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2,568,133

BUILDING CONSTRUCTION

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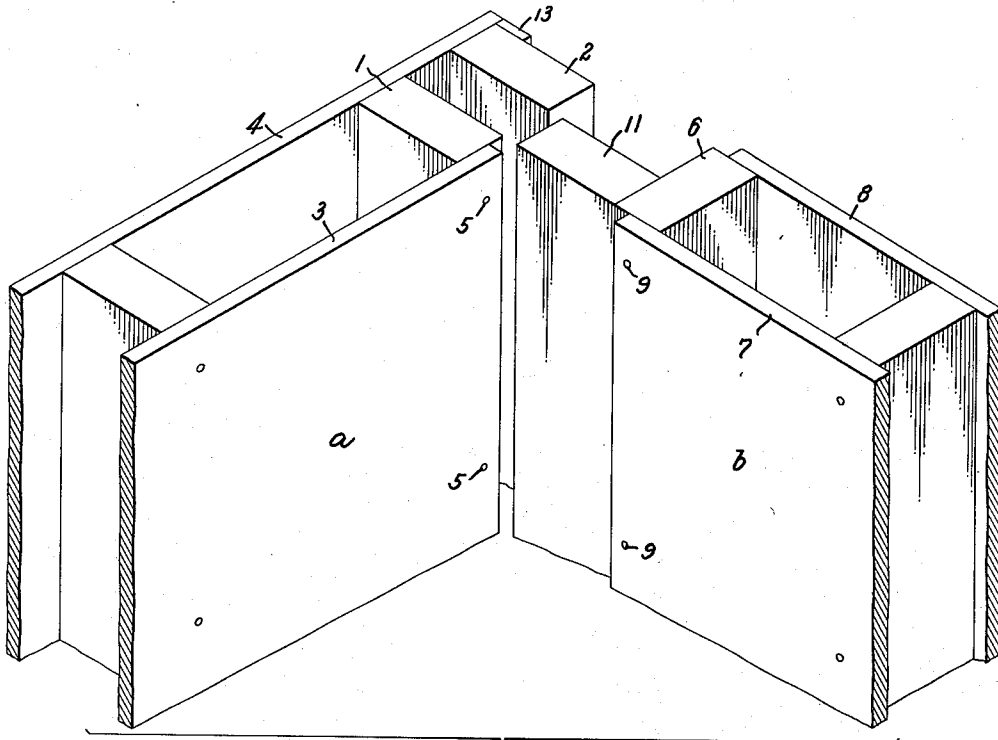


Fig. 1.

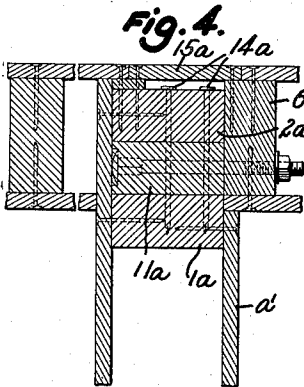


Fig. 4.

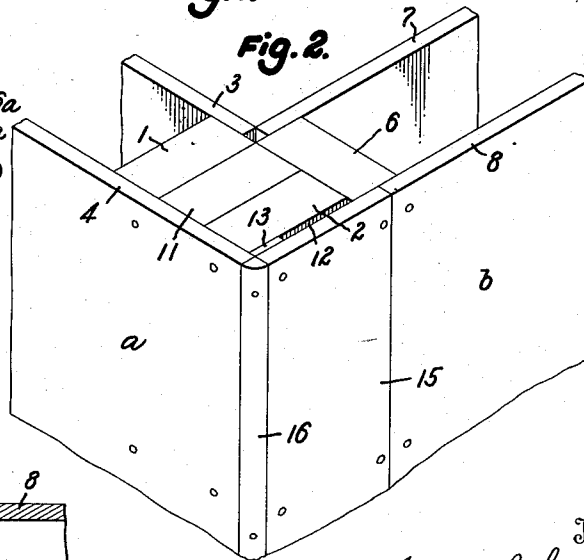


Fig. 2.

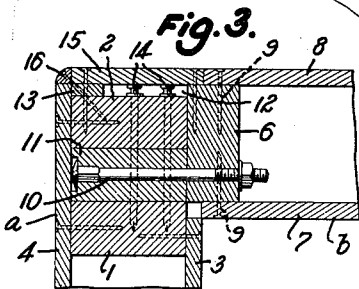


Fig. 3.

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BUILDING CONSTRUCTION

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2 Claims. (Cl. 20-4)

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This invention relates to building construction, and it has special reference to mating structural elements for pre-fabricated buildings.

One object of the invention is to provide structural elements of pre-fabricated form having means whereby they may be interconnected to insure a rigid, dependable joint.

Another object is to provide means whereby such structural elements may be securely connected when assembled, but serving to facilitate their disconnection for re-use.

A further object is to provide an assembly of such structural elements in which the connecting means for their assembly may be concealed, thus avoiding the appearance upon exterior surfaces of the elements of unsightly nails, bolts, screws and the like.

A still further object is to provide structural elements, such as exterior and interior walls, partitions and the like, in which relatively inexpensive materials may be used without impairing the strength and appearance of the completed building.

Still another object is to provide structural elements which can be finished at the mill or other place of manufacture and thus shipped, ready for assembly, at the site of erection without the necessity of fitting and lining or facing on the job.

A further object is to provide a corner connection means for walls formed of pre-fabricated building elements wherein the wall elements meeting at a corner have interengaging members capable of being securely interlocked to form a corner having a strength comparable to that afforded by hitherto accepted construction methods, while at the same time making possible ready disassembly.

Although the invention is primarily adapted to the production of pre-fabricated structural elements for wooden buildings, and will be described hereinafter in this particular adaptation, it is to be understood that materials other than wood, or combinations of wood and other materials, may be employed, as is common in the construction of buildings of various types for various purposes.

In the accompanying drawing illustrating the invention, in the several figures of which like parts are similarly designated,

Fig. 1 is a fragmentary perspective view showing the mating ends of two structural elements in position for assembly at a wall corner in accordance with the invention,

Fig. 2 is a view similar to Fig. 1 but showing the corner joint assembled and completed,

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Fig. 3 is a transverse section taken through the corner joint of Figs. 1 and 2 and showing the securing means therefor, and

Fig. 4 is a view similar to Fig. 3 but showing an adaptation of the joint of the invention to the erection and assembly of partition-forming elements.

It will be apparent from the drawing that the invention employs a tongue and groove connection for the basic principle of the joints or connections between the structural elements, whether the joints are embodied in corners, in partition assemblies, or otherwise. It is primarily in the mode and means of connection of the parts of the joint, whereby the same may be easily, securely and rigidly assembled, and may be disassembled when desired, that the novelty of the invention resides, as will be explained hereinafter more fully and finally claimed.

Having reference particularly to Figs. 1 to 3, it will be seen that the wall sections or elements *a* and *b* comprise studs and inner and outer lining or sheathing members, all of more or less conventional form, the latter of which may be plywood, wall board, siding, clapboard, shingles, or other appropriate natural or synthetic material.

Adjacent to the corner-forming edge of the element *a* are arranged two studs 1 and 2 spaced apart a distance substantially equal to the thickness of a stud and held thus positioned by the inner and outer lining members 3 and 4, respectively, which are secured to them by nails 5 (Fig. 3) or other suitable fastening means, thus forming a groove or channel.

The corner-forming edge of the element *b* has an end-adjacent stud 6 to which the inner and outer lining members 7 and 8, respectively, are affixed by nails 9 or the like, and to this stud is affixed edgewise, preferably by bolts 10 (Fig. 3), a piece, or a plurality of pieces, of studding 11 furnishing a tongue or spline for insertion in the groove or channel provided by the spaced studs 1 and 2.

It is to be noted that, due to the standard width and thickness of the studs (approximately $3\frac{3}{8}$ " x $1\frac{1}{8}$ "') and the fact that the tongue stud 11 has its inner side flush with the inner edge of the stud 6 to which it is affixed, the studs 6 and 2, when brought into assembled relation in the corner joint, will leave a space 12 of approximately $\frac{3}{8}$ " between the outer face of the stud 2 and the outer edge of the stud 6. A filler strip 13 is attached to the outer face of the stud 2 at its outer corner to bring a portion of this outer face flush with the outer edge of the stud 6.

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Obviously, the opposite edges of the elements *a* and *b* may be furnished, respectively, with a tongue and a groove to make them interchangeable, or they may, respectively have tongues or grooves at both ends, dependent upon the design and type of building for which they are adapted.

When the corner joint is assembled, as shown in Figs. 2 and 3, the tongue 11 of element *b* is slipped into the groove of element *a* and nails, preferably double-headed nails 14, or spikes, of a length sufficient to pass through the stud 2 and tongue 11 and into the stud 1, are driven in to penetrate the studs and tongue and fasten the corner joint together, the heads of the nails 14 being received within the space 12. Thereafter a corner face plate or finish strip 15 is applied to the filler strip 13 and the outer edge of the stud 6 and nailed or otherwise fastened thereto, and a corner bead 16 is applied to finish the corner.

It will be understood that as many bolts 10 and nails or spikes 14 may be used in suitably spaced arrangement longitudinally of the studs as may be required by the height of the wall in order to provide adequate strength in the joint. Also, preferably, the wall elements are erected upon and secured to the customary foundation or bottom plates, and top plates may be applied to them after their assembly is completed.

The wall elements as described may be completed at and furnished by the mill as structural units, and the spaces between the studs may be filled with insulating material, preferably in bat or strip form, if desired.

In utilizing the joint of the invention in the erection of partitions, as shown in Fig. 4, the tongue member 11a may be applied to any wall stud 6a and the groove formed end 1a—2a of the partition element *a'* fitted thereupon and secured by nails or spikes 14a, whereafter a finish strip 15a may be secured in place.

In order to disassemble the joint, whether at a corner or in a partition construction, it is necessary merely to remove the member 15 or 15a, withdraw the nails or spikes 14 or 14a and disconnect the tongue and groove joint. Obviously, however, in the case of a partition it may, and probably will, be necessary to detach some parts of the inner wall lining in order to disconnect the tongue and groove.

Various changes and modifications are considered to be within the principle of the invention and the scope of the following claims.

What we claim is:

1. In building construction, two complemental

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structural elements each including studs and inner and outer sheathing members, and means for effecting a separable connection of said elements in a relationship substantially normal to each other, said means including in one of said elements two studs arranged in spaced relation and in relatively close proximity and secured to the outer sheathing member to provide between them a groove; the inner sheathing member terminating short of said groove, a tongue member formed of a stud affixed to and offstanding from a stud of the other element and engaged in said groove, said tongue member having its inner face substantially flush with the inner edge of the stud to which it is affixed, and fastening means penetrating at least the outer one of the groove-forming studs and the tongue member, all of said studs being of standard cross-sectional dimensions having a width greater than twice their thickness, whereby the combined thickness of the outer one of the two studs forming said groove plus the thickness of the tongue member, when engaged in said groove, will be less than the width of the stud to which the tongue member is affixed, thus providing a portion of said last named stud offstanding beyond the face of the outer groove-forming stud to produce a space between said offstanding portion and said stud face; said space furnishing a recess within which the heads of said fastening means are received, and a finish strip bearing upon and being secured to the stud to which said tongue member is affixed and the outer stud of said groove and arranged in substantially the plane of the sheathing of said last-named element and covering said recess to conceal the fastening means, said finish strip being removable for access to the underlying fastening means.

2. In building construction as claimed in claim 1, filler strip means of a thickness substantially equal to the extent of projection of the offstanding portion of the tongue-bearing stud and secured to the said face of the groove-forming stud to provide a bearing for said finish strip.

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The following references are of record in the file of this patent:

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