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BUILDING COMPONENT

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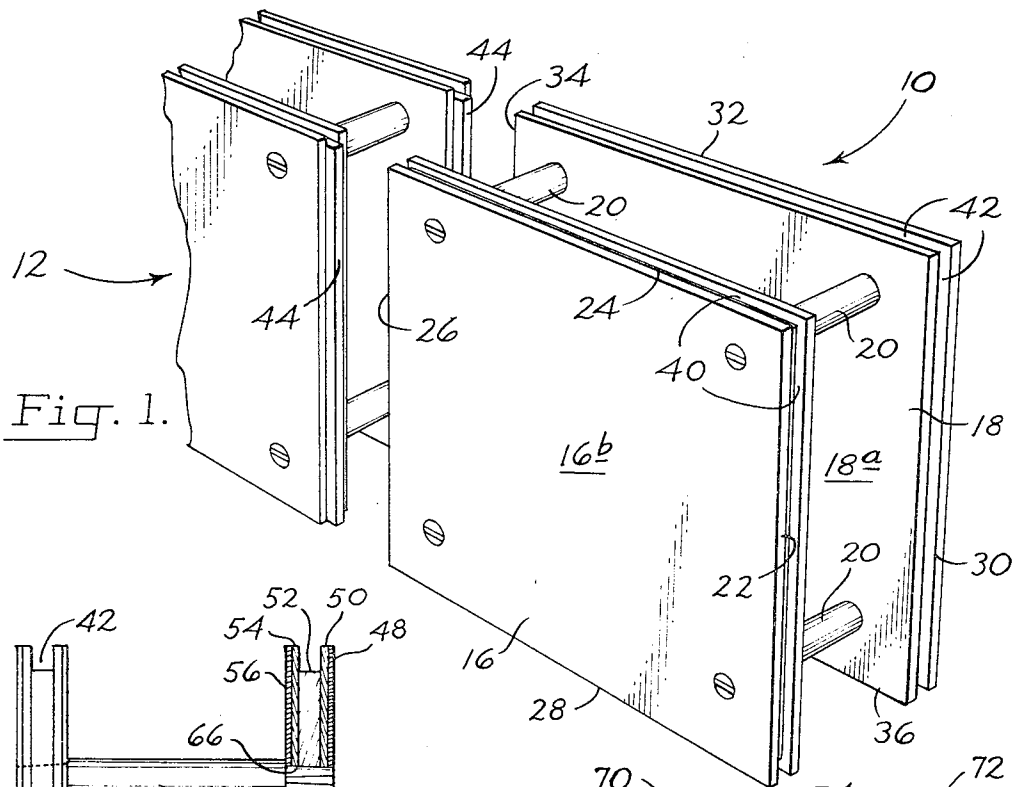


Fig. 1.

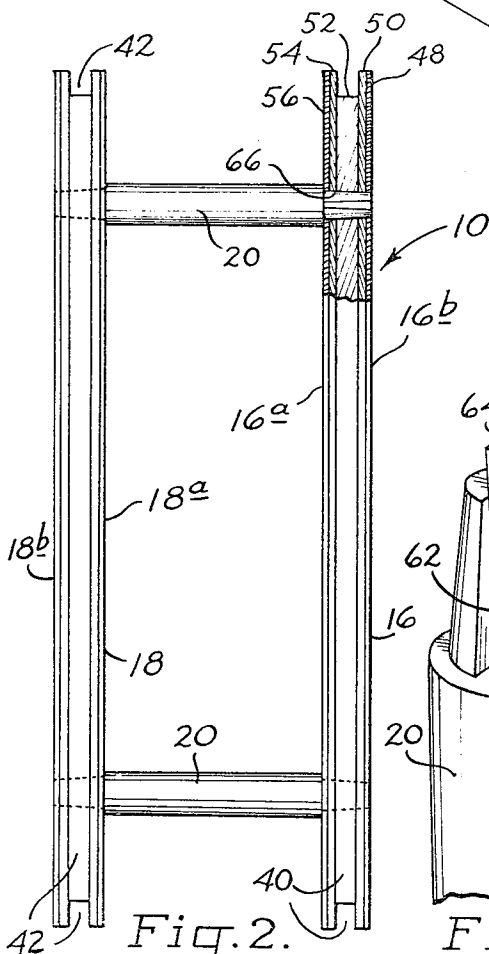


Fig. 2.

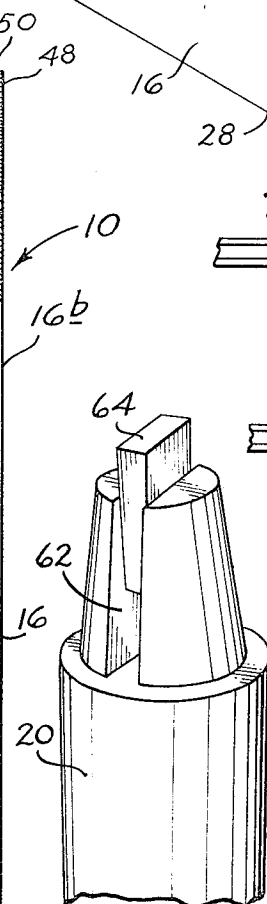


Fig. 3.

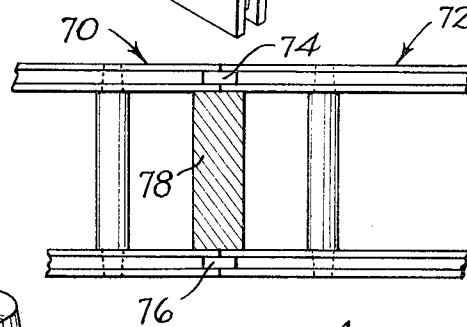


Fig. 4.

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BUILDING COMPONENT

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2 Claims

ABSTRACT OF THE DISCLOSURE

A building component adapted to be joined with similar components to form a wall floor, or other surface, having a pair of parallel, spaced-apart rectangular panels which are rigidly interconnected by pegs. The pegs have notched ends received in holes in the panels, into which are fitted wedges which expand the ends to secure the pegs. Each panel is made of cross-bonded veneer, and its edges are grooved to receive splines. With two components joined together, a spline interconnects the panels on one side of the components, and another spline interconnects the panels on the other side of the components, to produce a thoroughly rigid structure with an air space located between the panels.

This invention relates to a unitary building component and more specifically, to a building component comprising a pair of spaced-apart panels, with grooves in the edges of the panels which allow the building component to be connected to another similar building component by way of splines.

Further explaining the invention, in certain building construction it is advantageous to provide prefabricated building components which may be joined together to form walls, floors or ceilings. To be practical, the building components must be economical to assemble, and easily joined to similar building components to form a rigid structure.

A general object of this invention is to provide a novel unitary building component, which is economically prefabricated and versatile in its use.

A related object is to provide such a building component, featuring a pair of spaced-apart panels, which is joined through each of the panels with a similar building component to form a wall or other surface. With the panels in a component rigidly mounted in a spaced apart position, when both of such panels are joined to similar panels in another component, a final structure results of great rigidity.

A further object and feature of this invention is the provision of novel pegs which rigidly interconnect the spaced-apart panels in a building component. These pegs have notched ends which are received within holes opening through inner surfaces of the spaced apart panels, and wedges are fitted within the notches to expand the peg ends thus firmly to connect the peg and panels, with the panels spaced apart.

Another object is to provide novel means for joining such building components, wherein each panel in each building component has grooves defined along its edges which position themselves opposite corresponding grooves in adjacent building components in a wall. An elongated spline is received within opposed grooves and glued in place, which spline acts to join the panels in adjacent components to each other. A strong joint is formed, and a further advantage is that each spline produces a sealed joint between the panels, increasing the insulating effect

of the air space which exists between the opposed panels of a building component.

A still further object and advantage is the provision of panels of cross-bonded veneer, or plywood, as the opposed panels in a building component. The use of such plywood promotes strength in any joint formed between adjoining panels in adjoining building components, by enabling shoulders to be presented on either side of each spline-receiving groove, composed of cross-bonded veneer layers.

Other objects and advantages will become more fully apparent as the following description is read in conjunction with the following drawings, wherein:

FIG. 1 is a perspective view, illustrating a unitary building component constructed according to an embodiment of this invention, in a position about to be joined to another similar building component to form portions of a wall;

FIG. 2 is a side elevation view of the building component, illustrating spacers, spaced-apart panels and grooves in the panel edges, with a portion of one of the panels broken away, better to illustrate the joining of the panel to the spacer;

FIG. 3 illustrates a notched end of one of the spacers with a wedge in such notch; and

FIG. 4 illustrates how a floor or other supporting platform may be made from the components.

Referring now to the drawings, at 10 is shown generally a unitary building component constructed in accordance with the invention. Portions of another similar building component to which component 10 may be joined is shown generally at 12.

The building component, and referring specifically to component 10, is constructed of a pair of rectangular wood panels 16, 18 having matching outlines and of the same size, which are rigidly interconnected in a substantially parallel spaced-apart relationship by a plurality of spacers or pegs 20. Each panel has an inner face, shown for the pair of panels at 16a, 18a, respectively, and an outer face, which forms an outside surface of the component, shown at 16b, 18b, respectively. Panel 16 is bounded by elongated edges 22, 24, 26, 28 along margins of the panel, and similar edges 30, 32, 34, 36 extend along margins of panel 18.

Each edge of both panels may have a groove formed therealong, paralleling the faces of the panels. The grooves in the edges of panel 16 are illustrated at 40 and those formed in the edges of panel 18 are illustrated at 42. These grooves are adapted to receive the sides of elongated splines, such as those illustrated at 44 in FIG. 1, which have their other sides inserted into similar grooves in the panels of an adjacent building component. With a spline in place between two panels in adjacent components, the panels are flush with edges substantially abutting each other.

As is best illustrated in the broken away portion of FIG. 2, each panel may be constructed of plywood, having an odd number of cross-bonded veneer layers, such as those shown at 48, 50, 52, 54, 56. Each groove extending along one edge of a panel is located preferably centrally between the panel's sides, and is narrow enough to leave at least two cross-bonded veneer layers in shoulders bounding the sides of the groove. In this way, strength is imparted to the shoulders, irrespective along which edge of the panel they may extend.

The spacers or pegs which separate and rigidly interconnect panels 16 and 18 are best illustrated in FIGS. 2

and 3. The ends of each peg have a cross section somewhat reduced from the cross section of the body of the peg, and preferably may be slightly tapered, with the smallest portion of the taper being at the extreme end of the peg. The reduced end of each peg also is provided with a notch, such as the one shown at 62, which notch is adapted to receive a wedge such as that shown at 64. A shoulder is presented by the peg at the base of the reduced and tapering end portion, which shoulder faces the end of the peg.

To assemble a building component, holes 66 are bored across the thickness of the two panels which make up the component. The reduced ends of the pegs are inserted into these holes, with the pegs spacing the panels as shown in FIG. 2. The shoulders at the bases of the reduced end portions of the pegs rest against the inner faces of the panels to provide substantial bearing surfaces between the pegs and panels to retain the spaced relation between the panels. With the panels on the pegs, wedges are forced into the notches expanding the reduced ends of the peg whereby the peg ends fit tightly in the holes receiving them. The pegs, if desired, may be more permanently secured within the holes, by applying glue to the wedges and between the reduced ends of the pegs and the surfaces of holes 66 receiving them.

As is best seen in FIG. 1, the pegs at the right of the drawing form a row adjacent but inwardly from the right margin of the component. Similarly, the pegs 20 along the left margin of the component form a row adjacent but inwardly from this left margin. The bases of the grooves 40, 42 at each margin of the component are outwardly on the component from the row of pegs adjacent such margin. In this way a component is formed which is a rigid unit before incorporation with other structures. A seat of predetermined depth is provided for the splines with the connection of the pegs with the panels not interfering with this seat.

To erect a structure, such as a wall, using the building components of the invention, a building component may be positioned adjacent another similar component with corresponding panels of adjacent components lying in the same plane. A spline is inserted and glued within adjacent grooves of two abutting panels, as seen in FIG. 1. Another component may then be positioned beside the two components thus already joined and made an integral part of the structure with the insertion and gluing of splines between the panels of this other component and the panels of the component which this other component is fitted against. It may be desirable in building a wall to thus connect a series of building components which are abutted side-by-side in a horizontal row with vertically extending splines between adjacent components having a length equal substantially to the height of the component. The grooves along the upper edges of corresponding panels in such a row would then collectively form an elongated, continuous groove into which an elongated spline which extends along the length of multiple panels could be inserted and glued. Another horizontal row of panels could then be similarly prepared with these being locked to the previously-formed row of panels through the elongated splines described. This use of a common spline extending along the length of several components affords the opportunity of providing further strengthening of the wall structure.

In FIG. 4 portions of two building components are shown as they might be assembled together in the construction of a floor or other supporting platform. It will be noted in FIG. 4, that the building component shown at 70 is positioned adjacent building component 72 with splines 74, 76 extending between and joining corresponding panels in the two components. Extending within the space defined between the panels in the components is a floor joist 78. The joist forms a backing for margins of the panels in the components at the location of the splines. The panels in the components may be nailed, glued or

otherwise joined to the joists where they overlie the joists.

In building corners or other types of structures, some modification of the building components may be desirable. Thus, the inner panels of two components which are designed to come together in a corner might be bounded by an edge which is parallel to, but located somewhat inwardly from the bounding edge of the outer panels in the components. When placing the components together and in making a corner, these two inwardly spaced edges of the inner panels in the components would fit snugly together simultaneously with snug fitting of the outer panels and with the components being joined at right angles.

It will be noted that an important part of the invention is the provision in a building component of spaced panels which are each connected by the splines described to corresponding spaced panels in an adjacent component. In other words, each component along one margin is joined through two elongated joints to the component directly adjacent. This double joint has been found to be quite important in contributing to the rigidity and strength of the completed structure. The pegs, of course, by rigidly spacing the panels of the component contribute to this rigidity which is ultimately achieved. Furthermore, a void exists in a wall or other structure produced by such components which may contain air or perhaps another insulating medium. Thus, the use of the components enables the production of a structure having good insulating characteristics. The production of sealed joints with the glued splines as inserts in the grooves further contributes to good insulating characteristics.

Obviously, pegs of different lengths could be used to vary the spacing between opposed panels in a given component where other components of different size might be employed, depending upon whether a floor, ceiling or wall is being produced. Further, it is not necessary that all components be assembled in a completed wall in rows extending both vertically and horizontally, but, as an alternative, the components in one row might be staggered with respect to the components of an adjacent row.

While modifications of this invention have been described, it should be obvious that variations are possible.

We claim:

1. A unitary building component comprising a pair of substantially parallel, spaced-apart, matching plywood panels, each panel having an odd number of cross-bonded veneer; the bases of the grooves at each margin of the one parallel to and laterally spaced from an edge of the other along each of opposite margins of the building component; and multiple spaced-apart spacers extending between and rigidly interconnecting said panels; said spacers forming at least two rows with one row inwardly from but adjacent each margin of the building component; said spacers being joined to the panels at their extremities; said edges in said panels, along each of said margins of the component, having grooves indented inwardly along their lengths; said grooves being bounded by shoulders containing multiple layers of cross-bonded veneer; the bases of the grooves at each margin of the component being outwardly on the component from the row of spacers which is adjacent such margin; each of said grooves being adapted to receive a spline enabling said building component to be joined to another similar building component with such splines producing a connection with such other building component through both panels.

2. A flat surface formed of multiple building components as set forth in claim 1, disposed in a common plane, said building components being connected together through splines, and joists disposed within the building components in back of the splines which connect the building components, said components being connected to said joists,

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