

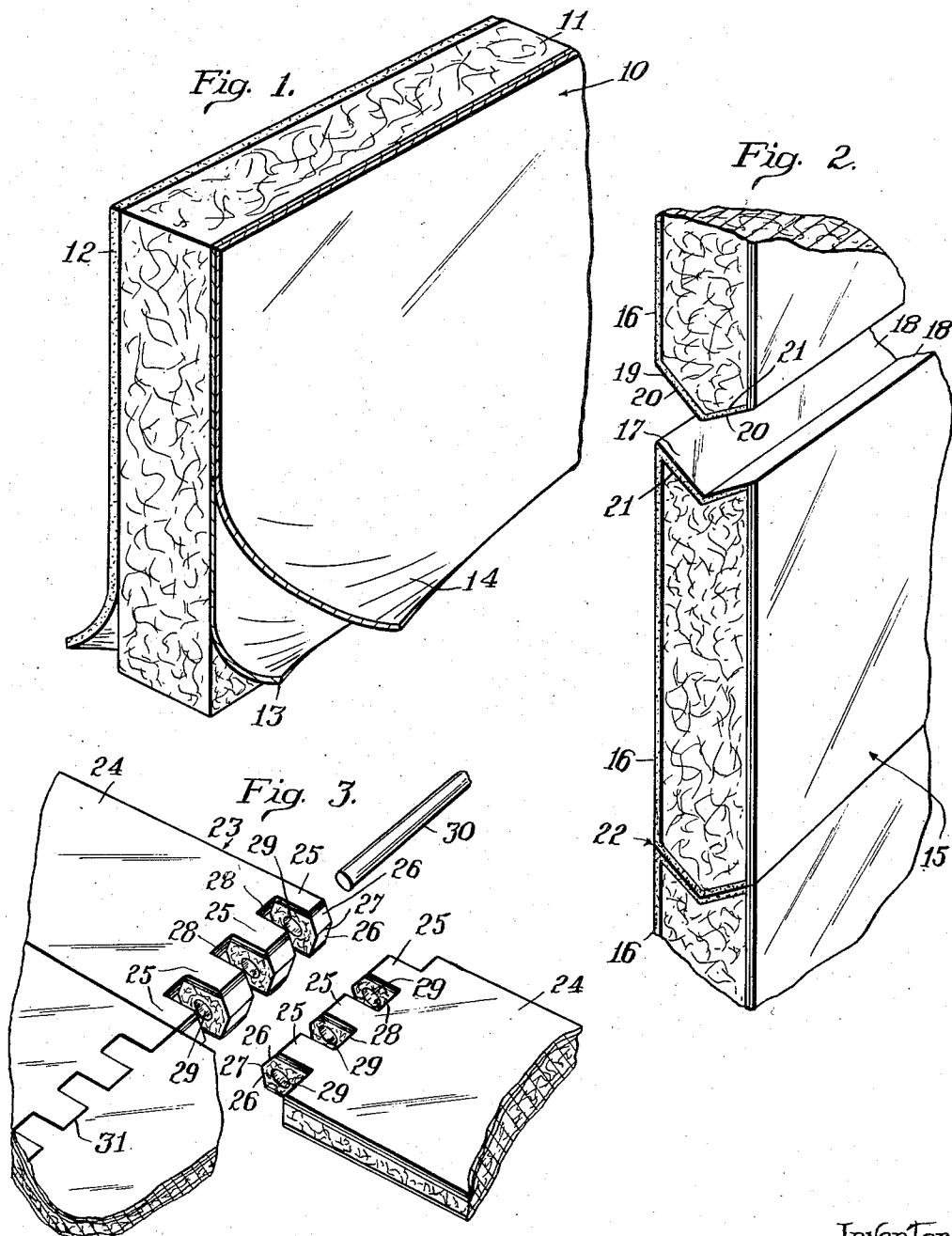
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BUILDING MATERIAL

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BUILDING MATERIAL

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This invention relates to a building element, more particularly to a wall panel member having glass fibers as a constituent thereof, and a method of attaching a plurality of wall panels together in order to form a wall structure.

Heretofore relatively little use has been made of glass fibers in a comparatively rigid building unit. Virtually all use of glass fibers has consisted either of positioning loose fibers within a previously constructed wall structure or encasing the fibers in a relatively flexible material and placing the resulting product in the walls of a structure which is desired to have insulating properties.

The present invention discloses a building unit in which the principal constituent is glass fibers. These glass fibers are assembled into a rigid panel which is light in weight and has good insulating qualities. As this panel is rigid it may be easily handled when assembling a plurality of these panels to form a wall structure. In addition, this invention discloses means for joining adjacent panels to each other. The adjoining edges of adjacent panels are constructed in such a manner that the edge of one panel nests within the edge of another panel. It is preferable that an adhesive coat be applied to these nesting edges. The invention also discloses a mechanically interlocking means for these wall panel members.

The wall panel member of this invention generally comprises a layer of glass fibers. An adhesive coat is applied to one face of the layer of glass fibers. A decorative coating is then applied to the other face of the glass fiber layer. If desired, a sealer coat may be placed between the glass fiber layer and the decorative coating.

The object of this invention is to provide a building unit wherein glass fibers are the principal constituent.

Another object of this invention is to provide a lightweight insulating wall panel member.

A further object of this invention is to provide an inexpensive wall panel member to which may be applied any desired decorative coating.

A still further object of this invention is to provide a glass fiber building unit which may be easily joined to an adjoining similar unit.

An additional object of this invention is to provide a glass fiber construction element having mechanically interlocking means to secure adjacent panels to each other.

Still another object of this invention is to provide a wall structure comprised of a plurality of glass fiber wall panels in which the adjoining edges of adjacent panels nest within each other.

A still further object of this invention is to provide a wall structure comprised of a plurality of glass fiber wall panels wherein the adjoining edges of adjacent panels are mechanically interlocked.

Other objects and advantages of this invention will be apparent from the following description taken in conjunction with the accompanying drawings in which:

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Figure 1 is a perspective view of a wall panel member showing the various components of the wall panel;

Figure 2 is a perspective view showing a portion of a wall structure constructed from panels of this invention wherein the edges of adjoining panels nest within each other; and

Figure 3 is a perspective view of a portion of a wall structure, and discloses the method of joining wall panels together wherein the adjoining edges of these panels are mechanically interlocked.

Returning now to the drawings, more particularly to Figure 1, wherein like reference characters indicate the same parts throughout the several views, 10 generally indicates the wall panel member of this invention. The wall panel 10 comprises a glass fiber panel 11. A plurality of glass fibers is impregnated with a suitable binding agent to unite the glass fibers into the panel 11. Other suitable methods may be used in forming the panel 11, but the above-mentioned method is preferable. The resulting panel is relatively rigid and may then be cut to the shape desired of the ultimate wall panel member.

An adhesive coat 12 is applied to one face of the glass fiber panel 11. This adhesive coat may be a mastic or tacky pressure-sensitive cement. The purpose of this coat is to assist in assembling these panels into a wall structure. By means of this adhesive coat these panels are quickly bonded to the structure which these panels are intended to cover.

The sealer coat 13 is applied to the other face of the glass fiber panel 11. This sealer coat 13 is a deformable layer and consists of rubber or a suitable synthetic resin.

A decorative coating 14 is positioned upon the sealer coat 13. The decorative coating 14 may be applied either in the plant when the wall panel 10 is being manufactured, or on the job immediately prior to assembly of the wall panel into a wall structure. The decorative coating 14 may be, by way of example, a hammered finish, a wrinkle finish, or any desired paint. Also, if desired, the decorative coating 14 could be a suitable form of ceramic.

It is pointed out that although the panel 10 as illustrated in Figure 1 has a smooth outer surface 14, acoustical holes may be placed in the outer surface of the panel if it is desired to take further advantage of the acoustical properties of the glass fiber panel 11.

Turning now to Figure 2, there is illustrated generally a wall structure 15. The wall structure 15 is comprised of a wall panel member 16 which is similar to the wall panel member 10 of Figure 1, but has edges which are adapted to receive the adjoining edges of the adjacent wall panel members. The edge 17 of the wall panel member 16 comprises inclined surfaces 18 which converge inwardly within the wall panel member 16. The edge 19 of the wall panel member 16 has inclined faces 20 which converge outwardly in respect to the wall panel member 16. It can be seen that the edges 17 and 19 are complementary to each other and consequently the edge 19 is adapted to be received within the edge 17 to provide for the nesting together of adjoining wall panels 16. The edges 17 and 19 have an adhesive layer 21 thereon. Consequently when the edges 17 and 19 nest within each other as illustrated at the joint 22, the adhesive layers 21 will cause the edges 17 and 19 to adhere together.

Turning now to Figure 3, there is disclosed therein a wall structure indicated generally as 23. The wall structure 23 is comprised of panels similar to wall panel 10 in Figure 1, except that the adjoining edges of these panels have means to provide for the interlocking thereof. In Figure 3 the wall structure 23 is comprised of panels 24, each of which has a series of spaced laterally extending lugs 25. Each lug 25 has at the outer end

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thereof a pair of outwardly slanted surfaces 26 which converge at a point 27. The spaces 28 between the lugs 25 are complementary to the structure of the lugs 25 so that the lugs 25 may be received therein. Each of the lugs 25 has an aperture 29 therethrough. The apertures 29 are aligned in order to receive a locking pin 30 which, when inserted in place, will serve to lock adjacent panels together. When a pair of panels 24 is joined together the result is a joint as indicated at 31. Thus it can be seen that by means of the interlocking structure disclosed in Figure 3 a plurality of the wall panels of this invention may be quickly assembled to form a wall structure which is secure against accidental disassembly.

Thus it is seen that this invention provides a lightweight insulating wall panel which has great use in construction. The invention also discloses means for easily and quickly securing adjoining panels to each other in order to form an insulating wall structure.

It will further be understood that various other modifications, changes, and substitutions of equivalents may be made in the construction and arrangement of the wall panels and wall structure which are within the scope of the invention as defined in the appended claims.

It is claimed as this invention:

1. A building unit comprising a glass fiber panel, a sealer coat on one face of said panel, a decorative coating on said sealer coat, a longitudinally extending groove along one edge of said panel, a longitudinally extending projection complementary to said groove along another edge of said panel, and an adhesive coat on the other face of said panel and on said groove and projection.

2. A building unit comprising a glass fiber panel, a surface coat on one face of said panel, a groove on one edge of said panel, a ridge complementary to said groove

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on another edge of said panel, and an adhesive coat on the other face of said panel and on said groove and ridge.

3. A panel-like structural element comprising a fibrous glass panel having a substantial thickness, a first set of converging surfaces on one edge thereof projecting outwardly of said panel, a second set of converging surfaces on another edge of said panel and complementary to said first set of converging surfaces, and an adhesive coat on both sets of converging surfaces.

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