Aug. 10, 1943. A. SMITH 2,326,503

BUILDING CONSTRUCTION

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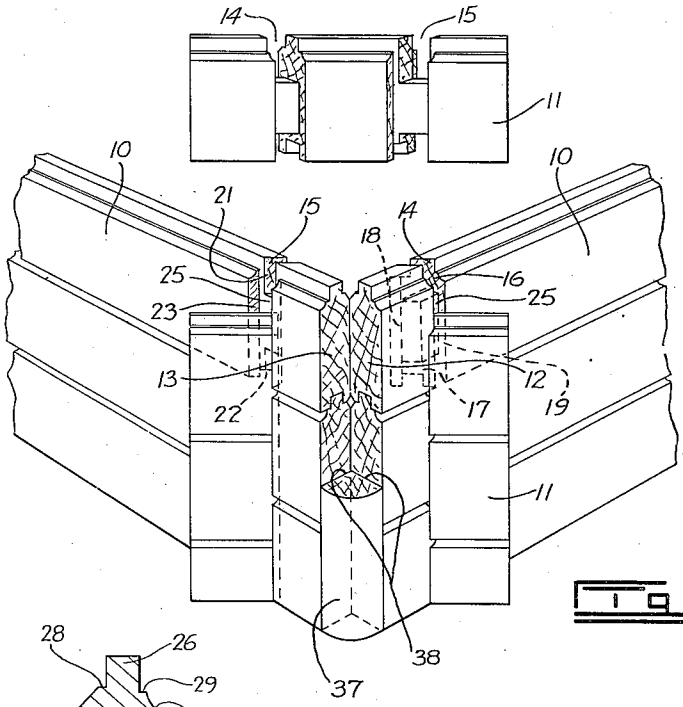


Fig. 1.

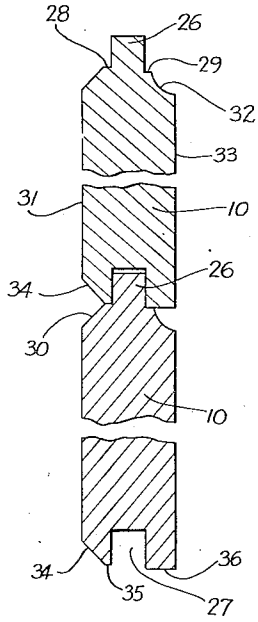


Fig. 3.

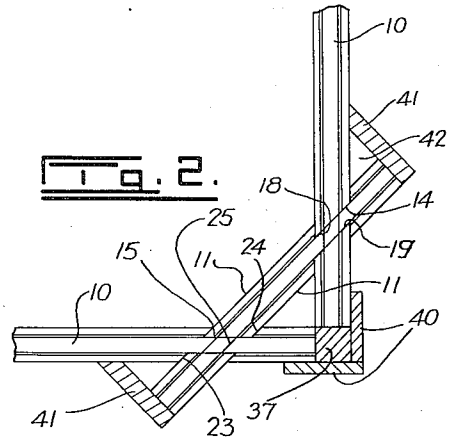


Fig. 2.

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BUILDING CONSTRUCTION

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7 Claims. (Cl. 20—4)

This invention relates to improvements in building construction.

An object of the present invention is the provision of a building construction in which two side wall members may be brought together substantially at right angles to each other and locked in position without the necessity of any securing means, such as nails, screws or the like.

Another object is the provision of a building construction in which all the side wall members may be the same length and may be secured together at right angles without nails, screws or the like.

Another object is the provision of a building construction in which the joints between side wall members are protected against moisture.

A further object is the provision of a building construction in which any ordinary swelling of the side wall members from moisture will not cause the wall to bow or buckle.

A still further object is the provision of a building construction in which any ordinary shrinking of the side wall members will not be harmful or unduly noticeable.

Yet another object is the provision of a building construction which lends itself to mass production whereby the various elements may be produced quickly and economically, and which is applicable to all types of wooden buildings.

Still another object is the provision of a building construction which may be dismantled without waste.

With these and other objects in view, the present invention consists in a building construction, two side wall members positioned substantially at right angles to each other with their adjacent ends brought together; a notching arrangement obliquely disposed in one member adjacent its end, a notching arrangement obliquely disposed in the other member adjacent its end and in line with the first notching arrangement, a short locking unit, and notching arrangements obliquely disposed adjacent opposite ends of the unit corresponding to the arrangements of the members, said unit being adapted to be moved downwardly over the members with its notching arrangements co-operating with those of the members removably to lock the latter in position, as more fully described in the following specification and illustrated in the accompanying drawing, in which

Figure 1 is a perspective view of a plurality of side wall members locked together and another locking unit ready to be moved into its locking position,

Figure 2 is a plan view of a corner of a building, and

Figure 3 is an enlarged vertical section taken through two side wall members, one mounted on the other.

Referring more particularly to the drawing, the building construction includes a plurality of side wall members 10 connected together in courses by locking units 11. Each wall member has adjacent its opposite ends 12 and 13 notching arrangements 14 and 15, respectively.

Each notching arrangement 14 of the wall member 10 includes top and bottom notches 16 and 17 extending through the top and bottom edges of the member as well as vertically disposed grooves or dadoes 18 and 19 in opposite faces of the wall member, said grooves or dadoes extending between and communicating with the notches 16 and 17. The side walls of the notches and the dadoes are disposed obliquely to the length of the member. The notches and dadoes form a tenon 20 therebetween.

Each notching arrangement 15 of a wall member 10 includes top and bottom notches 21 and 22 extending therethrough along with vertically disposed grooves or dadoes 23 and 24 in opposite faces of the wall member and extending between and communicating with the notches 21 and 22. The side walls of the notches and dadoes are disposed obliquely of the member and in the opposite direction to the side walls of the notches and dadoes of the arrangement 14. The notches 21 and 22 are the same width as the notches 16 and 17, but the grooves or dadoes 23 and 24 are wider than the grooves or dadoes 18 and 19, the former being approximately the same width as the thickness of the member. A tenon 25 is formed by the notches and dadoes.

The locking unit 11 is very short and it has a notching arrangement 14 adjacent one end and a notching arrangement 15 adjacent its opposite end.

The wall member 10 has a tongue 26 extending longitudinally thereof along its upper edge, and a corresponding groove 27 in its lower edge. Narrow shoulders 28 and 29 are formed at the base of the tongue 26 at each side thereof, the shoulder 28 preferably being a little higher than the shoulder 29. The member is formed with a bevel 30 at its upper inner corner and extending from the shoulder 28 downwardly to the inner surface 31 of the member. A groove 32 is formed at the upper outer corner of the member extending from the shoulder 29 in a curve down to the outer surface 33 of the member.

The member is formed with another bevel 34 at its lower inner corner forming a narrow shoulder 35 between said bevel and the groove 27, said shoulder being substantially the same width as the shoulder 28. The portion 36 of the lower edge of the member between its outer surface 33 and the groove 27 is slightly lower than the shoulder 35.

The locking unit 11 is the same in cross section as a member 10.

As the wall members 10 are connected together and built up in the same manner at each corner of the building, only one corner will now be described.

The ends 12 and 13 of two members are brought together, as in Figure 1, with the members lying substantially at right angles to each other. This brings the notching arrangement 14 of one member close to the notching arrangement 15 of the other member. Then a locking unit 11 is moved downwardly over said members with the notching arrangements 14 and 15 of the unit co-operating with the notching arrangements 15 and 14, respectively, of the members. The tenons 20 and 25 of the locking unit fit into the top notches 21 and 16 of the members, and the locking unit fits into the dadoes 23 and 24 of one member while the other member fits into the dadoes 23 and 24 of the locking unit.

Two more wall members are placed on top of the first two members with the tongues 26 of the former fitting into the grooves 27 of the latter. At the same time, the lower notches 17 and 22 of these members fit over the tenons 25 and 20, respectively, of the locking unit 11. When the next locking unit is placed over the side members, the groove 27 in its lower edge fits over the tongue 26 of the first-mentioned unit. Any number of wall members and locking units may be built up in this manner.

When the walls are erected, a filler strip 37 is placed in the corner formed by the adjacent ends 12 and 13 of the wall members. This strip is formed with two sides 38 at right angles to each other and the outer surface thereof may be squared, as shown, half-round, or any any other desired ornamental design. The filler strip may be secured in place by a few thin nails or, if desired, a nail may be driven through it into the end of each wall member to prevent the latter from moving up and down due to expansion and contraction. If the outer surface of the filler 37 is squared, caps 40 may be secured thereto and to the members to cover the joints therebetween, see Figure 2. Furthermore, it is preferable to secure caps 41 to the outer ends of the units 11 and to the members 10 to cover the space 42 between said ends of the members.

Referring to Figure 3, the groove 27 of one wall member 10 fits snugly over the tongue 26 of the lower member and the shoulder 35 and the portion 36 rest on the shoulders 28 and 29, respectively. The bevels 30 and 34 form a V-groove in the inner surface of the wall, at the point where the wall members join while the portion 36 hangs over the groove 32.

By having the lower edge of each upper member resting on the narrow shoulders 28 and 29 of the lower member, bowing of the wall due to swelling from moisture is prevented. If the members swell, the narrow shoulders give or compress so that the wall does not bow. If the members shrink, the V-groove formed by the bevels 30 and 34 makes any space formed between the members barely noticeable since a person looking at the wall from the inside, merely sees the bottom of the V-groove. The portion 36 acts as a cap over the joint between the members. Any moisture which may find its way between the members, runs down the bottom of the groove 32 away from the joint. This groove prevents water from getting into the joints between the members by capillary action since any water that might work along the lower surface of the portion 36 is directed into the groove to be drained off. Any rain blown towards the corner of the building and along the side wall members, is directed away from said members by the outer ends of the locking units 11 which slope away from the corner, while the caps 41 prevent rain from being driven into the space 42 between the members and the opposite sides of the units, thus protecting this side of the joint from moisture.

The walls of a building may be quickly dismantled without damage or waste merely by raising and removing a locking unit and the two wall members at each corner and continuing the operation in this order until the foundation or base is reached. The units and members may be used numerous times since they do not deteriorate from the handling.

Various modifications may be made in this invention without departing from the spirit thereof or the scope of the claims, and therefore the exact forms shown are to be taken as illustrative only and not in a limiting sense and it is desired that only such limitations shall be paced thereon as are disclosed in the prior art or are set forth in the accompanying claims.

What I claim as my invention is:

1. In building construction, two side wall members positioned substantially at right angles to each other with their adjacent ends brought together, a notching arrangement obliquely disposed in one member adjacent its end, a notching arrangement obliquely disposed in the other member adjacent its end and in line with the first notching arrangement, a short locking unit, and notching arrangements obliquely disposed adjacent opposite ends of the unit corresponding to the arrangements of the members, said unit being adapted to be moved downwardly over the members with its notching arrangements co-operating with those of the members removably to lock the latter in position.

2. In building construction, two side wall members positioned substantially at right angles to each other with their adjacent ends brought together, a notching arrangement obliquely disposed in one member adjacent its end, said notching arrangement consisting of notches extending through the top and bottom edges of the member and vertically disposed dadoes in opposite faces of the member extending between and communicating with the notches, a similar notching arrangement obliquely disposed in the other member adjacent its end and in line with the first notching arrangement, a short locking unit, and similar notching arrangements obliquely disposed adjacent opposite ends of the unit corresponding to the arrangements of the members, said unit being adapted to be moved downwardly over the members with its notching arrangements co-operating with those of the members removably to lock the latter in position.

3. In building construction, two side wall members positioned substantially at right angles to each other with their adjacent ends brought together, a notching arrangement obliquely dis-

posed in one member adjacent its end, said notching arrangement consisting of notches extending through the top and bottom edges of the member and vertically disposed dadoes of the same width as the notches in opposite faces of the member extending between and communicating with the notches to form a tenon, a similar notching arrangement obliquely disposed in the other member adjacent its end and in line with the first notching arrangement, the dadoes of the second arrangement being wider than the notches thereof, a short locking unit, and notching arrangements corresponding to the first and second arrangements obliquely disposed adjacent opposite ends of the unit, said unit being adapted to be moved downwardly over the members with the tenon of its narrow dadoed arrangement fitting into the top notch of the wider dadoed arrangement of one member and the tenon of its other arrangement fitting into the top notch of the arrangement of the other member removable to lock said members in position.

4. In building construction, two side wall members positioned substantially at right angles to each other with their adjacent ends brought together, a tongue extending along the upper edge and a corresponding groove in the lower edge of each member, narrow shoulders formed at the bases of the tongues at each side thereof, a notching arrangement obliquely disposed in one member adjacent its end and in line with the first notching arrangement, a short locking unit, and notching arrangements obliquely disposed adjacent opposite ends of the unit corresponding to the arrangements of the members, said unit being adapted to be moved downwardly over the members with its notching arrangements cooperating with those of the members removably to lock the latter in position.

5. In building construction, two side wall members positioned substantially at right angles to each other with their adjacent ends brought together, a tongue extending along the upper edge and a corresponding groove in the lower edge of each member, narrow shoulders formed at the bases of the tongues at each side thereof, a bevel formed at the upper inner corner of each member extending from the shoulder downwardly to the inner surface of the member, a groove formed at the upper outer corner of each member extending from the other shoulder to the outer surface of the member, a notching arrangement obliquely disposed in one member adjacent its end, said notching arrangement consisting of notches extending through the top and bottom edges of the member and vertically disposed dadoes in opposite faces of the member extending between and communicating with the notches, a similar notching arrangement obliquely diposed in the other member adjacent its end and in line with the first notching arrangement, a short locking unit, and similar notching arrangements obliquely disposed adjacent opposite ends of the unit corresponding to the arrangements of the members, said unit being adapted to be moved downwardly over the members with its notching arrangements co-operating with those of the members removably to lock the latter in position.

6. In building construction, two side wall members positioned substantially at right angles to each other with their adjacent ends brought together, a tongue extending along the upper edge and a corresponding groove in the lower edge of each member, narrow shoulders formed at the bases of the tongues at each side thereof, a bevel formed at the upper inner corner of each member extending from the shoulder downwardly to the inner surface of the member, another bevel formed at the lower inner corner of each member to form a narrow shoulder between said bevel and the groove of the member, a groove formed at the upper outer corner of each member extending from the shoulder to the outer surface of the member, a notching arrangement obliquely disposed in one member adjacent its end, said notching arrangement consisting of notches extending through the top and bottom edges of the member and vertically disposed dadoes of the same width as the notches in opposite faces of the member extending between and communicating with the notches to form a tenon, a similar notching arrangement obliquely disposed in the other member adjacent its end and in line with the first notching arrangement, the dadoes of the second arrangement being wider than the notches thereof, a short locking unit, and notching arrangements corresponding to the first and second arrangements obliquely disposed adjacent opposite ends of the unit, said unit being adapted to be moved downwardly over the members with the tenon of its narrow dadoed arrangement fitting into the top notch of the wider dadoed arrangement of one member and the tenon of its other arrangement fitting into the top notch of the arrangement of the other member removable to lock said members in position.

7. In building construction, a plurality of building members positioned substantially at right angles to each other built up in courses with their adjacent ends brought together, a short locking unit extending obliquely across the corner for securing the members of each course together and to the next course, the ends of the locking units projecting downwardly beyond the members, a filler strip in the corner formed by the adjacent ends of the members, and caps covering the space between the ends of the units and the adjacent members.

ALFRED SMITH.