This invention relates to lock joints.

Specifically, the invention contemplates improvements in pre-fabricated structures, such as may be formed from plywood. The present invention is adapted to be utilized for pre-fabricated structures to the extent that panels of said structures may be rapidly assembled with one surface of the panels in substantially flush relationship.

An object of the present invention is to provide a lock joint for interconnecting panels, which resists tension, compression, and shear stresses in the plane of the panels and at a right angle to the joint.

The present invention is adapted for use with floors, roofs, wall surfaces, and like structural members. The invention will permit the standardization of sections for floors, roofs, and wall surfaces, thus resulting in a saving of field labor and the proper erection of dwellings of different types. Thus, by forming the sections of a given size, one man by following plans may erect a dwelling in a minimum of time with the use of simple tools, such as a hammer, saw, nails, and the like.

Those skilled in the art will readily appreciate the function to be performed by the present invention, the invention is simple of structure, inexpensive in cost of manufacture, and capable of producing superior results.

With the above mentioned and other objects in view, the invention consists in the novel and useful provision, formation, construction, association, and relative arrangement of parts, members and features, all as shown in certain embodiments in the accompanying drawings, described generally, and more particularly pointed out in the claims.

In the drawings:

Figure 1 is a fragmentary plan view of a pair of panels held interlocked through the use of the present invention.

Figure 2 is a fragmentary side elevation looking in the direction of the arrow of Figure 1 and showing the lock joint, the tongue 17 which extends beyond edge 18 of the panel. The tongue 17 is beveled at 18.

The beveled edge 15 is at the same angle as the beveled edge 13 of portion 5 and the thickness of part 17 corresponds to the width of the groove in portion 5.

The groove is, of course, formed by the web 8, the under surface 6 of the panel 1 and the surface 16, the intention being that when part 7 is in the position shown in Figure 2 that the top surfaces 3 and 4 of the panels are flush.

In the form of the invention shown in Figures 4 and 5, the projections or tongues 17 of Figures 2 and 3 are serrated, as shown in Figure 5, at 20. The serration provides a spacing 21 between two projections. The other member adapted to interlock with the projections is provided with saw blocks 22 confined in the recess or groove included between surfaces 6 and 16 and the web 8.

Thus, the blocks are so spaced as to be received between pairs of projections 23 and within the space 21.

Other features remain the same as the structure of Figures 2 and 3.

The operation, uses and advantages of the invention just described are as follows:

When it is desired to rapidly assemble panels, the edges of which are to be interlocked, one of the members of the lock joint for use with the device shown in Figure 4.

Recovering now to the drawings, I have pro-

vided a pair of members 1 and 2 which may constitute panels, flooring, ceiling, a wall surface, roof or similar structure member, and which two members are adapted to be held in working relationship and against displacement laterally when two of the surfaces are flush, as illustrated. The surfaces referred to are the uppermost ones of the panels 1 and 2 as shown in Figure 2 at 3 and 4. This interlocking action is obtained by providing one of the panels with a portion 5 depending from its lowermost surface 6 and which portion 5 cooperates with part 1 depending from the lower surface of member 2.

Portion 5 is constructed by providing a transverse web 8 spaced inwardly from and parallelly with the edge 17 of the panel, and which web has integrally or otherwise formed therewith base 10, which is spaced from the under surface 6 and extends forwardly of edge 17 a selected distance.

Base 10 is provided with a heel comprising a transverse enlargement 11 which parallels the web 8, the upper surface 12 of which is spaced a slight distance below the plane of the under surface 6 of the panel. Enlargement 11 and edge 17 of the panel are beveled at 13 and 14, respectively.

The member 1 of the lock joint includes an enlargement formed on the under surface of panel 2, this enlargement having a beveled, edged heel 15, a plane surface 16 parallelly surface 4, with a tongue 17 which extends beyond edge 18 of the panel. The tongue 17 is beveled at 18.

The beveled edge 15 is at the same angle as the beveled edge 13 of portion 5 and the thickness of part 17 corresponds to the width of the groove in portion 5.

This groove is, of course, formed by the web 8, the under surface 6 of the panel 1 and the surface 16, the intention being that when part 7 is in the position shown in Figure 2 that the top surfaces 3 and 4 of the panels are flush.
the panels may be tipped so that the projections or tongues 17 will readily enter the recess or groove of the interlocking joint of the opposite panel as, for instance, illustrated in Figure 2. The beveled edge 14 of one panel member allows a ready entrance of the projection 17 within the recess of the other member of the lock joint. This member is, of course, moved into such position that the beveled edges 13 and 15 of the heels are in contiguous relationship, as shown in Figure 2.

In the form of the invention shown in Figures 2 and 3, it is obvious that this type of lock joint readily resists tension and compression in the plane of the panels at right angles to the joint.

In the case of the form of the invention shown in Figures 4 and 5, the serrated projections, by entering the serrated recesses not only provides a joint which resists tension and compression in the plane of the panels at right angles to the joint but, in addition, resists shear along the joint.

It is apparent that any edge of a panel may be provided with a lock joint member, depending on the pattern desired. Thus, the opposite parallel edge of panel 1 would be provided with a lock joint member like 7 and panel 2 with a lock joint member like 5. This provides for continuous interlocking of panel members, as desired.

I claim:

Means for interlocking two panels at an edge of each panel, including two members, both of which depend from their respective panels, one of said members provided with spaced recesses, a base extending forward of the edge of the panel, and a heel portion paralleling the edge of the panel; and said member secured to the other panel formed with spaced projections extending forwardly of the edge of said panel and with a heel portion; said projections adapted for reception in the spaced recesses of the other member to bring the top surfaces of the panels into flush relationship, the said heels of the said two members cooperating to prevent relative displacement of the two members and whereby the two members resist tension and compression in the plane of the panel members at right angles to the two panel members and shear lengthwise of the two members.

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

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