April 4, 1939. P. A. VOIGT 2,153,015

SIDING UNIT AND ASSEMBLY

Filed Dec. 21, 1935

Fig. 1.

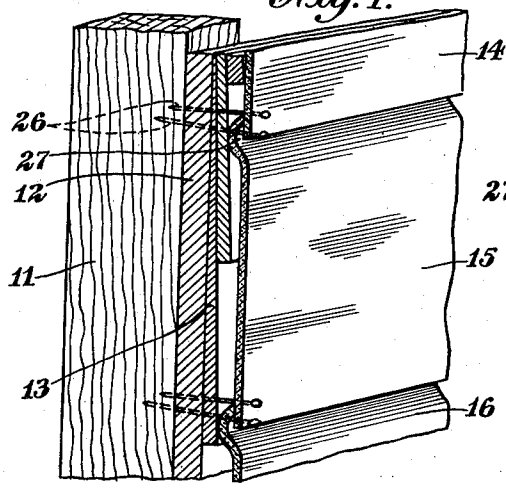


Fig. 2.

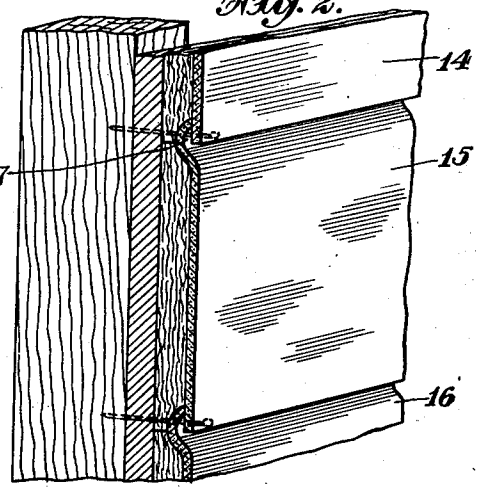


Fig. 3.

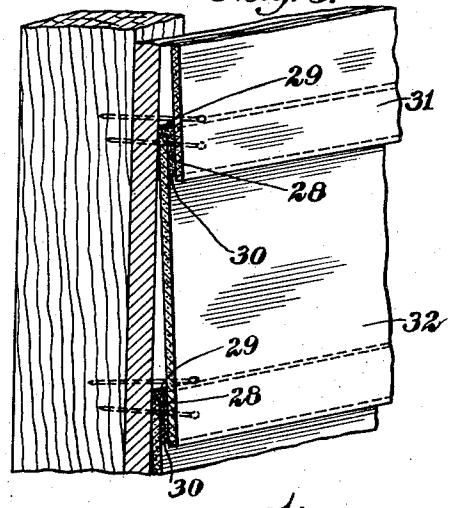


Fig. 4.

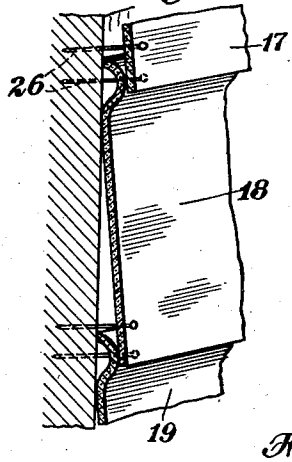


Fig. 5.

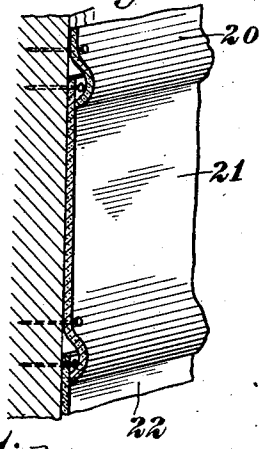


Fig. 6.

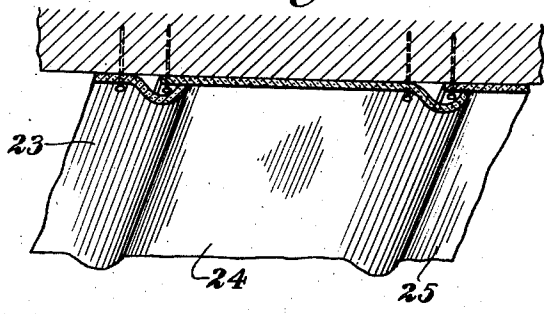
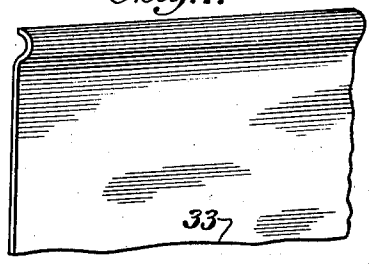


Fig. 7.



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SIDING UNIT AND ASSEMBLY

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9 Claims. (Cl. 20—5)

This invention relates to a siding unit and assembly thereof on a building.

In spite of the many desirable properties of thin composition sheets of thickness, say, of the order of $\frac{3}{16}$ inch or less, there are disadvantages in their use as siding units. Thus, the thinness of the sheets at the overlapping portions, forming a horizontal joint in the clapboard type of assembly, produces an undesirably small shadow effect, with attendant detraction from the architectural appearance of the assembly. Furthermore, such thin sheets, at their overlapping portions, may permit vibration or may rattle undesirably when the assembly of the sheets is struck or shaken. Also, these composition sheets are ordinarily superficially wettable by water; the water may be drawn upwardly between the joints of overlapping units.

It is an object of the invention to provide siding units and an assembly thereof that overcomes one or more of the above objections to such units or construction. Other objects and advantages of the invention will appear from the detailed description that follows.

The invention comprises the novel features of the individual units or assembly thereof that are herein described or illustrated. In a preferred embodiment, the invention comprises means for concentrating the pressure of an overlapping portion of a side unit against a lower course of the units, in a single narrow zone. The invention comprises, also, means associated permanently with the side of one of the said sheets, for displacing outwardly the portion of another sheet overlapping the said side portion and spacing the said other sheet from the supporting substructure or from the plane of the main portion of the said one of the sheets. More specifically, the invention comprises a siding unit provided with a longitudinal ribbed side portion and an assembly in which a side portion of plane surface of another unit overlaps the said ribbed portion and contacts therewith along a relatively narrow zone. The invention comprises, also, an assembly including vibration-damping material disposed in the joint between overlapping courses of units, terminating above the lower edge of the unit of the overlying course at the joint and being engaged, advantageously, at its upper portion over the upper edge of a unit of an underlying course.

The invention is illustrated in the attached drawing and will be described in connection therewith.

Figs. 1–6 show sectional perspective views of different embodiments of my improved siding units and the assembly thereof on the side of a building. Fig. 7 shows a modified unit.

There are shown parts of a building including a supporting substructure comprising, for example, studs 11, wood sheathing 12, and, in one instance, units 13 such as old wooden shingles over which my new siding assembly is made.

My siding assembly includes a plurality of thin sheets, suitably asbestos-cement units, overlapping to form therebetween joints extending horizontally, as illustrated in Figs. 1–5, or extending vertically, as illustrated in Fig. 6.

The siding units that are preferred at this time are indicated by reference characters 14–25, inclusive.

Each of these siding units 14–25 has a longitudinally ribbed marginal or edge portion and substantially plane surfaces on both faces or sides. The units may be applied to the substructure, so that the ribs have their concave surfaces turned either forwardly or backwardly, that is, towards the outside of the wall or to the rear thereof.

The ribbed portions contact each along a line or narrow zone with the side portion of plane surface of an overlapping unit. Also, the rib extends backwardly (Figs. 1 and 2) or forwardly (Figs. 4 to 6) from the plane of the main portion of the unit.

Fastening means, such as the nails 26, secure the several units to the substructure. Because of the concentration of the pressure from the fastening means along the single line or narrow zone of contact between overlapping sheets, rattling of the assembly at the joint portions, as well as entrance of air or rain, is minimized.

The sheets 14, 15, and 16 in the embodiment of Fig. 1 are arranged in the assembly with the convex portions of the ribs depressed from the plane of the main portion of the sheet, disposed in contact with the supporting substructure, and serving to space the said main portion of the sheets from the substructure. For sheets adapted to absorb an appreciable proportion of water, this spacing minimizes passage of moisture, through the sheets, to the substructure. Considering unit 15, for instance, the upper edge of the ribbed portion contacts with the back of the lower portion, of plane surface, of a unit 14 of an overlying course in the siding assembly. Also, the unit 14 extends substantially below the upper edge of the ribbed portion of the lower unit, as illustrated at 27, with its lower edge substantially overlying the midportion of the

rib of the unit 15. The result is the provision of a free space behind the lower edge of the unit 14 and attendant minimization of the tendency to the drawing of water upwardly behind the sheet 14 and through the joint, by capillarity.

Also, the extension of the sheet 14 over a portion of the concavity in the rib of the sheet 15 increases the desirable shadow effect, serving the useful architectural purpose of providing an adequate shadow that is considered an essential feature of the colonial clapboard assembly, for instance. It will be noted that the sheet 14 in its full thickness extends over the upper edge of the bead and that the total displacement of the face of the sheet 14, at its lower edge from the material of the sheet 15, is substantially greater than the maximum thickness of the sheet 14.

It will be noted, also, that the main portions of the sheets 14, 15 and 16 extend substantially in the same plane, in spite of the provision of the desirable type of joint described.

Fig. 2 illustrates siding units laid up in a manner similar to those of Fig. 1. In this embodiment, however, a layer of yielding backing material is secured to the back of each of the units. The backing material has one edge in substantial alinement with the mid-portion of the rib and its other edge in substantial alinement with the lower edge of the unit. When the units are assembled on a wall the lower margin of the backing material of each unit partially underlies a portion of the rib of a next lower unit in the manner shown.

In the sheets 17–25, inclusive, of Figs. 4 to 6 the ribbed portions are convex on their forward surfaces and either underlap or overlap portions of plane surface of adjacent sheets. Here again, the nails or other fasteners 26 hold the sheets in tight contact, the pressure being concentrated along narrow zones.

In the structures illustrated in Figs. 1, 2, 3 and 4, means permanently associated with one side of each of the units serve to displace the overlapping lower or side portion of the adjacent unit away from the substructure, with attendant decrease in vibration or rattling tendencies, all as previously emphasized.

The modified unit shown in perspective in Fig. 7 has an irregularly extending edge 33 opposite the ribbed portion. The irregularities may take the form of waves, for instance. They add to the architectural effect by reducing the appearance of mechanical regularity of the assembly.

Fig. 3 shows a modified form of means 28 also permanently associated with the side portion of one of the units, as by the engagement of the shoulder or offset portion 29 over the upper edge of the said unit. The member may be vibration-damping and constituted suitably of an asphalt-impregnated rag felt or the like of substantial thickness, say, ¼ inch or more. A cork strip may be used.

The main portion of the member 28 extends continuously within the joint between the overlapping units and terminates, at its edge 30, above the lowest part or lower edge of the overlapping unit 31, so that a free space is defined between the said lower edge of the unit 31 and the unit 32 of an underlying course, for instance.

It will be understood that the details given are for the purpose of illustration, not restriction, and that variations within the spirit of the invention are intended to be included within the scope of the appended claims.

What I claim is:

1. A building siding assembly comprising thin sheets, of substantially plane surface throughout their main portion, overlapping at their side portions to form a joint therebetween, and means associated with the edge of one of the said sheets, extending forwardly from the plane of the main portion thereof, and displacing outwardly the overlapping portion of the adjacent sheet, the said means including a sheet of vibration-damping material having a shoulder engaged over the said edge and having a portion disposed in the said joint and terminating at a position above the lower edge of the upper one of the overlapping sheets, so as to maintain continuously a free space behind the edge of the overlapping sheets and minimize drawing of water upwardly therebehind by capillarity.

2. A building siding assembly comprising a supporting substructure, a plurality of thin sheets, of substantially plane surface throughout their main portion, overlapping at their side portions, to form joints therebetween, and means securing the said sheets to the substructure, one side of the said sheets having a longitudinal rib extending backwardly from the plane of the main portion of the sheet, being convex at its back and concave on its face, and serving to space the main portion of the said one of the sheets from the substructure and the edge of the rib contacting with the back side of the lower portion of an overlapping sheet of plane surface and spacing it from the midportion of the said rib.

3. An assembly, as described in claim 2, including a layer of yieldable backing material secured to the back of each of the said sheets, and engaged at an edge portion behind the ribbed portion of another of the sheets.

4. A building siding assembly comprising a plurality of thin sheets, of substantially plane surface throughout their main portion, overlapping at their side portions to form a joint therebetween, and a longitudinal rib, at the side portion of one of the said sheets, extending forwardly from the plane of the main portion of the sheet, being convex on its forward surface, contacting at its forward surface with the side portion of plane surface of an overlapping sheet, and serving to space the said side portion of the overlapping sheet away from the said plane of the said one of the sheets.

5. A building siding assembly comprising a supporting substructure, a plurality of thin sheets, of substantially plane surface throughout their main portion, overlapping at their side portions, to form joints therebetween, and means securing the said sheets to the substructure, one side of each of the said sheets having a longitudinal rib projecting beyond the plane surface of the main portion and contacting with the back side of the lower portion of an overlapping sheet of plane surface and spacing it from the midportion of the said rib.

6. A building siding assembly comprising a plurality of thin sheets of substantially plane surface over the major portions of their areas, said sheets overlapping to form joints therebetween, and means integral with and extending the length of an edge of one of the sheets projecting forwardly from the plane of one surface thereof and displacing outwardly a portion of an adjacent overlapping sheet.

7. A building siding assembly comprising a plurality of thin sheets, each of which has substantially plane face portions and a longitudinal rib

extending the length of one edge to form a raised portion relative to one of the face portions, the longitudinal extremities of the wall of each rib lying substantially within the plane of the said one of the face portions, and said sheets being positioned so that a rib portion of one contacts with and raises a face portion of an adjoining sheet to thereby form a tight joint which enhances the visibility of the general line of demarcation between adjacent sheets.

8. A building assembly comprising a plurality of thin sheets of substantially plane surface over the major portions of their areas, said sheets overlapping to form joints therebetween, and means extending the length of one edge of each sheet projecting from the plane of one surface thereof, a portion of said means supporting and spacing portions of an adjacent overlapping sheet.

9. A building assembly comprising a plurality of thin sheets of substantially plane surface over the major portions of their areas, said sheets overlapping to form joints therebetween, and a longitudinal rib extending the length of an edge of each sheet and projecting from one face of the sheet and a complemental correspondingly positioned groove on the opposite face of each sheet, said rib on each sheet supporting a portion of an adjacent overlapping sheet.

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