Aug. 31, 1943. A. S. BULL 2,328,051

WALL CONSTRUCTION

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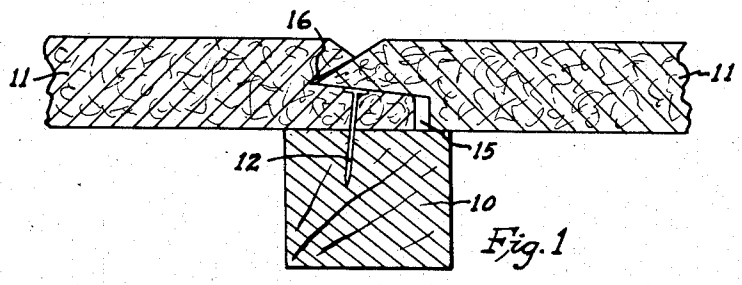

Fig. 1

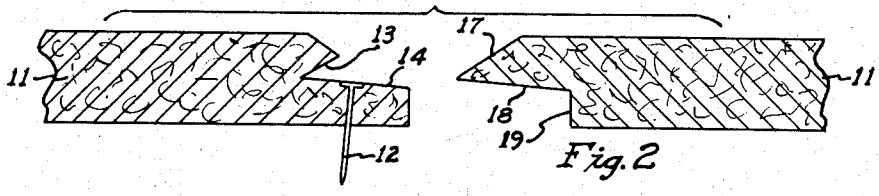

Fig. 2

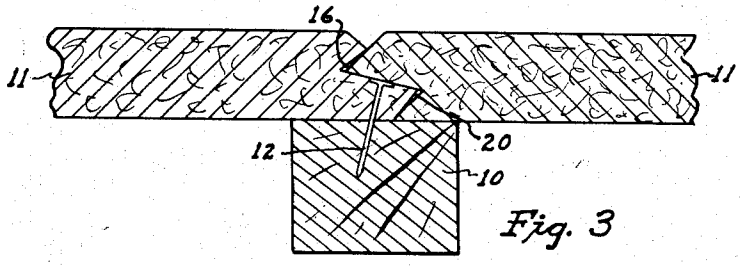

Fig. 3

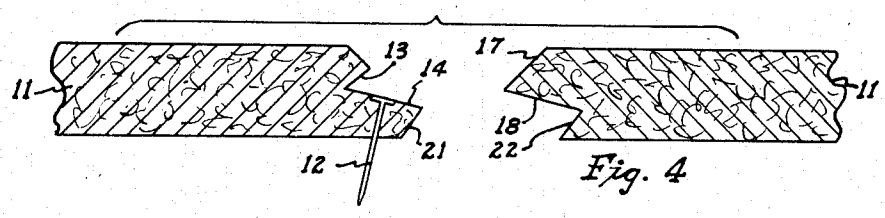

Fig. 4

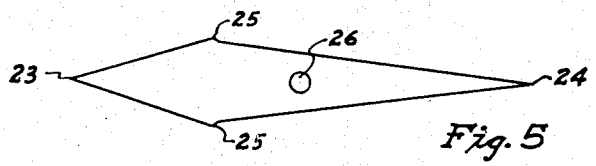

Fig. 5

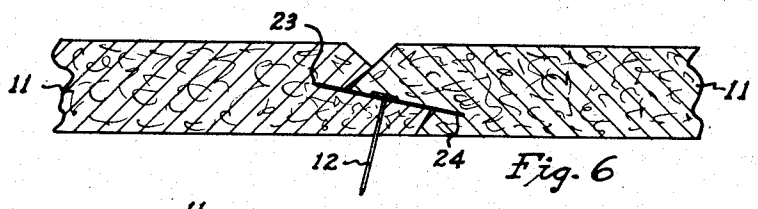

Fig. 6

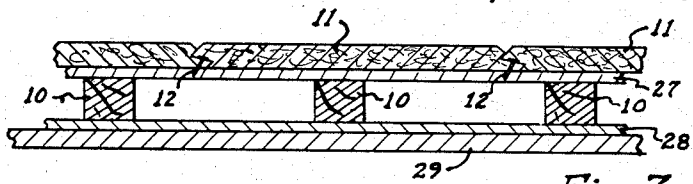

Fig. 7

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WALL CONSTRUCTION

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3 Claims. (Cl. 20—4)

The invention relates to the fabrication of the inner walls of buildings and the like structures from panel units made of the usual substance such as wood pulp, vegetable pulp, etc., and of any size from small pieces simulating tile to very large sheets.

The invention also relates to a wall construction formed from sections or units of vegetable fiber board and the like. In one application of the invention the sections may constitute the exposed surface or wall, and in such use its face may be treated for decorative effect.

Insulating wallboards of various present commercial types have not heretofore been economically employed as inside wall covering without nailing them with exposed nails. The exposed heads of nails are in themselves disfiguring, and even if finishing nails are employed and are set into boards or panels, the holes remain visible and cannot be adequately filled so as to conceal their presence. If such boards are glued to a plastered surface stresses are set up in the face of the latter as the boards shrink. These stresses may be severe, and unless the plaster is very hard and strong, will cause the boards to peel off.

An object of the present invention is to successfully and economically attach wallboards or the like to a plaster or other wall or support in such a manner that the foregoing objections are eliminated.

Viewed in one of its aspects, the present invention may be said to have for its object the success of attachment of wallboard or the like to wall or other supporting structure without leaving visible evidence of the presence of nails or other fastening means.

Viewed in another aspect, the present invention may be said to have as an object the locking of a board joint against opening and also to provide a joint that greatly, if not entirely, eliminates infiltration of dust at the board joints.

It will be seen that the invention viewed in a still further aspect may be regarded as having for its object to produce a novel wall or wall covering in which the panels are effectively secured meeting edges and have such edges interlocked against opening.

The various features of novelty whereby the invention is characterized will hereinafter be pointed out with particularity in the claims; but, for a full understanding of the invention and of its objects and advantages, reference may be had to the following detailed description taken in connection with the accompany drawing, wherein:

Figure 1 is a sectional view through boards showing the joint construction.

Figure 2 is a sectional view of two boards just prior to being joined.

Figure 3 is a sectional view through boards showing a modified joint construction.

Figure 4 is a sectional view of two boards showing the modified joint construction.

Figure 5 is a plane view of the locking member.

Figure 6 is a sectional view, showing one means of using locking members.

Figure 7 is a sectional view through a wall showing the invention applied to a surfacing material.

To obtain the best results in nailing fiber board to a wall, support or the like, it is necessary to have the nail pass through the board at an angle to the surfaces. From the standpoint of appearance the head of the nails should not be visible on the finished surface. One objection to the use of fiber board known joint construction for wall-surface covering is that infiltration of dust occurs along the joints and in time a dark line appears along the joints between adjacent boards.

The present invention permits securing boards in place, as for example, with nails without the nail heads being visible in the finished surface and at the same time preventing infiltration of dust at the joints.

In one application of the invention heat insulating and sound absorbing fiber board 11 is secured directly to the studding 10 by means of nails 12. In common with most all building materials, fiber board expands and contracts during changes of temperature and relative humidity. This volume change in responsible for the movement that results in the warping of fiber board. To overcome this disadvantage spaces for expansion are provided without permitting infiltration of dust, as shown in Figure 1 at 12 and 16 and in Figure 3 at 16 and 20.

The edges of the boards 11 are provided with articulated joints of suitable construction which interlock with joints on adjacent boards. In Figures 1 and 2 this joint is formed by oblique shoulder 13 which terminates at the upper surface of the board and oblique flange 14 which is of greater width than the shoulder 13. The shoulder 13 and flange 14 form an angular recess which may be termed substantially V-shaped. The joint so formed cooperates with a joint on adjacent board formed by oblique shoulder 17, flange 18 as shown in Figures 1 and 2.

Flange 18 is of greater width than flange 14 thereby forming expansion space 15. Shoulder 13 is cut at a different slope than shoulder 17 thus providing expansion space 16. Flange 14, being of greater width than shoulder 13, permits

the nail being driven into the board at an angle to the face of the board. The nail head is parallel to the flange 14 surface as shown in Figures 1 and 3.

Figures 3, 4 and 6 disclose the preferred form of joint construction in which oblique shoulder 21 is adapted to cooperate with shoulder 22 in providing expansion space 20 and at the same time giving an additional gripping surface to prevent dust infiltration.

Depending upon the size and shape of the board, one or more sides of the board 11 is provided with a nailing flange 14 and one or more sides is provided with a shoulder 18 cooperating with a nailing flange or flanges 14 in providing tight joints with adjacent boards. If more than one edge is provided with nailing shoulder then such edges are adjacent. In a rectangular board the other two edges would be provided with oblique shoulders 18.

Under certain conditions it is desirable to obtain a more positive interlocking of adjacent boards and this is obtainable by the use of locking pin shown in Figure 5. The lock pin is provided with penetrating ends 23 and 24 and to limit the penetration in the board stop means 25 is provided. It is often desirable to insure movement of the lock pin and this can be obtained by providing opening 18 through which nail 12 passes. The pin generally and preferably is inserted as shown in Figure 6. Pin end 22 is inserted in the board until stops 25 abut against shoulder 13 and the body of the pin rests upon flange 14. The nail is driven into the supporting means and passes through opening 26 in the pin and through board 11 at an angle. The adjacent board 11 has a tongue pushed into the groove in adjacent board and end 24 of the pin penetrates into the lower portion of the board 11.

The use of board through the specifications and claims is intended to mean and cover board, sheets, slabs of the desired thickness and size. In the specification and claims the word wall is intended to cover and means walls and ceilings.

What I claim is:

1. In a building construction, the combination with a supporting surface a series of manufactured vegetable boards secured to the supporting surface and forming interior wall panels and secured in place by means driven at an angle to major surfaces of the board, each board having opposite edges of substantially complemental configuration, each of said edges including a pair of tongues of unequal length and the surface connecting the two tongues being non-parallel to the major surfaces of the board and a spline-like member penetrating adjacent boards at an angle to said major surfaces and lying on said surface connecting the said two tongues.

2. In an inner wall building construction the combination with a support of a series of manufactured fiber board secured to the support, each board having opposite edges of substantially complemental configuration, each of said edges including a pair of tongues of unequal length and the surface connecting the pair of tongues being non-parallel to major surfaces of a board, and a concealed fastener comprising a spline-like member penetrating adjacent boards in a plane substantially parallel to the surface connecting the pair of tongues and lying wholly within said adjacent boards.

3. In an inner wall building construction the combination with a supporting member of a series of vegetable fiber panels secured to the supporting members, each panel having opposite edges of substantially complemental configuration, each of said edges including a pair of tongues of unequal length and the surface connecting the two tongues being non-parallel to major surfaces of the panel, the longer of the tongues having a bevel extending from one end thereof to an adjacent face of the panel and the shorter tongue having oppositely beveled sides and a spline-like member on said surface connecting the said two tongues and adapted to penetrate adjacent panels and lie wholly concealed within said panels.

ALVAH S. BULL.