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A. C. MARSH, SR
WALL OR CEILING PANEL

2,630,604

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2 SHEETS—SHEET 1

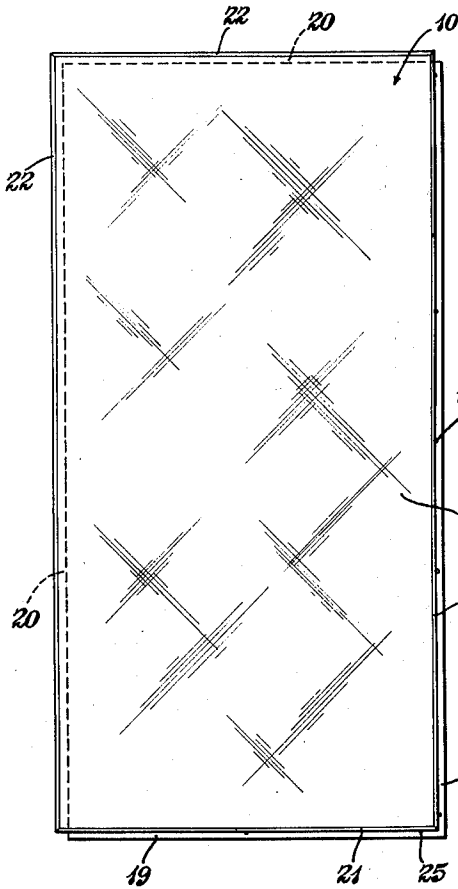


Fig. 1

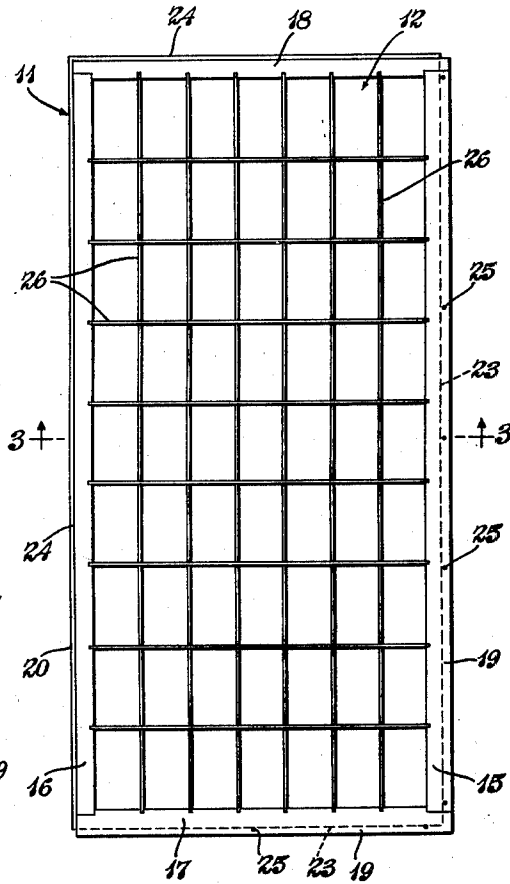


Fig. 2

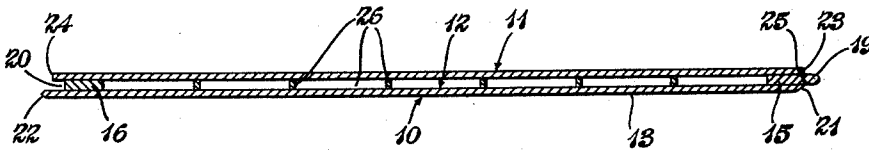


Fig. 3

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WALL OR CEILING PANEL

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4 Claims. (Cl. 20-15)

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The invention relates to fabricated wall board panels for use upon interior walls and ceilings, and more particularly to a panel of this character constructed of pressed fibre board, or similar material, and having an enamelled or plastic finished surface producing a wall board such as commonly known to the trade as "Marlite" or the like.

In the past it has been customary to finish interior walls and ceilings with such fibre wall boards or panels, by attaching the wall boards by means of a mastic cement, metal clips, splines, etc., such means being used to fasten the wall boards or panels tightly to such wall or ceiling surfaces.

It is also customary, in attaching such wall boards or panels to a wall or ceiling, to use metal or plastic strips or molding to attach and securely retain the edge portions of the wall boards or panels to the walls or ceiling.

This method of attaching these wall boards or panels is expensive in that it requires considerable labor, as well as the additional expense of the attaching strips, which in themselves detract from the appearance of the finished wall.

Furthermore, since it takes some considerable time for the mastic cement to thoroughly set and dry, props are required for holding the wall boards or panels tightly pressed against the ceiling and in some cases the side walls, and these props must remain in place for quite some time after the job is completed, thus preventing immediate use of the room or rooms, to the walls and/or ceiling of which the wall boards or panels have been applied.

The present invention contemplates the provision of a fabricated wall or ceiling panel which may be quickly and easily attached by concealed nails, thus obviating the necessity of using attaching strips or molding, metal clips, splines, etc., and dispensing with the necessity of providing props, or other pressure means, where mastic or cement is used, so that when the last panel has been nailed in place the room is ready for use.

It is also an object of the invention to provide such a fabricated panel which may be attached directly to the studding or joists or furring strips, thus dispensing with the labor and expense required for first constructing a wall surface to attach the wall boards or panels thereto.

Another object of the invention is to provide such a fabricated panel, formed of two spaced sheets of such fibre wall board or other suitable material, having a core or frame of wood, pressed

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fibre board, or the like, interposed therebetween.

A further object is to provide such a panel in which the core or frame is so constructed as to provide a tongue around two adjoining edges of the panel and a corresponding groove around the other two edges thereof.

A still further object is to provide a panel of this character in which the front and back sheets of the panel are both preferably coated with enamel or the like, so as to balance the panel and prevent warping or distortion thereof due to moisture or temperature changes.

Another object of the improvement is to provide a panel of this character in which the joints between adjacent panels are so constructed that they will compensate for expansion and contraction.

Still another object is to provide a panel of this character which will be floating when attached to the wall, as the panels are anchored only at the tongue edges.

A further object is to provide such a fabricated panel in which the inner or back sheet of the panel is of less width and less length than the outer or front sheet of the panel.

A still further object is to provide a panel of the character referred to in which the edges of the outer sheet of the panel, adjacent to the tongues, are bevelled, and the other two edges thereof are of V-shape, so as to provide a neat joint, of pleasing appearance and at the same time compensating for expansion and contraction without materially changing the appearance of the joint.

Another object is to provide a hollow core or frame for the panel so as to provide an air space for insulation, as well as to decrease the weight of the panel.

The above objects together with others which will be apparent from the drawings and following description, or which may be later referred to, may be attained by constructing the improved panel in the manner hereinafter described in detail and illustrated in the accompanying drawings, in which;

Figure 1 is a front elevation of a panel constructed in accordance with the invention;

Fig. 2 an elevation of the panel with the front sheet removed, showing the hollow core or frame;

Fig. 3 an enlarged, transverse, sectional view of the panel, taken as on the line 3-3, Fig. 2;

Fig. 4 a fragmentary, sectional, perspective view through a joint between two adjacent panels; and

Fig. 5 a fragmentary, sectional view through

a joint between two adjacent panels, showing the manner in which the joint compensates for expansion and contraction.

Referring now more particularly to a preferred embodiment of the invention, which is illustrated in the drawings, in which similar numerals refer to similar parts throughout, each panel may be formed of an outer or front sheet, indicated generally at 10, and inner or back sheet, indicated generally at 11, and a hollow frame or core, indicated generally at 12.

The panels are square or rectangular in shape, preferably of greater length than width as best shown in Fig. 1, and may be of any desired dimension suitable for ease in handling and attaching to the ceiling or walls.

Both the front sheet 10 and the back sheet 11 are preferably formed of hard pressed fibre board, or other suitable composition or material. The front surface 13 of the front sheet 10 is preferably finished with any required number of coats of enamel or plastic of any desired color or pattern, in the manner of the well-known "Marlite" wall boards or similar materials.

The back surface 14 of the back sheet 11 is also preferably provided with one or more coats of enamel, plastic or the like. It has been found that by forming the back and front sheets of similar material, and coating the outer surfaces of both, gives stability to the panel, keeping it straight and preventing it from warping, under moisture or temperature changes.

The core or frame, indicated generally at 12, is preferably hollow, as best shown in Fig. 2, and is preferably made of wood in order to decrease the weight of the finished panel, although pressed fibre board or other suitable material may be used, if desired.

This frame includes the side rails 15 and 16 and the end rails 17 and 18. As clearly shown in the drawings, the rails 15 and 17 extend outwardly beyond the adjacent edges of the front sheet 10, and are preferably slightly tapered, forming tongues 19, while the rails 16 and 18 terminate inwardly from the adjacent edges of the front sheet 10, forming grooves 20.

The side and end edges of the front sheet 10, adjacent to the tongues 19, are beveled, as indicated at 21, while the opposite side and end edges of the front sheet, adjacent to the grooves 20, are preferably V-shape, as indicated at 22.

The side and end edges of the back sheet 11, adjacent to the tongues 19, may be substantially the same distance from the edge of the tongues as the bevelled edges 21 of the front sheet, as indicated at 23, while the opposite side and end edges of the back sheet terminate inwardly from the V-shape edges of the front sheet, as indicated at 24.

Nail holes, as indicated at 25, are preferably provided in the tongues 19, at spaced intervals, these nail holes, as best shown in Figs. 4 and 5, being located close to the bevelled edges 21 of the front sheet, and are preferably located at an angle, as best shown in Fig. 5, so as to pass through the adjacent edge portion of the back sheet 11.

For the purpose of strengthening and reinforcing the panel, any desired number and arrangement of separating members 26 may be provided in the hollow core or frame. It should be understood that this core or frame is rigidly and permanently attached to the front and back sheets 10 and 11 respectively, by any suitable adhesive ma-

terial, which may be applied under heat or pressure in conventional manner.

The fabricated wall or ceiling panel thus formed is provided along two adjacent edges with tongues and along the two opposite edges with grooves, the grooves being of greater depth than the tongues, as best shown in Figs. 4 and 5, in order to compensate for expansion and contraction and to provide tight joints between the front sheets of adjacent panels.

The panel so constructed is of a size, shape and width which permits it being easily handled and attached to a ceiling and wall with a minimum of labor.

Since the improved panel does not require any mastic or cement for attaching it, no plaster or other wall surface is necessary, the panels being adapted to be nailed directly to the studding or joists or furring strips, so as to obviate the labor and expense of providing a wall surface.

In attaching the panels, the tongue edge of one panel, as indicated at A in Figs. 4 and 5, is located against a furring strip, stud or the like, as indicated at 27 in said figures, and screw-nails, or the like, as indicated at 28, are driven through the angular nail holes 25 of the tongue and into the furring strip or studding, a nail set or the like being preferably used to countersink the heads of the nails into the tongue 19.

The grooved edge of an adjacent panel B, as shown in Figs. 4 and 5, is then pushed directly against the tongue edge of the panel A, as shown in said figures, the tongue 19 being received within the groove 20, and the V-shape edge 22, of the front sheet 10 of the panel B, contacting the adjacent bevelled edge 21, of the front sheet 10 of the panel A concealing the screw nails or other fastening means, as shown in Figs. 4 and 5.

This provides a simple and efficient joint between panels, which has a pleasing appearance and which firmly secures the grooved edge of the panel B, at the same time permitting it to float toward and from the panel A due to expansion and contraction.

It will be obvious that with this construction of panel, each panel is supported at its grooved edges by the adjacent edge portions of the back sheet resting upon and supported by the tongues of the next adjacent panel.

In the event of expansion of the panels, since the tongue edges only thereof are anchored, the grooved edge portions are free to move toward or from the next adjacent panels, and as such expansion takes place the V-shape edge 22 of the front sheet of each panel will ride upon the bevelled edge 21 of the front sheet of the next adjacent panel.

Such movement is shown greatly exaggerated in Fig. 5. The V-shape edge portion of the front sheet of the panel B is shown slightly flexed, as it rides upwardly upon the bevelled edge 21 of the front sheet of the panel A.

Although in the preferred embodiment of the invention, the improved panel has been described as formed of sheets of fibre board, it should be understood that any other suitable material may be used, such as laminated plastic, metal or other material.

From the above it will be evident that the invention produces a structurally well-designed panel which is simple, efficient and easily handled and installed, the hollow core or frame reducing the weight of the panel and providing an air space therein for insulation; the panel being properly balanced, so as to give it stability

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and keep it straight and prevent warping; and the panel, when installed, being anchored only at one side edge and one end edge, so that the opposite edges thereof are floating or have free movement, providing for expansion and contraction of the panels, which is very important where fibre board or similar material is used.

According to the provisions of the patent statutes, I have explained the principle of my invention and described an embodiment thereof, but I desire to have it understood that within the scope of the appended claims, the invention may be practiced otherwise than as specifically illustrated and described.

I claim:

1. A fabricated wall and ceiling panel comprising similar front and back sheets formed of material of similar coefficient of expansion and contraction, and a core interposed between the front and back sheets and rigidly bonded thereto, said core extending beyond the front and back sheets along two adjacent edges of the panel to form tongues and being inset from the other two edges to form grooves, said grooves being of greater depth than the tongues, a bevelled edge on the front sheet adjacent to each tongue, the front sheet being of greater length and width than the back sheet and extending outwardly from the core beyond the back sheet at each grooved edge of the panel and terminating in a V-shape edge, said panel being adapted to be engaged edge to edge with similar panels so that the tongues will be received in the grooves of adjacent panels and spaced from the bottoms of the grooves and the opposed edges of the back sheets of adjacent panels will be spaced apart and the V-shape edges of the front sheet will contact the bevelled edges of the front sheets of adjacent panels, said V-shape edge portions of the front sheet being sufficiently flexible so that expansion of the panels will cause said V-shape edges to ride upward upon the bevelled edges of adjacent panels.

2. In a fabricated wall and ceiling panel as defined in claim 1, fastening means located through the tongues at adjacent edge portions of the back sheet of each panel and adapted to be concealed between grooved portions of similar panels.

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3. The combination of similar fabricated wall and ceiling panels engaged edge to edge, each panel comprising similar front and back sheets formed of material of similar coefficient of expansion and contraction, and a core interposed between the front and back sheets and rigidly bonded thereto, said core extending beyond the front and back sheets along two adjacent edges of the panel to form tongues and being inset from the other two edges to form grooves, said grooves being of greater depth than the tongues, a bevelled edge on the front sheet adjacent to each tongue, the front sheet extending outwardly from the core beyond the back sheet at each grooved edge of the panel and terminating in a V-shape edge contacting the bevelled edge of an adjacent panel and being sufficiently flexible to ride thereon, the opposed edges of the back sheets of adjacent panels being spaced apart, the tongues being located in the grooves of adjacent panels and spaced from the bottoms of the grooves, so that expansion of the panels will cause said V-shape edge portions of the front sheets to flex sufficiently to ride upward upon the bevelled edges of adjacent panels.

4. In the combination of similar fabricated wall and ceiling panels as defined in claim 3, fastening means located through the tongues at adjacent edge portions of the back sheet of each panel and concealed by the grooved portions of adjacent panels.

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