United States Patent [19]

Guzzo

[11] 3,852,933

[45] Dec. 10, 1974

[54] **ROOF PANEL**

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[22] Filed: **Jan. 15, 1973**

[21] Appl. No.: **323,800**

[52] **U.S. Cl.** **52/533,** 52/537, 52/520, 52/548

[51] **Int. Cl.** **E04d 1/06,** E04d 3/365

[58] **Field of Search** 52/540–548, 52/520–534, 536, 537

[56] **References Cited**

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[57] **ABSTRACT**

An undulating roof panel of extruded plastic or metal having at one side a somewhat V-shape to provide a rain-protective cover portion and interlocking portion for engaging the side edge of a like, adjoining panel by first tilting said like panel for interlocking engagement. Said one side of the first mentioned panel is anchored by a clip to a framework, while the other side of the adjoining panel is nested thereon to provide double water drains for draining rain or melted snow.

1 Claim, 3 Drawing Figures

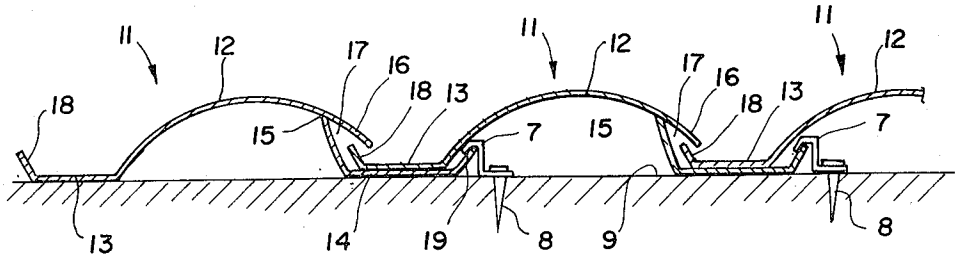


Fig. 1.

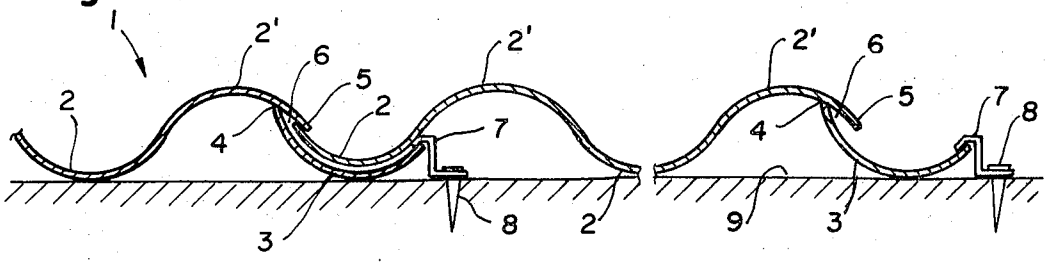


Fig. 2.

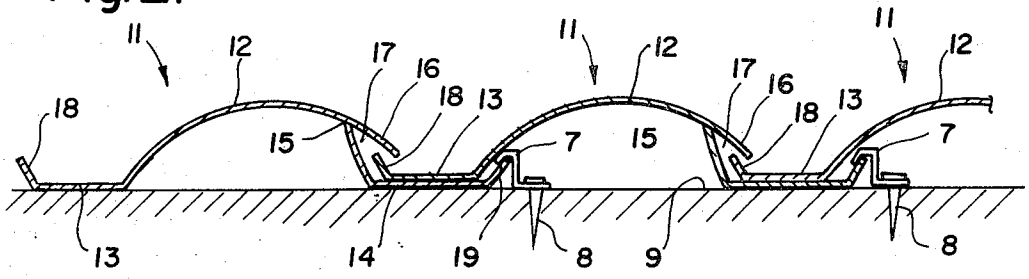
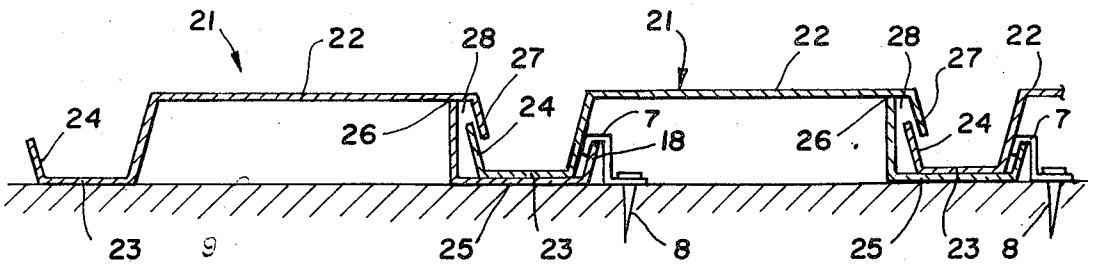


Fig. 3.



ROOF PANEL

This invention relates to a building panel and, more particularly, to a panel which interlocks with similar panels to form the roof (and possibly side walls) of a building.

An outstanding disadvantage of many existing types of roof paneling is that they are relatively expensive to manufacture and involve appreciable time and difficulty in assembly.

Another disadvantage of presently used building panels, particularly for roof structures, is that no satisfactory means are provided for permitting expansion and contraction as the result of wide variations in outside temperature.

An object of the present invention is to provide a novel building panel which is devoid of the above-named disadvantages and which is relatively simple and inexpensive to manufacture, - also which provides for free expansion and contraction with temperature changes and interlocking with like panels.

Another object is to provide interlocking panels that incorporate double water channels to drain away rain water or melted snow.

Other objects and advantages will become more apparent from a study of the description taken with the accompanying drawing wherein:

FIG. 1 is a transverse, cross-sectional view of a plurality of interlocked roof panels embodying the present invention;

FIG. 2 is a modification of the structure shown in FIG. 1 wherein flat bottoms are provided; and,

FIG. 3 is a further modification of the structure shown in FIG. 1 wherein the panels are straight sided.

Referring more particularly to FIG. 1 of the drawing, numeral 1 generally denotes a roof assembly comprising a plurality of like panels embodying the present invention. Each panel is preferably of extruded plastic material or, in some cases, of extruded light metal, such as aluminum, or possibly of alloy steel or steel with a suitable coating to prevent oxidation. Each panel comprises a bottom portion 2 and a top portion 2' which is integrally joined at 4 to a second bottom portion 3. The top portion 2' has an overhanging or cover portion 5 extending beyond the joint 4 and which serves as a protective covering, as well as providing room in space 6 for expansion of the end of lower portion 2 of an adjoining panel, as shown in F IG. 1. The extremity of lower portion 3 is anchored by a clip 7 which is fastened by any suitable fastening means, such as a self threading screw 8 which is screw threaded into rafters or frame 9 of metal or wood. It will be understood that a plurality of clips 7 are provided in longitudinally spaced relationship along the edge of lower portion 3.

It should be noted, in assembly, that in order to interlock like panels of any suitable length, one of the panels must be tilted, such as by raising portion 2' well above portion 2' of the anchored adjoining panel so that the end of panel 2 can be fitted into space 6. When assembled, the nested panel portion 2 and 3 form gutters or drains for draining away rain water or melted snow.

FIG. 2 shows a modification comprising a plurality of roof panels, generally denoted by numeral 11, each comprising a rounded top portion 12 integrally joined at 15 to a flanged portion having a flat bottom 14. To the other end of portion 12 there is integrally formed

a flat bottom portion 13 terminating in an upwardly and angularly extending flange 18. A protective or covering portion 16 forms an extension of top portion 12 and provides a space 17 into which the flange 18 of an adjoining panel may be projected when interlocking with like panels in side-by-side relationship to form a roof assembly.

FIG. 3 shows a further modification comprising a pllurality of panels, generally denoted by numeral 21, each comprising a flat top portion 22 which has a downwardly flanged portion terminating in a bottom portion 23 and an angularly upwardly extending portion 24. The other end of top portion 22 is attached integrally at 26 to a channel shaped flange portion having a flat bottom 25 and terminating in an upwardly and angularly flanged end portion 18.

After clip 7 is fastened by screw 8 to firmly hold portion 25 downwardly against the surface of the rafter or frame 9, an adjoining panel may be interlocked by first tilting, that is, raising the top portion 22 thereof of the panel to be interlocked to allow the end portion 24 to extend into space 28 of the anchored panel.

In operation of each of the embodiments described in FIGS. 1, 2 and 3, the clip 7 firmly holds downwardly onto the rafter or frame work 9 a side edge of one panel. When the side ede of an adjoining panel which extends into the space defined by the cover portion (such as space 6 defined by cover portion 5 in FIG. 1), it will be noted that if there is a substantial increase in temperature, the adjoining panel portion 2 which is nested in panel 3 is permitted to expand into said space 6.

Another feature of the present invention is that the cover portion, such as 5, protects against entrance of water from rain or melting snow and whatever water that does collect will be received and drained away by the somewhat trough shaped portions, such as 2 and 3 of FIG. 1; 13 and 14 of FIG. 2; and 23 and 25 of FIG. 3.

Thus it will be seen that I have provided an efficient roof assembly and panels therefor, which panels can be of either extruded plastic or extruded metal so that they can be constructed very quickly and cheaply,- also which panels are securely interlocked by the mere tilting of an adjoining like panel.

While I have illustrated and described several embodiments of my invention, it will be understood, that these are by way of illustration only and that various changes and modifications may be contemplated in my invention and within the scope of the following claims.

I claim:

1. A plurality of roof panels having interlocked sides, each panel comprising an outwardly projecting, substantially convex, central panel portion terminating in integral, substantially concave, trough shaped, flat bottomed side portions, a clip attaching the extremity of said side portion to a supporting framework, an integral overhanging portion extending at an acute angle from where one of said trough shaped side portions joins said convex, central panel portion so as to overhang, while spaced from and without contacting, the extremity of a trough shaped side portion of an adjoining panel after such adjoining panel is tilted into position, to effect nesting of opposite trough shaped side portions without impairing relative sliding movement therebetween, there being no connection between said nested trough

shaped portions or between said extremity and said overhanging portions, the upper trough shaped nested side portion being slightly shorter than the bottom one in order to permit relative movement therebetween as the result of expansion or contraction from ambient temperature changes, and a clip fastening the extremity of the bottom nesting side portion to said framework.

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