United States Patent

[11] 3,603,053

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[33] **New Zealand**
[31] **142048**
Continuation-in-part of application Ser. No. 559,566, June 22, 1966, now Patent No. 3,416,275.

[54] **WALL CONSTRUCTION**
1 Claim, 4 Drawing Figs.

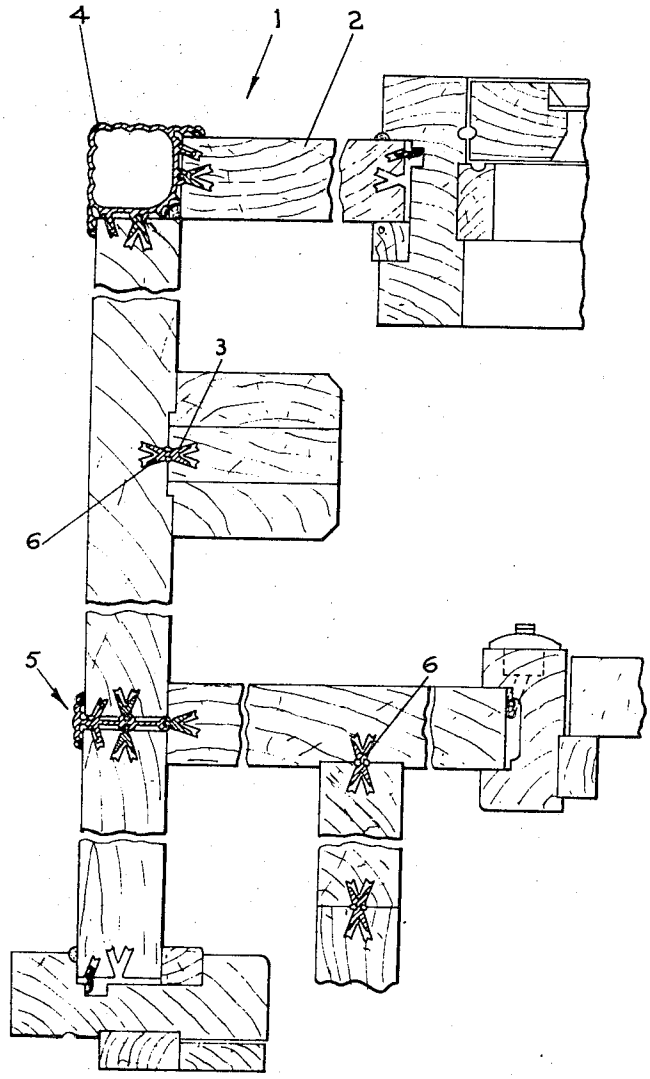
[52] **U.S. Cl.** **52/285,** 52/586, 287/20.92
[51] **Int. Cl.** **E04b 1/40**
[50] **Field of Search** ..... 52/285, 586, 496, 282, 471, 585; 287/20.92 K

[56] **References Cited**
UNITED STATES PATENTS

292,291	1/1884	Eddy	52/285 X
794,595	7/1905	Ducker	52/282 X
1,985,992	1/1935	Hayman	52/586 X
2,204,319	6/1940	Parsons et al.	52/282 X
2,363,405	11/1944	Eichelberger	287/20.92 K
3,146,497	9/1964	Short et al.	52/282 X
3,416,275	12/1968	Van Loghem et al.	52/282

Primary Examiner—Price C. Faw, Jr.
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ABSTRACT: A wall construction of timber planks connected by connecting members with dovetailed slots provided in the planks arranged to be engaged by dovetailed projections on the connecting member. The slots are greater in depth than the dovetailed projections and a clearance area is provided adjacent to the center of the connecting member so that the dovetailed projection may move into the dovetailed slot and then move along the dovetailed slot with a minimum of frictional engagement until the timber planks being joined come together whereupon the dovetailed projections are tightened in the respective dovetailed slots.



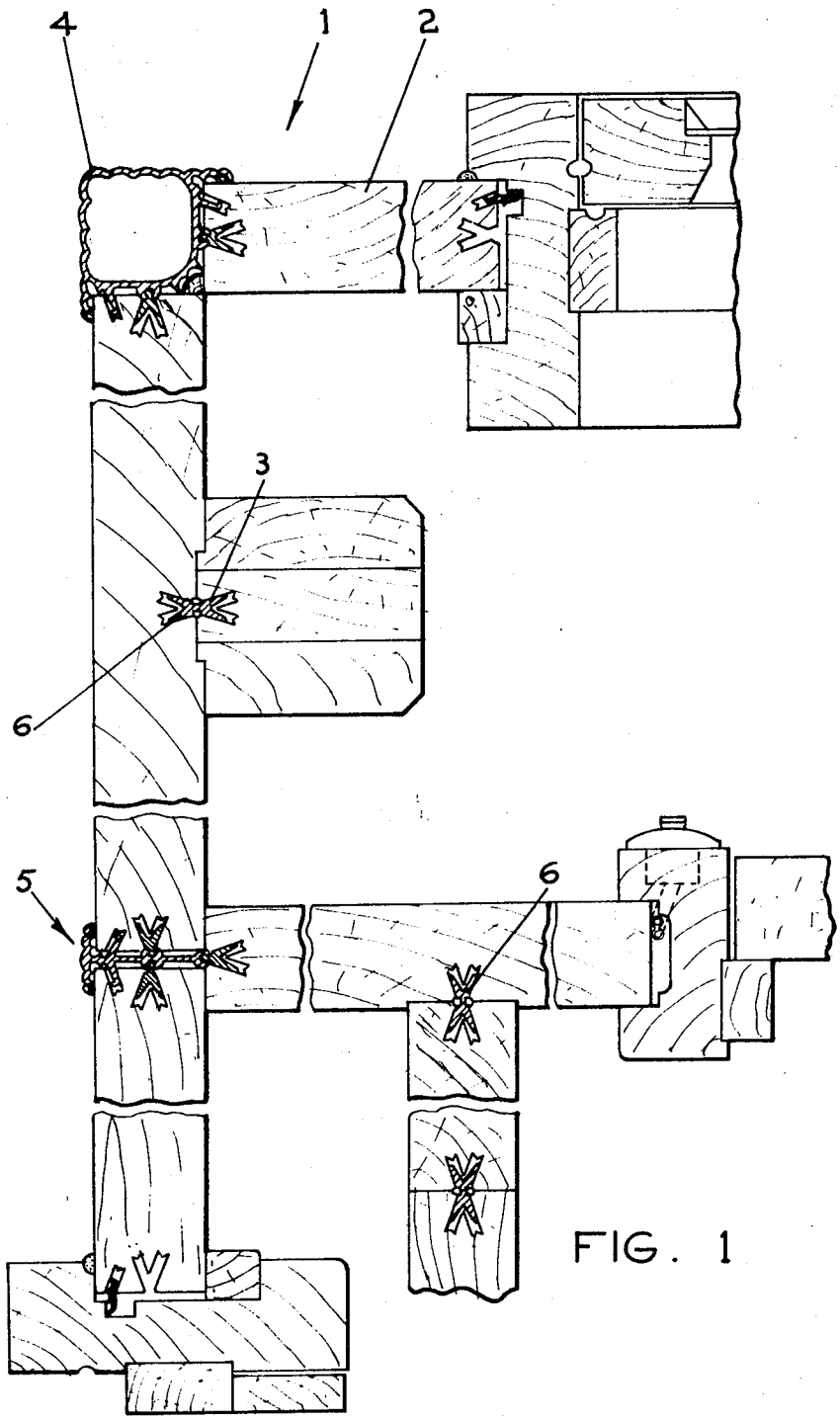


FIG. 1

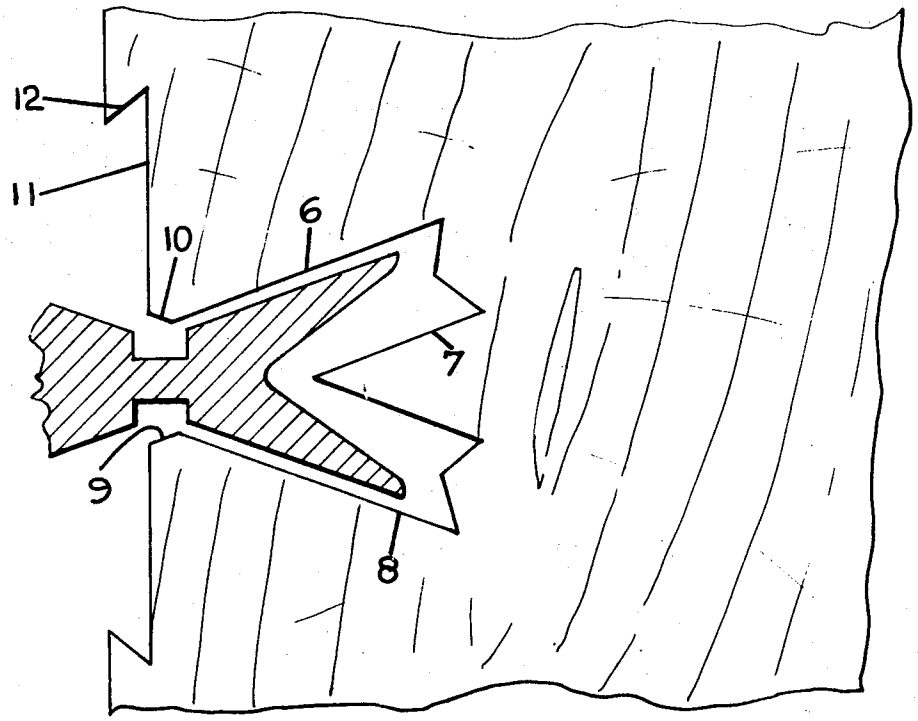


FIG. 2

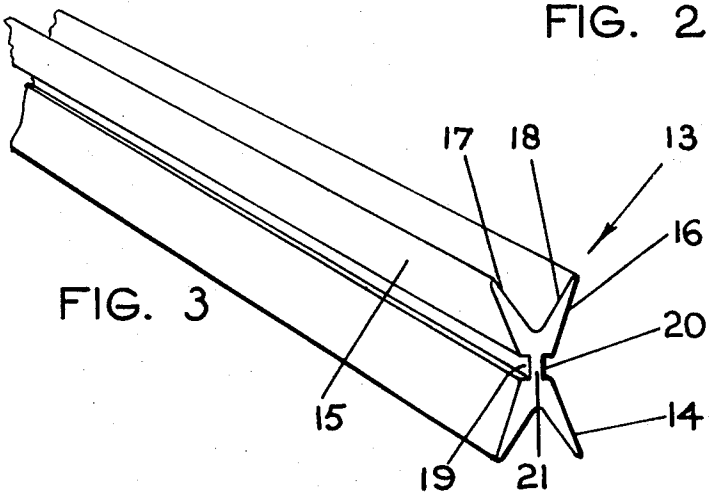


FIG. 3

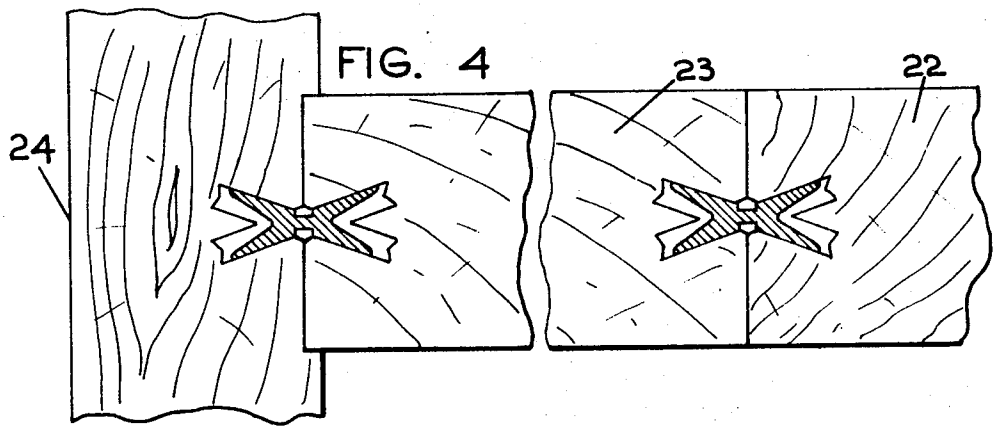


FIG. 4

WALL CONSTRUCTION

This invention relates to a wall construction and is a continuation-in-part of the wall construction described in our copending application Ser. No. 559,566 filed June 22, 1966, now U.S. Pat. No. 3,416,275 dated Dec. 17, 1968.

BACKGROUND OF THE INVENTION

The present invention is concerned with the construction of walls, both exterior and interior, or partition walls and has been devised to connect the timber planks making up these walls in a way which will save labor in the construction of the buildings while still providing a strong structure which can be relatively quickly and easily erected. In prefabricated buildings connecting members have been used to connect various building components together. In U.S. Pat. No. 1,985,992 a connecting member having dovetailed projections engageable within a complementary slot is shown. In such a construction there is no means of reducing frictional engagement between the connecting member and the slot while the components are being moved to their final erected or assembled position. Similarly in U.S. Pat. No. 2,363,405 a connecting member having dovetailed projections is illustrated but the dovetailed portion cannot move into the slot to reduce frictional engagement while the components are being passed down over the connecting member to at or adjacent the assembled position.

SUMMARY OF THE INVENTION

It is therefore an object of the present invention to provide a wall construction which will allow the timber planks to be passed down over the connecting member with a minimum of resistance between the connecting member and the timber plank until the plank is at or adjacent the assembled position.

The above and other objects will appear from the disclosure herein and particularly the description of one preferred form of the invention as herein contained.

One preferred form of the invention will now be described with reference to the accompanying drawings in which;

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a typical plan section through walls according to the present invention.

FIG. 2 is a detail showing a connecting member engaged in a dovetailed slot in a timber plank.

FIG. 3 is a perspective view of a section of a connecting member and,

FIG. 4 is a more detailed sectional plan through typical joints formed between timber planks.

DETAILED DESCRIPTION OF THE INVENTION

In one preferred form of the invention a wall construction **1** is formed from a plurality of timber planks **2** which are connected together by connecting members **3**. The connecting members may be used in conjunction with a corner column **4** and post **5** or may be used separately to form a complete structure. The corner column **4** and post **5** are described in detail in our earlier above-identified application .

In order to from a wall construction according to the present invention the timber planks each have a dovetailed slot or slots **6** formed therein. The dovetailed slot is formed across the plank either centrally in the end section thereof to allow planks to be abutted in a wall or across the face of a plank to allow a right-angle joint to be formed, for example, for a corner section or an internal partition wall. The dovetailed slot **6** is preferably formed by two saw cuts **7** and **8** inclined at an angle one to the other as illustrated in FIG. **2**. The inclined saw cuts cut away the entrance to the dovetailed slots forming a chamfered corner **9** and **10** respectively. The depth of the dovetailed slot is not critical except insofar as the slot must be deeper than the connecting member engaging therein as will be further described here below.

Where a joint is to be formed extending from the face of another wall of planks, that is, where a corner section is formed or an internal partition and particularly in a case of an internal partition a shallow trough or recess **11** is formed in the face of the timber. Preferably sides **12** of the recess **11** are inclined inwardly leaving a projecting lip which is made so that the distance between the lips is slightly less than the thickness of the planks being joined thereby ensuring that when the plank is in final position to complete the joints a sharp clean connecting line is provided between the joined timber planks.

The connecting member **3** is normally provided as an extruded aluminum or aluminum alloy member but any rigid member having suitable structural strength and corrosion resistance properties would be acceptable. The connecting members **3** are normally provided in lengths shorter than the total height of the wall, for example, in lengths of approximately two feet or slightly more, although longer lengths can be used if desired.

Each connecting member **3** (FIG. **3**) has two aligned dovetailed projections **13** and **14** extending from a longitudinal centerline through the connecting member. The dovetailed projections **13** and **14** are each formed as bifurcated members with outer faces **15** and **16** of arms **17** and **18** formed substantially at the same angle of the sides of the dovetailed slots thus allowing complementary engagements between the dovetailed projections and the dovetailed slots. The bifurcated structure of the dovetailed projection on the connecting member allows engagement within the dovetailed recess formed by two saw cuts as was above described.

At the center portion of the connecting member longitudinal troughs or recesses **19** and **20** extend in to form a throated central portion **21**. The throated central portion ensures a clearance is provided between the entrance to the dovetailed slot and the central section of the connecting member so that the connecting member may move into the dovetailed slot reducing the frictional engagement between the arms **17** and **18** and the sides of the slot. The clearance is also assisted by the chamfered corners **9** and **10** at the entrance to the dovetailed slot. These chamfered faces can operate to provide sufficient clearance independent of the throated central section. However, added clearance is provided by the throated central section and as the connecting members will also operate when the chamfered faces are not present, the throated section is provided on all connecting members.

When planks **22** and **23** (see FIG. **4**) are being joined, one of the planks is assembled in correct position, for example, plank **23**, forming the right angle joint with plank **24**. Plank **22** is then engaged with the connecting member protruding above plank **23** so that the end face thereof can move to a position such that it overlaps the end of face of the plank **23**. In this way the dovetailed projection is able to move into the dovetailed slot to minimize frictional engagement as was above described. Plank **22** can thus easily be passed down over the connecting member until the end face of plank **22** engages with the end face of plank **23**. When this engagement takes place, plank **22** will move back relative to plank **23** to allow the end faces to engage, thus tightening the dovetailed projections in the respective dovetailed slots. The final movement to correctly place plank **22** in the assembled position is the height of the plank **23** only and the plank **22** can relatively easily be moved this distance even if the person erecting the wall has to exert some form of force to finally drive the plank **22** into the correct position.

Thus with the present invention it will be seen that an extremely simple means of erecting walls is provided whereby a firm connection is formed and yet there is relative ease of movement between the timber planks being connected until they are ready for placement in the final assembled position.

What is claimed is:

1. A wall construction comprising timber planks constituting the wall and at least one timber plank constituting an internal partition, and connecting members for connecting the

timber planks in assembled position, said timber planks each having at least one transverse dovetailed slot extending from the surface where a joint between a wall plank and the internal partition plank is to be formed, each connecting member including a longitudinal rigid member provided with two aligned dovetailed projections extending on either side of the longitudinal centerline, with each dovetailed projection being complementary to the dovetailed slot formed in the timber plank but with the depth of the dovetailed projection being less than the depth of the dovetailed slot, the connecting member being of a length to extend between the wall plank and the internal partition plank in the assembled position, the connecting member having longitudinal slots extending inwardly from either side of the center portion thereof for forming a throated section providing a clearance area adjacent the center of the connecting member, chamfered corners adjacent the entrance

to the dovetailed slot, said longitudinal slots and chamfered corners providing a clearance area so that when the planks are engaged with a connecting member, the clearance area will initially allow the dovetailed projection to move into the dovetailed slot for reducing the frictional engagement between the splayed sides of the dovetailed projection and the sides of the dovetailed slot, and the internal partition plank in its face adjacent the entrance to the slot being provided with a shallow recess, the sides of the recess being inclined inwardly to form a projecting lip with the distance between the lips being slightly less than the thickness of the wall plank and the internal partition plank thereby ensuring that when the internal partition plank is in final position to complete the joint, a sharp, clean connecting line is provided between the wall plank and the internal partition plank.