June 15, 1965 C. McCORKLE 3,188,774

METAL SIDING STRUCTURE

Filed Aug. 29, 1962

Fig. 2.

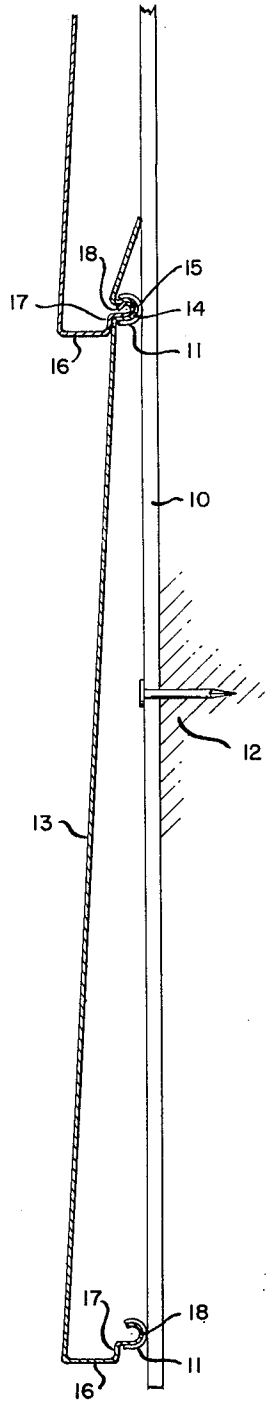


Fig. 4.

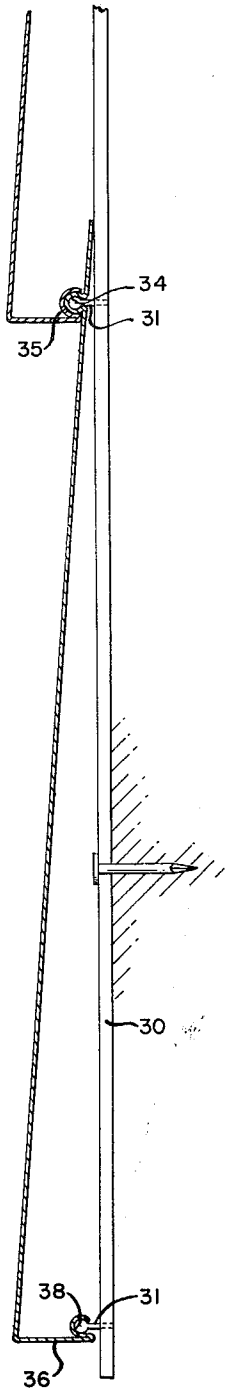


Fig. 1.

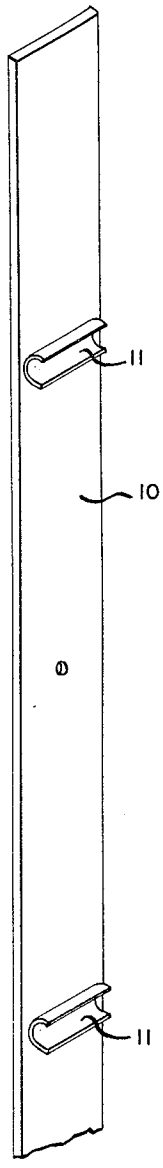
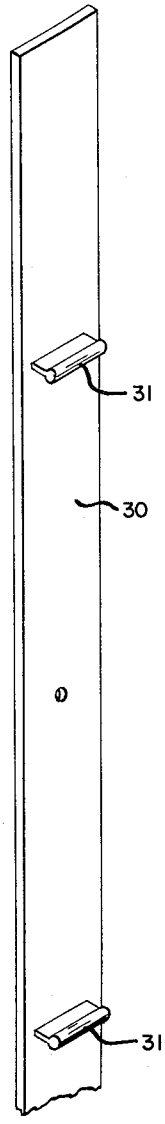


Fig. 3.



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METAL SIDING STRUCTURE

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4 Claims. (Cl. 50—221)

This invention relates to metal siding structures and particularly to a metal siding structure of the lap type in which the separate members may be removed for repair and replacement.

The use of metal siding, particularly of aluminum siding, has become very extensive in the building industry. Such siding is made in many forms and shapes. The most extensively used type of such metal siding is the aluminum siding which simulates ship lap or clapboard siding. One of the difficulties with such siding, in the past, has been the difficulty of removing a single member of the lapped series for replacement in the case of damage to that member. While such siding is quite resistant to damage, it is possible by a heavy blow to form an unsightly depression in the siding or to cut through the siding. When this has occurred in the past, it was virtually impossible to remove and replace the damaged segment without removing a large part of the entire sidewall or, alternatively, removing the damaged section and replacing it with a much less satisfactory joint than originally existed. Typical of the aluminum siding of the past is that illustrated in Abramson Patent No. 2,766,861.

I have invented a metal siding structure which eliminates these problems of the prior art siding. I provide a structure which is simple to apply and in which a single member or unit can be quickly removed for replacement with the final replacement being as tight as the original and having the identical joint structure as the original. I provide a siding structure preferably made up of spaced base members adapted to be fastened to a structural frame which is to be covered, a plurality of overlapping siding members transverse to said base members and resilient inter-engaging male and female portions on said siding members and said base members, said inter-engaging portions extending along the longitudinal edges of said siding members and spaced on said base members and being engageable one with another. Preferably, I provide spaced resilient female connectors along the length of the base member spaced a distance substantially equal to the width of the siding members, a male member extending lengthwise of the siding member along the one edge thereof and providing a female connector on the opposite side, the male member being adapted to engage in the female member of the base member and a male member on the opposite edge of the siding member adapted to engage the female portion of the connector on the top edge of the next adjacent siding member. Alternatively, the base member may carry a male portion and the siding be correspondingly provided with inter-engaging female portions on the opposite edges of the siding members.

In the foregoing general description, I have set out certain purposes, advantages and objects of my invention. Other advantages, purposes and objects will be apparent from a consideration of the following description and the accompanying drawings in which,

FIGURE 1 is a partial isometric view of a base member according to my invention;

FIGURE 2 is a section through a wall showing the invention applied to a ship lap construction of siding;

FIGURE 3 is a partial isometric view of a second embodiment of a base member according to my invention; and

FIGURE 4 is a section through a wall embodying the base member of FIGURE 3 and a corresponding siding structure.

Referring to the drawings, I have illustrated a base member 10 preferably of aluminum made up of a backing strip carrying a spaced resilient C-shaped clamping member 11. The base plate 10 is attached to the outer wall 12 of a building to be covered. A siding member 13 of ship lap form is provided with a rearwardly extending male portion 14 along the upper edge. This male portion 14 is formed by rolling a C-shaped depression in the siding lengthwise thereof to form the male section on the rearward side and a female opening section 15 on the front side. The bottom edge of the siding member 13 is bent rearwardly to form a flange portion 16 and upwardly to form a lip 17 carrying a male portion 18 of C-shaped section or, alternately, of round section adapted to enter into the famale section 15 along the upper edge of the next adjacent siding member.

The siding of this invention is applied by nailing the base strip 10 to the frame 12 and inserting at the bottom of the surface to be coated the male portion 18 into the bottom female member 11 on the base member and the male member 14 into the next higher female member 11 on the base member. The next siding member is applied by inserting the male member 18 into the female portion 15 of the last applied siding member and the male member 14 into the next female member 11 on the base member. Since each of the female portions 15 and 11 are resilient, this can be accomplished by simply snapping the portions in place. Alternatively they could be slid lengthwise into the female portions. In the event that a siding member is damaged, it may be removed by simply unsnapping the male members from the female members or alternatively sliding them lengthwise out of the female members. It is at once evident that there is no nailing or other permanent fastening of the siding member directly to the framework being covered as is conventional in metal siding and that, as a result, each of the members is independently removable and replaceable without damage to the rest of the structure. It is also evident that the problems of soiling of the surface due to corrosion of the nails is eliminated as is also the problem of "telegraphing" which characterizes metal siding due to the elongation and contraction of the metal on the nails when the weather changes.

In the embodiment illustrated in FIGURES 3 and 4, I have shown a base plate 30 having spaced male members 31 projecting outwardly from the surface thereof and corresponding to the spaced female members 11 on the base plate 10 of FIGURE 1. The siding is formed similar to that of FIGURES 1 and 2. However, there is provided along the top edge a female portion 34 having on the outer surface of the siding a male portion 35. At the bottom of the siding, there is provided an inturned flange 36 carrying a female portion 38.

The siding of FIGURES 3 and 4 is assembled by nailing the base plate 30 onto the wall to be covered. The female portion on the bottom of the first siding strip is snapped over the lowermost male portion 31 of the base plate and the upper female portion 34 is snapped over the next adjacent higher male portion 31 on the base plate. The next siding member is applied by snapping the female member 38 onto the male portion 35 along the top edge of the siding member already placed and the upper female portion 34 is snapped onto the next adjacent higher male portion 31 on the base member. Successive strips are applied in the same way until the surface is covered. Alternatively, the siding members could be slid sideways into engagement with the male portions 34 and 31 as in the case of the side of FIGURES

1 and 2. The same advantages are obtained in this form as in the case of the siding of FIGURES 1 and 2.

I have also found that by coating the siding prior to application on the wall with a polyester resin such as polyethylene I am able to eliminate the noise of expansion and contraction which is inherent in metal siding due to changes in temperature. This noise is in addition to the "telegraphing" and stretching which occurs by reason of nailing in conventional structures. I am not sure what is the basis for the phenomenon of noise elimination by coating with polyester resins. It may be simply a lubricating action or it may be a sound deadening effect. However, I do not propose to limit myself to any theory of action but only offer the foregoing explanations as a possible explanation of the noise elimination.

In the foregoing specification, I have set out certain preferred embodiments of my invention. It will be understood, however, that this invention may be otherwise embodied within the scope of the following claims.

I claim:

1. A metal siding structure comprising spaced base members fastened to a frame structure, a plurality of overlapping siding members transverse to said base members and resilient interengaging male and female portions on said siding and base members, said interengaging portions including elongated generally cylindrical female portions and mating generally cylindrical male portions on the respective members whose axes extend longitudinally of the siding members, the interengaging portions on said siding members comprising on one edge a portion female on one side and male on the other and a mating portion on the opposite edge, said edges being engaged one with the other and the corresponding portion on the base member.

2. A metal siding structure as claimed in claim 1 where-

in the interengaging male and female portions on said siding and base members including base members being provided with spaced generally cylindrical female resilent connectors, a male connector extending rearwardly along one edge of the siding member, a male connector portion extending rearwardly along the opposite edge, the male connector portion along the said opposite edge forming on the opposite side thereof a resilient female connector portion receiving the male portion on the edge of the next adjacent siding member.

3. A metal siding structure as claimed in claim 1 wherein the interengaging male and female portions on said siding and base members including base members being provided with spaced horizontally extending cylindrical female resilient connectors, a male connector extending rearwardly along the bottom edge of the siding member extending rearwardly thereof and the top edge of the siding member is provided with a male connector portion extending rearwardly along the top edge, the male connector portion along the top edge forming on the opposite side thereof a resilient female connector portion receiving the male portion on the bottom edge of the next adjacent siding member.

4. A siding structure as claimed in claim 1 wherein the siding is coated with polyester resin.

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