March 27, 1956 TAKASHI TOMITA 2,739,676

METAL SIDING

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Fig. 1.

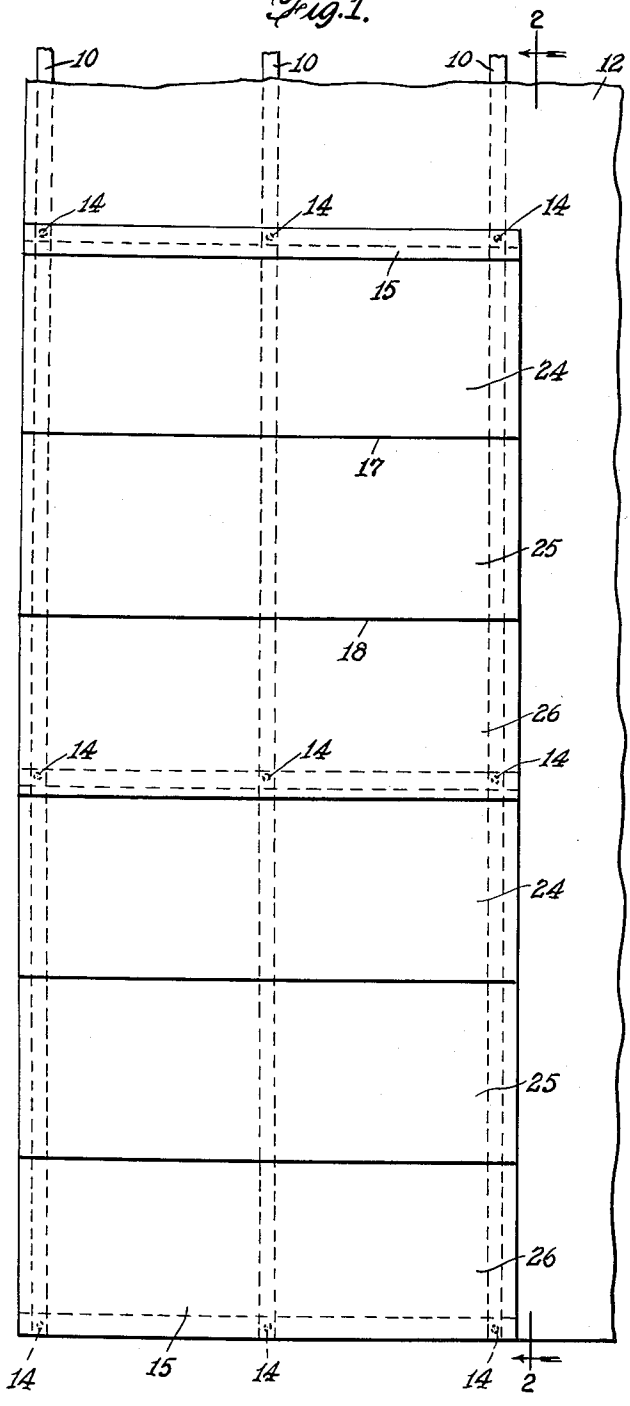


Fig. 2.

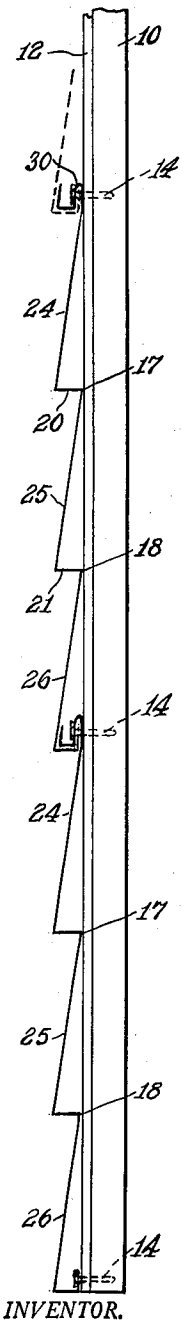
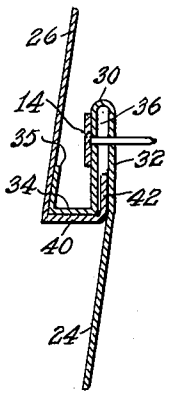


Fig. 3.



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METAL SIDING

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1 Claim. (Cl. 189—86)

This invention relates to metal siding members adapted for application to the exterior wall surfaces of houses and like structures, and is more particularly concerned with clapboard-simulating aluminum siding members of improved construction.

Various types of metal shingles and siding elements have been proposed for surfacing the exterior walls of buildings to provide a weather-resistant and attractive wall covering. Since labor cost is an important component of the total construction cost of a dwelling or other building, building elements which require excessive time for installation or which require highly skilled labor are undesirable and unduly increase construction costs. Metal siding elements which have heretofore been proposed have generally involved complicated securing arrangements requiring great skill for proper installation or have been of a construction which has necessitated the application of a multiplicity of the siding elements to cover a given building wall surface. The separate application of these many individual elements is time consuming and therefore expensive from the standpoint of labor cost. Furthermore, many of the siding elements heretofore proposed are adapted to be applied to the wall surface by means of nails driven through the exposed surface of the siding element. The nail heads are thus visible and mar the appearance of the installation.

It is an object of the present invention to provide a siding member of simplified structure.

It is another object of the invention to provide a siding member simulating a plurality of clapboards.

It is another object of the invention to provide a siding member which has a simple but effective interlocking arrangement adapted to permit rapid installation by unskilled labor.

It is another object of the invention to provide a siding member of the character indicated which provides for concealed nailing.

According to the invention I provide a metal siding member formed from a single sheet of aluminum or like metal which is creased and bent to define three or more courses of clapboards and has complementary interengaging longitudinal edges. The upper longitudinal edge of my siding member, which is adapted to be secured by nailing to the wall, is formed with a forwardly retroverted portion which defines a downwardly-opening longitudinal channel and is integral with a forwardly extending portion and an upwardly-extending flange portion. The lower longitudinal edge of the siding is formed with a rearwardly-extending horizontal portion and an upwardly-extending flange portion integral therewith and adapted to be received in the channel formed along the top edge of the siding member in the next adjacent course. The body portion of the sheet is formed with a plurality of forwardly-sloping horizontal panel areas interconnected by horizontal web portions which serve to give depth to the siding and impart a true clapboard simulating surface to the siding.

Other features and objects of the invention will be

readily apparent from the following detailed description and from the drawings, wherein,

Fig. 1 is a front elevation of a portion of a building wall partially covered with siding elements embodying features of the invention;

Fig. 2 is a side view of the installation of Fig. 1 taken approximately along the line 2—2 of Fig. 1, and

Fig. 3 is an enlarged view in section showing the detail of the structure of the interlocking arrangement of the upper and lower longitudinal edges of the siding.

Referring to the drawings and particularly to Fig. 1, there is shown a wall of a frame building comprising studs 10 covered with sheathing board 12 in the usual manner. Secured to the wall by means of nails 14 are two siding members 15 in accordance with my invention formed from a single integral sheet of aluminum and shaped to define three horizontal courses of clapboards. As may be clearly seen in Fig. 2, the sheet forming each siding member 15 is bent forwardly along two horizontal crease lines 17 and 18 to provide two horizontal web portions 20 and 21 respectively, which define sloping clapboard simulating panel areas 24, 25 and 26. In accordance with my invention, the longitudinal edges of the siding members 15 are provided with interengaging locking means for connecting the siding members securely.

Thus, as may be clearly seen in Fig. 3, the upper edge of panel area 24 is formed with a forwardly retroverted portion 30 which overlies a minor portion 32 of the panel area 24 and is integral with a forwardly-extending horizontal portion 34 and an upwardly extending flange 35, which has substantially the same slope as panel area 26. It will be seen that the retroverted portion 30 defines with portion 32 of panel area 24 a downwardly opening longitudinal channel 36. The lower edge of siding member 15, i. e. the lower edge of panel area 26 is provided with a complementary formation adapted to interlock with the upper edge of a like siding member in a subjacent course. Thus, the lower edge of panel area 26 has a rearwardly-extending horizontal portion 40 and an upwardly extending flange portion 42 integral therewith. The flange portion 42 is of substantially lesser height than channel 36, preferably less than one-half the height of channel 36. It will be seen by reference to Fig. 2 that panel portion 32, flange 42 and the rear edges of the webs 20 and 21 all lie substantially in the same plane whereby the siding member 15 is adapted to lie flat against the surface to which it is applied.

The siding members 15 are applied or "laid up" in the following manner, beginning at the bottom of the wall. The flange 42 along the lower edge of the siding is engaged with any convenient abutment, for example, large-headed roofing nails as shown in Fig. 2. The panel portion 32 is then pressed against the wall surface and nails 14 driven through the retroverted portion 30 and the panel portion 32 into the sheathing or studding of the wall surface. The siding is advantageousliy nailed to each stud. While not necessary, I facilitate application of the siding by the provision of preformed nail holes in the retroverted portion 30 and the panel portion 32, suitably spaced on 16 in. centers to conform to customary studding. The next siding member 15 is then applied by engaging the flange 42 in the channel 36 of the first siding member and then nailing the upper edge to the wall, as just described. In this manner the subsequent siding members are applied until the top of the wall is reached. The siding is readily cut with tin shears or the like to obtain a perfect fit on the wall.

It will be apparent that the application of the siding members may be effected rapidly by unskilled labor.

When the siding 15 is applied, the webs 20 and 21 and the horizontal portions 34 and 40 are at right angles to the wall surface and thus provide maximum resistance

to external compression forces. Similarly the interlocking joints provide resistance to deformation by exterior forces.

In laying up the siding, the members of each course are advantageously applied in edge overlapping relationship, the portion 40, 42 of the overlapped member being recieved in the channel formed by the corresponding portion of the overlapped member and the retroverted portion 30, 34 of the overlapping member being received in the corresponding portion of the overlapped member. If desired, the retroverted portion of the overlapped member may be cut away to the extent of the overlap. Preferably, the siding members are applied in staggered relationship with respect to the subjacent and superjacent course. Alternatively, the members may be applied in edge abutting relationship, the vertical seams between the siding members being suitably sealed with a caulking compound or the like. When desired, the corners are conveniently covered by a corner member of the type commonly used in metal siding installations.

While in the embodiment illustrated, the siding member 15 comprises three horizontal panel areas, I may form the siding members with four or more panel areas although three are preferred for most installations. In practice, I form the panel areas 24, 25, and 26 with 8 in. vertical exposures and I advantageously provide the siding in eight foot lengths. It will be apparent, however, that greater lengths may be provided, e. g. 10 ft. and 12 ft. Not only is my siding easy to apply but permits rapid application since a single siding member will cover a substantial portion of the wall surface, each member providing a multiple course clapboard section. Furthermore, the siding is attractive and a completed installation very closely simulates a clapboard surfacing.

It will be apparent that various changes may be made in the embodiments illustrated without departing from the scope of my invention as defined in the appended claim.

What I claim and desire to secure by Letters Patent is:

In a building construction, the combination with a planar supporting surface to be covered, of a plurality of individual siding members arranged in horizontal courses in interlocking relationship, each of said members being secured to the planar supporting surface solely by nails and like externally-driven fastening means to provide a structure with the fastening means concealed, each member comprising a substantially rectangular integral sheet of aluminum bent longitudinally along a plurality of parallel fold lines to provide a plurality of horizontally-extending web portions, including an edge web portion and at least one intermediate web portion to define a plurality of longitudinally-extending panel areas having sloping plane outer surfaces extending between said web portions, each panel area extending from the outer edge of one web portion to the inner edge of an adjacent web portion, whereby to simulate a plurality of courses of clapboards, each siding member lying against said supporting surface with the inner ends of said intermediate web portions in engagement therewith, and said siding members being interlocked along their longitudinal edges. the upper longitudinal edge of each siding member comprising a retroverted portion overlying but spaced from a minor portion of the upper longitudinally-extending panel area and defining a downwardly-opening longitudinal channel therebetween, a forwardly extending horizontal portion integral with said retroverted portion and at right angles thereto, and an upwardly extending flange portion integral with said horizontal portion at its outer end and having a slope corresponding to the slope of said longitudinally-extending panel areas, and the lower longitudinal edge of each panel formed by said edge web portion having an upwardly-extending flange portion at its inner end received in the longitudinal channel formed along the upper edge of a subjacent like siding member, externally-driven fastening means passing through the retroverted portion and across the adjacent portion of the upper channel area of each member into engagement with the supporting surface, said lower flange portion extending only partially into said channel in locking engagement therewith below the portion of said channel receiving said fastening means, whereby to be free from engagement with said fastening means but to be firmly anchored in said channel, the portion of the panel area overlain by said retroverted portion, and the rear edge of said webs all lying in substantially the same plane coincident with the plane of said supporting surface, said webs and said horizontal portion extending at right angles to said plane.

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