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WALL ASSEMBLY

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Fig. 1.

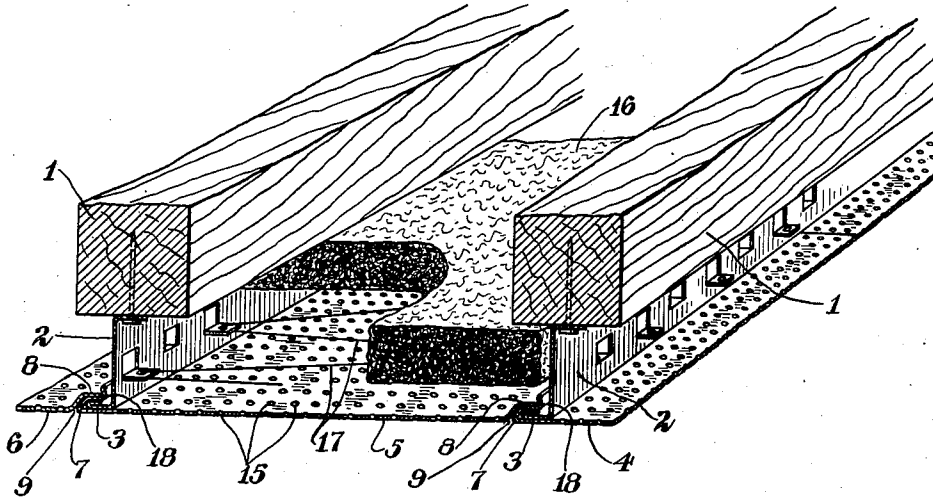
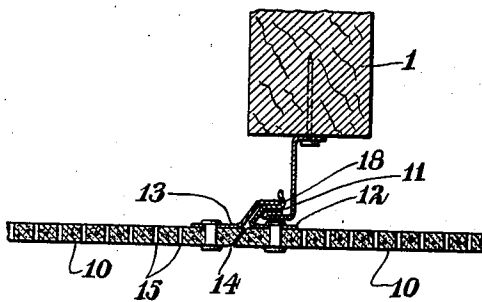


Fig. 2.



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WALL ASSEMBLY

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6 Claims. (Cl. 189—88)

This invention relates to a wall assembly, particularly to a suspended ceiling, and to panels for engagement therein.

There have been made heretofore many types of structures including assembled preformed panels. Also, much study has been given to the problem of fastening panels in such an assembly so that they may be removed intact from a forward position, without the exposure on the face of the panel, in the assembly, of fastening means or of holes through which tools may be introduced for making the disengagement. Furthermore, there has been desired the minimizing of the conspicuous shadow effect at the joints between abutting panels.

The preferred embodiment of the present invention comprises the structure and panels described, which make possible the removal of a panel, without injury, from the completed assembly. Also, the invention comprises a wall assembly having obliquely extending joints between adjacent panels, whereby the objectionable shadow effect is minimized or eliminated. The invention comprises, also, improved means for supporting sound-absorbing material independently of the panels of facing material.

The invention will be described in connection with the attached drawing which illustrates an embodiment of the invention and in which

Fig. 1 shows a sectional perspective view of a suspended ceiling constructed in accordance with the invention, with parts broken away for clearness of illustration; and

Fig. 2 shows a sectional view of a portion of a modified form of assembly.

There are shown a supporting superstructure including beams 1 that may be a part of an overlying floor (not shown) and spaced supports such as the formed metal sections 2 secured to the said beams.

The metal sections may be of any convenient shape having each, at their lower portion, a horizontally extending element 3, such as a flange, defining a free space between it and the next overlying element or portion of the superstructure.

The panels 4, 5, and 6 may be formed of sheet metal or other suitable material. At one edge a panel engages the supporting superstructure. At the opposite edge, the panel abuts against the edge of an adjacent panel, the said adjacent panel directly engaging the superstructure and thus restricting the lateral movement of the first-mentioned panel.

Thus, the panels may be provided each at one

edge with a hook-like portion 7, either continuous or discontinuous, which opens on the side thereof turned towards the main portion (inside) of the panel and which engages the laterally extending element 3, as illustrated. At the opposite edge the panels may have each an offset portion 8 which engages the portion 7 of an adjacent panel and abuts thereagainst to form the joint 9. It will be noted that the offset portion 8 of the panel is engaged over the uppermost part of the edge portion of the abutting panel.

Suitably the intermediate parts of the said hook-like and offset portions extend diagonally (obliquely) with respect to the plane of the face of the panels and define therebetween the joint 9 that in the finished assembly likewise extends obliquely with respect to the said plane. The meeting zone suitably extends obliquely with respect to the plane of the lower face of the panel at the edge thereof provided with the offset portion. This obliquity of the joint serves to decrease the shadow effect seen by an observer standing, for example, substantially directly below the joint, inasmuch as the observer's line of vision extends into such a joint substantially less than the full depth thereof.

The free space defined in the superstructure above the element 3 permits the edge of the panel provided with the offset portion 8 to be raised from the position shown in Fig. 1 by an amount in excess of the elevation of the uppermost part of the offset portion above the face of the panel, and thus makes possible the lateral movement or sliding of the hook-like edge of the adjacent panel under the raised panel and from disengagement with the supporting element 3.

The obliquity of the said joint also facilitates the raising of the panel at the edge portion provided with the offset 8 and makes possible the tightening of the abutment between adjacent panels by a very slight wedging action.

The degree of obliquity of the joints may be varied within limits. The smaller angle between the plane of the joint and the plane of the face of the assembly should differ substantially from a right angle if the shadow effect is to be minimized. An angle that may be used satisfactorily is one of the order of forty-five degrees.

With panels of facing material that cannot conveniently be provided with integral hook or offset portions, these features may be supplied as separate elements. Thus, panels 10 (Fig. 2) of substantial thickness, such as compressed and hardened sheets of asbestos and Portland cement, may be provided at opposite edge portions

with hook-like members 12 and the offset members 13, either continuous (strips) or discontinuous (narrow clips). The edge portions of the abutting panels 10 may be chamfered, to define therebetween the oblique joint 14 of minimized shadow effect, as illustrated.

The hook-like member or portion, say element 12, may have an upstanding springy beaded portion provided with a recess 18 adapted to engage the offset edge of an abutting panel. This engagement minimizes the tendency of the panels to rattle or to become accidentally displaced with respect to each other. This construction is especially desirable in a side wall of a structure, although not necessary in other walls, which, as I use the term, include ceilings. Felt 11 also reduces rattling.

When the assembly is to be sound-absorbing, the panels may be apertured, as at positions 15, to admit incident sound readily, and associated with sound-absorbing material 16, such as pads of rock wool or the like. This material may be spaced from the panels, as by being supported on a suitable bridging supported between and by adjacent supports at a position above the panels, as, for example, on the wire 17 strung between adjacent sides of supporting sections 2. This supporting of the sound-absorbing material 16 above the panels and independently thereof facilitates the removal or substitution of a panel, without disturbance of the said material.

When there are used the supporting sections having a midportion from which the flange 3 extends laterally, such as the sections 2 of formed metal, the edge of the panel which directly engages the flange should extend beyond the said midportion and preferably beyond the outermost edge of the forward portion or flange, in order that the edge of the adjacent panel may abut against the engaging edge and yet be displaceable backwardly with respect to the face of the assembly, without striking any part of the said supporting section. As illustrated, the sections are of modified Z-shape.

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

What I claim is:

1. A ceiling assembly comprising a plurality

of spaced supports including elements extending horizontally from the lower portions of the said supports and a plurality of panels of facing material supported upon the said elements, the panels being provided each at one edge with a hook-like portion engaging one of the said elements and at the opposite edge with an offset portion abutting against the hook-like portion of an adjacent panel, being engaged thereover, and preventing movement of the said hook-like portion in direction away from the said one of the elements and the said elements defining thereabove a free space permitting raising the said offset portion from its position of rest upon a said hook-like portion to permit lateral movement of the hook-like portion of one panel under the face portion of an adjacent panel.

2. A structure of the type described in claim 1 having the said hook-like and offset portions constituted of independent members secured to opposite edges of the said panels.

3. A wall assembly comprising spaced supports, a panel supported thereon and extending at an edge portion laterally beyond the forward portion of one of the said supports, and another panel abutting at an edge against the said edge portion, resting freely thereupon, and being displaceable at the said edge backwardly with respect to the plane of the first-mentioned panel.

4. Panels of the type described comprising each a hook-like edge portion having an upstanding springy beaded element provided with a recess and an opposed offset edge portion, the said recess being adapted to engage the offset edge of an adjacent panel.

5. A ceiling assembly as described in claim 1, adjacent panels abutting in a zone extending obliquely with respect to the plane of the lower face of the panel at the edge thereof provided with the said offset portion, whereby this panel is wedged against the edge of the adjacent panel at the said zone.

6. A panel adapted for use in the assembly described in claim 1 comprising a hook-like edge portion, open on the side thereof turned towards the main body of the panel, for engaging one of the said elements, and an opposed offset edge portion adapted to be engaged over and to conform approximately to a similar hook-like edge portion of an adjacent panel.

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