

- [54] **MOLDED SIDING**
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- [22] Filed: **Oct. 7, 1971**
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Related U.S. Application Data

- [63] Continuation-in-part of Ser. No. 863,492, Oct. 3, 1969, abandoned.
- [52] U.S. Cl. **52/531**
- [51] Int. Cl. **E04d 3/362**
- [58] Field of Search..... 52/521, 520, 519, 52/518, 542, 533, 536

References Cited

UNITED STATES PATENTS

638,802	12/1899	Donaldson	52/542
650,387	5/1900	Gnoth	52/533
1,124,001	1/1915	Elzey	52/533

2,362,236	11/1944	Bassler	52/521
3,217,453	11/1965	Medow	52/539 X
3,579,940	5/1971	Greenleaf	52/542

FOREIGN PATENTS OR APPLICATIONS

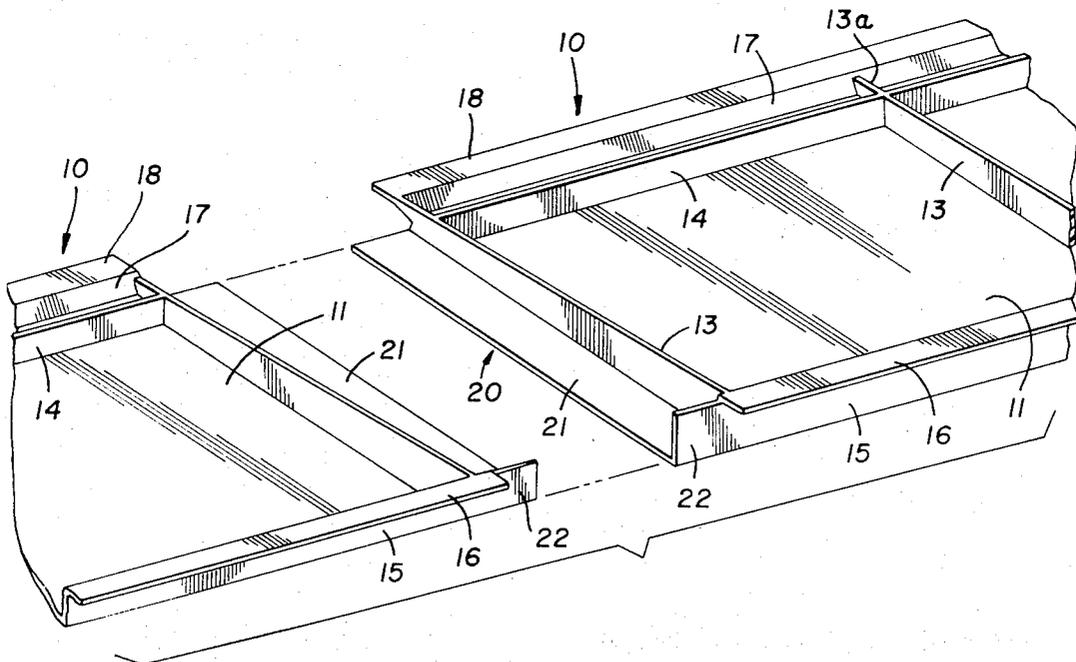
631,720	11/1949	Great Britain	52/542
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[57] **ABSTRACT**

An elongated, one-piece laminated fiberglass molded siding component having a textured exterior surface and having a rearwardly projecting integral network of knife-like rib members that extend longitudinally and transversely thereof for support and rigidification purposes. The siding is characterized by the fact that the thickness thereof varies throughout for the dual purpose of adding strength in key areas and for the purpose of minimizing gaps in other areas of overlap, for example.

4 Claims, 6 Drawing Figures



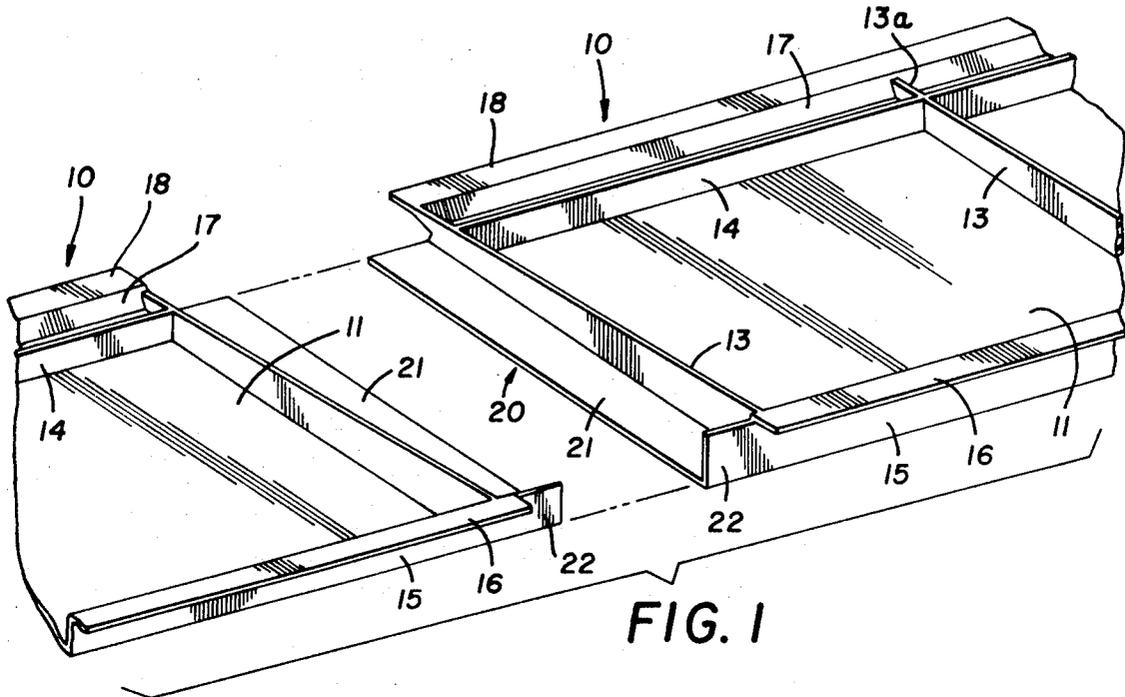


FIG. 1

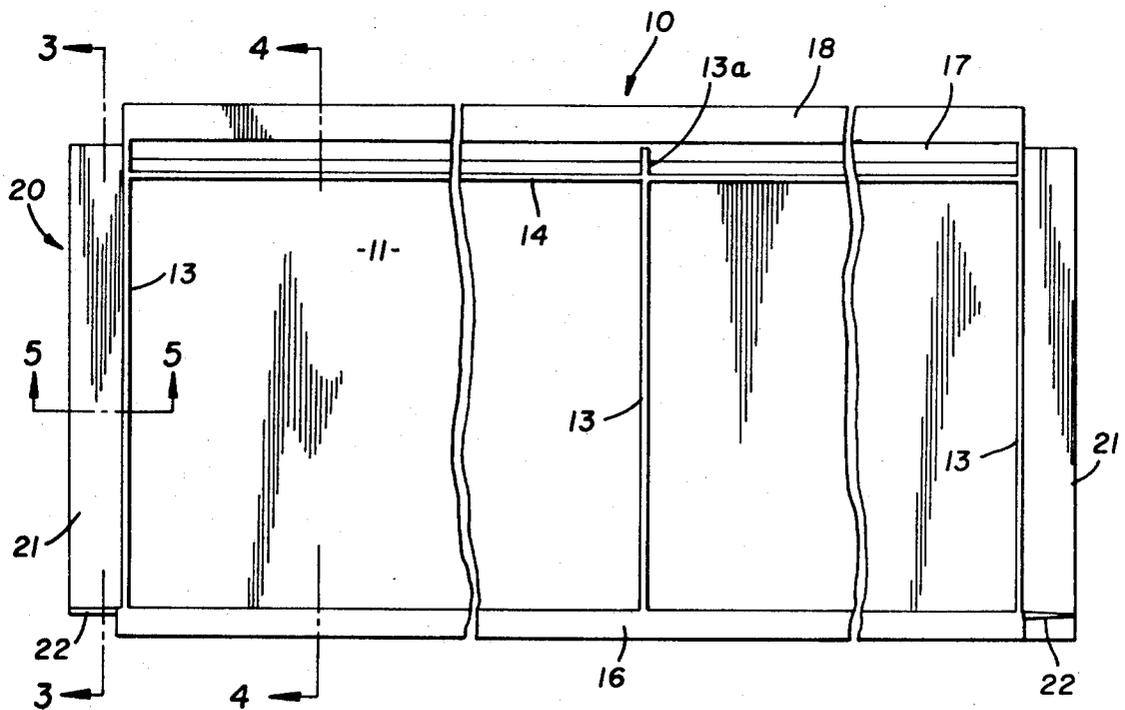


FIG. 2

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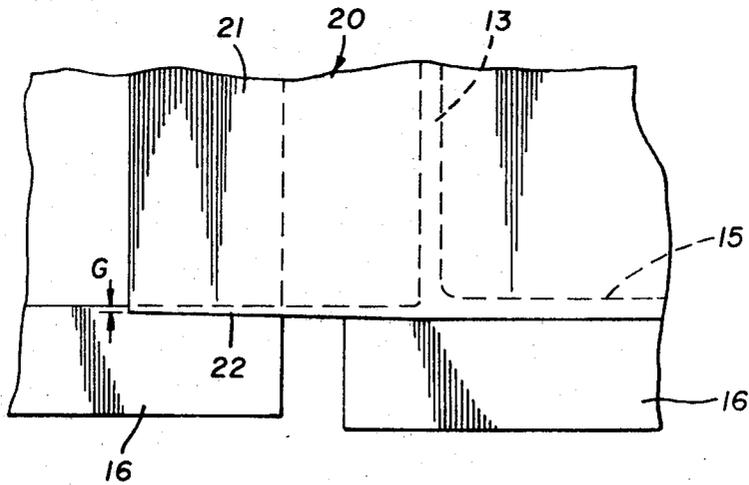
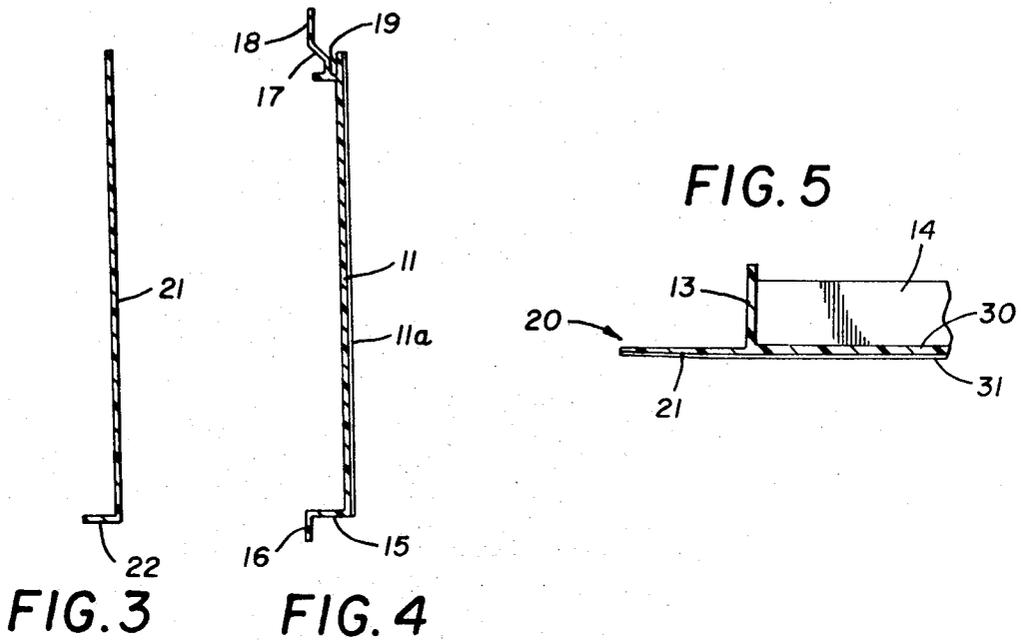


FIG. 6

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MOLDED SIDING**RELATED APPLICATIONS**

This application is a continuation-in-part of applicant's earlier filed application on "Molded Siding," Ser. No. 863,492 filed Oct. 3, 1969, now abandoned.

BACKGROUND OF THE INVENTION**1. Field of the Invention**

The invention lies in the field of siding of the type normally applied to a house or other type of construction to protect the exterior thereof from the elements.

2. Description of the Prior Art

Home siding has long been known as an efficient way to protect the exterior surface of a house against the elements. Originally, such siding was made of wood and it is characterized by a tapering effect from a rather thick base portion to a rather thin upper edge that permits the same to be nailed to the studs or other framing components of the house in overlapping relationship.

Siding of this type, while being practical, requires painting, and in an effort to eliminate the need for periodic maintenance, such as painting, aluminum siding was developed, and has enjoyed a widespread acceptance nationwide. The aluminum siding so referred to is normally made by a roll forming process and is factory painted so as to require substantially no maintenance during the life of the installation.

More recently, plastic material has been used as a substitute in some instances for aluminum siding with such plastic siding being extruded in a continuous fashion and then being cut to the desired length.

Basically, siding of this nature can be pigmented so as to be extruded in the requisite color, thus avoiding the need for painting.

While siding of this type has obvious advantages, such as elimination of maintenance and pre-painting, the same, by its very nature, has certain inherent disadvantages.

First, the aluminum siding, being of metal, can be damaged and dented by stones or hail, for example, and repairing such dents is difficult.

Further, in view of the fact that both aluminum and plastic siding of the type known heretofore are made by what may be described as a "continuous" process that involves either roll forming or extrusion, it is not possible to provide such siding with transverse support that would run between the upper and lower edges thereof so as to provide support against dents and the like.

Finally, it is not possible to vary the thickness thereof along the axis of extrusion so as to result in a panel having opposed ends which are thinner than the main body portion.

Additionally, Applicant is aware of the following United States Patents, which appear to represent the closest prior art:

Elzey	U.S. Pat. No. 1,124,001
Scharwath et al.	U.S. Pat. No. 1,404,483
Kirschbraun	U.S. Pat. No. 2,168,218
Bassler	U.S. Pat. No. 2,362,236
Medow	U.S. Pat. No. 3,217,453
Salvo	U.S. Pat. No. 3,420,024

SUMMARY OF THE INVENTION

Applicant has discovered that the aforementioned disadvantages can be eliminated by producing a molded siding panel that is, in effect, made up of a laminated, tinted structure so as to have a strong concealed

surface for reinforcing purposes while yet having a smooth exterior that requires no further treatment following the molding, with the panel retaining its color throughout the life thereof following installation.

It has further been found that if the decorative panel per se is reinforced by a network of blade-like ribs rearwardly thereof for strengthening and rigidification purposes, that handling during manufacture, shipping and installation will be greatly enhanced due to the rigidification that is imparted to the panel by the use of the blade-like ribs that are employed.

It has further been found that molding permits a thickness of the panel to be selectively varied to achieve maximum operating characteristics both during installation and following application thereof.

In this regard, the thickness of the longitudinal ends is normally reduced in both the vertical and horizontal planes so that the distracting effect of overlap both horizontally and vertically is minimized by this reduced thickness construction at the overlapping ends.

Further, and by thickening the interlocking rib that is provided along the bottom of each panel with respect to the normal thickness of the panel per se, greater rigidification and strength at the point of interlock can be obtained.

Finally, and by making the offsets that connect the nailing hem and the butt hem that are provided lengthwise along the opposed longitudinal edges deeper than in the normal case, added rigidification transversely is provided to the panel while simultaneously creating a deeper air space that will serve as an insulation barrier following installation.

Production of a molded siding having the above-noted characteristics accordingly becomes the principal object of this invention, with other objects of this invention becoming more apparent upon a reading of the following brief specification, considered and interpreted in the light of the accompanying drawings.

OF THE DRAWINGS:

FIG. 1 is a perspective view of a pair of adjacent panels showing longitudinally abutting ends in spaced apart relationship just prior to being overlapped.

FIG. 2 is a plan view looking at the underside of the panel.

FIGS. 3 and 4 are sectional views illustrating the vertical position of the panel.

FIG. 5 is a horizontal section through the panel taken on the line 5—5 of FIG. 2.

FIG. 6 is an elevational view showing the reduced horizontal gap that occurs at the point of normal overlap.

Referring now to the drawings and in particular to FIGS. 1 and 2 thereof, each siding element 10 includes a panel portion 11 and a rearwardly projecting network of support ribs 13 that include transversely extending support ribs 13,13 on the rear face of panel 11 and longitudinally extending ribs 14 and 15 that extend longitudinally thereof adjacent the opposed longitudinal edges as clearly shown in FIGS. 1 and 2 of the drawings, with the rib 15 terminating in a butt flange 16 while the ribs 13,13 have further extensions 13a that connect with a return flange 17 that, in turn, terminates in a nailing hem 18, with the usual groove 19 (see FIG. 4) being defined along the top edge for reception of the butt flange 16 as clearly shown in the drawings.

It will be noted that each of the ribs 13,13 are of blade-like construction so as to serve the dual purpose of providing maximum rigidity against transverse forces, while simultaneously serving to space the panel portion 11 at a further distance from the wall than would otherwise be the case.

While the panels are vertically interlocked by having the rib 16 received within the top groove 19 as just described, it is also aesthetically important that provision be made for the purpose of having the adjacent panels longitudinally overlap each other in a horizontal condition with this arrangement being best shown in FIG. 6 of the drawings.

Before referring to FIG. 6, however, it will be noted that each end of the panel includes an L-shaped extension 20 made up of a vertical portion 21 that is co-extensive with the panel 11 and a horizontal portion 22 that, in effect, is a continuation of the lower rib 15. The rib 21 is of reduced thickness and may be feathered to a knife edge at the point of overlap with the next longitudinally adjacent panel. Similarly, the portion 22 of each end is reduced in thickness so that when it is vertically overlapped as shown in FIG. 6, a minimum gap (indicated by the letter G) will exist.

In FIG. 6, the overlap is shown being made with respect to a panel whose end has been cut so that the normal portions 21 and 22 are not provided. It will be noted in this regard that Applicant obtains a reduction in gap size even though a "cut end" is employed as shown in the left panel 16 of FIG. 6 for overlapping by the "factory end" of the right panel 16 in FIG. 6.

However, it will be noted that this same reduction in gap thickness would not be achieved if a "cut end" of any of the prior art references above listed were used in this fashion. This ability to achieve a reduction in gap thickness by using a "cut end" permits far greater usage of material and eliminates scraps so as to reduce the overall cost of installation to the user.

With reference to the material employed herein, the materials are preferably of the type referred to and disclosed in the aforesaid copending application of the present applicant, which application is entitled "Molded Siding" and was filed Oct. 3, 1969 as Ser. No. 863,429.

Essentially, the materials will include a fiberglass base portion 30 (see FIG. 5) that has been laid over a pigmented exterior surface 31 which may or may not be textured for aesthetic purposes with the fiberglass being smooth and also defining the exterior surface 11a of the panel as clearly shown in FIG. 4.

While a full and complete description of the invention has been set forth in accordance with the dictates of the Patent Statutes, it is to be understood that the invention is not intended to be limited to the specific embodiments herein shown.

Accordingly, modifications of the invention may be resorted to without departing from the spirit hereof or the scope of the appended claims.

What is claimed is:

1. An elongate, unitary siding component of the character described, comprising;

A. a thin panel section having a decorative surface and a rear surface that will be covered following installation;

B. a network of blade-like ribs projecting rearwardly from the rear surface of said panel at substantially right angles therewith and extending longitudinally and transversely thereof for support and rigidification purposes;

C. a butt flange connected to the lowermost longitudinally extending blade-like rib and projecting downwardly therefrom at substantially right angles therewith to define the lower edge of said siding component;

D. a nailing hem integral with said panel section and said ribs and defining the upper edge of said siding components; and

E. L-shaped end sections each projecting longitudinally beyond said butt flange and said nailing hem at opposed ends of said siding component for overlapping purposes.

2. The device of claim 1 further characterized by the fact that said projecting ends include a vertical panel extension and a horizontal panel extension connected therewith at right angles.

3. The device of claim 2 further characterized by the fact that said vertical and horizontal panels are reduced in cross sectional thickness with respect to the cross sectional thickness of said panel.

4. A unitary siding panel of the character described, comprising;

A. a thin flat sheet of flexible material having

1. a length that is longer than its height;

2. opposed longitudinal edges having complementary locking means provided thereon, whereby adjacent edges of vertically adjacent panels may be interlocked with each other;

3. opposed transverse edges defining the longitudinal extremities of said panel;

4. front and rear planar surfaces;

B. integral support means defined by

1. at least two ribs that project rearwardly from the rear surface of said sheet with said ribs extending transversely of said sheet to a point substantially adjacent said opposed longitudinal edges;

C. said sheet having at least one rearwardly projecting longitudinally extending rib provided adjacent one said longitudinal edge, whereby said panel is stabilized against vertical and horizontal deflection during manufacturing, shipping, and installation thereof;

D. said longitudinal extremities of said panel projecting beyond said transverse ribs for longitudinal overlap purposes during installation; and

E. said projecting longitudinal extremities being tapered longitudinally toward a feathered outboard extremity.

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