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WALLBOARD JOINT AND METHOD OF JOINING WALLBOARDS

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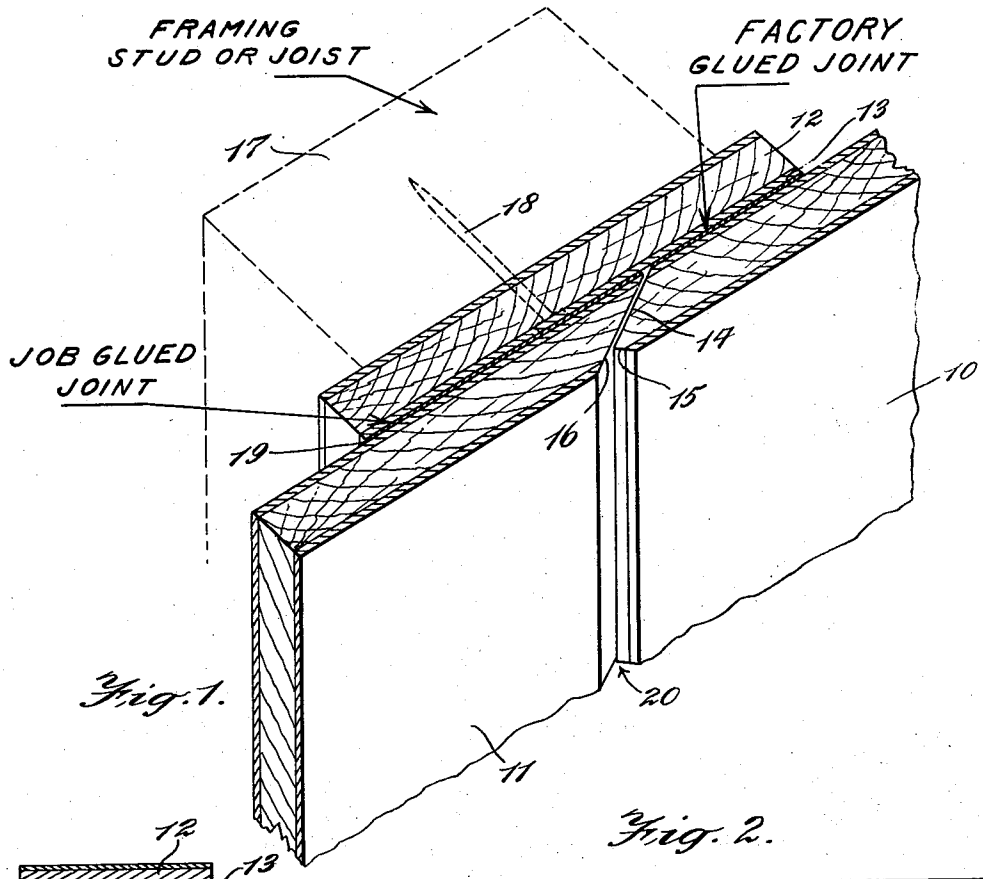


Fig. 1.

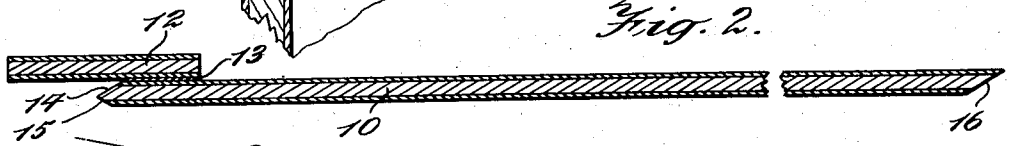


Fig. 2.

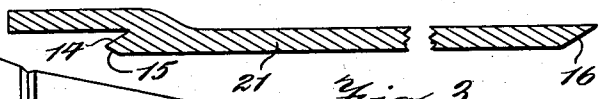


Fig. 3.

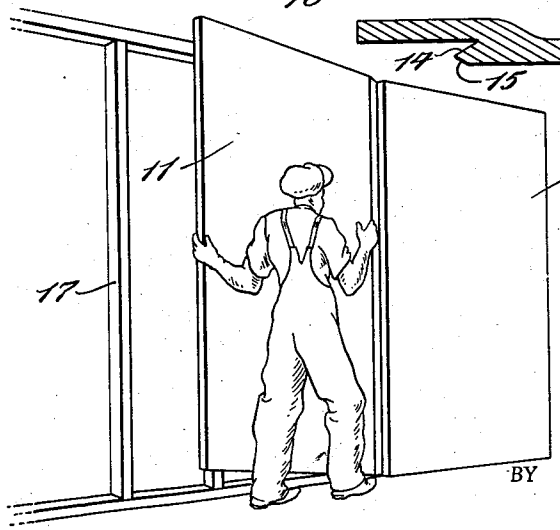


Fig. 4.

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WALLBOARD JOINT AND METHOD OF JOINING WALLBOARDS

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4 Claims. (Cl. 20—4)

The invention relates to wallboard joints and to a method of joining boards or panels used in erecting a wall structure by the securement of such boards or panels to supporting framing element such as studs or joists.

The invention is equally applicable for utilization with any of the well known types of boards or panels which are attached to such framing, whether such boards or panels are constituted of fabricated materials, as for instance compressed cellulose fibers, or the like, such as are available on the market under the trade-marks "Masonite," "Celotex," etc., or boards or panels constituted of plywood, either of which may or may not be faced with a wood veneer. The invention, however, is particularly useful in joining wallboards constituted of plywood and boards or panels of the indicated fabricated type which are faced with wood veneer. Generally speaking, the invention is applicable for utilization in the joining and erection of any type of pre-fabricated wall sections.

An object of the invention is to provide a wallboard joint which is characterized by the ease and economy of erection of the wall sections, and their securement to the framing structure.

A more particular object of the invention is to provide prefabricated wallboard structures with marginal portions of a design and configuration which will make possible the securement of adjacent boards or panels, which are to constitute a wall section, in automatically locked proper position against the framing studs or joist with a minimum of effort and with the greatest economy in carrying out the erection of the wall section.

In its broadest aspect, the invention consists in the provision of a backing strip of wood, board or panel material, secured by a layer of glue to one edge of the facing board or panel, with such backing strip extending beyond one of the marginal edges of such facing, board or panel, the backing strip being adapted to be secured by nails, clips, or any other conventional means to the framing stud or joist, to the exposed surface of which may be secured, by a layer of glue applied on the job, the next or adjoining board or panel of the wall facing. The marginal edge of the board or panel already glued to the backing strip is configured to provide a substantially triangular space between the surface of the backing strip and the edge of the panel already attached thereto, into which space is adapted to be pressed and locked therein by a wedging action of an oppositely configured tongue-like marginal edge portion of the adjoining facing board or panel. The wallboard joint thus secured is characterized by a firm locking of the two adjoining panels by the pressure exerted by the workmen upon the board or panel being applied to the surface of the backing strip and supplied with glue on the job, the wedging action of the tongue-like marginal edge entering into the triangular space between the surface of the backing strip and the marginal edge of the adjoining panel yielding a joint having a strong, firm bond and characterized by extreme ease and economy in producing such firm bond.

Specific embodiments of my invention are illustrated in the accompanying drawing, in which

Fig. 1 is a section through a wallboard joint produced in accordance with my invention, there being illustrated the joint between two adjoining boards or panels secured to the framing stud or joist to constitute a wall section;

Fig. 2 is a plan view of a board or panel utilized in carrying out my invention, to which board or panel has been applied the backing strip to be secured to the framing stud or joist;

Fig. 3 is a plan view of a slightly modified form of board or panel, in which the backing strip is formed integrally with the board or panel and of substantially the same material; and,

Fig. 4 is a view of a workman erecting a wall section against the studs or joists of a framing, illustrating the ease and facility with which my novel wallboard joint is produced.

Referring more particularly to the drawing, in which similar reference characters identify similar parts in the several views.

10 is a board or panel of plywood, composition material, or the like, which is to constitute the facing of the wall and to which an adjoining board or panel 11 is to be joined. Each of the panels 10 and 11 has applied thereto throughout one of its marginal vertical edge portions a backing strip 12 which may be constituted of a strip wood or the same material as constitutes the panels 10 and 11, which backing strip is glued at the factory throughout a portion of the front face thereof to the marginal edge section of the panel. Such factory-glued joint is indicated at 13.

The board or panel has its marginal edge 14 bevelled or chamfered prior to the gluing to the panel, of the backing strip 12, such marginal edge being preferably provided with an oppositely extending auxiliary bevel or chamfer 15 for a pur-

pose hereinafter described. When the backing strip 12 has been secured to the board or panel by the glue joint 13, there will be formed between the bevel 14 and the surface of the backing strip a substantially triangular space.

Each panel has its opposite marginal edge provided with a bevel or chamfer 16, the slant or inclination of which bevel is substantially the same as that of the bevel or chamfer 14. In other words, each of the boards or panels 10 and 11 is fabricated at the factory with marginal edges, one of which takes the form of the chamfered or bevelled edge 14 and the auxiliary chamfer or bevel 15, and the other edge of such board or panel, the bevel 16.

In erecting a wall section, the backing strip 12 is brought to abutting relation with the framing stud or joist 17 and a securing member, such as a nail 18, is passed through the backing strip 12 along the portion thereof which is not glued to the board or panel 10, a plurality of such nails being used to secure the backing strip to the stud or joist throughout the length of such backing strip, whereupon glue 19 may be applied to either the exposed surface of such backing strip or to the marginal edge portion of the adjoining board or panel 11, which board or panel is then applied by the workman in the manner indicated in Fig. 4 to the face of the backing strip, the workman exerting sufficient pressure upon the board or panel 11, both towards the face of the backing strip and in the direction of the adjoining panel 10 to cause the tongue-like extremity or marginal edge of the panel 11 to enter the triangular space between the backing strip and the bevelled edge of the adjoining panel 10. The application of the panel 11 in this manner is accomplished by a wedge action, exerting the required locking pressure on the glue or layer of adhesive applied to the face of the backing strip or the edge of the panel being joined to the adjoining panel, the entire wallboard joint thus being produced by the greatest ease and economy of time and effort on the part of the workman.

The auxiliary bevelling or chamfering 15 of the factory-glued edge portion of the facing board or panel functions first as a preventative of unintentional fracture of the extreme edge of the panel, either in the course of transportation to the job or in the course of the erection of the wall section, and second, as providing a complementary bevel for the exposed portion of bevel 16, with which it forms the groove 20. The same precaution with respect to the opposite marginal edge of the board or panel need not be taken, as if the fine pointed edge of such panel should be fractured in the course of transportation of the board or panel, or in the course of the erection of the wall section, any fragmentary disfiguration or fracture will not be visible after the erection of the wall section. Any such fracture or disfiguration will not interfere with the proper wedging or locking pressure applied to the joining of the two panels by reason of the triangular configuration of the tongue-like extension which, even though it may be slightly broken, at points along the leading edge thereof will, nevertheless, be properly seated by the wedging action in the triangular space between the backing strip and the edge portion of the adjoining panel.

The auxiliary bevel or chamfer 15, with the bevel 16 will, when no cross-panel 20 is to be erected, constitute an ornamentation of the surface of the wall section, breaking the monotony of an uninterrupted wall section, by equally spaced indentations extending throughout the vertical expanse of the wall.

In Figure 3, I have illustrated a board or panel constructed and configured substantially in a manner to effect the utilization of my invention which, however, instead of being glued along one of its marginal edges to a backing strip, is formed integrally with such backing strip, for instance, by the same pressure medium which is utilized in the fabrication of the board or panel. For instance, the molding presses which are utilized in the fabrication of the board or panel which are to constitute the wallboard, may have their recesses designed to produce in the single pressing operation the composite board and backing strip illustrated in Fig. 3. Such integrally formed wallboard, designated at 21, may be utilized substantially in the same manner as has been described with respect to the erection of a wall section illustrated in Fig. 1.

While I have illustrated a wall section as being erected with only one of its facings constituted of wallboard, it is obvious that my invention is equally applicable to the production of pre-fabricated wall sections having facings of wallboard on both sides. Thus, studs or joists constituting a part of the framing may be pre-fabricated at the factory, with the nails or clips already securing the wallboard to such studs or joists, when the panels of wallboard may be attached to such elements of the framing on both sides of the framing. Such pre-fabricated wall sections may conveniently be manufactured in various sizes, for instance, four feet wide and eight feet high, as is conventional in the manufacture of plywood boards or panels and such pre-fabricated wall sections erected in adjoining sections to constitute a full wall of a building structure.

I am aware that it has been heretofore suggested to provide wallboard joints in which a wall construction is made of a plurality of wallboard units in which there is utilized a substantially V-shaped groove formed by the adjacent edges of bevelled boards, which V-shaped grooves are adapted to receive plaster, the edge of one board being provided with a recess and the edge of the other board being provided with a tongue, fitting within the recess to form the joint. My invention is concerned not with this type of insulating joint but rather with the feature of securing, by a locking pressure and wedge action between one of two adjacent boards or panels, and a backing strip for one edge of the adjoining panel.

As heretofore indicated, my novel wallboard joint and the method of erecting a pre-fabricated wall section is equally applicable to any type of board or panel now on the market, although I have found particular advantages in the economy in cost and erection of such wall sections in the utilization of my invention in joining plywood board or panels of plywood.

While I have described specific embodiments of my invention, it is obvious that various changes therein, particularly in the configuration of the several parts thereof, may be made without departing from my invention.

I claim:

1. In a building wall section constituted of pre-fabricated wallboards or panels, the combination of a backing strip, adapted to be secured to a framing element of the wall section, a wallboard panel having one of its marginal edge portions

secured by a layer of adhesive to said backing strip, and constituting, with said backing strip, a structural element, the marginal edge of such wallboard, adjacent said backing strip being bevelled, and a second panel, the marginal edge of which is similarly bevelled, the two panels being secured together by a layer of adhesive applied between the marginal edge portion of the panel abutting the first panel and the exposed face of the backing strip and by the wedge-like abutment of the contiguous bevelled marginal edges of the two adjoining panels.

2. A joint structure for wall sections constituted of pre-fabricated wallboards or panels, comprising a wallboard panel having one of its marginal edge portions bevelled, a backing strip secured to said wallboard panel so as to have a portion of said backing strip extend beyond the marginal edge of said panel and constituting, with said wallboard panel, a unitary structural element adapted to be erected as such, a second wallboard panel having a bevelled marginal edge, the edge portion of said second panel being secured to the surface of said backing strip extending beyond said first panel, the bevelled marginal edges of adjoining panels overlapping each other with the bevelled edges thereof contiguous.

3. The method of erecting a wall section constituted of pre-fabricated wallboard panels, which consists in securing to one wallboard panel having a bevelled marginal edge, a backing strip running substantially throughout the marginal edge portion of such panel, nailing such backing strip to a framing stud or joist, juxtaposing an adjoining wallboard panel, having a bevelled marginal edge with the surface of the backing strip, and effecting the close joining of the two marginal edges of the adjoining panels by pressing the free edge of the second panel into the space between the backing strip and the bevelled marginal edge of the adjoining panel.

4. As a new article of manufacture, a pre-fabricated structural element for use in the erection of a building wall section designed to be constituted of pre-fabricated wallboards or panels secured to one or more previously erected upright framing elements of said wall section; said structural element comprising, in a unitary structure adapted to be stored, transported and erected as such, a wallboard panel having one of its edge portions bevelled and provided with a backing strip forming a permanent part of said unitary structural element, said strip extending in a parallel plane beneath and beyond said bevelled edge, and forming with the overhanging bevelled edge an elongated locating and matching edge structure adapted to be joined with a matching bevelled edge of any selected panel of a uniform series of like stock panels, said backing strip having a lateral extension beyond said first-named matching bevelled portion of adequate breadth to be positioned in upright, substantially parallel disposition to one of said upright frame elements, and thus to serve as the primary attachment portion of said unitary structural element in the completed building wall section, the outer face of said extension being suitably finished to permit the overlying margin of said adjoined bevelled edge panel to be brought to abutting relation with said face, whereby said series of like panels may be rapidly and accurately erected to form a building wall section with all fastening means between the various components thereof substantially concealed, and all joints between said components free from tendency to crack.

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