May 13, 1941. W. J. McCAULEY 2,241,642

PREFABRICATED UNIT COMPRISING SIDING AND SHEATHING

Filed June 25, 1938 2 Sheets-Sheet 1

FIG. 1.

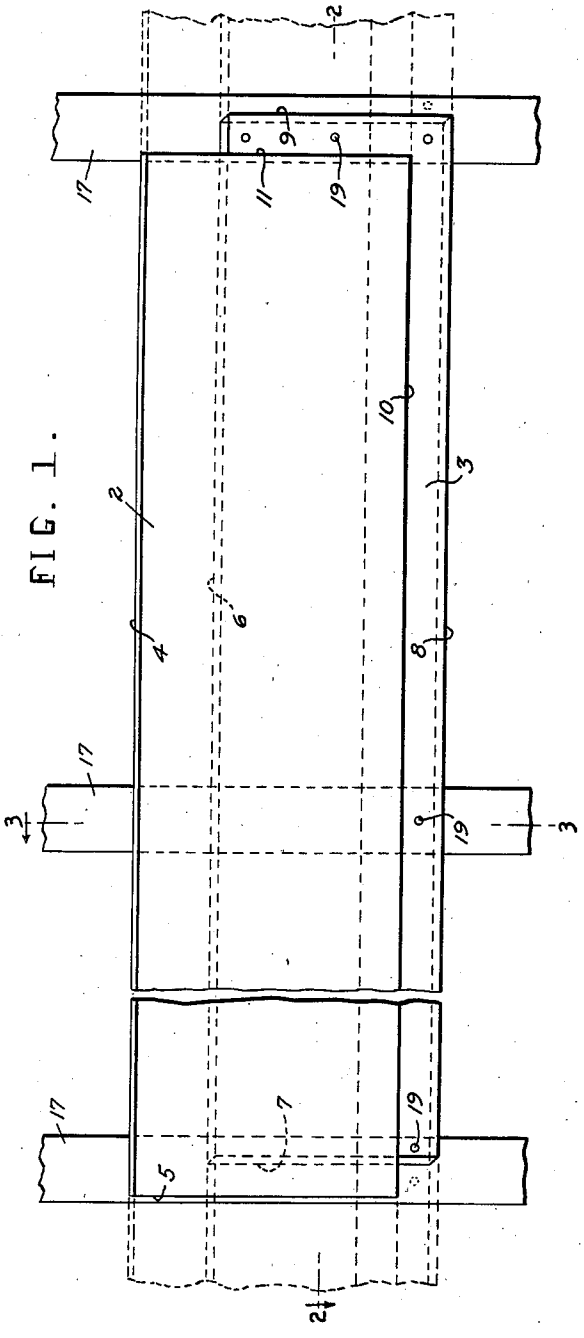
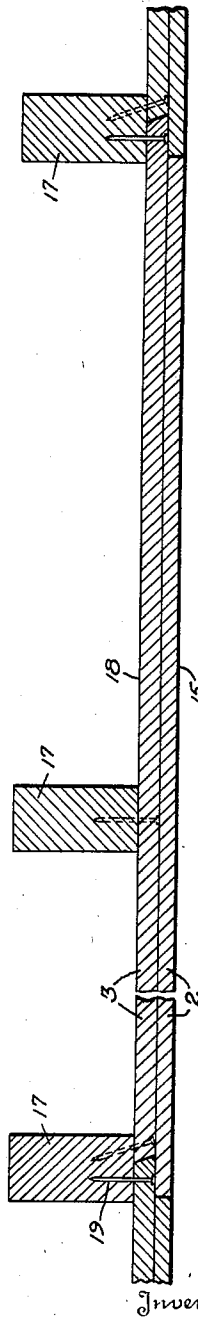



FIG. 2.




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PREFABRICATED UNIT COMPRISING SIDING AND SHEATHING

Filed June 25, 1938 2 Sheets-Sheet 2

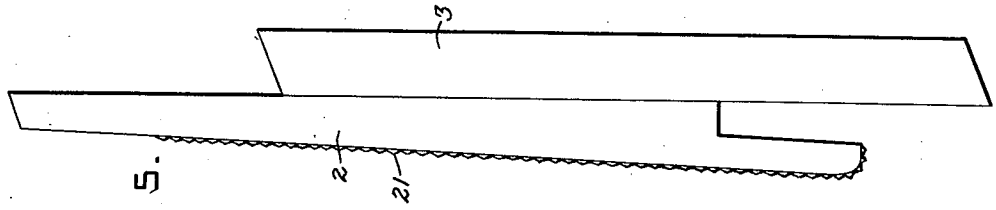



FIG. 5.

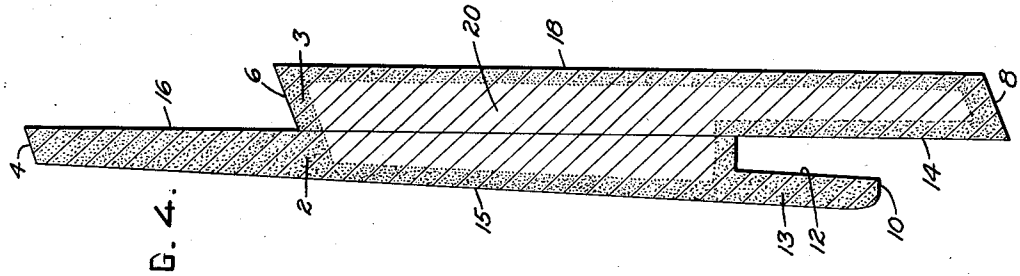



FIG. 4.

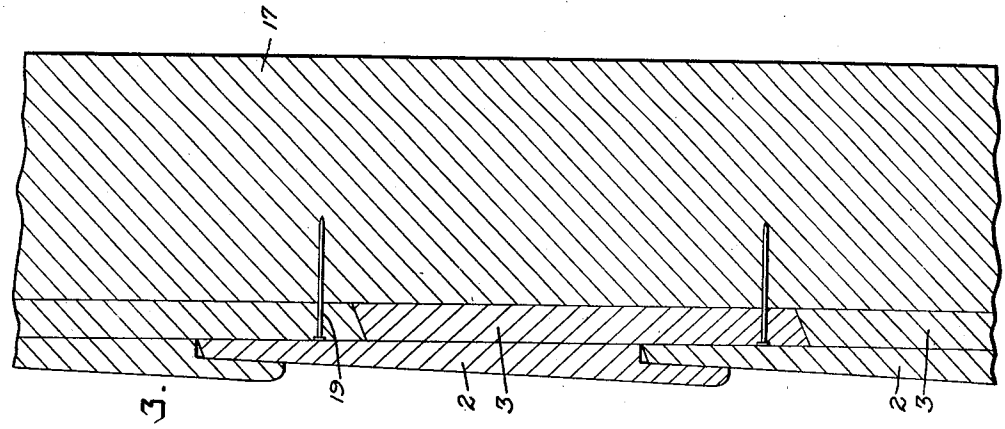



FIG. 3.

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# UNITED STATES PATENT OFFICE

2,241,642

## PREFABRICATED UNIT COMPRISING SIDING AND SHEATHING

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Application June 25, 1938, Serial No. 215,911

9 Claims. (Cl. 20—5)

This invention relates to a building unit for walls, and comprises combined sheathing and siding, the invention having for its object to provide such a unit which will be cheap in manufacturing cost and more efficient in use than those heretofore proposed.

With these and other objects in view the invention resides in the novel details of construction and combinations of parts as will be disclosed more fully hereinafter and particularly pointed out in the claims.

Referring to the accompanying drawings forming a part of this specification and in which like numerals designate like parts in all the views—

Fig. 1 is a front elevational view of a unit made in accordance with this invention and shown as applied to framing members or studs of a wall;

Fig. 2 is a horizontal sectional view of the parts shown in Fig. 1 taken as on the line 2—2 thereof and looking in the direction of the arrow;

Fig. 3 is a vertical sectional view taken as on the line 3—3 of Fig. 1 and looking in the direction of the arrow;

Fig. 4 is a vertical sectional view of a single unit to illustrate a treatment thereof; and

Fig. 5 is an end elevational view of a single unit illustrating a different treatment of the exposed surface thereof.

According to this invention, sheathing and siding are combined in a single building unit which can be nailed or otherwise secured to the framing members such as studding of a wall, and the invention further contemplates the application of a plurality of similarly formed units to such studding in such manner that portions of one unit will overlap portions of the next adjacent unit to produce closed joints between said units. Further, the unit may be provided in suitable widths from top to bottom, and in various lengths of as much as 8' whereby considerable time may be saved in the erection of a wall with such units.

In addition the sheathing portion of a unit may be preformed, as may also the siding portion of the unit, and said portions cemented, adhered, or otherwise secured together to form the complete laminated unit of sheathing and siding; or, on the other hand, the entire unit may be formed from a single piece of material and thereby avoid the lamination just above mentioned although, from a manufacturing standpoint and in the interest of economy, it may be more desirable to preform the sheathing as well as the siding portions and join them together to make the laminated unit.

Regardless of whether the sheathing and siding portions are laminated or not, the siding portion will be offset relative to the sheathing portion so as to provide a nailing surface or area on one longitudinal side as well as on one transverse side of the sheathing portion, which areas may be covered by the respective opposite longitudinal and transverse sides of the siding portion of the next adjacent units, whereby all nailing or other means of securement to the studding will ultimately be concealed, and certain edges of a unit will be so formed as to provide interlocking relation with certain edges of the next adjacent unit.

Referring to the drawings, 2 and 3 respectively indicate generally the siding portion and the sheathing portion of a unit made according to this invention, the siding portion having a longitudinal edge or a tongue portion 4 and a transverse edge 5 which extend beyond respectively the longitudinal edge 6 and the transverse edge 7 of the underlying sheathing portion. Further, the sheathing has a longitudinal edge 8 and a transverse edge 9 which extend beyond respectively the longitudinal edge 10 and the transverse edge 11 of the overlying siding portion. All of the longitudinal edges of the sheathing portion and the siding portion are substantially parallel to each other, as are also all of the transverse edges of said portion, the entire unit being substantially rectangular.

The longitudinal upper edge 4 of the siding portion is shown completely bevelled in Fig. 4, the plane of the bevel being such as to make an obtuse angle with the plane of the exposed face 15 of the siding portion, and the opposite or bottom longitudinal edge 10 thereof is provided with a mortise or undercut rabbet 12 to provide a bottom edge lip 13 substantially parallelly spaced from the front face 14 of the underlying sheathing portion, said mortise or rabbet adapted to receive therein the upper longitudinal edge of the siding portion of the next adjacent unit, all as clearly indicated in Fig. 3.

The upper longitudinal edge 6 of the sheathing portion is shown completely bevelled in Fig. 4 so that the plane of said bevel makes an acute angle with the plane of the rear surface 16 of the extending upper edge of the overlying siding portion. The bottom longitudinal edge 8 of the sheathing portion is shown completely and similarly bevelled so that the plane of the bevel makes an acute angle with the plane of the


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front face 14 of the sheathing portion. Thus it will be understood that when two adjacent units are interfitted with each other as shown in Fig. 3 the lower edge 8 of the sheathing portion of one unit will fit and interlock in the angle formed by the upper edge 6 and the rear surface 16 of the adjacent unit, and that the tongue edge portion of the lower unit will fit within the rabbet 12 of the unit thereabove.

This interlocking horizontal joint between two adjacent units is important since it provides a means for preventing displacement of the adjoining longitudinal edges of the adjacent units between the studs such as 17. In other words, the usual practice in building construction is to space the studs on 16'' centerings whereby there is a relatively considerable span between two adjacent studs which is bridged by the units forming the subject matter of this invention and, since the units constitute the exposed portion of the wall, said units are subjected to the elements such as wind and weather, whereby said units might have a tendency to flex or warp in the span between the studs. Therefore, unless the longitudinal edges of the adjacent tiers or courses were interlocked with each other, there might result a separation therebetween to disrupt the continuity of the wall and allow the elements to enter and pass through the longitudinal joints.

As shown in Fig. 2, the transverse edges of the sheathing portion of each unit are similarly bevelled to provide a similar interlocking effect in the vertical joint between two adjacent units. The lengths of the units are made such as to be equal to the spacing of the studs, or equal to a multiple thereof so that the transverse or vertical joints between adjacent units are caused to lie upon a stud as clearly indicated in the drawings, the transverse dimension of a unit being made as desired. The transverse edges of the siding portion of each unit may likewise be bevelled though this is not necessary since a rectangular edge as shown in Fig. 2 may be sufficient in view of the fact that the said transverse edges need only have abutting relation with each other because the joint formed by said edges overlies a solid portion of the sheathing therebeneath.

The outer exposed surface 15 of the siding portion of the unit is preferably in a plane which is oblique to the plane of the rear surface 18 of the sheathing portion, to give the usual appearance of siding to the wall when completed, but obviously said front surface could be formed parallel to said rear surface in which case the upper longitudinal edge of the siding portion would have a tongue complementally formed for interfitting with the rabbet 12 of the lower longitudinal edge of the next adjacent unit. The bevelled edge 4, as shown in the drawings, makes possible an easier application of one unit to the next adjacent unit and, further, provides drainage for any rain that might be blown or capillarily creep up into the rabbet such as 12 in a horizontal joint.

In applying the units to the studding, nails such as indicated at 19 are driven through the projecting nailing areas of the sheathing portion into the studs, and then the next adjacent units are applied so that the projecting portions of the siding of the next adjacent units will overlie the nailing areas of the units that have been secured to the studs, thereby concealing the nails and protecting the heads thereof from the weather.

The units may be variably formed. In other words they may be fashioned as shown in the drawings and described hereinbefore, or they may be modified somewhat while still incorporating and retaining the general salient principles of the invention. For example, the longitudinal edges of the sheathing portion instead of being bevelled may be provided with tongue and groove formations or other contours which, however, will provide the interlocking relationship above referred to in the horizontal joints between the units, and the transverse edges of the sheathing portion may be similarly or otherwise suitably modified. In like manner, the longitudinal and transverse edges of the siding portion may have various formations while still adapted to perform the interfitting and interlocking relationship desired.

Further, the material from which the unit is formed may be of various kinds. The sheathing portion may be of a material different from the material of the siding portion whereby, for example, it would be possible to have the sheathing portion made of a material particularly suitable as an insulation of temperature and noise, and the siding portion could be of a material particularly adapted to resist weather, in which case the sheathing portion would preferably be laminated with the siding portion. On the other hand, the sheathing and siding could be of the same material and/or formed as one piece, the siding portion being treated in a manner different from the sheathing portion; as an illustration it may be mentioned that the unit as a whole might be formed of fibrous material with the siding portion surface-treated and/or impregnated to make it highly resistant to weather while leaving the sheathing portion in its original fibrous condition as well suited for insulation against temperature and noise. The preferred material is Celotex cane fiber insulating board because of its light weight, high insulating value, and adaptability of receiving most any treatment and finish.

In Fig. 4 there has been illustrated a construction indicated as laminated (though it need not be laminated) wherein the unit has been dipped or submerged in a solution which has penetrated or impregnated the material of the unit, as indicated by the stippling, to provide complete saturation or impregnation of the siding portion along its longitudinal and transverse edges in order to stiffen the same as well as to protect the exposed surfaces thereof, but leaving the central part or core 20 of the unit unsaturated and/or unimpregnated in order not to impair the insulating quality of the unit. As an example of such a solution there may be mentioned hot asphalt or other bituminous substance which not only stiffens the treated parts of the unit but additionally renders them waterproof or moisture repellant. On the other hand coatings of paint or other substance may be applied to some or all of the surfaces of a unit, and in Fig. 5 there has been illustrated a coating 21 of finely divided material such as sand, slag, mica or other suitable grit-like finishing material, which coating has been applied only to that portion of the siding which will be exposed to view or to the elements, said coating being adhered in any suitable manner to the material of the unit.

It is obvious that those skilled in the art may vary the details of construction and arrangements of parts without departing from the spirit of this invention and therefore it is desired not


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to be limited to the exact foregoing disclosure except as may be required by the claims.

What is claimed is:

1. A building unit for walls comprising combined sheathing and siding, the siding offset in such manner as to provide a longitudinal as well as a transverse nailing portion on the sheathing adapted to be covered by complementally offset portions of the siding of a similarly formed adjoining unit in the building of the wall, complemental means formed on the top and bottom edges of the sheathing cooperating with interfitting tongue and groove construction of the siding for interlocking the bottom and top edges of the adjoining units, and complemental means formed on the two vertical side edges of the sheathing for interfitting relation with the vertical side edges of the adjoining units.

2. A substantially rectangular building unit for walls comprising combined sheathing and siding, the siding portion of the unit extending beyond one longitudinal edge as well as beyond one transverse edge of the sheathing portion, and the sheathing portion of the unit having its other edges extending beyond the corresponding edges of the siding portion, with the longitudinal edges of the sheathing portion formed for interwedging engagement with the corresponding longitudinal edges of the sheathing portion of a similar adjacent unit in the building of the wall, and a recess formed in one longitudinal edge of the siding portion to receive therein the oppositely disposed longitudinal edge of the siding portion of the adjacent unit.

3. A substantially rectangular building unit for walls comprising combined sheathing and siding, the siding portion of the unit extending beyond one longitudinal edge as well as beyond one transverse edge of the sheathing portion, and the sheathing portion of the unit having its other edges extending beyond the corresponding edges of the siding portion, with the edges of the sheathing portion formed for wedging engagement with the corresponding edges of the sheathing portion of a similar adjacent unit in the building of the wall, the longitudinal edges of the siding portion formed for interfitting engagement and adapted in combination to interlockingly and wedgingly engage through the wedging effect of the aforesaid wedging engagement of the longitudinal edges of the sheathing portion of the unit.

4. A substantially rectangular building unit for walls comprising combined sheathing and siding, the siding portion of the unit extending beyond one longitudinal edge as well as beyond one transverse edge of the sheathing portion, and the sheathing portion of the unit having its other edges extending beyond the corresponding edges of the siding portion, with the longitudinal edges of the sheathing portion formed for wedgingly interfitting with the corresponding longitudinal edges of the sheathing portion of a similar adjacent unit in the building of the wall, the siding portion having one longitudinal edge thicker than its opposite longitudinal edge and provided with a recess to receive therein the thinner longitudinal edge of the siding portion of the adjacent unit.

5. A substantially rectangular building unit for walls comprising combined sheathing and siding, the siding portion of the unit extending beyond one longitudinal edge as well as beyond one transverse edge of the sheathing portion, and the sheathing portion of the unit having its other edges extending beyond the corresponding edges of the siding portion, with the longitudinal edges of the sheathing portion formed for wedging engagement with the corresponding longitudinal edges of the sheathing portion of a similar adjacent unit in the building of the wall, the siding portion progressively increasing in thickness from one longitudinal edge to the other and having in its thicker edge a recess to receive therein the thinner longitudinal edge of the siding portion of the adjacent unit.

6. An article of manufacture comprising a substantially rectangular building unit for walls comprising a unitary combined sheathing and siding product, the siding portion thereof extending beyond one longitudinal edge and beyond one transverse edge of the sheathing portion, the sheathing portion having its other edges extending beyond the corresponding edges of the siding portion, the longitudinal edges of the sheathing portion formed for interfitting engagement with the corresponding longitudinal edges of the sheathing portion of a similar adjacent unit in the building of a wall, the siding portion having one longitudinal edge thicker than its opposite longitudinal edge and provided with a recess to receive therein the thinner longitudinal edge of the siding portion of the adjacent unit, the thinner longitudinal edge of the siding portion of a unit and the lip which defines in part the recess in the siding portion, each saturated throughout with plastic to strengthen and rigidify the same.

7. As an article of manufacture, wall surface forming units composed of fiber insulating board each comprising a sheathing forming portion and a siding forming portion, the sheathing and siding forming portions offset diagonally one with respect to the other, the offset of the sheathing and siding forming portions providing complementing ship-lap construction along a pair of the opposite edges of the unit, the recess of the ship-lap edge construction relieved at its base inwardly, from the back of the sheathing portion to the back of the tongue of the ship-lap construction, the complementing tongue complementally formed, the other opposite pair of edges of the unit having complementing interfitting tongue and groove construction and the entire article coated with a weather-resistant material, a groove forming lip and a tongue portion of the construction completely saturated with asphalt reinforcing and rigidifying the such tongue and lip constructions.

8. A substantially rectangular building unit for walls comprising combined sheathing and siding, the siding portion of the unit extending beyond one longitudinal edge as well as beyond one transverse edge of the sheathing portion, the sheathing portion of the unit having its other edges extending beyond the corresponding edges of the siding portion, the longitudinal edges of the sheathing portion formed for interwedging engagement with the corresponding longitudinal edges of the sheathing portion of the similar adjacent unit in the building of the wall, the siding portion having one longitudinal edge thicker than its opposite longitudinal edge and provided with a recess to receive therein the thinner longitudinal edge of the siding portion of the adjacent unit, the entire surface area of the unit saturated with a weather-resistant material, the thinner longitudinal edge of the siding portion and the lip portion in part defining the said recess completely saturated with a strengthening and rigidifying substance, and that portion of the unit adapted to be exposed carrying on its sur-


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face a water and weather-resistant surface covering.

9. In a building construction, wall support members and a plurality of wall forming units mounted thereon, the wall forming units each comprising a siding portion and sheathing portion, the siding portion of a unit extending beyond one longitudinal edge as well as beyond one transverse edge of the sheathing portion, the sheathing portion having its other edges extending beyond the corresponding edges of the siding portion, complementing edges of the sheathing portion relieved and interlockingly engaging edges of adjacent units, the siding portion of a unit having one longitudinal edge thicker than its opposite longitudinal edge and provided with a recess to receive therein the thinner longitudinal edge of the siding portion of an adjacent unit.

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