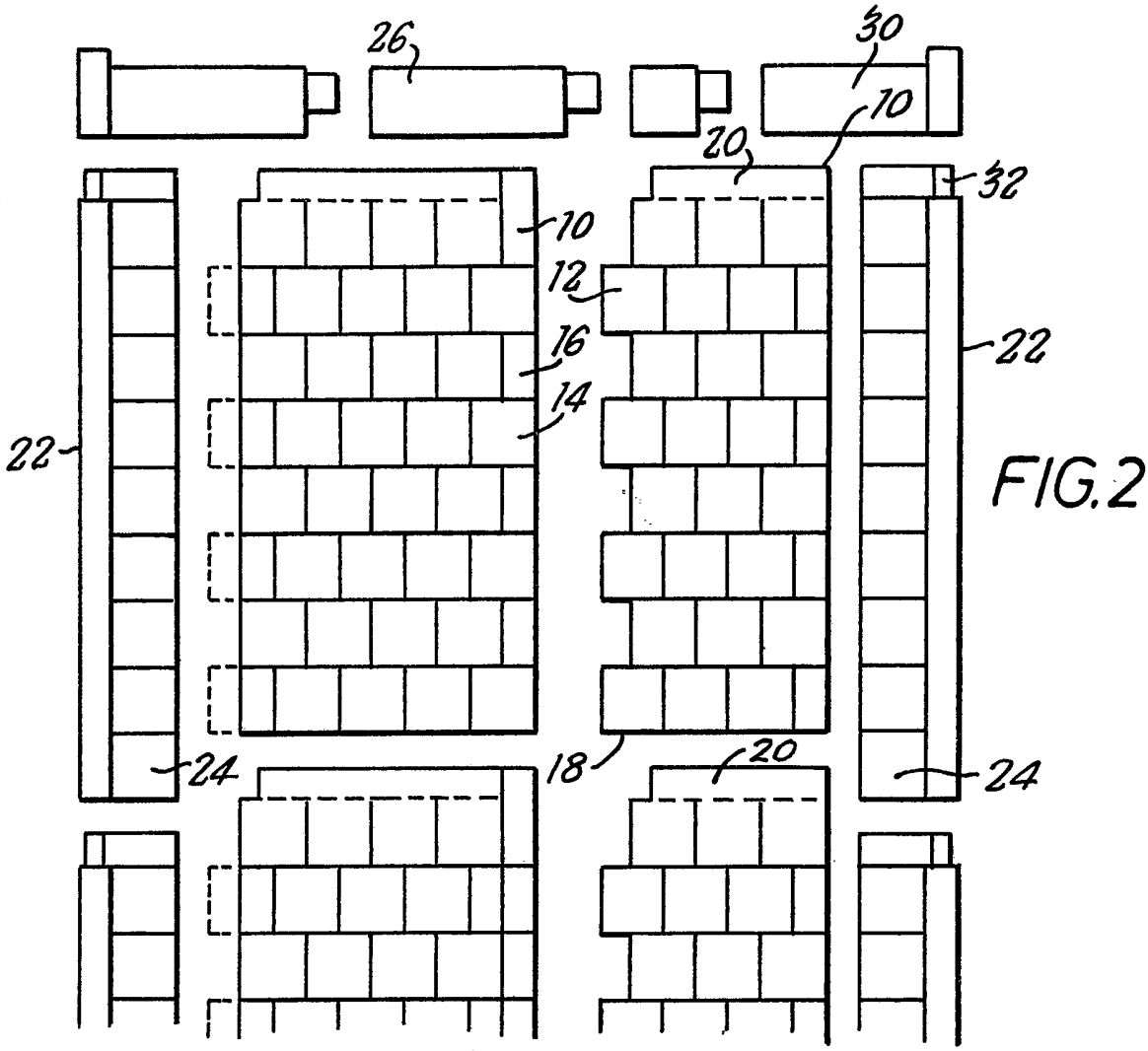


FIG.2

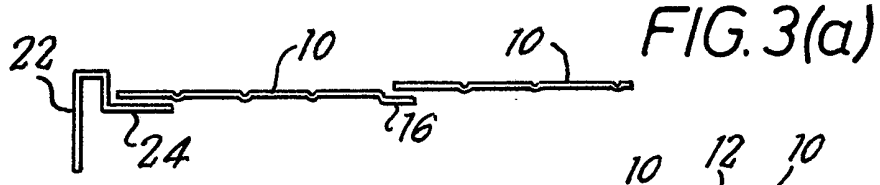


FIG.3(a)

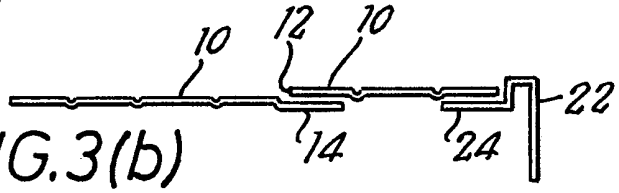


FIG.3(b)

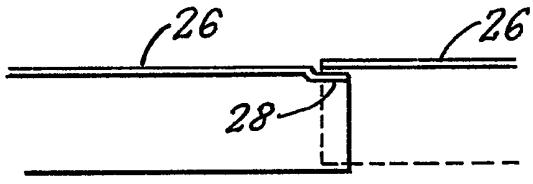


FIG.3(c)

FIG. 4

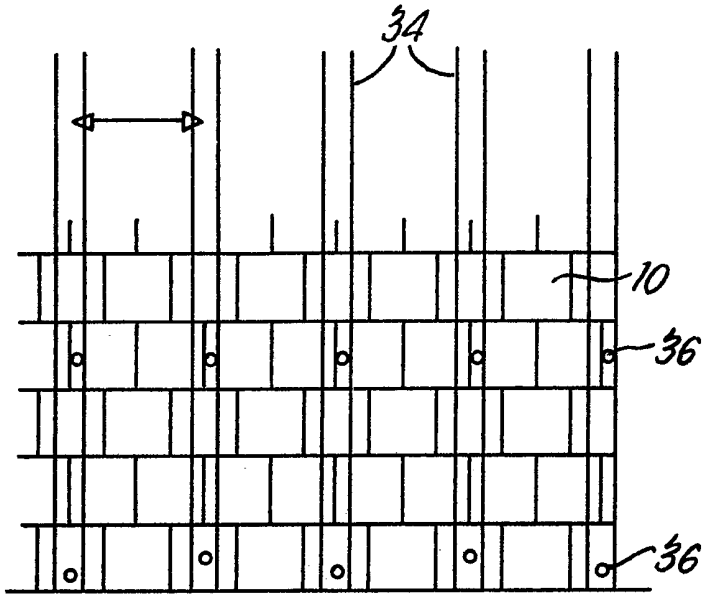
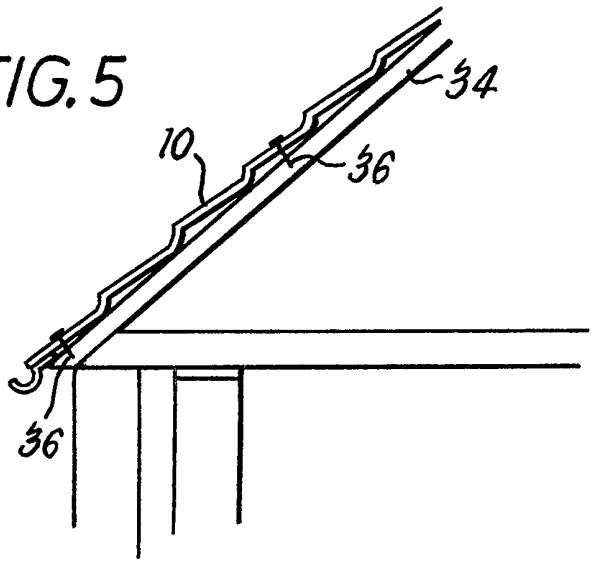


FIG. 5



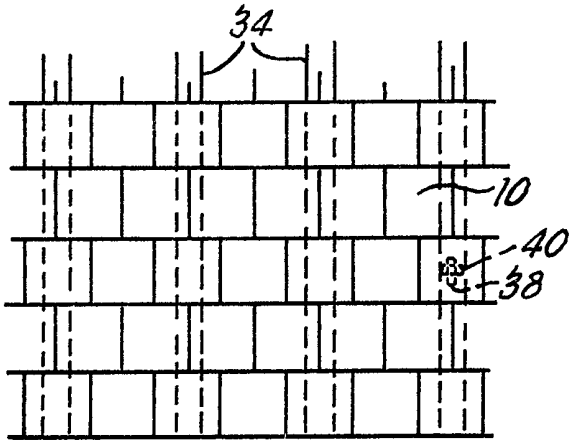


FIG. 6(a)

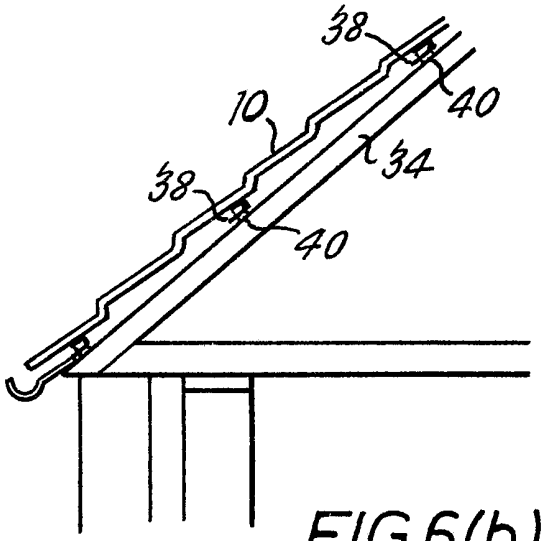


FIG. 6(b)

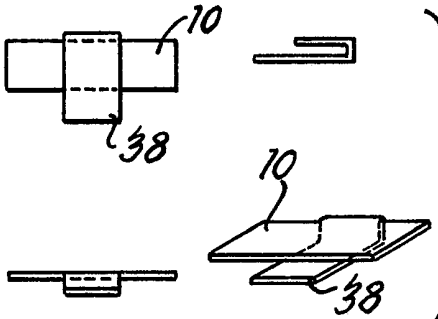


FIG. 6(c)

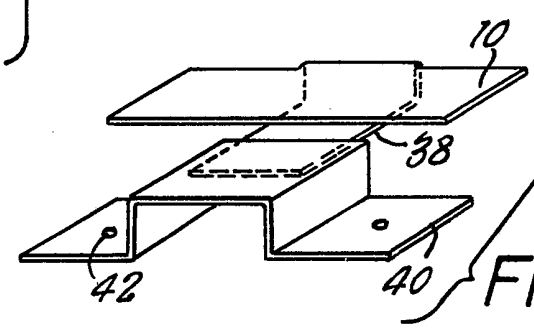


FIG. 6(e)

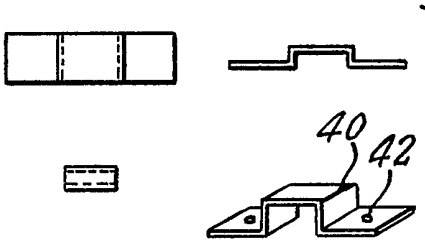
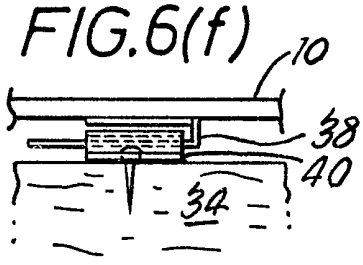


FIG. 6(d)

FIG. 6(f)



SPECIFICATION

Roofing system

This invention relates to a roofing system and in particular relates to a system embodying roofing panels fashioned to simulate conventional roofing materials.

There are many conventional methods of roofing pitched roofs. The most common employs ceramic tiles, slates or stone flags fixed to roofing rafters in such a manner they overlap and prevent ingress of rain into the building so roofed. Particularly for domestic residences, especially in conservation areas, the form of roofing material employed will be governed not only by its ability to perform the roofing function but also by aesthetic considerations: thus in an area where existing houses are roofed with, say, stone flags, it is desirable for a new house built within the area also to be roofed with stone flags. However, the use of conventional roofing materials is expensive since the materials themselves are costly, skilled labour is needed in making a roof from these materials, and the weight of the materials is such that the roof rafters must be of robust construction. Further, the traditional roofing material may no longer be available.

The invention seeks to provide a system which in appearance resembles conventional roofing systems, but is cheap, light, and easy to apply.

According to the present invention there is provided a roofing system which comprises a plurality of roofing panels each moulded to resemble desired roofing materials and each provided with means whereby adjacent panels overlap and interlock.

Preferably the panels are moulded from glass-fibre reinforced synthetic resinous material. The panels may be moulded to resemble tiles, slates, flagstones, thatch, corrugated iron, or other desired roofing material. Similarly, the panels may be surface textured and coloured so as to resemble the desired conventional roofing material.

To complete the roofing system, end panels and ridge pieces, designed to cooperate with the main roofing panels may be provided. The ridge pieces and end panels may be moulded to correspond to the roofing panels or to contrast with them as desired.

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

Figure 1 is a schematic view of the roofing system of the invention;

Figure 2 is a plan view illustrating how panels, ridge pieces and end panels fit together;

Figures 3a to 3c are diagrammatic, partially sectional, views illustrating how the panels and ridge pieces overlap one another;

Figure 4 is a partial plane view showing the fixing of the panels;

Figure 5 is an elevational view, partly in section, corresponding to Figure 4; and

Figures 6(a) to 6(f) illustrate an alternative fixing system.

Referring to the drawings, there is illustrated in Figure 1 a roofing system in which 8 ft. x 4 ft. roofing panels 10, moulded to simulate overlapped slates, form the main roofing material. The panels 10 are moulded from glass-fibre reinforced resin, for example polyester resin. The panels 10 are castellated at one longitudinal edge 12 and have corresponding depressions 14 and 16 at the opposite longitudinal edge. Thus, the castellated portions 12 of one panel 10 will overlap and fit within depressed portions 14 and 16 of the next adjacent panel forming a smooth overlapped join which is invisible from any distance. To prevent ingress of moisture at such joins, the areas 14 and 16 are first spread with a mastic sealant before the panels are overlapped. The shorter transverse edges of the panels 18 and 20 respectively are also overlapped as illustrated in Figure 1, again a mastic sealant being applied to the edge 20 before overlapping.

At each gable end of the roof being covered, end panels 22 are provided. The panels 22 each have a ledge 24 moulded to correspond with and fit beneath the underside of the panels 12, again being spread with mastic sealant before fitting. The panel 10 adjacent to the end panel 22 is cut to size, for example with a saw, before fitting. This is illustrated in Figure 2 where the areas shown on the left hand panel in dotted lines are removed with a saw before the left hand panel 10 is received onto the left hand end panel 22.

At the apex of the roof, ridge pieces 26 are provided, having an included angle corresponding to that of the roof pitch. The ridge pieces 26 have leading edges 28 designed to fit beneath the next adjacent ridge piece. The edges 28 may be spread with a mastic sealant, before fitting together, as before. End ridge pieces 30 are also provided which interlock with the ends 32 of the end panel 22. The ridge pieces may be trimmed to size in a similar manner to the panels 10.

Figure 4 illustrates the fixing of the panels 10 to roof rafters 34. This is simply achieved with roofing nails, for example, "gripfast" nails 36, taken through the panels into the rafters at appropriate intervals. If desired, the panels may be provided with holes or weakened areas at the points where the nails are to be located.

The panels of the invention being light in weight require less robust rafters than the equivalent conventional roofing material and savings may be achieved in the use of wood in the roof according to the invention. Furthermore the panels fit together very easily and are simply fixed to the roofing rafters requiring only unskilled labour. Finally, the panels themselves can be produced far more cheaply than the equivalent conventional roofing material and savings are effected here also. Consequently the system of the invention is considerably cheaper than the equivalent conventional roofing system and yet resembles it very closely in appearance.

Sarking may be incorporated into the roof if required, as with conventional roofs; and the fire

and insulation properties of the system according to the invention meet British Standard's requirements. If desired, insulation can be included as an integral part of the panel.

The panels, end panels and ridge pieces can be made to any desired style and almost any size and can therefore be readily adapted to meet most roofing requirements. The use of mastic sealant between adjacent panels, not only provides weather sealing, but allows for any expansion and contraction of the panels with variation in temperature.

Figures 6(a) to 6(f) illustrate an alternative form of fixing. The moulded panels 10 are provided with a plurality of hook portions 38 which are moulded integrally with the panels and may be, for example, made from extruded aluminium. Corresponding metal "eye" portions 40 are fixed to the rafters 34 by suitable means such as screws or nails passing through appropriately positioned holes 42.

Thus, when fixing panels to the roof, each successive panel is located in position, with the end of each hook portion 38 engaged with each eye portion 40 and then slid into place so that each hook 38 is fully engaged with the eye 40, as shown clearly in Figures 6(a) to 6(f). The final panel towards the apex of the roof is held in place by the ridge piece. This form of fixing is especially advantageous since it fully allows differential expansion of the panels and the rafters and, furthermore, allows for the simple removal of the panel in the event of accidental damage or the like.

CLAIMS

1. A roofing system which comprises a plurality of roofing panels each moulded to resemble desired roofing materials and each provided with means whereby adjacent panels overlap and interlock.

2. A system according to claim 1 wherein the panels are moulded from glass-fibre reinforced synthetic resinous material.

3. A system as claimed in either of claims 1 or 2 in which the panels are moulded to resemble tiles, slates, flagstones, thatch, or corrugated iron.

4. A system according to any one of claims 1 to 3 in which the panels are surface textured and/or coloured so as to resemble the desired conventional roofing material.

5. A system according to any one of claims 1 to 4 in which the panels are castellated at one longitudinal edge thereof and have a corresponding depression at the opposite longitudinal edge whereby the edge portion of one panel will overlap and fit within depressed portions of the next adjacent panel forming a smooth overlapped join invisible from a distance.

6. A system according to claim 5 wherein the overlapped portions are first spread with mastic sealant before the panels are overlapped.

7. A system according to any one of claims 1 to 6 wherein the end panels each having a leg moulded to correspond with and fit beneath the underside of the said roofing panels.

8. A system according to any one of claims 1 to 7 wherein ridge pieces are provided having an included angle corresponding to the roof pitch, the pieces having leading edges designed to fit beneath the next adjacent ridge piece.

9. A system according to any one of claims 1 to 8 in which the panels are fixed to rafters by means of roofing nails.

10. A system according to any one of claims 1 to 8 in which the panels are fixed to rafters by means of hook portions on the panels and corresponding eye portions fixed to the rafters.

11. A system according to any one of claims 1 to 10 in which heat and/or sound insulation is included as an integral part of the panels.

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