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Kessler

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[54] **SIDING WITH LOOSE PLASTIC FILM FACING**

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[21] Appl. No.: **389,145**

Related U.S. Application Data

[63] Continuation-in-part of Ser. No. 187,960, Oct. 12, 1971, abandoned.

[52] **U.S. Cl.** **52/519,** 52/309, 52/556, 52/536

[51] **Int. Cl.** **E04d 1/10,** E04d 1/20

[58] **Field of Search** 52/309, 520, 521, 538, 52/546, 544, 556, 222; 160/371

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[57] **ABSTRACT**

An architectural siding for buildings is composed of a rigid backerboard having at least the side which will be exposed to the weather covered with an adhered film of thin, flexible plastic material, secured to the backerboard only at unexposed edges or areas; this allows the backerboard and face sheet to expand and contract independently of each other which eliminates or minimizes the tendency of present siding to heat distortion (known as "canning") and to denting, since an object hitting the siding may dent the backerboard, but the flexible facing will in all ordinary cases recover and again present a smooth appearance. Since an inexpensive backerboard and film can be used, the cost of the siding can also be kept to a minimum.

7 Claims, 7 Drawing Figures

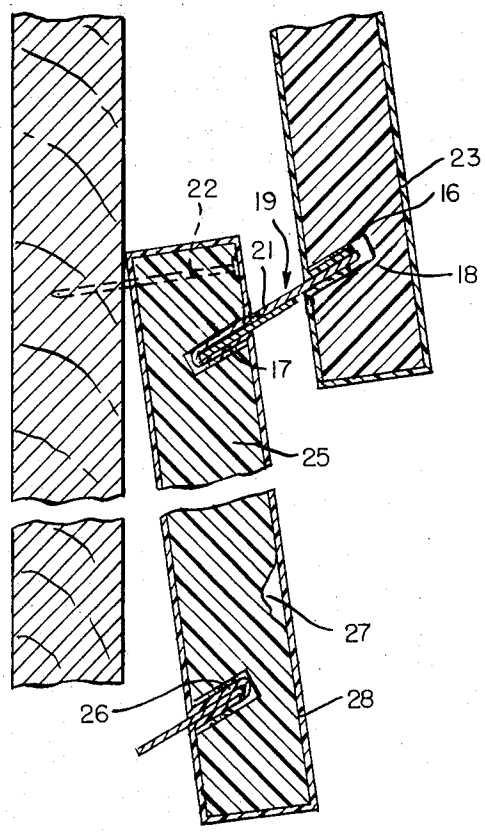


FIG. 1.

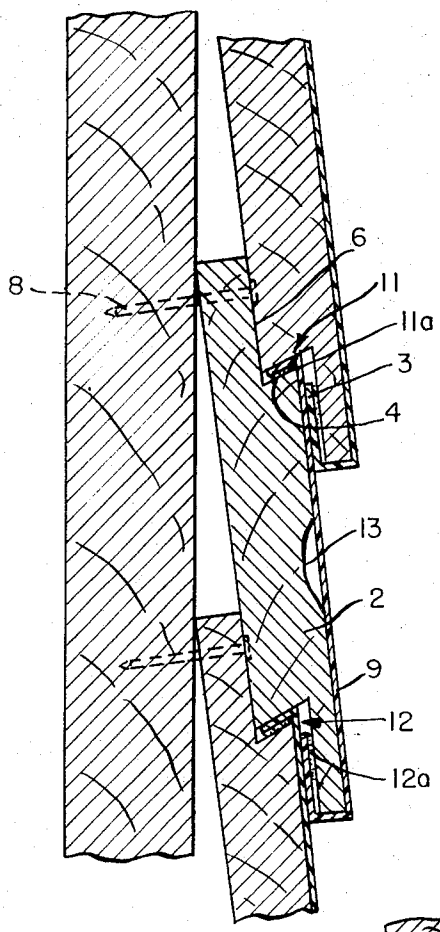


FIG. 2.

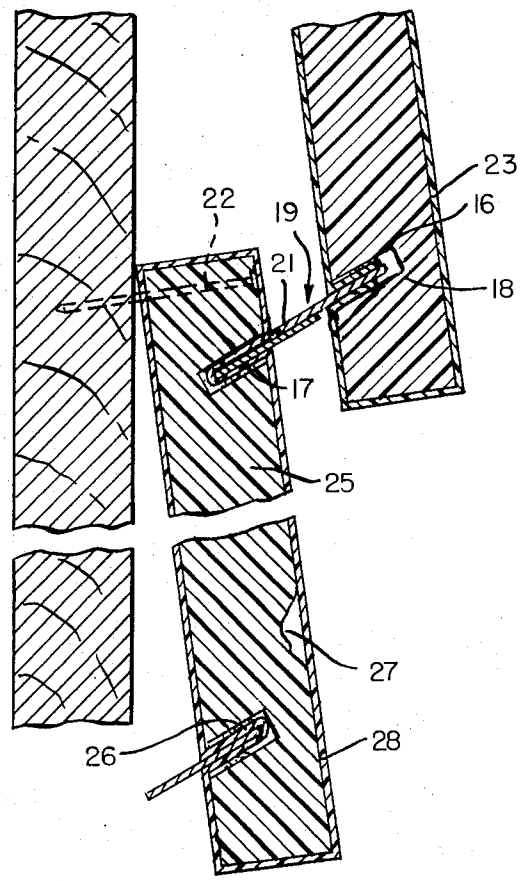


FIG. 3.

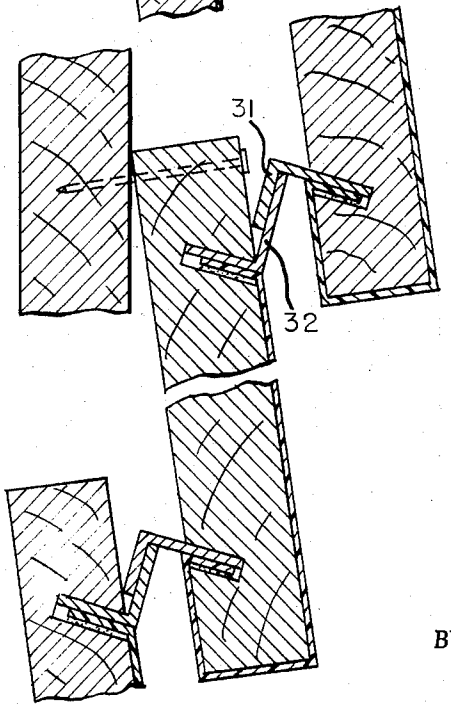
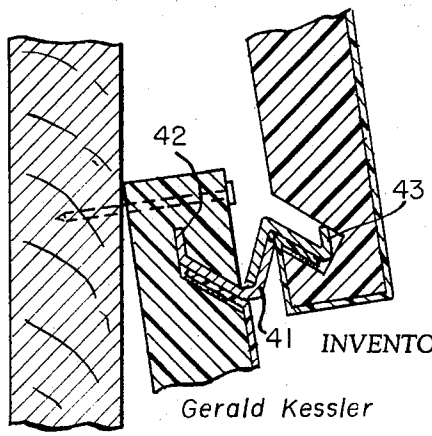


FIG. 4.



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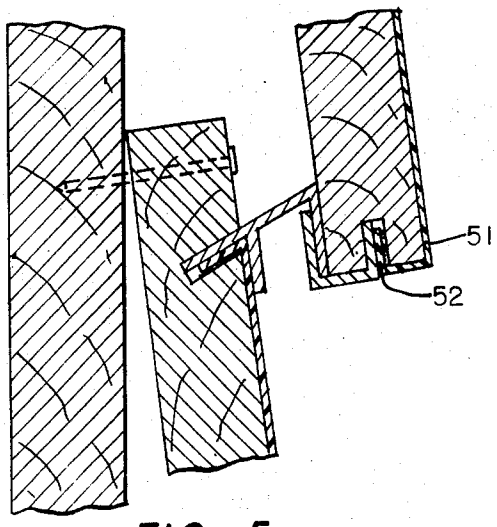


FIG. 5.

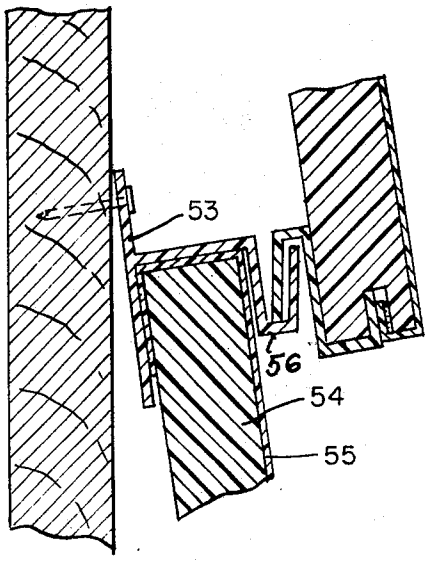


FIG. 5A.

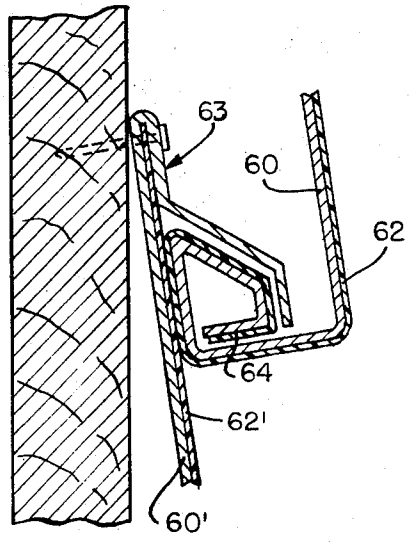


FIG. 6.

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SIDING WITH LOOSE PLASTIC FILM FACING

This is a continuation-in-part of application Ser. No. 187,960, filed Oct. 12, 1971 by Gerald Kessler, for Siding With Loose Plastic Film Facing and now abandoned.

Architectural siding, commonly known as clapboard, is widely used for building exteriors, being laid in courses with the lower edge of each course overlapping the upper edge of the next lower course so as to shed rain. Such siding is usually made of wooden strips which are applied horizontally to the exterior walls of the structure by nailing. However, wood has various disadvantages, among which is the need for periodic painting, and lately the use of other materials for siding has been increasing, such materials including cement-asbestos siding, which is fragile, a plywood backerboard covered with a tightly adhered film of plastic, etc.; other types are rigid plastic siding and aluminum siding which is either painted with vinyl or acrylic paint or has a film of plastic material known as "Tedlar" laminated adheredly to the aluminum. In some cases, the "Tedlar" is laminated to the rigid backerboard of wood or other suitable material.

All of the above types of siding have fairly serious drawbacks; some are very expensive and beyond the reach of moderate-cost housing; all of them are subject to denting when struck by a hard object such as a stone or even a ladder which is carelessly handled. In the case of old-fashioned wooden siding, such dents could usually be repaired which a little putty when repainting, but the new sidings are not intended to be repainted and so the dent is irreparable. Most new sidings and particularly metal siding, is subject to "canning," i.e., surface distortions from temperature differences on different parts of the siding which cause unsightly bulges and depressions at the visible surface of the siding.

The present invention solves this problem by providing a siding strip in the form of a backerboard which may be of any sufficiently rigid material such as plywood, rigid or foamed plastic, metal, etc., and a surface facing of flexible plastic sheeting which is not adhered to the backerboard at any point of the surface which is exposed when the siding is installed, but is attached to the backerboard only at unexposed locations of the siding. Since the flexible face sheet is not adhered to the backerboard, it and the backerboard can expand and contract independent of one another so that there is little or no "canning" effect which can be seen on the exterior surface of the siding. Furthermore, an object striking the siding may dent the backerboard, but the flexible face sheet will quickly recover due to its inherent elasticity and present its usual appearance, so that the dent will not be visible.

The method of attaching the flexible sheet to the backerboard may be varied, as will be shown below, and the invention may be applied to a wide variety of backerboards of different types.

The specific nature of the invention, as well as other objects and advantages thereof, will clearly appear from a description of a preferred embodiment as shown in the accompanying drawings, in which:

FIG. **1** is a sectional view showing several courses of the new siding attached to a wall;

FIG. **2** is a sectional view of a different form of the invention; and

FIGS. **3-6** are similar sectional views respectively showing different forms of the invention.

FIG. **1** shows the principle of the invention in a simple form as applied to a wooden clapboard **2** of conventional type which is rabbetted as shown at **3** and **4** to produce an interlocking joint between adjacent courses of siding, leaving a hidden nailing surface **6** so that the siding may be secured to the building wall by nails **8.** Each siding strip or course has a facing of flexible plastic sheeting **9** which is fastened to the strip only at its edges **11** and **12** by means of a suitable adhesive, indicated at **11***a* and **12***a*. This is a factory operation, so that the siding when installed is complete and requires no special skill or attention. It will be seen that if the backerboard has been dented, as indicated at **13,** it will not show because the plastic sheet **9** has recovered its normal appearance, as it is not adhered to the backerboard at the exposed region of the siding, since it is not a rigid sheet, i.e., one which retains any configuration into which it has been bent.

FIG. **2** shows a plain shiplap type of siding which does not require the backerboard to be especially rabbetted or cut except for two slits or kerfs as shown at **16** and **17,** each of which is adapted to retain one side **18** of the horizontal lock strip **19** of rigid material, preferably rigid plastic, although it couls also be metal; the other side **21** of the rigid lock strip **19** extends out to engage the outer side of the opposite strip of the next course, while the nails **22** lock the entire assembly firmly to the building. The flexible plastic sheet **23** is held at its horizontal edges in kerfs **16** and **17.** Where the rigid lock strip is made of plastic, it is preferably made in one piece with the plastic sheet by conventional dual-extrusion techniques, so that the flexible sheet and the two lock strips are formed as one integral unit which is in a later step assembled with the pre-cut backerbaord to form the finished article; prior to the actual assembly, the slit or kerf **24** is preferably treated with a suitable adhesive **26** so that there is no danger of the lock strip coming out of the kerf in actual use. In the event that the backerboard **25** is dented, as shown at **27,** the plastic film recovers as shown at **28,** and the dent under it is not visible.

The backerboard may be made of ordinary wood boards, of synthetic board such as plywood, chipboard, hardboard (e.g., Masonite), etc., or plastic, preferably foamed plastic, or of metal such as aluminum. If desired, the plastic sheet may be in the form of a continuous sleeve as shown at **26,** made loose enough to fit over the backerboard, and held tightly in place when the locking strips are inserted into their respective kerfs.

FIGS. **3, 4, 5, 5***a* and **6** show other forms of lock strips.

In FIG. **3,** the strips **31** and **32** are bent so that the successive courses can be closer together and also to resist pulling out of the locker strip; otherwise the construction is like that of FIG. **2.**

FIG. **4** shows a backerboard with a re-entrant kerf at **42** which positively prevents the lock strips from being pulled out. In this form, the lock strip must be assembled by sliding it in from the end, or in the case of plastic backerboard, by forming the backerboard around the lock strips. Alteratively (or additionally), the kerf may be a simple slot with a barb on the end of the lock strip as shown at **43** - this construction is especially useful with foamed plastic backerboard.

In FIG. **5**, a more elaborate type of locking strip is used, and the lower strip **51** is held by a slot or kerf **52** in the bottom edge of the backerboard, which is feasible only when thick backerboard is used.

FIG. **5***a* shows a variation of the theme of FIG. **5**, in which the top lockerstrip **53**, of extruded metal or plastic, is clipped over the top of the backerboard **54** after the flexible plastic sheet **55** is wrapped around the top. The hook portion **56** is also shown different to illustrate another possible variation.

FIG. **6** shows the invention applied to a metal backerboard **60, 60'**, which is formed by rolling or other pressure techniques, with the unadhered plastic sheet **62, 62'** held at its edges in fold **63, 64** of the metal, which is pinched down on the sheet at these points as the last step in the formation of the unit, by known techniques.

Where the backerboard contains materials that could migrate or "bleed" to the surface, as in the case of resinous wood or chemicals such as asphalt impregnated into the backerboard as a preservative, it may be desirable to coat the backerboard with an impervious paint-like coating such as was or polyethelene to prevent such materials from reacting with the face sheet.

It will be understood that any thin plastic sheeting may be used for this invention which has the necessary characteristics, such as flexibility, water-proofness, and above all, sufficient flexibility and elasticity when stretched smoothly over a surface such as a backerboard, to recover from any denting as described above and resume its smooth appearance. Such plastic materials are widely available commercially and may in fact be purchased at practically any hardware store. Known examples of such materials are flexible sheets of vinyl, polypropyline, polyetheline, Tedlar, etc. This material is limp, slightly elastic, so that it can be stretched flat, and comes in various thicknesses, the preferred range for the present use being from 0.001 to 0.004 inch in thickness. It is available in a wide range of colors and finishes, e.g., simulated wood.

I claim:

1. a. Architectural siding board for the exterior wall surface of a building comprising

b. a siding backerboard having a weather surface which is normally exposed when the siding is installed in place on a building structure to provide overlapping courses,

c. a film of flexible plastic sheet material secured to said backerboard only at unexposed locations on the siding,

d. said film lying unadheredly against and in direct contact with the backerboard at all surfaces which are exposed to the weather when the siding is installed, said film being of soft, non-rigid material smoothly stretched over the exposed surface of the backerboard and having sufficient elasticity to resume its smooth appearance even when the siding is struck sufficiently hard to dent the backerboard beneath the film.

2. a. Architectural siding board for the exterior wall surface of a building comprising

b. a siding backerboard having a weather surface which is normally exposed when the siding is installed in place on a building structure to provide overlapping courses,

c. a film of flexible plastic sheet material secured to said backerboard only at unexposed locations on the siding,

d. said film lying unadheredly against the backerboard at all surfaces which are exposed to the weather when the siding is installed, said film being of soft, non-rigid material smoothly stretched over the exposed surface of the backerboard and having sufficient elasticity to resume its smooth appearance even when the siding is struck sufficiently hard to dent the backerboard beneath the film,

e. including means for securing the plastic sheet to the backerboard,

f. said means comprising a horizontally extending lock strip of rigid material secured to the plastic sheet near its upper edge and to the upper portion of said backerboard,

g. said lock strip comprising means for firmly retaining the lower edge of an adjacent similar siding unit when installed on a building.

3. The invention according to claim **2**,

h. and a second lock strip of rigid material secured to the lower edge of said plastic sheet and to said backerboard,

i. said second strip having a portion adapted to interlock with the first strip of an adjacent course of siding when installed,

j. said second strip being secured to the backerboard adjacent the bottom edge of the backerboard.

4. The invention according to claim **3**,

k. said first lock strip having an upwardly hooked projecting edge,

l. and said second strip having a downwardly hooked projecting edge dimensioned and located to fit into the upwardly projecting edge of the first strip of an adjacent course when installed.

5. The invention according to claim **1**,

e. said film of plastic sheeting being in the form of a sleeve which is tightly fitted to the backerboard to cover it on all sides.

6. a. Architectural siding board for the exterior wall surface of a building comprising

b. a siding backerboard having a weather surface which is normally exposed when the siding is installed in place on a building structure to provide overlapping courses,

c. a film of flexible plastic sheet material secured to said backerboard only at unexposed locations on the siding,

d. said film lying unadheredly against the backerboard at all surfaces which are exposed to the weather when the siding is installed,

e. including means for securing the plastic sheet to the backerboard,

f. said means comprising a horizontally extending lock strip of rigid material secured to the top edge of said plastic sheet and to the upper portion of said backerboard,

g. said lock strip comprising means for firmly retaining the lower edge of an adjacent similar siding unit when installed on a building,

h. and a second lock strip of rigid material secured to the lower edge of said plastic sheet and to said backerboard,

i. said second strip having a portion adapted to interlock with the first strip of an adjacent course of siding when installed,

j. said second strip being secured to the backerboard adjacent the bottom edge of the backerboard,

k. said first lock strip having an upwardly hooked projecting edge,

l. and said second strip having a downwardly hooked projecting edge dimensioned and located to fit into the upwardly projecting edge of the first strip of an adjacent course when installed,

m. the non-projecting edge of each of said strips fitting into and retained by a horizontally extending slot or kerf cut into the backerboard.

7. a. Architectural siding board for the exterior wall surface of a building comprising

b. a siding backerboard having a weather surface which is normally exposed when the siding is installed in place on a building structure to provide overlapping courses,

c. a film of flexible plastic sheet material secured to said backerboard only at unexposed locations on the siding,

d. said film lying unadheredly against the backerboard at all surfaces which are exposed to the weather when the siding is installed,

e. said film of plastic sheeting being in the form of a sleeve which is tightly fitted to the backerboard to cover it on all sides,

f. including a horizontal kerf or narrow slit cut into the backerboard near the top edge of one side and near the bottom edge of the other side,

g. the plastic material of the sleeve being pushed into said kerf so as to take up the slack and produce a tight fit,

h. and a strip of rigid material having one edge thereof tightly wedged into each of said kerfs to retain the sleeve material therein,

i. the other edge of each strip projecting out from the backerboard at an angle so as to engage and lock with the oppositely corresponding strip of the next adjacent course of siding when installed.

* * * * *