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Martin et al.

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[54] **ROOFING PANEL AND ASSEMBLY AND METHOD**

[75] Inventors: **Otis M. Martin**, San Jose; **John K. Kough**, Morgan Hill; **Silas N. Miller**, Saratoga, all of Calif.

[73] Assignee: **Ditz-Crane**, San Francisco, Calif.

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[51] **Int. Cl.**[2] **E04D 1/20**; E04D 3/18

[58] **Field of Search** 52/409, 521, 419, 540, 52/554, 555

[56] **References Cited**

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Primary Examiner—Alfred C. Perham

Attorney, Agent, or Firm—Flehr, Hohbach, Test, Albritton & Herbert

[57] **ABSTRACT**

A roofing or siding panel and assembly method making use of panels each comprising a base strip (e.g., plywood) and a strip of surfacing material (e.g., composition). The strip of surfacing material has one margin secured to the underside of the base strip. When assembled on a roof structure or side wall, the lower horizontal margin of one base strip overlaps the upper horizontal margin of the next lower strip, and the composition surfacing strip that is attached to the one base strip extends downwardly from the region of the overlap to cover the upper side of the next lower base strip. The lower horizontal edge of each base strip is of substantial thickness to provide aesthetic shadow lines. Preferably the base strips provide sufficient structural strength to serve as sheathing.

3 Claims, 4 Drawing Figures

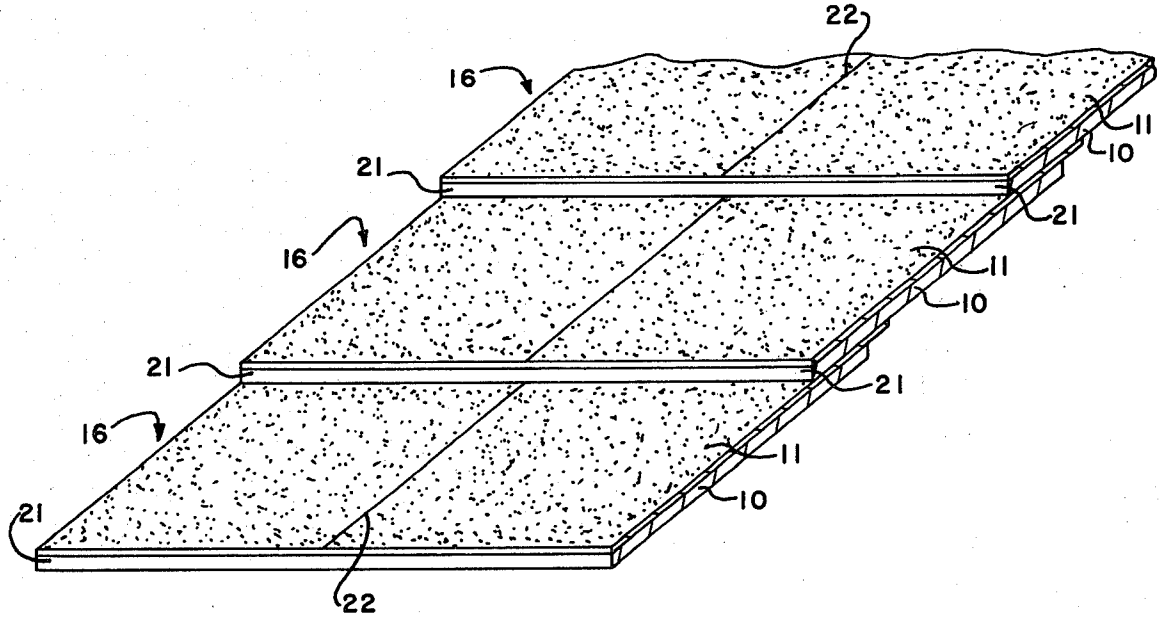


FIG.—1

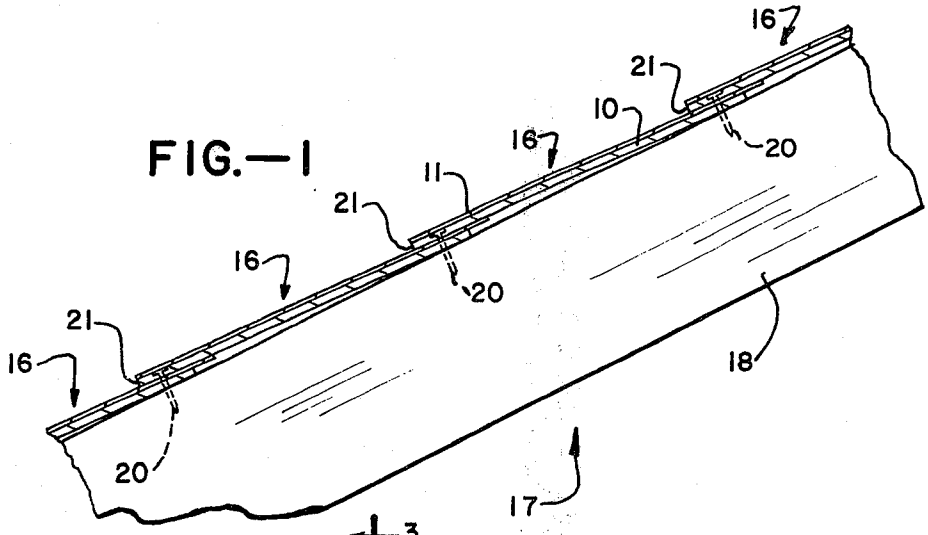


FIG.—2

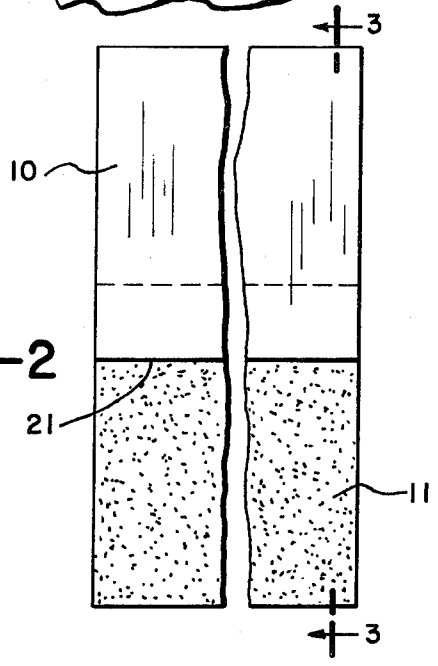
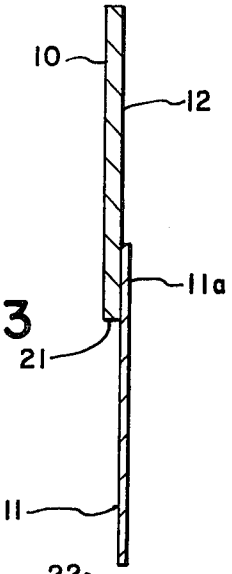


FIG.—3



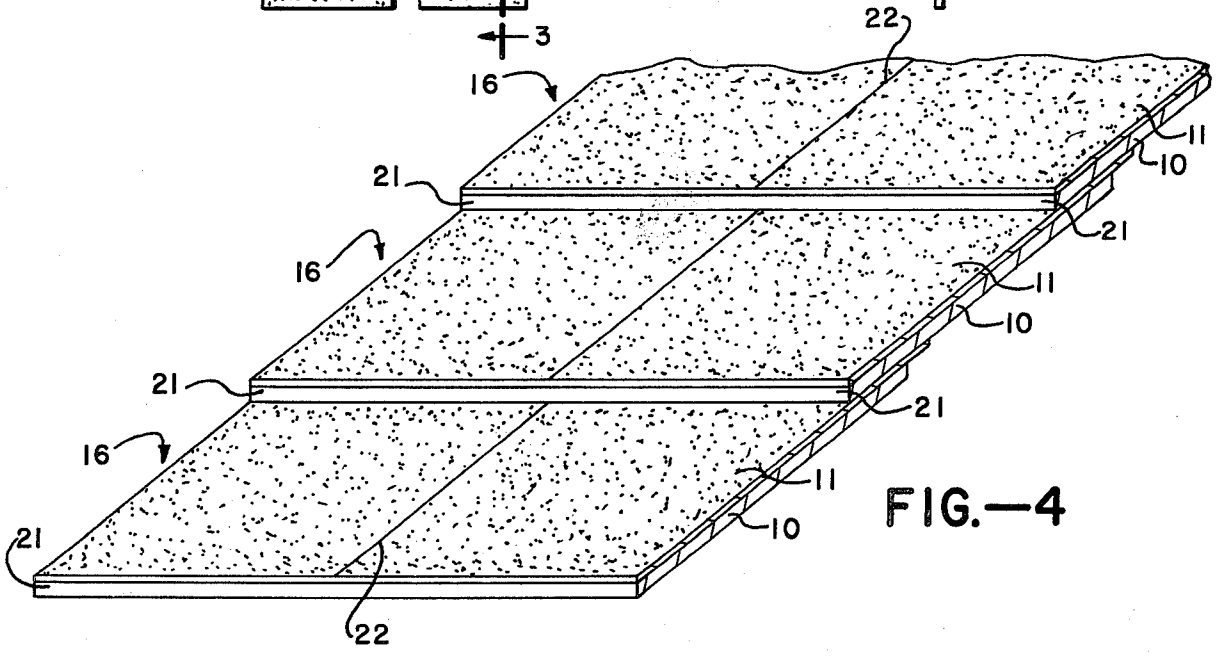


FIG.—4

ROOFING PANEL AND ASSEMBLY AND METHOD

BACKGROUND OF THE INVENTION

Conventional roofing or siding commonly make use of materials like wood shakes or shingles together with an underlying moisture proof membrane like tarred felt. In some instances (e.g., Reissue 27,502) the shakes have been preassembled in the form of panels, with a base strip which serves as sheathing for the roof structure. While such roofing provides an effective and pleasing appearance, it is relatively expensive due to the high cost of the materials and labor involved. Less expensive roofing may consist of shingles made of waterproof material, such as a suitable composition. However, compared to a shake or shingle roof, the aesthetic effect is relatively poor due to a large extent to the absence of distinctive shadow lines, such as are provided by shakes or shingles. The customary material thickness used for composition shingles is not capable of forming shadow lines comparable to shakes or wood shingles. Increasing the thickness of the composition shingles is possible, but greatly increases their cost. In general, there is a need for a roofing panel that is inexpensive and of simple construction, and which can be easily assembled to provide an attractive roof having distinctive shadow lines.

SUMMARY OF THE INVENTION

This invention relates generally to the construction of building roofs or siding and to methods of assembling such constructions.

It is an object of the present invention to provide a simple and inexpensive panel construction which can be readily assembled in a predetermined manner to form a pleasing and effective roof or siding.

Another object of the invention is to make use of inexpensive materials in such a manner that aesthetic values are not sacrificed and the general appearance of the roof is comparable to more expensive roof systems.

Another object is to provide a simple method of assembling the individual panels.

The present invention consists of a panel made of a base strip, which may be plywood, together with a strip of surfacing composition which has its upper margin secured to the underside of the base strip along the lower margin of the same. In constructing a roof or siding these panels are assembled in such a manner that the base strip for one panel has its lower margin overlapping the upper margin of the next lower panel, and the strip of surfacing composition of the one panel extends downwardly to cover the upper exposed side of the next lower base strip. The lower edges of the base strips and the composition pieces provide distinct shadow lines for the assembled roof.

Additional objects and features of the invention will appear from the following description in which the preferred embodiment has been set forth in detail in conjunction with the accompanying drawing.

BRIEF DESCRIPTION OF THE DRAWING

FIG. 1 is a side elevational view in section illustrating a portion of a roof made in accordance with this invention.

FIG. 2 is a side view showing the construction of a single panel.

FIG. 3 is a cross-section of the panel shown in FIG. 2, taken along the section line 3—3.

FIG. 4 is a perspective view showing a number of panels assembled as in a roof.

DESCRIPTION OF THE PREFERRED EMBODIMENT

As shown in FIGS. 2 and 3, the individual panels or units used in assembling a roof consist of a base strip **10**, which is illustrated as rectangular and which can be made of a suitable material such as plywood. A piece or strip **11** of waterproof material has its upper margin **11***a* overlapping and secured to the lower side **12** of the base strip **10**. The strip **11** preferably has the same general configuration as the base strip **10**. The dimensions may also be generally the same as the base strip, although as will be presently explained, the width can be somewhat greater. The material used for the strip **11** can vary depending upon the requirements and appearance desired. Preferably it is a somewhat flexible composition similar to those commonly used in the manufacture of composition shingles. By way of example, it may be a composition consisting of asbestos or other fiber, with tar or asphalt. Also it may be a composition containing a normally flexible synthetic resin. The attachment of the margin at **11***a* to the lower side of the base strip **10** may be by use of suitable adhesive, stapling, or the like. For a purpose to be presently described, the underside **13** of the strip **11**, or the upper side of the base strip **10**, may be provided with suitable adhesive.

A typical assembly of the panels to form a roof or siding is shown in FIGS. **1** and **4**. Here the panels, designated generally at **16**, are assembled upon a typical roof structure **17** which, in this instance, includes the rafters **18**. The lower margin of each base strip is in overlapping relation with the upper margin of the next lower base strip. Each base strip can be secured to the rafters as by nails **20** or stapling applied through the overlap of the base strips. The composition strip **11**, which is attached to the underside of each base strip, extends downwardly to completely cover the upper side of the next lower base strip. Suitable adhesive serves to secure the pieces **11** to the next lower base strip, and this adhesive may be pre-applied to the undersides of the composition strips, or on the outer side of the base strip, or it may be applied at the time the panels are assembled. In any event, the composition strips should be effectively secured by suitable cement or adhesive to the outer sides of the base strips. As illustrated in FIG. **1**, the upper margin of each composition strip is interposed between the overlapping portions of the base strips, and the lower edge of each composition strip terminates contiguous with the exposed lower edge **21** of each base strip.

It will be apparent that when the panels are assembled in the manner illustrated in FIG. **4**, suitable means should be employed to prevent any leakage at the junction lines between end edges of the panels. For example, underlying clips or strips can be employed as shown in FIGS. **4** and **5** of said Reissue 27,502. Other expedients, such as underlying strips of waterproof membrane, can be employed.

Because the lower edge **21** of each base strip is exposed to the weather, it is desirable to apply a suitable sealant, either at the time the panels are constructed at the factory or after assembly. Likewise, if desired, the end edges of the base strips can be similarly sealed against moisture.

FIG. 4 illustrates the general appearance of a roof assembled as described above. It is evident from this figure that the lower edges **21** of the base strips form attractive shadow lines which enhance the appearance of the roof.

Reference has been made to the use of plywood for the base strips **10.** This plywood should be of the type having waterproof adhesive for securing the laminations together, and should be of such thickness as to provide the desired shadow lines and necessary structural properties. Generally, plywood having a thickness of the order of ⅜ inch will provide satisfactory strength and aesthetic effect. The composition strips **11** may have a thickness of the order of ⅛ inch. As a typical example, each base strip may be 8 feet long and 12 inches wide, and each composition strip may be of the same length and 15 inches wide, thus providing a 3 inch overlap with the lower margin of the base strip. When assembled as in FIG. **4,** the base strips may have an overlap of from 1 to 2 inches.

The outer side of the composition which is exposed to the weather may be surfaced in various ways depending upon requirements. For example, it may be embossed to simulate wood grain, or impressed linear indentations or score lines **22** can be provided to simulate widths comparable to wood shingles. Also it may be surfaced with crushed rock or pebbles to increase its resistance to weathering. The adhesive applied to the underside of the composition or upper side of the base strip may be of the pressure sensitive type, which will provide the desired adhesion of the composition and base strips as the panels are assembled.

It is well known that many types of compositions used for roofing, as for example roof composition consisting of asbestos or other fiber and tar or asphalt, tend to be injured when abruptly bent. One feature of the present invention is that when the panels are assembled, the composition is not bent but is planar throughout its area.

We claim:

1. An assembly of panels forming a roof or siding for the outer side of a building structure, each of the panels comprising a base strip of substantial thickness and strength adapted to be secured to a supporting structure to form structural sheathing, and a planar strip of waterproof surfacing composition having an upper margin of the same secured to the inner side of the base strip along the lower margin of the same, one panel in the assembly having the lower margin of its base strip overlapping the upper margin of the base strip of the next lower panel, with the upper margin of the surfacing composition interposed between the overlapping margins of the base strips, and with the surfacing composition of said one panel overlying and covering and secured to the outer side of the next lower base strip and terminating at the lower edge of the same, the upper surfaces of the composition extending between the lower horizontal edges of the base strips being exposed to the weather and the contiguous lower horizontal edges of the base and composition strips forming horizontally extending shadow lines.

2. An assembly as in claim **1** in which the surfacing composition of each panel has the same general configuration as the base strips.

3. An assembly as in claim **2** in which the base strips are plywood, the lower exposed edges of the base strips being sealed against moisture by a sealant.

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