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D. L. ZINN

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MOLDING AND HOLDDOWN SPACER FOR WALL PANELS

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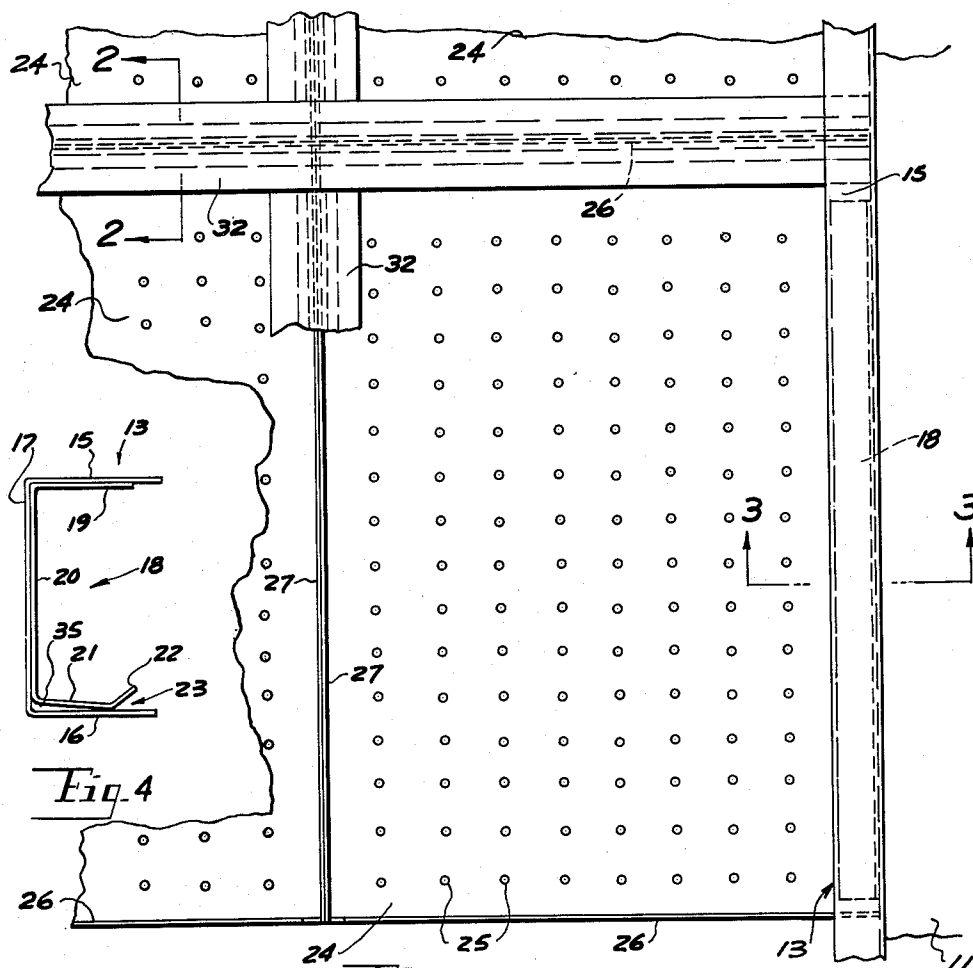


Fig. 4

Fig. 1

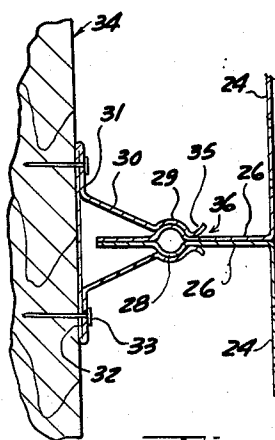


Fig. 2

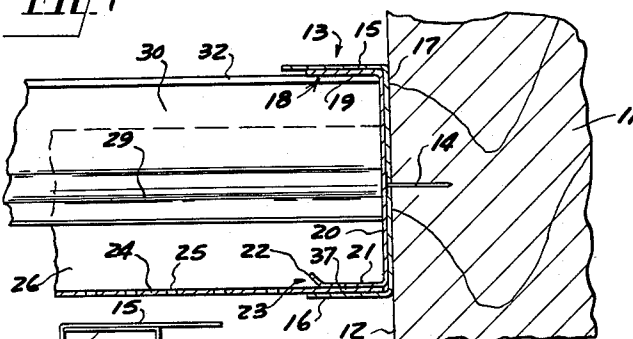


Fig. 3

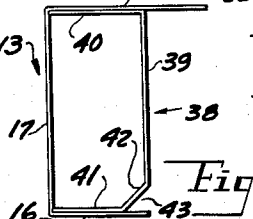


Fig. 5

INVENTOR.
DANIEL L. ZINN.

BY
Robert A. Sloman.
ATTORNEY

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MOLDING AND HOLDDOWN SPACER FOR WALL PANELS

Daniel L. Zinn, 3839 Chene St., Detroit 7, Mich.

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1 Claim. (Cl. 189—35)

This invention relates to building and room construction and more particularly to ceiling panels with associated wall moldings to receive portions of the ceiling panel adjacent thereto and incorporating a holddown spacer within the molding for fixedly securing the ceiling panel therein.

Heretofore in room constructions very often a series of ceiling panels are suspended from the ceiling with the outer edges of the respective panels in registry with a channel molding mounted upon the wall and projected thereinto and with the edge portion of the said projected ceiling panels retained within the molding by a suitable holddown spacer.

Heretofore there has been employed an outwardly opening U-shaped molding mounted around the perimeter of the room and wherein the peripheral ceiling panels at their wall edges project into the said moldings and a suitable holddown spacer of general U-shape is projected into the molding so that its bottom flange retainingly engages the corresponding bottom or wall of the ceiling panel with respect to the bottom flange of the wall molding.

The disadvantage of this construction is that though often these holddown spacers are loosely positioned within the wall molding, after the ceiling has been projected thereinto, it is necessary for the mechanic to reach above the panel to properly seat and anchor the spacer so that it correctly holds down the edge portion of the ceiling panel projected within the molding.

The present invention has for its primary object the pre-locating of the holddown spacer within the wall molding in such a manner that it does not interfere with the assembly and insertion of the adjacent edge of the ceiling panel into the molding and at the same time eliminates the mechanic reaching over the panel for inserting the holddown spacer in proper position.

The present invention has for its primary object therefore the provision within a horizontally disposed continuous channel wall molding of a holddown spacer of similar cross sectional shape which is nested within the said molding and which includes a bottom flange adjacent the bottom flange of the panel molding and with the bottom flange of the said holddown spacer angularly upturned so as to define an entrant space or channel adjacent the said bottom flange of the panel molding adapted to cooperatively and retainingly receive the corresponding edge of the ceiling panel projected thereinto.

It is therefore a further object of the present invention to provide the holddown spacer within the panel molding upon the wall which is in substantially its final position, but which has the upturned entrant portion thereon so as to guidably receive the web of the ceiling panel as it is projected into the said molding whereby the cut edge of the panel is held down absolutely flat to the bottom molding flange, thus resulting in an attractive ceiling or wall closure, as the case may be.

It is contemplated as a part of the present invention

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that the present holddown spacer may be applied to ceiling panels as well as to wall panels to thus achieve a finished and plain surface by virtue of the assembled ceiling panels.

These and other objects will be seen from the following specification and claim in conjunction with the appended drawing in which:

FIG. 1 is a fragmentary bottom plan view showing the assembly of the ceiling panel within the corresponding wall molding and retained therein by the present holddown spacer.

FIG. 2 is a fragmentary section taken on line 2—2 of FIG. 1 illustrating the suspension of the ceiling panel.

FIG. 3 is a fragmentary section taken on line 3—3 of FIG. 1 illustrating the assembly of the ceiling panel within the wall molding in association with the holddown spacer.

FIG. 4 is a side elevational view showing the relationship of the holddown spacer with respect to the panel molding before assembly thereof of the said ceiling panel.

FIG. 5 is a similar view of a different form of spacer. It will be understood that the above drawing illustrates merely a preferred embodiment of the invention, and that other embodiments are contemplated within the scope of the claim hereafter set forth.

Referring to the drawing, as shown particularly in FIGS. 2 and 3, the present invention is directed to a room construction or building 11 having a wall 12, FIG. 3 and a ceiling 34, FIG. 2.

In a reasonably conventional manner, there is provided around the interior walls of the room, a conventional type of inwardly directed channel molding 13, which is normally arranged adjacent the ceiling and is fixedly secured to the wall as by the fasteners 14.

The panel molding 13 includes a top horizontally extending continuous flange 15, and a corresponding parallel bottom flange 16, which extends outwardly from the wall, there being an intermediate upright web 17 between the said flanges 15 and 16 completing the molding construction.

Normally positioned within molding 13 and as shown in FIG. 4, there is provided a holddown spacer 18 also of channel form or of U-shape and which extends outwardly and when not in use assumes the position shown in FIG. 4.

The present holddown spacer includes the top flange 19 normally in cooperative engaging registry with the corresponding flange 15 of the molding. The holddown spacer also includes the upright web 20 adapted to engage the corresponding web 17 of the said molding 13. The holddown spacer also includes the bottom flange 21 which, as shown in FIG. 4, adjacent its web 20 is spaced above the bottom flange 16 of the molding and extends downwardly and outwardly engaging the said bottom flange 16 along a continuous line inwardly of the outer margin of the said flange.

The bottom flange 21 of the holddown spacer 18 terminates in the upturned angularly extending free end 22 to thus define with the said bottom flange 16 of the molding an elongated entrant opening 23 adapted to cooperatively receive the free edge of the web 24 of the ceiling panels which are normally suspended from the ceiling 34 in a manner hereafter described.

FIG. 4 illustrates the position of the holddown spacer

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within the molding before the ceiling panel has been inserted, and FIG. 3 shows the assembled relationship of the parts.

There is normally employed in finishing off the ceiling in the room construction, the series of similarly shaped, preferably square, ceiling panels which include the bottom coplanar webs 24 which are apertured throughout as at 25 and with the said panels terminating in the end flanges 26 and the additional end flanges 27, as shown in FIG. 1.

In normal construction, ceiling panels of the above type with the perforated webs 24 are normally arranged in a coplanar relationship with the upturned marginal flanges of one panel in cooperative engaging relation with the corresponding flange of another panel.

Normally the outermost panels as shown in FIG. 3 does not have a flange on its fourth side but is cut-away flat as shown in FIG. 3 and normally projects into the molding 13. Conventionally there have been employed holddown channels of the general type shown whereby after the corresponding margin of the outermost ceiling panel is projected within the molding 13, a holddown spacer is positioned and projected to the position shown in FIG. 3 for fixedly and frictionally retaining the bottom web of the ceiling panel between the bottom flange of the molding and the bottom flange of the holddown spacer.

In previous constructions, however, either the holddown spacer was removed entirely from the molding 13 before assembly of the ceiling panel or it lay very loosely canted at considerable angle so as not to interfere with insertion of the ceiling panel into registry with the molding. This necessitated, however, the mechanic reaching over the top of the panel and repositioning the holddown spacer into the position shown in FIG. 3, a time consuming and involved task.

The primary object therefore of the present invention is achieved wherein the holddown spacer is of such form as shown in FIG. 4 as to be preassembled with respect to the molding. Therefore, the important difference in the present construction resides in the method by which the holddown spacer is constructed and used.

As particularly shown in FIG. 4, the bottom flange 21 of the holddown spacer is normally inclined at a slight angle downwardly to the horizontal defining the angular space 35 between the said flange 21 and the bottom flange 16 of the molding. The outer portions of the flange 21 is bent upwardly at an acute angle as at 22 to thus define with the bottom flange 16 the elongated entrant opening 23 which is adapted to cooperatively receive the cut edge of ceiling panel which is to be projected within the said molding.

Inasmuch as the elongated edge of the flange 21 at the bend of the element 22 is slightly in contact with the bottom flange 16, it follows that upon projection of the web 24 thereunder the parts will assume the locking position shown in FIG. 3 with substantially all flat portions of the holddown spacer 21 in cooperative retaining engagement with the corresponding portion of the web 24 of the ceiling panel for frictionally holding the same within and with respect to bottom flange 16 of the molding 13.

There is shown in the drawing one method by which the said ceiling panels 24—26—27 are suspended from the ceiling 34, without excluding other methods. In the illustrative embodiment of the present invention, the upstanding flanges 26 have horizontally disposed outwardly curved ribs 28 which are arranged in opposition when a pair of ceiling panels are arranged end to end, as shown in FIG. 2.

The said opposed elements 28, or beads, are retainingly positioned within similarly shaped, horizontally extending notched portions 29 in the continuous opposed angularly inclined holding flanges 30 which depend from the ceiling 34.

Elongated continued holding flanges 30 converge towards the channeled portions 29 and there beyond terminate in the outturned lips 35, thus defining an entrant

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opening 36 into which the registering opposed flanges 26 of the ceiling panels are projected in assembled relationship, as shown in FIG. 2.

The elongated retaining flanges 30 terminate at their upper ends in the outturned portions 31 which are reverse curved to define the web 32 which bears against the ceiling 34 and is fixedly secured thereto along their lengths by the fasteners 33.

Thus there is described one means by which the ceiling panels are normally suspended from the ceiling. The present invention contemplates the projection of the outermost of the ceiling panels into the U-shaped wall molding to finish off the ceiling assembly and whereby the front edge of the ceiling panel is held absolutely flat to the bottom flange in the said molding employing the present holddown spacer.

It is contemplated that other means may be employed for supporting the ceiling panels from the ceiling other than the specific structure described with respect to FIG. 2. This is primarily because the present invention is directed to the formation of applicant's specific holddown spacer and its pre-assembly within the molding in such manner and with such a construction in the bottom flange of the said holddown spacer as to permit the manual insertion of the cut or free edge of the ceiling panel into the said molding and between the bottom flange thereof and the bottom flange of the holddown spacer to achieve the assembled and fixed relationship shown in FIG. 3.

It is contemplated as a part of the present invention that the holddown spacers 18 be of slightly less length than the corresponding edge of the ceiling panel 24—26—27 so as to conveniently receive the corresponding edge thereof.

Thus the ceiling is finished with the peripheral ceiling panel forming a part of the coplanar ceiling assembly, projected within the continuous wall molding 13 and retained therein by the present holddown spacers.

While the above invention has been described with respect to a ceiling panel, it is contemplated that a part of the present invention that the same holddown spacer may be employed in the assembly in a plurality of wall panels for making up a wall and with a similar finishing molding employed.

Accordingly while there has been a specific description directed to a ceiling panel and as set forth in the claims hereinafter, it is contemplated as an equivalent part of the present invention that the same could just as well be directed to the construction of wall panels.

FIG. 5 shows a slightly different form of holddown spacer 38 corresponding to the spacer 18 shown in FIG. 4, but wherein the spacer is reversed in position. Here the holddown spacer 38 has an upright web 39, top flange 40 and bottom flange 41 and including a tapered wall portion 42 intermediate the web 39 and bottom flange 41 to thus define with the bottom flange 16 of the wall channel 13, and entrant opening 43 corresponding to the entrant opening 23, FIG. 4 to cooperatively receive the outer edge of the adjacent ceiling panel in the same manner as illustrated above.

The operation is exactly the same, except that the web 39 is spaced outwardly of the web 17.

Having described my invention, reference should now be had to the following claim.

I claim:

A ceiling panel mounting means for receiving the sharp edge of a thin sheet metal ceiling panel and for mounting such panel in place; such means comprising a wall mounted C-shaped channel molding formed of thin sheet metal and having a wall mounted vertical portion and integral horizontal top and bottom flanges, the bottom flange having a sharp edge; such means also including a resilient, C-shaped channel holding member arranged in such molding and being also formed of thin sheet metal and also having a vertical portion which is slightly shorter than and is disposed against the vertical portion of the

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channel molding, and also having an integral horizontal top flange arranged within and adjacent the top flange of the molding, and an integral bottom flange normally spaced slightly above the bottom flange of the channel molding at said vertical portions a distance approximately equal to the thickness of a ceiling panel edge and sloping towards and into line contact with said bottom flange of the channel molding remote from said vertical portions, and the free edge of the bottom flange of the holding member being formed as a guide lip turned upwardly 10

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and in a direction away from the vertical portions to provide a guide for the sharp edge of the ceiling panel which can be slid horizontally into the space between the horizontal flanges of the molding and holding member.

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