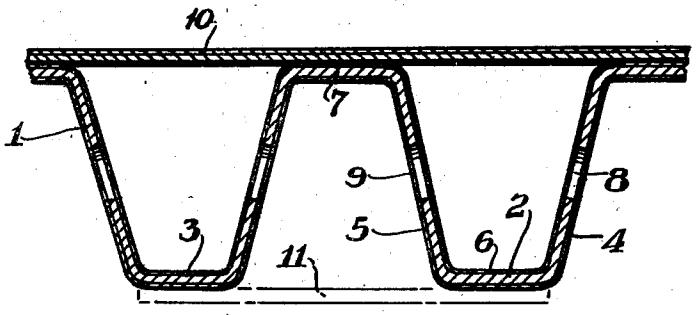
Oct. 22, 1946. W. E. WILSON 2,409,819

PLYWOOD STRUCTURE

Filed Nov. 18, 1944

Fig. 1.



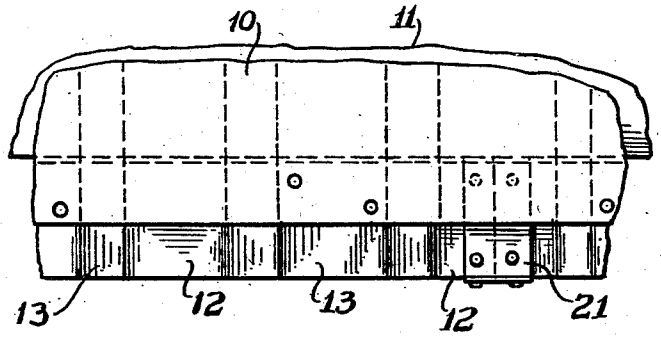


Fig. 5.

Fig. 2.

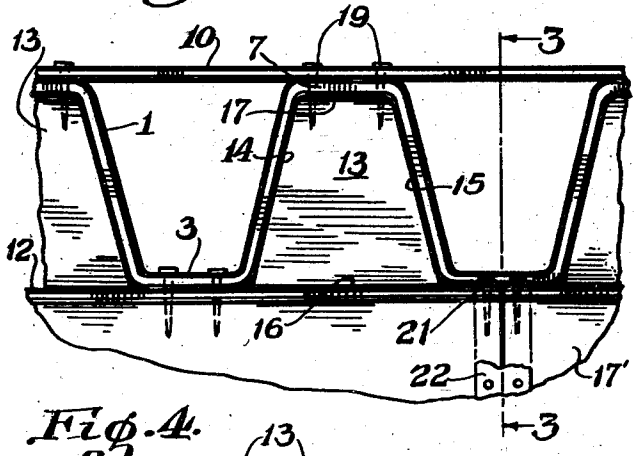


Fig. 3.

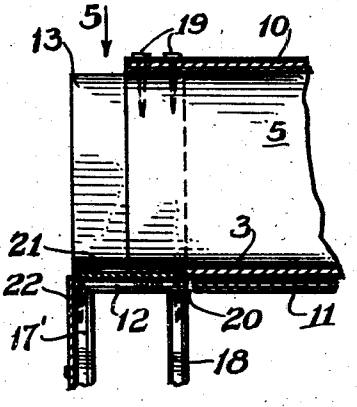
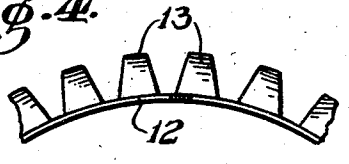


Fig. 4.



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PLYWOOD STRUCTURE

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Application November 18, 1944, Serial No. 564,147

2 Claims. (Cl. 20—2)

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This invention relates to structures of the type which may be formed of plywood.

Specifically, the invention contemplates a structure which is strong, permits ready assembly, can be erected and put in use by an inexperienced man following directions, and which is of such nature as to allow for variations in design of the building structure.

The present invention includes supporting means for a structure, such as roofs, and wherein the said means may be readily secured to a wall, truss, beam or other support, in a simple and expeditious manner.

Briefly stated, the invention contemplates the pre-assembling on a relatively thin strip, such as a plywood strip, of a given module, blocks of a desired shape and spacing adapted to receive therebetween cellular structural panels formed of plywood, and which blocks fit the contour of such cellular structural panels, thus resulting in bottom and side supports for the cellular structural panels.

The invention is durable, strong, readily adaptable to various structural uses, easy to manufacture, readily and inexpensively assembled, and capable of securing superior results.

In the drawing:

Figure 1 is a cross sectional view of a cellular structure which may be utilized in the practice of the invention,

Figure 2 is a side elevation of structural elements which may be utilized in the practice of the invention,

Figure 3 is a sectional view on the line 3—3 of Figure 2,

Figure 4 is a detail of the invention when used as an arch, and,

Figure 5 is a fragmentary view looking in the direction of the arrow 5 of Figure 3.

Referring to the drawing, I contemplate as one part of the invention, the corrugated plywood structure illustrated in Figure 1 in section. This structure may be formed in any manner desired with the plywood sheet 1 forming a series of hollow corrugations, as shown at 2 and 3. Each hollow corrugation presents an elongated structure having two inclined side walls 4 and 5. The side walls converge downwardly and join with the base portion 6, and the divergent end portions of the side walls are joined by a top wall 7 substantially parallel with the bottom wall 2. Thus, one or more substantially parallel corrugated beams result. These beams may be bored, as shown at 8 and 9, to allow passage therethrough of conduits, such as might be used for plumbing,

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electrical wiring, or the like. There may be glued or otherwise secured to the top wall 7 a plywood panel 10, and if desired, a further panel 11 may be secured to and span the bases 6. Thus, such a structure as depicted in Figure 1 may act as a support for floors, ceilings, or at any location in a building where strength is required for supporting a load.

I am aware that corrugated sheet metal structures have been on the market prior to this invention, but so far as I now know, no such structures have been formed of plywood and utilized in the manner hereinafter to be described. By way of example, in the use of my invention, I may take the structure as depicted in Figure 1, formed of plywood, and omit the lower panel 11. Such an omission may occur when the panels are to be used over a curved surface. Due to the relative thinness of the section between the corrugations, the panel may be sprung to an approximate curve, and then tied, by nailing or other means. I have further contemplated, as a part of this invention, the structure illustrated in Figure 2, wherein a thin flexible strip 12, thin as compared to its width and length, and which may be of plywood, has secured thereto a spaced series of blocks 13. These blocks may be of the shape shown in Figure 2, wherein they are provided with inclined or slanting side walls 14 and 15, and parallel base and top portions 16 and 17, respectively, the side walls converging toward the top and diverging toward the base. These blocks are shaped similarly to the corrugations of Figure 1.

Such a structure as just described permits a ready bending of the thin flexible strip 12 upon which the said blocks are mounted, to form a curved structure, such as depicted in Figure 2, and which permits the use of this structure around the top of a bowstring truss or timber arch. This allows a very rapid erection of a complete roof structure and likewise presents a satisfactory appearance from the interior.

The corrugated or cellular structure of Figure 1 minus the panel 11 may be used in cooperation with the thin strips 12 and the blocks 13 mounted thereon as, for instance, illustrated in Figures 2, 3 and 5. Thus, the strip 12 with its blocks 13, may be secured to upright panel members 17 and 18 (see Figure 3), whereupon the corrugated or cellular structural panels of Figure 1 may be placed between the blocks 13. The panel 10 may be nailed or otherwise secured by means 19 to the blocks 13. The corrugated structure of Figure 1 preferably has its lower panel 11 terminated adjacent the strip 12, as shown at 20. Likewise,

the corrugated structure is positioned midway between the blocks so that other lengths of the corrugated structure may be received between the blocks, if the structure is to be continued. Such an arrangement is depicted in Figure 5. Tie pieces 21 may be secured between contiguous ends of the strip 12, as shown.

Battens 22 may overlap edges of the walls 17 to improve the appearance of the panels when viewed from the interior and likewise for tying the panels together. I may combine the structure of Figure 1 with the block structure of Figure 4. In this instance, the panel 11 would not be utilized and the corrugated structure would be dropped between the blocks to form a curved truss structure, such as an arch. The panel 10 would be secured to the top of the blocks as before. Thus, is realized the advantage of providing thin strips, such as shown at 10 and 12, in that it allows a flexing of the structure to accommodate for various shapes.

The invention will find many uses which are readily apparent to builders. I have, by the present invention, provided a series of blocks 13 which are pre-assembled upon a relatively thin flexible strip 12, the blocks 13 being of such shape and spacing as to fit the contour of cellular structural panels 2 and 3, thereby providing bottom and side supports for the cells of the cellular

structural panels with the securing of said cellular structural panels through the medium of thin top panels 10 to the tops of the blocks.

The use of pre-fabricated plywood sections permits the erection of buildings, such as dwellings, quite rapidly, particularly when such sections have been standardized and numbered. Such sections permit an inexperienced builder to follow plans and erect a dwelling or other building rapidly and accurately and one that will have a high factor of safety value.

I claim:

1. A built-up structure formed in the main of plywood, including a thin flexible plywood strip, blocks mounted on a surface of said strip, upright panels secured to said strip and supporting the same, a cellular structure interposed between said blocks, and means for securing said cellular structure to the blocks.

2. A built-up structure formed in the main of plywood, including a thin flexible plywood strip, blocks mounted on a surface of said strip, upright panels secured to said strip and supporting the same, a cellular structure interposed between said blocks, a panel transversely spanning the cellular structure and secured thereto, and means for securing said panel and the cellular structure to the said blocks.

WINFRED E. WILSON.