Nov. 24, 1936. G. E. SHIPWAY 2,061,882

BUILDING ASSEMBLY AND ALIGNING MEANS FOR USE THEREIN

Filed Sept. 5, 1935

Fig. 1.

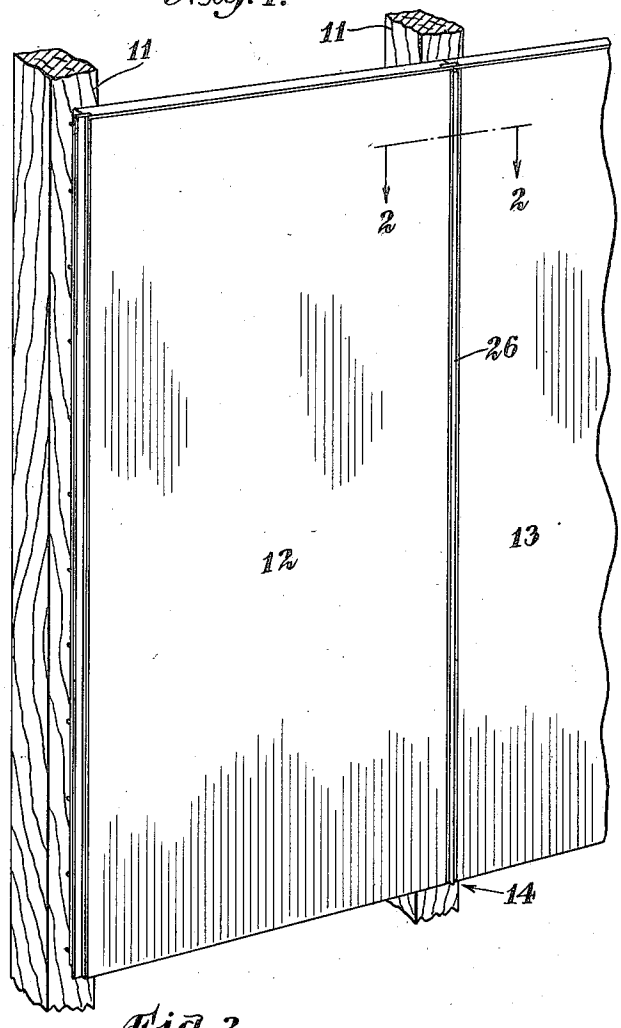


Fig. 6.

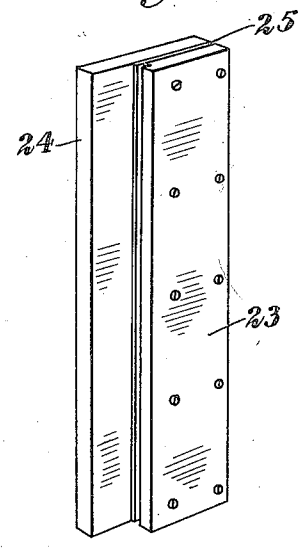


Fig. 4.

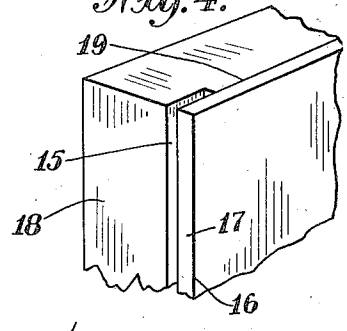


Fig. 5.

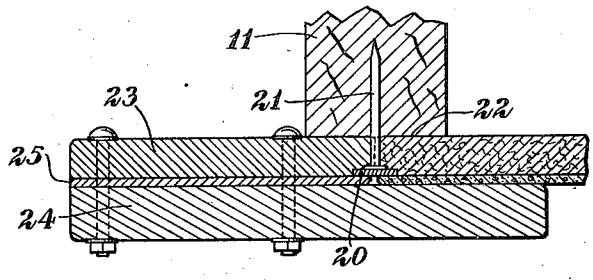


Fig. 2.

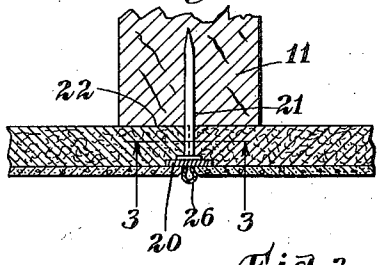
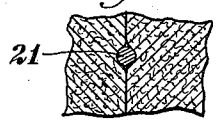


Fig. 3.



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BUILDING ASSEMBLY AND ALIGNING MEANS FOR USE THEREIN

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Application September 5, 1935, Serial No. 39,261

6 Claims. (Cl. 72—16)

This invention relates to an assembly suitable for use as a building wall, partition, or the like, and to aligning means adapted for use therein.

A desirable type of facing unit for walls is one combining a substantially unyielding exterior or front portion with a yieldable back portion. Thus, the front or face portion of such a unit may consist of a hardened asbestos-cement board or panel and the back portion may be constituted of a fibre insulating board, the two portions being secured together in any suitable manner, as, for example, by an adhesive.

In the use of such improved composite panels or the like as the interior finishing material for the walls of a dwelling, for example, it is desirable to secure the panels to the substructure by fastening means that are concealed from view and that will maintain the outer (exposed) faces of the units in alignment, regardless of the possible partial crushing or compressing of the yieldable back portions against the frame members of the substructure during the assembly or of other complicating factors.

The present invention comprises concealed means of making and maintaining the desired alignment of the faces of the abutting units, and closing the joint therebetween, while maintaining the back portions of the facing units snugly against the faces of the frame members of the wall. The invention comprises, also, the means for effecting such alignment and snug fitting of the facing units. The facing units may consist of single sheets of relatively hard material, two or more sheets of such material adhered together, or an unyielding sheet and a yieldable sheet adhered together. Other objects and advantages will appear from the detailed description that follows.

An embodiment of the invention that is preferred at this time is illustrated in the attached drawing and will be described in connection therewith.

Fig. 1 shows a perspective view of an assembly made in accordance with my invention.

Fig. 2 shows a sectional view on line 2—2 of Fig. 1.

Fig. 3 shows a sectional view on line 3—3 of Fig. 2.

Fig. 4 shows a perspective view on an enlarged scale, as compared with the scale of the other figures, of a portion of my improved grooved facing unit.

Fig. 5 shows a sectional view of my assembly, in incomplete form, and driving means in position for securing the fastening member to the substructure.

Fig. 6 shows a rear perspective view of the said driving means.

In the various figures, like reference characters denote like parts.

There are shown frame members 11, such as wooden studs or beams or the like, penetrable to nails or their equivalent, facing units 12 and 13 meeting in flush relationship, to form a joint 14 extending between the edge portions of the adjacent units and in front of the face of a frame member.

The panels are provided with grooves 15, one in each of the adjacent edge portions, spaced equally from the outside faces 16 of the units and extending inwardly from the said edge portions, on each side of the said joint. The groove on one side of a joint opens toward and registers in the finished assembly with the groove on the opposite side of the joint.

These grooves may be cut in any convenient manner, as, for example, by a small power-driven circular saw having conventional means for controlling the position of the cutting with respect to the surface 16 of the unit and the depth to which the groove is formed thereof.

For certain purposes of the invention, the front portion 17 of the facing unit is substantially unyielding and may consist, for example, of the asbestos-cement board mentioned above, whereas the back portion 18 may be resiliently yieldable, as exemplified, for instance, by the yieldability of conventional fibre insulating board of thickness of ½ to 1 inch, more or less. The front and back portions may be adhered together, as at zone 19, by an asphaltic composition or other satisfactory adhesive.

When the resiliently yieldable back portion such as insulating fibre board is used, the groove 15 for convenience may be formed in this portion of the composite facing unit.

Aligning means 20, such as a strip of iron, steel, or other strong and rigid material, is engaged in the pair of grooves opening toward each other at the joint between adjacent panels. The aligning means extends substantially continuously in the grooves, on each side of the joint, and preferably is of width and thickness approximately to fill the groove, so that the exterior faces of the adjacent units are held in approximate alignment at the joint position.

Means 21 that may be integral with the alignment means, say, nails spot-welded at their heads to the strip 20, at spaced positions therealong, se-

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cure the said means to one of the frame members 11 and hold the back portions of the edges of adjacent panels in snug or tight fit against the face of the said member, as illustrated at position 22. For some purposes, the fastening members such as the nails 21 may extend through the strip 20, as, for example, through preformed holes therein.

In any case, the alignment and fastening means described may be disposed, and engage the facing units, completely behind the front portions thereof and are concealed from view in the finished wall assembly.

A stem element of the said means, such as the stem of the nail 21, extends between the back portions of the units. When these back portions are resiliently yieldable, as described, the back portions may be forced tightly against the stem element, whereby they are dented, caused to embed the said stem, and to abut on either side thereof, all as illustrated in Fig. 3.

In making the assembly of the present invention, one of the grooved panels is brought into proper registration with the face of the frame member 11. The alignment strip 20 is engaged in the groove and the nail 21 or the like is forced laterally partly into the edge of the back portion, as illustrated in the case of the yieldable material at the right in Fig. 3. The nail is then driven part way into the frame member 11.

This forcing of the member 21 laterally against the yieldable backing portion of the unit and subsequent driving into the frame member is accomplished by means of the driving plate shown in Figs. 5 and 6, and a hammer or the like used in connection therewith. The driving plate comprises a back portion 23 adapted to contact with the side of the member 21 and to keep it approximately straight while the said member is being driven, a front portion 24 adapted to extend over the front of the facing unit, and a spacing element 25 separating the portions 23 and 24 advantageously, by about the width of the unyielding front portion of the facing unit. The tool is so made as to conform approximately with the alignment means 20, as shown, and keep the alignment means and the means 21 in proper relationship during the making of the assembly, while force is applied to the outside of the driving tool and about in line with the stem of the member 21, as by a hammer or mallet.

After the partial assembly has been made as illustrated in Fig. 5, the facing unit that is to constitute the left portion of the assembly is brought into position and driven laterally against the portion of the assembly previously made, so that the back portion of the driven panel is caused to be dented around the stem 21 of the nail and to contact with the edge portion of the panel previously secured to the member 11, as shown in Fig. 3. Finally, the stem 21 is driven home, as by hammer blows applied to a board or other force-distributing member laid over the joint portion.

The finished assembly has the desirable features previously indicated. Thus, there is alignment of the outside faces of abutting panels. The means 20 also close the joint. Finally, the snug and conforming fit between the yieldable back portion of the units and the frame member eliminates drafts or air circulation therebetween as well as rattling. Also, this back portion provides a cushioning effect for the less readily yielding front portion of the unit.

The joint between the front portion, of the facing units, that is, in front of the said grooves, may be very narrow and inconspicuous. If desired, however, a bead 26 may be inserted into this part of the joint from a forward position. If the bead is to be used, the joint should be made somewhat wider than is the case if the joint is to be made inconspicuous simply by the close abutment of the edges of the front portions of adjacent panels. A bead, if used, is preferably springy and provided at its rear with slightly outturned heels that become engaged in the joint, as illustrated in Fig. 2. If desired, the bead may be made integral with the spline element 20. Thus, a wire may be welded, brazed or otherwise attached to the spline and adapted to form the bead 26.

The details given are for the purpose of illustration, not restriction. It is intended, therefore, that variations within the spirit of the invention are to be included in the scope of the appended claims.

What I claim is:

1. A wall assembly including a supporting structure, facing units meeting at edge portions to form a flush joint in front of the supporting structure and provided with grooves, one in the edge portion of each facing unit, spaced equally from the outer faces of the facing units and extending inwardly from the edge portions thereof on each side of the joint, aligning means engaged in the said grooves and maintaining the outer faces of the said units in alignment, and means securing the aligning means to the said supporting structure and holding the back portions of the facing units firmly thereagainst.

2. A wall assembly including a supporting structure, facing units meeting at edge portions to form a flush joint in front of the supporting structure and provided with grooves, one in the edge portion of each facing unit, spaced equally from the outer faces of the facing units and extending inwardly from the edge portions thereof on each side of the joint, aligning means engaged in the said grooves, extending substantially continuously therealong, on each side of the joint, and maintaining the faces of the said units in alignment, and means securing the said aligning means to the supporting structure and holding the back portions of the facing units firmly thereagainst.

3. A wall assembly including a supporting structure, facing units meeting at edge portions to form a flush joint in front of the supporting structure and provided with grooves, one in the edge portion of each unit, spaced equally from the outer faces of the facing units and extending inwardly from the edge portions thereof on each side of the joint, a unitary strip of strong rigid material extending across the joint and continuously into each of the grooves and aligning the outer faces of the said units, and means securing the said strip to the supporting structure and holding the back of the facing units firmly thereagainst.

4. A wall assembly, as described in claim 1, the facing units having a front portion that is substantially unyielding and a back portion that is resiliently yieldable, the back portions of the units fitting snugly against the supporting structure and providing a cushion for the said front portions of the units.

5. A wall assembly, as described in claim 1, having a bead member engaged in and closing the portion of the joint in front of the said grooves.

6. A wall assembly including a penetrable sup-

porting structure, facing units meeting at edge portions to form a flush joint therebetween, front portions of the said units that are substantially unyielding, back portions thereof that are yieldable, and fastening means securing the said units to the supporting structure, the fastening means being disposed, and engaging the facing units at positions, completely behind the said front portions thereof and having a stem element extending between the back portion of adjacent units and into the supporting structure, and the said back portions of adjacent units being forced laterally against the said stem element and abutting on either side thereof.

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