

[54] **APPARATUS AND METHOD FOR HANGING SIDING MEMBERS ON SUPPORTING SURFACES**

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Related U.S. Application Data

[63] Continuation-in-part of Ser. No. 389,567, Aug. 20, 1973, abandoned.

[52] U.S. Cl. **52/478; 52/489; 52/545; 52/547; 52/713**

[51] Int. Cl.² **E04C 2/38**

[58] Field of Search **52/712-715, 52/528, 545, 546, 551, 547, 549, 478, 483, 489**

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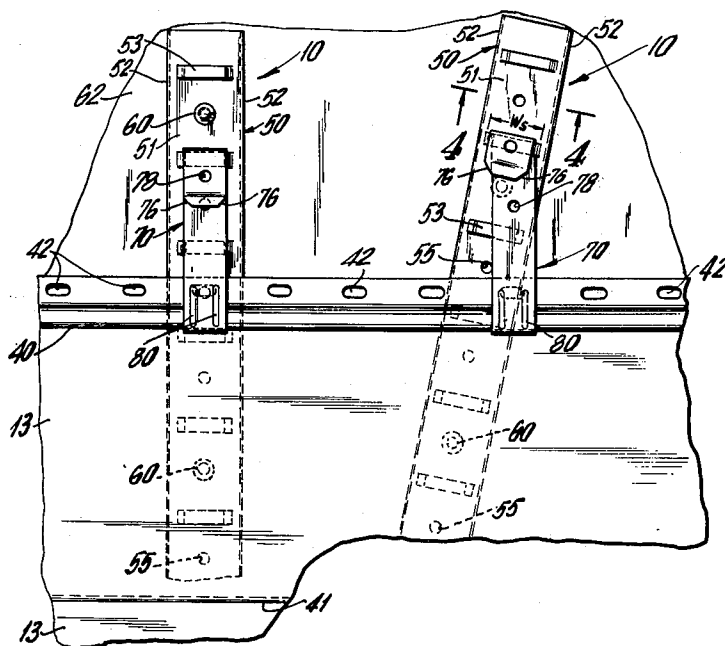
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[57]

ABSTRACT

An apparatus for hanging a siding member on a supporting surface includes a furring member secured to the supporting surface and having a plurality of slots, and a flexible hanging clip which is insertable through a slot and engageable with the siding member and the furring member. The slot configurations enable efficient manipulation and alignment of the clips for installation of the siding members. The flexible hanging clips compensate for variations in location and orientation of the slot configuration. In the method, the furring strip is first secured to the supporting surface, such as a house, after which the flexible hanging clip engages the siding member at one end, while its opposite end is inserted into a slot in the furring member, and then bent so as to form a friction attachment between the siding member, the clip and its associated furring strip.

6 Claims, 7 Drawing Figures



SHEET 1 OF 2

FIG. 1

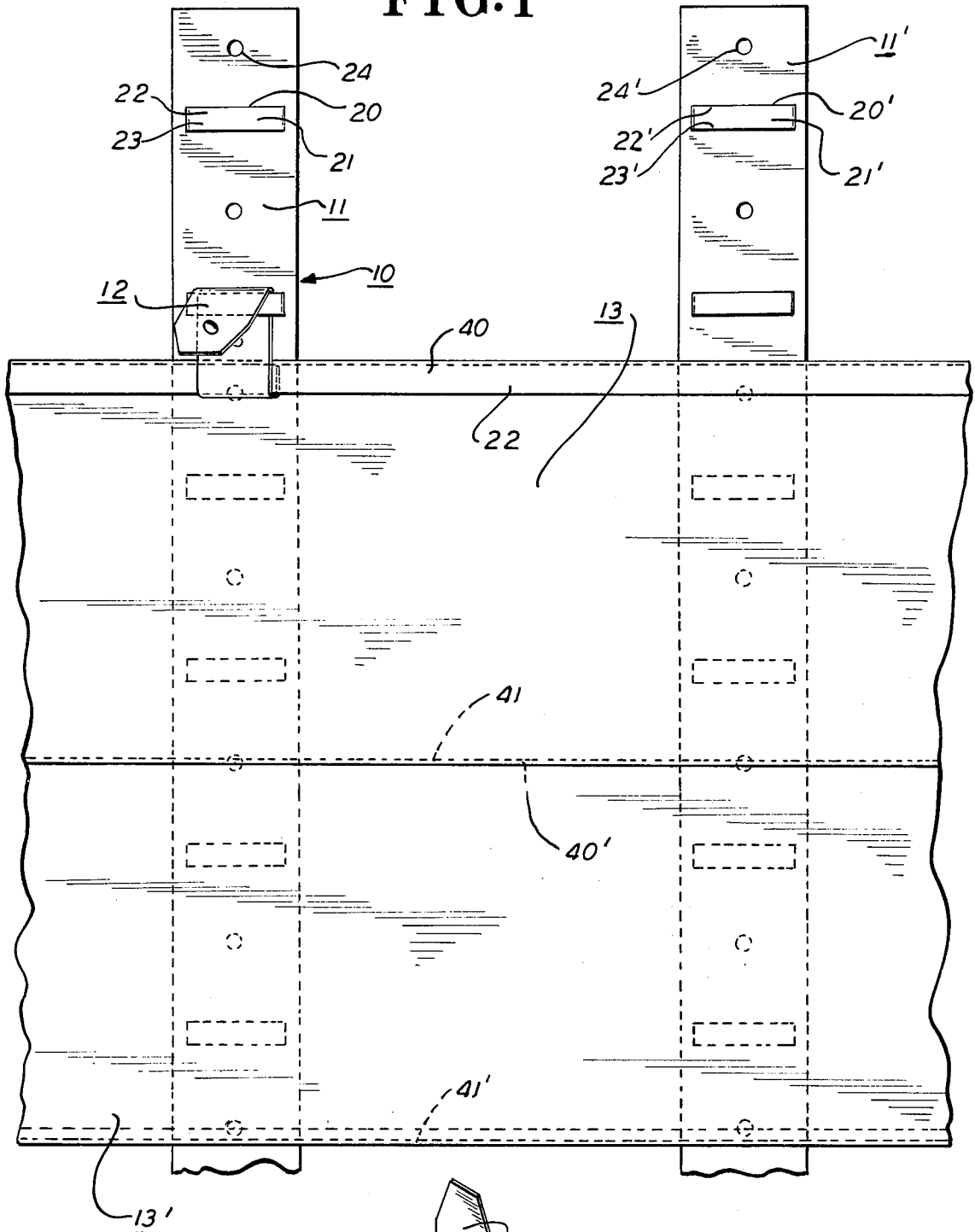
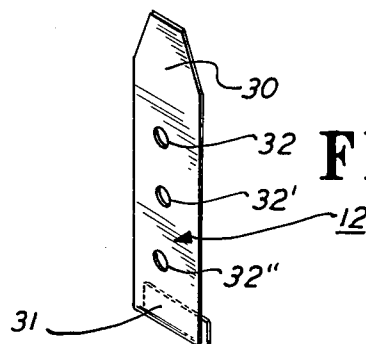


FIG. 2



SHEET 2 OF 2

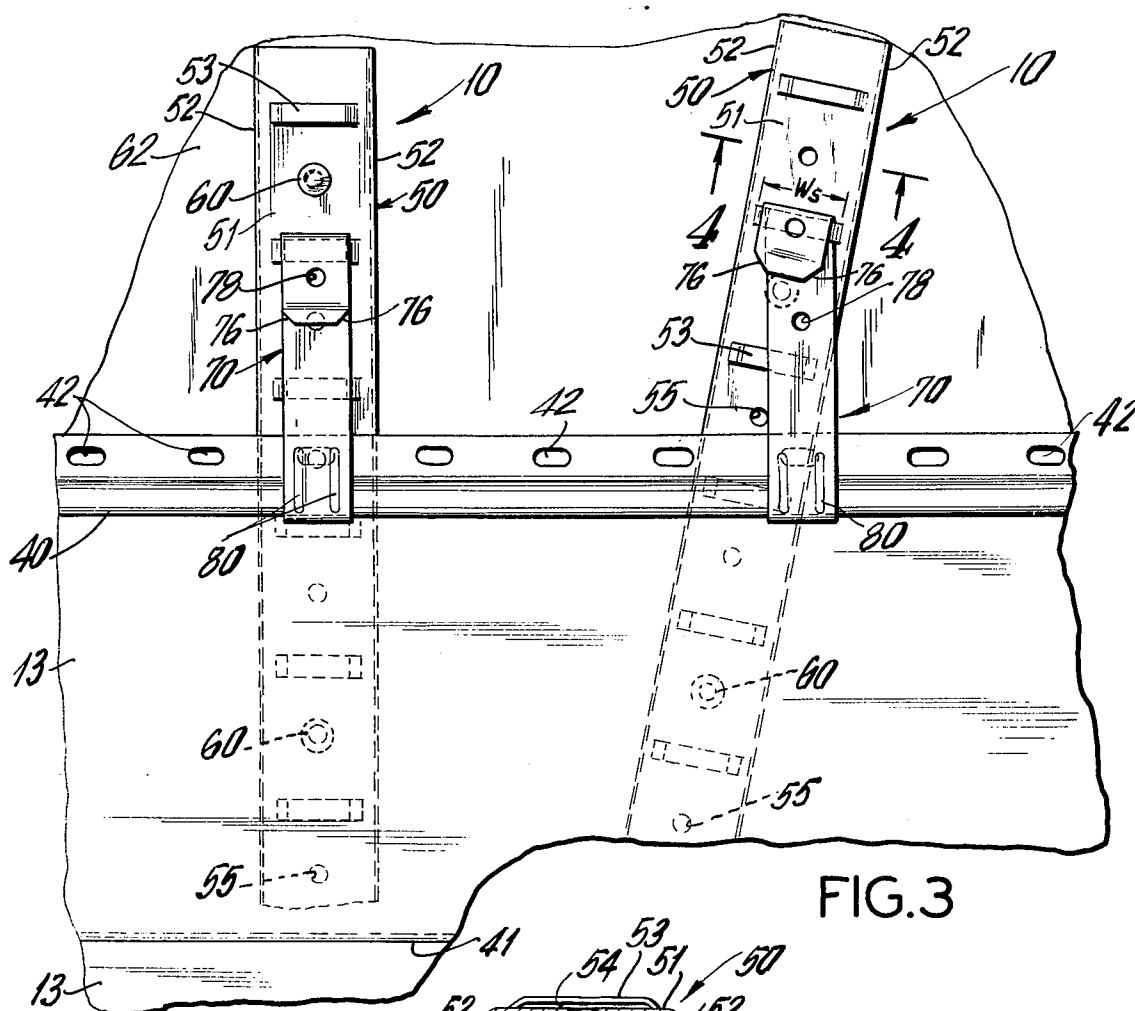


FIG. 3

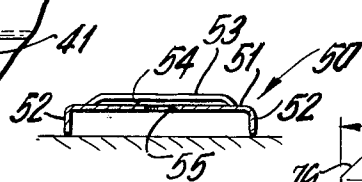


FIG. 4

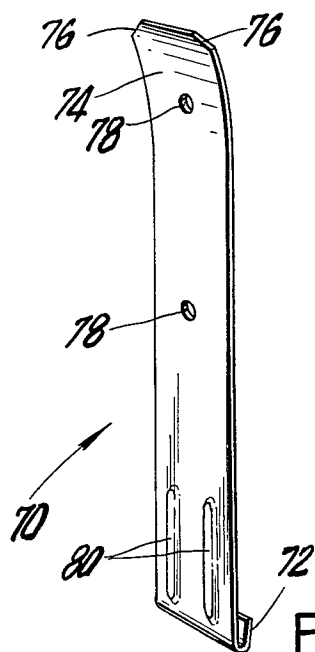


FIG. 5

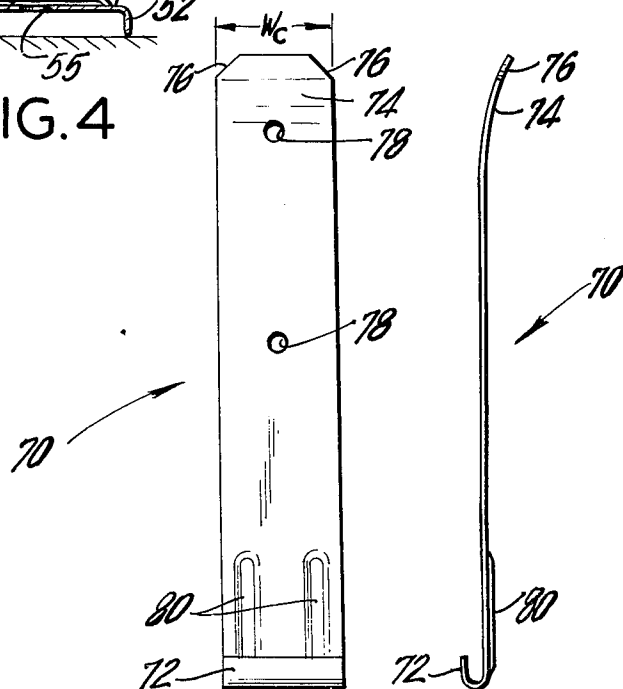


FIG. 6 FIG. 7

APPARATUS AND METHOD FOR HANGING SIDING MEMBERS ON SUPPORTING SURFACES

CROSS-REFERENCE TO RELATED APPLICATION

This is a continuation-in-part of U.S. Pat. application Ser. No. 389,567, now abandoned, filed by Arthur H. Robinson, Jr., on Aug. 20, 1973 and entitled "Apparatus for Hanging Siding Members on a Supporting Surface", which application is assigned to the assignee of the subject application.

BACKGROUND OF THE INVENTION

The invention relates generally to siding systems, and more particularly relates to a hanging system for securing siding members to a supporting surface.

Re-siding surfaces, such as aluminum siding panels, may be installed over siding surfaces such as shingles on a house due to weathering and wearing of the old surface or aesthetics.

New siding panels may be secured to the old siding surface either directly, as by nailing the new panels to the old shingles, or indirectly, as by attaching the new panels to furring material which has been secured to the old surface to provide a level support surface. Direct attachment of the new surface to the old surface generates substantial alignment problems for the installer which substantially increases labor costs.

Hanging systems utilized for indirect attachment of the new siding surface to the old siding surface have included furring strips mounted vertically to the shingles at horizontally spaced-apart locations, which included panel-supporting hooks at vertically spaced-apart locations on the furring strips, and siding panels which included upper extending rims, lower depending rims, and hook-engaging formations which attached to the furring strip panel-supporting hooks.

In mounting the furring strips, substantial orientation problems resulted from the necessity to precisely align the panel-supporting hooks horizontally with corresponding panel-supporting hooks in furring strips on both sides thereof, in order to provide proper alignment for engagement with the siding member hook-engaging formation.

In addition to the above it is noted that conventional siding, such as aluminum siding and vinyl siding, includes a plurality of elongated holes extending along the top edge of each siding member. In conventional mounting techniques, the mechanic is supposed to mount the siding member directly to the supporting structure or house by driving a plurality of nails through selected elongated openings in the siding member. Each nail is supposed to be driven through center of each elongated opening which extends laterally, and the nail is not to be driven home, but is preferably to be spaced a small distance from the supporting structure. Theoretically, expansion and contraction of siding member will result in the siding member sliding relative to the supporting nails, since the latter have not been driven home, and since there is clearance space between the elongated openings and the shanks of the nail. As is readily apparent, if the nails are not placed precisely in the center of the elongated holes or if the nails are inadvertently driven home, the siding member is restrained in its expansion and contraction, and accordingly, with a change in weather conditions, the elongated siding member will possibly buckle, distort, cause the nails to be pulled out.

SUMMARY OF THE INVENTION

In accordance with the foregoing, it may be regarded as an object of the present invention to provide a siding hanging apparatus which enables efficient precise alignment of the siding panels on the supporting surface.

It is a further object of this invention to overcome the shortcomings of prior art, and more particularly to provide an apparatus and a method for efficiently mounting the siding members on a supporting surface of a house.

In accordance with the present invention, the foregoing objects and others are achieved through use of slots formed in furring strip supporting surfaces having rims, and flexible hanging clips which are insertable through the slot rims to provide compensation for variations in location and orientation of the slots, which enables efficient alignment of the siding members by the installer.

In the subject apparatus, there are provided a plurality of furring members secured to the supporting surface, such as a house, with each furring member including a plurality of slots. Preferably the furring members have a U-shaped configuration and are mounted to the house in a generally vertical disposition. A plurality of flexible hanging clips are provided for movably connecting the siding members to the furring members, with each flexible clip including a first hook-shaped portion for slidably engaging the upper projecting rim on a standard siding member, while the opposite end portion of the flexible clip includes a curved shaped section which may be inserted through a projecting rim portion of the furring strip that defines a slot.

The width in each slot is of greater dimension than the width of the flexible hanging clips, whereby it is not necessary that the furring strip be exactly and precisely mounted on the house, nor is it necessary for the slots in adjacent furring strips to be precisely aligned. In the method of the subject invention, the furring strips are first secured to the supporting structure such as the house, after which the hook portion of a hanging clip is slidably engaged with the upper projecting rim portion of a siding member, and the opposite tapered curved end portion of the flexible hanging clip is inserted through a slot in the adjacent furring strip, and bent over so as to form a friction connection between the siding member and the furring strip. As a result of this mounting arrangement, the siding member may move relative to the flexible hanging clip and the furring strips, thereby enabling uninhibited expansion and contraction of the siding member, and without causing distortion or buckling of the siding members.

DESCRIPTION OF THE DRAWINGS

The invention is diagrammatically illustrated; by way of example, in the appended drawings, in which:

FIG. 1 is an elevational fragmentary view of the siding hanging apparatus in accordance with the invention;

FIG. 2 is an elevational view of a flexible hanging clip pursuant to the invention;

FIG. 3 is an elevational fragmentary view of another embodiment of the siding hanging apparatus in accordance with the invention;

FIG. 4 is a cross-sectional view of a furring strip taken along line 4—4 in FIG. 3;

FIG. 5 is a perspective view of an elongated flexible hanging clip according to the subject invention;

FIG. 6 is a front view of the flexible hanging clip of the subject invention; and

FIG. 7 is a side view of the flexible hanging clip of the subject invention.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

The siding hanging apparatus 10, as illustrated in the Figures, may comprise, for example, furring strips (11, 11' shown, other furring strips not shown), flexible hanging clips (12 shown, other hanging clips not shown) which are engageable with the furring strips 11, 11', and siding members (13, 13' shown, other siding members not shown), with which the flexible hanging clips 12 are further engageable.

The furring strips 11, 11', as shown in FIG. 1, for example, include slots 20, 20' formed therein, which include rims 21, 21' having upper portions 22, 22' and lower portions 23, 23'. The furring strips 11, 11' are secured to a primary siding surface such as shingles on a house (not shown) by nails 24, 24'.

The flexible hanging clips 12, as shown in FIGS. 1 and 2, for example, comprise a lower hook portion 30, an upper curved portion 31, and apertures 32 through which nails (not shown) may be inserted to enable attachment of the flexible hanging clips 12 to a supporting surface.

The siding members 13, 13', as shown for example in FIG. 1, comprise an upper projecting rim 40, and a lower depending rim 41.

In the installation of the present device, for example, furring strips, such as 11, 11', are secured to the primary siding surface, such as shingles on a house (not shown), by nails, such as 24, 24', to mount the furring strips 11, 11' in generally vertical positions at horizontally spaced-apart locations, to provide a supporting surface for hanging the siding members, such as 13, 13'.

An initial siding member (not shown) is installed to cover the bottom portions (not shown) of the furring strips, such as 11, 11', and subsequent siding members, such as 13, are installed as by hooking the lower depending rim 41 to the upper projecting rim 40' of the siding member 13', and hooking the lower hook portions, as 32, of flexible hanging clips, as 12, to the upper projecting rim 40 of the siding member 13, and inserting the upper curved portions, as 31, through slots, as 20, 20', and bending the upper curved portion, as 31, back over the slot rim upper portions, as 22, 22'. The flexible hanging clips, such as 12, in the preferred embodiment, are sufficiently long and narrow to enable insertion through, and angular displacement and retention in, the slots such as 20, 20', though such slots may be spaced at varying locations and in different angular orientations from the vertical plane with respect to the upper projecting rim 40 of the siding member 13, due, for example, to installation by the installer of the furring strips, such as 11, 11', at varying vertical locations and angular orientations.

In accordance with the foregoing description, it can be seen that the provision of slots, such as 20, 20', including rims such as 21, 21', which are formed in the siding member supporting surface comprising furring strips, such as 11, 11', and flexible hanging clips, such as 12, which are engageable with the siding members,

such as 13, 13', and which are insertable through the slots and bendable over the upper portions, as 22, 22', of the slot rims, as 21, 21', provide compensation for variations in location and orientation of the furring strips, as 11, 11', to enable efficient alignment of the siding members, as 13, 13', by the installer.

Referring now to FIG. 3, siding member 13 is of conventional design and includes a plurality of elongated holes 42 extending along the upper projecting rim portion 40 thereof. The lower depending rim 41 of each siding member 13 is curved so as to fit over the upper projecting rim 40 of the adjacent lower siding member 13.

The siding hanging apparatus 10 includes a plurality of furring strips 50, 50 that are secured to the primary siding surface, such as the side of a house 62 by nails 60. As illustrated in FIG. 3, it is not necessary that the furring strips extend exactly perpendicular to the length of the siding members 13, or stated differently, the furring strips may be mounted skewed with respect to one another and still be capable of efficiently supporting the siding member 13. Further details of this feature of the subject invention are set forth below.

As shown in FIGS. 3 and 4, each furring strip is of elongated configuration, and is of generally U-shaped cross-section including a relatively wide base 51 and two depending leg portions 52, 52. Spaced along the length of the furring strip 50 and formed integral therewith are projecting rims 53 that define elongated slots 54. As shown in FIG. 3, the width of the slots 54 is designated by w_s . Each furring strip includes a plurality of holes 55 through which the nails 60 extend for securing the furring strips to the primary siding surface 62.

The subject apparatus also includes a plurality of elongated flexible hanging clips 70, as shown in FIGS. 5 through 7. Each flexible hanging clip 70 may be made of a suitable flexible metallic material such as aluminum, and includes a first or lower portion which is generally hook-shaped as at 72, with the configuration of the hook portion 72 conforming to the curvature of the upper projecting rim 40 of the siding member 13. At the opposite end of the flexible hanging clip 70, the clip has an upper curved portion 74 having tapered corners, as shown at 76, 76. Nail holes 78 are provided in the flexible hanging clip 70, and disposed adjacent the lower portion 70 the clip is formed with integral reinforcing ribs 80. It is noted that the upper curved portion 74 is curved in a direction opposite to the hook portion 72 for the reasons set forth below. In addition, it is noted that integral reinforced ribs 80 are disposed adjacent the portion of the flexible hanging clip that engages the upper projecting rim 40 of the siding member in order to provide additional rigidity to the structure. If desired, the flexible hanging clip may be coated with a suitable plastic material in order to facilitate the sliding of the siding member 13 relative to the hanging clip 70, as more fully described hereinafter.

In the installation of the siding hanging apparatus illustrated in FIGS. 3 through 7, first the furring strips 50 are nailed to the primary siding surface 62 utilizing nails 60. It is noted that because of the U-shaped cross section of the furring strips, the elongated furring strips are relatively rigid, whereby any bowing or depressions in the primary siding surface 62 may be compensated for by the mechanic by not driving home the nails 60 in the region of the depressions. Thus the relatively rigid furring strips 50 provide a means for insuring that

the resulting siding 13 is straight and aligned as applied to the house 62. As illustrated in FIG. 3, it is not necessary that the furring strips be mounted in parallel relative to each other, nor that they be mounted exactly orthogonal to the longitudinal axis of the siding members 13. Furthermore, as clearly illustrated in FIG. 3, it is not necessary that the projecting rims 53 and the slots 54 defined by the furring strips be exactly aligned relative to one another. Because of the length of the flexible hanging clip 70, variations in the horizontal or vertical disposition of slots 54 in adjacent furring strips can be readily compensated for. Accordingly, installation of the furring strips can be quickly and easily accomplished by the mechanic.

In installing a length of siding member 13, its lower depending rim 41 is first placed over the upper projecting rim 40 of the previously installed siding member 13, after which the elongated flexible hanging clips 70 are installed by the mechanic. During this step of the subject method, first the lower hook portion 72 of a clip is placed over the upper projecting rim 40 of the siding member 13, and at the same time the tapered upper curved portion 74 is inserted through convenient slot 54 in the adjacent furring strip 50. When the hanging clip 70 has been fully inserted, the excess upper curved portion of the hanging clip is bent over itself (see FIG. 3) in order to form a friction connection between the siding member, the flexible clip and the furring strip. As illustrated in FIG. 6, the width of the clip is designated w_c and is less than the width of the slot w_s of the furring strip, whereby any variations in the alignment between the axis of the hanging clip 70 and the longitudinal axis of the furring strip 50 may be readily compensated for. This is dramatically illustrated in the right hand portion of FIG. 3 wherein, for purposes of clarity, the right hand furring strip 50 is greatly skewed with respect to the left hand portion of FIG. 3. As noted in FIG. 3, the integral reinforcing ribs 80 of each hanging clip 70 are disposed in the immediate vicinity where the hanging clip 70 engages the upper projecting rim 40 of the siding member thereby providing additional reinforcement to the construction. It is noted that the cooperation of the lower hook portion 72 of the hanging clip 70 and the upper projecting rim 40 of the siding member 13 provides a relatively slidable connection whereby expansion and contraction of the siding member 13 will merely result in movement of the siding member relative to the flexible clips 70, and this insures that undue stresses or strains are not placed on the siding member 13.

In order to facilitate the sliding or relative movement of the siding member 13 relative to the hanging apparatus of the subject invention, the hanging clips may be coated with a suitable plastic material to effectively provide a lubricating surface for the clip. In effect, the resulting supporting structure for the siding member 13 provides an arrangement whereby the siding members are literally floating on the primary siding surface 62, thereby facilitating distortion-free expansion and contraction of the siding member 13.

As is readily apparent, because of the inherent capability of the subject apparatus to compensate for misalignments of the furring strips caused by improper installation by the mechanic, the subject apparatus greatly increases the efficiency and speed of hanging

siding members 13 on a house 62, as well as providing a more efficient system for the stress-free supporting of the siding members 13. It is noted that by employing the subject apparatus it is possible to mount siding members of variable thickness, as well as siding members which are provided with insulation backing units, without requiring different apparatus. More specifically, the length of the elongated flexible hanging clip 70, as well as the number of projecting rims which define slots 54 in the furring strips enables the subject apparatus to accommodate different thicknesses and sizes of siding members 13 and its backer members, as contrasted to prior art systems which require different sized mounting apparatus for different sizes of sidings.

While the present invention has been particularly set forth in terms of specific embodiments thereof, it will be understood in view of the instant disclosure that numerous variations upon the invention are now enabled to those skilled in the art, which variations in propriety are within the scope of the instant teaching. Accordingly, the invention is to be broadly construed and limited only by the scope and spirit of the claims now appended hereto.

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. An apparatus for hanging an elongated siding member on a support surface in combination with a siding member, said siding member including an elongated projecting edge, which apparatus comprises:

a plurality of elongated furring members secured to said support surface, each furring member having integrally formed therewith a plurality of projecting rims spaced along the length of said furring member, each projecting rim defining with the furring member first and second parallel slots of widths less than the width of the furring member; and

a plurality of flexible hanging clips for movably connecting the siding member to the furring members, each flexible clip being elongated and having one end thereof of generally hook-shape to engage the projecting rim of the siding member, while the opposite end of said clip is of substantially smaller width than the width of the slots of said furring member whereby said opposite end may be readily inserted through the first slot of a projecting rim to the back of the projecting rim and thence through the second slot thereof, after which said opposite end of the clip is reversibly bent about itself to secure said siding member to said support structure.

2. An apparatus as recited in claim 1 wherein each furring member is generally U-shaped in cross section.

3. An apparatus as recited in claim 1 in which said flexible hanging clip is generally curved in the direction opposite to the hook-shaped portion thereof.

4. An apparatus as recited in claim 3 wherein said curved shaped portion of said hanging clip is tapered to facilitate insertion into the slots in the furring member.

5. An apparatus as recited in claim 3 wherein said hanging clip is provided with integral reinforcing ribs adjacent the hook portion thereof.

6. An apparatus as recited in claim 1 wherein each flexible clip is coated with a plastic material.

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