Feb. 4, 1941. C. HENNING 2,230,248

GABLE FORMING MEMBER

Filed Jan. 28, 1939 2 Sheets-Sheet 1

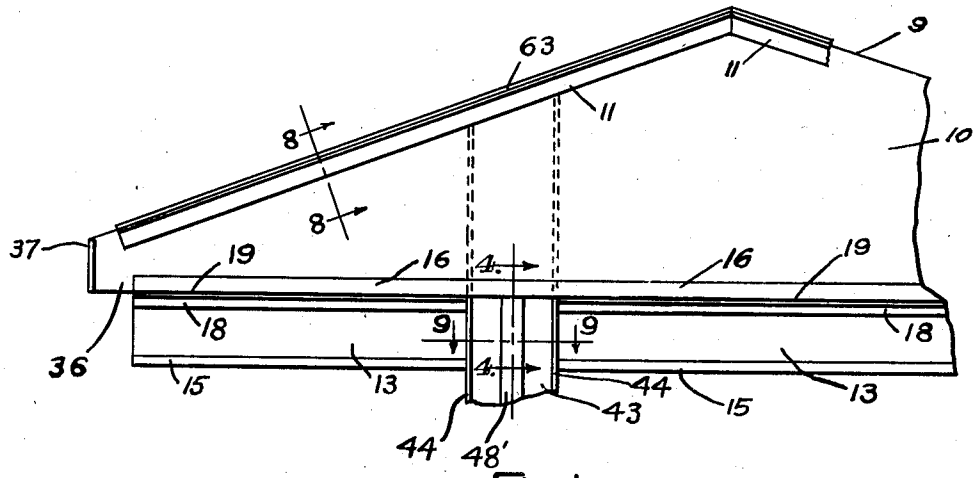


Fig. 1

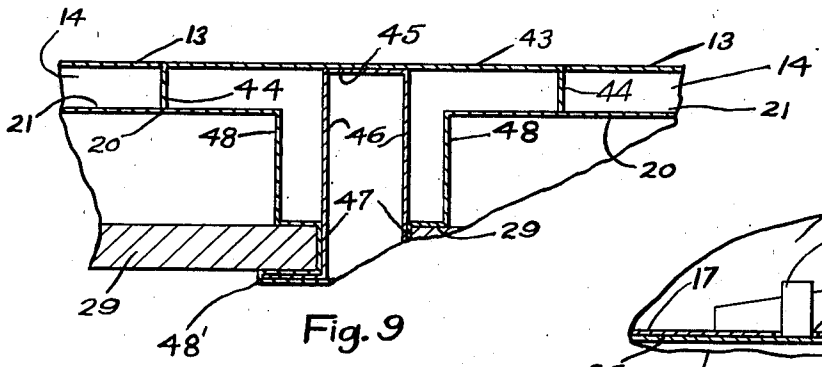


Fig. 9

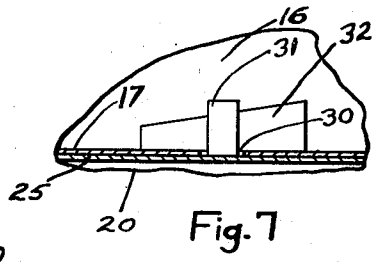


Fig. 7

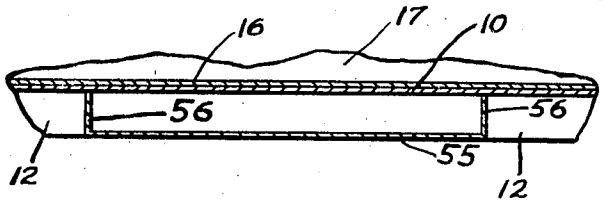


Fig. 5

INVENTOR
Carl Henning
BY Alfred R. Fuchs
ATTORNEY

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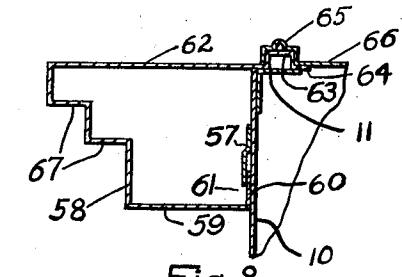


Fig. 8

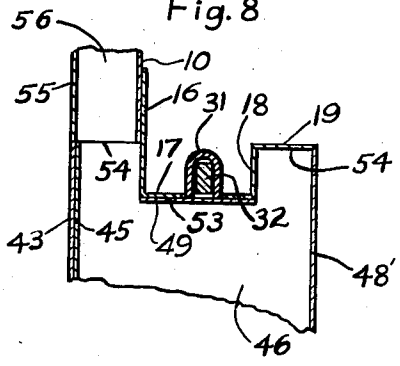


Fig. 6

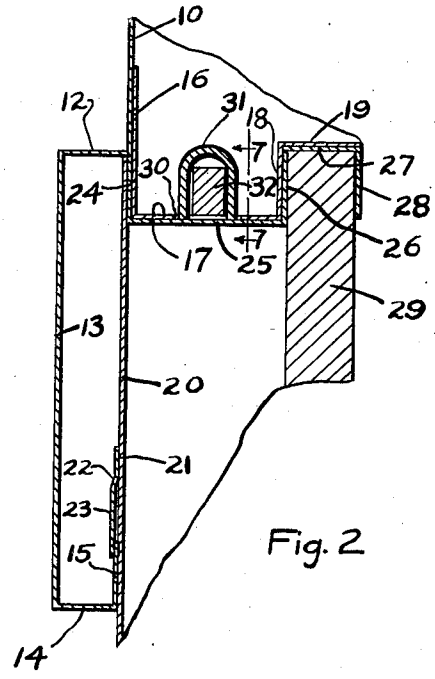


Fig. 2

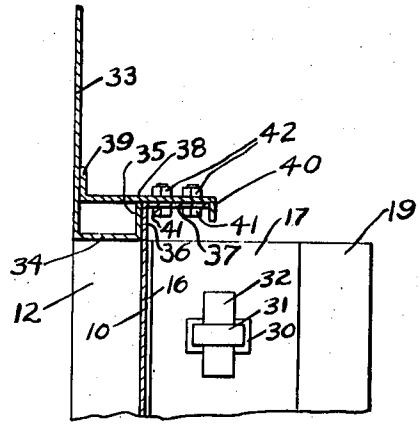


Fig. 3

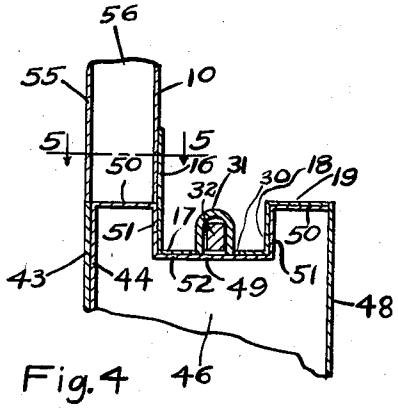


Fig. 4

INVENTOR
Carl Henning
BY Alfred R. Fuchs
ATTORNEY

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UNITED STATES PATENT OFFICE

2,230,248

GABLE FORMING MEMBER

Carl Henning, Kansas City, Mo., assignor to Andrew A. Kramer, Kansas City, Mo.

Application January 28, 1939, Serial No. 253,372

17 Claims. (Cl. 189—1)

My invention relates to metallic building structures, and more particularly to a gable construction for metal houses, which forms part of a wall comprising box-like columns and wall panels, such as described in my co-pending application Serial No. 237,249, filed October 27, 1938, on Wall construction for metal houses, of which this application is a continuation in part.

My invention relates to walls for metal buildings, and particularly to gable members for such buildings that are adapted to be mounted between corner columns, such as described and shown in the above mentioned application, and which are associated with wall panel members that alternate with columns forming the wall of the building, in a manner so as to be interlocked with the wall panels and firmly secured to the columns.

It is a further purpose of my invention to provide a gable member of the above mentioned character in a metallic building that is provided with new and improved means for mounting the same on a wall member, so that said gable member is interlocked with the wall panels and clamped thereto, and further to provide means forming an interlocking connection between intermediate columns and the gable members and means for clamping the gable members to said intermediate columns.

It is a further purpose of my invention to provide a gable member of the above mentioned character that has a depending outwardly offset bottom portion thereon, that overlaps the wall panel members with which the same is associated, and finishes off the joint between the wall panel members and the gable member.

Other objects and advantages of my invention will appear as the description of the drawings proceeds. I desire to have it understood, however, that I do not intend to limit myself to the particular details shown or described, but that I intend to include as part of my invention all such obvious changes and modifications as would occur to a person skilled in the art and as would fall within the scope of the claims.

In the drawings:

Fig. 1 is an inside elevational view of the gable member, forming the subject of my invention, partly broken away.

Fig. 2 is a fragmentary vertical sectional view, on an enlarged scale, through the lower portion of my improved gable member and the upper portion of a wall panel member associated therewith.

Fig. 3 is a fragmentary horizontal sectional view through an end portion of my improved gable member and a portion of a corner column with which the same is associated, on an enlarged scale.

Fig. 4 is a fragmentary vertical sectional view, on an enlarged scale, through the upper portion of an intermediate column and the portion of the gable member connected thereto, the section being taken substantially on the line 4—4 of Fig. 1.

Fig. 5 is a fragmentary horizontal sectional view, taken substantially on the line 5—5 of Fig. 4.

Fig. 6 is a view similar to Fig. 4, of a modification.

Fig. 7 is a fragmentary section, taken on the line 7—7 of Fig. 2.

Fig. 8 is a fragmentary section, on an enlarged scale, taken substantially on the line 8—8 of Fig. 1, and

Fig. 9 is a fragmentary section, on an enlarged scale, taken substantially on the line 9—9 of Fig. 1.

Referring in detail to the drawings, the gable member, forming the subject matter of my invention, is shown as having a body portion 10, which has an inclined top edge portion 9 to which the angle member 11 is secured, by welding, or in any other manner, to provide means for securing the roof and similar members thereto. The body portion 10 of said gable member has aligning horizontal offsets 12 therein forming aligning shoulders, or flanges, extending outwardly from the main body portion of the gable near the bottom thereof, extending parallel to the bottom edge of said gable member and from which the vertical wall portions 13 depend, which are accordingly outwardly offset from the wall portion 10, and at the bottom edge portions of the outwardly offset portions 13 horizontally extending flanges 14 extend inwardly and terminate in upwardly directed flanges, or lip portions, 15, which are slightly outwardly offset from the main body portion 10. Thus hollow box-like formations extending horizontally across the bottom of the gable, are provided, which are open on the rear faces thereof between the flanges 15 and the bottom portion of a trough, or channel-like, member secured to the body portion 10, which will be described below, said hollow box-like flange portions providing members of beam-like appearance at the bottom of the gable member, as will be apparent.

The channel-shaped, or trough-like member above referred to, has a vertical wall portion 16, which lies face to face against the inner face of the body portion 10 of the gable member and extends upwardly above the horizontal ledges, or

offsets, 12 and is, preferably, welded to said body portion 10. Said wall portion 16 extends below the ledges, or offsets, 12 a short distance, and the material of the trough-like member is bent at right angles to provide a horizontally extending wall portion 17 extending perpendicularly inwardly from the vertical wall portion 16, to form the bottom wall of the channel, or trough-like member, provided on said gable member. An upwardly extending wall 18 extends from the opposite side of the bottom wall 17 substantially parallel to the wall portion 16, to substantially the height of the ledge, or horizontal offset, 12, said trough-like member being then bent horizontally inwardly from the wall portion 18 to provide a horizontal flange 19, which is substantially parallel to the bottom wall 17.

The upper portion of the wall panel member, with which the gable member is adapted to be associated, is shown in Fig. 2 as having an outer wall portion 20, which is provided with a clip thereon, which is made up of a strip 21 of metal, running substantially parallel to the top edge of said member 20 and spaced from said top edge, running lengthwise of the panel member and having a top portion, which is welded to the outer face of the wall 20 of said wall panel member, and having an offset 22 therein to space the lower portion 23 thereof from said wall 20 a sufficient distance to receive the flange 15 between the same and said wall 20. Said wall panel member further has a side flange 24 of the channel-shaped, or grooved, top wall 25 thereof secured face to face to the inner surface of the wall 20, said channeled portion having also an upwardly extending flange portion 26 extending parallel to the flange portion 24, an inwardly directed flange portion 27 and a depending lip portion 28, which serves to hold the member 29, of insulating board, in place in the wall panel and also provides means for receiving the trough-like, or channel-shaped, portion on the inner side of the gable member depending below the horizontal ledges, or offsets, 12.

The bottom wall 17 of the trough-like, or channel formation on the gable member 10, has an opening 30 therein, through which extends a U-shaped member 31, welded to the bottom of the channeled formation in the top wall 25 of the wall panel member. A wedge 32 is adapted to be engaged with the keeper 31 and the upper face of the bottom wall 17 of the channel member on the gable member for clamping the gable member to the wall panel member.

To assemble the gable member with the wall panel member, said gable member is put in position so that the upwardly extending flanges, or lips, 15 engage back of the portions 23 of the clips running horizontally along the outer faces 20 of the wall panel members, and the gable member is then moved upwardly, the space between the portions 23 of the clips and the wall 20 permitting this, so that the channel formation on the inner side of the gable member 10 will be above the top of the wall 20 and can be moved laterally into position in vertical alignment with the channels, or grooves, in the tops of the wall panels. Then the gable member is moved downwardly to seat the bottom 17 of the channel formation thereon in engagement with the transverse walls of the grooves, or channels, in the top walls 25 of the wall panel members. The parts will then be in the position shown in Fig. 2, with the flanges 15 still in engagement with the clip portions 23 and the box-like formations on the gable member will overlap the top ends of the wall panel members and finish off the joints between the wall panel and the gable members. The wedges 32 are then driven into position to firmly clamp the wall panel members and the gable members together.

In Fig. 3 a fragmentary portion of a corner post is shown, which has an outer wall that has a wing-like extension 33 having an inwardly directed flange 34, which terminates in a flange, or lip, 35 extending parallel to the portion 33. The gable member 10 has a plane portion 36 at each side thereof that extends beyond the end of the box-like formation on said gable member, and has an inwardly directed flange 37 on the vertical edge thereof extending perpendicularly to the wall portion 36. The wall portion 36 engages flatly with the inner face of the flange, or lip, 35, and the flange 37 engages face to face with the web portion 38 of a Z bar having the flange 39 welded to the wing portion 33 on the corner column, and the flange 40 at its inner edge, the flange 37 being secured to the web 38 by means of bolts 41 and nuts 42.

The gable members are secured to the intermediate columns of the building, which are located between a pair of adjacent wall panel members in the wall, in a similar manner to that in which the gable members are secured to the wall panel members. In Figs. 1, 4 and 9 the intermediate column is shown, which has an outer wall member 43 having flanges 44 thereon that extend inwardly therefrom, and which are of the same depth as the flanges 14 on the outwardly projecting hollow box-like portions on the lower end portions of the gable members 10. It will be noted upon reference to Figs. 1 and 9 that the intermediate column shown therein fits between the hollow box-like portions on the bottom end of the gable member 10 and that the outer face of the member 43 is flush with the outer face of the member 13. Said intermediate column also has an inner member 45 having inwardly extending wall portions 46, which fit between the outwardly offset portions 47 of the vertical end walls, or flanges, 48 on the wall panel members, and which have a member 48' engaged with flanges on said members 46 for completing the vertical wall portion of the column.

The wall portions 46 of the intermediate column are provided with cut out portions, or notches, 49 in the top edges thereof that are transversely aligned with each other and are of a rectangular character. The intermediate column in the form of the invention shown in Fig. 4 is provided with a top wall having the horizontally extending portions 50 secured to the top edges of the walls 46, the vertically extending portions 51 depending therefrom, and a transverse wall 52 engaging the bottom edge of the notch, or recess, cut in each of the walls 46 to thus form a channel-shaped, or wide grooved, portion in the top of said intermediate column receiving the portions 16, 17 and 18 of the channel shaped, or trough-like, member secured to the inner face of the gable member 10 and secured thereto by means of a U-shaped member 31 extending through an opening 30 in the bottom wall 17 and a wedge-like member 32, such as previously described as being used in connection with the wall panel member. Thus the gable member is clamped in interlocking relationship to the top of the intermediate column, as well as to the wall panel members of the wall with which it is associated.

Instead of providing a complete top wall for

the intermediate column, the top edge portion of each of the two walls 46 of the intermediate column may be notched so as to provide a rectangular cut out, or recess, therein, as above described in connection with Fig. 4, and a bridging piece 53 may be merely welded to the edges of the walls 46 at the bottom portions of the cut outs, or notches, therein, as shown in Fig. 6, the U-shaped member 31 being secured to said bridging piece 53 and the wedge member 32 utilized in the same manner as in the form of the invention shown in Fig. 4, the flange 19 on the member 16 resting on the top edge 54 of each of the walls 46, instead of on a portion 50 of the top wall of the column.

In order to carry out the beamed effect of the gable member and wall with which the same is associated, the gable member is provided with a hollow box-like member 55 having the inwardly directed flanges 56 thereon that are welded to the outer face of the body portion 10, said member 55 being of the same width as the outer member 43 of the intermediate column between the flanges 44, and of the same depth as the flanges 44 and the members 12, as will be evident from Figs. 4, 8 and 9.

The angle member 11 and a clip 57, similar to the clip 21, are utilized for securing an ornamental trim member 58 to the top edge portion of the gable member 10 along the outer face thereof, the shape of the trim member 58 being substantially that of the gutter member utilized on the building, so as to have a similar finish around the edges of the roof on all four sides of the building. Said member 58 has a bottom portion 59 having an upwardly extending flange 60, which is received back of the outwardly offset portion 61 of the clip 57, and has a top horizontal wall 62, which has a hollow box-like flange 63 thereon terminating in a horizontal flange 64, said portion 62 and the flange 64 being welded to the inwardly extending leg of the angle 11 and extending over the top inclined edge portion of the wall 10, so as to finish off the wall and also to provide means for engaging a clover leaf corrugation 65 on a roof element 66 therewith, suitable securing means being utilized for fastening the roof elements to the gable member. The member 58 is secured in position by first engaging the flange 60 under the clip 61, after which the top wall 62 is engaged with the angle member 11 and welded thereto so as to interlock the member 58 with the gable member. Said member 58 may have any desired number of steps, or offsets, 67 therein, or be finished in any other desired manner to give the desired ornamental effect thereto.

It will be noted that the gable member, above described, connects the corner columns of the building so as to provide a definite spacing between the same and thus maintains the position of the wall panel members and intermediate columns between the corner columns. Furthermore, due to the interfitting formations on the wall panels and the gable member and the interfitting formations on the intermediate columns and the gable member, these are all fixed in position relative to the gable member and to each other. Thus a very rigid structure is obtained with all the parts fixed definitely relative to each other, yet a structure is provided that can be very quickly assembled without the use of any tools except a wrench and a hammer. Of the greatest importance, however, is the fact that this is accomplished without sacrificing the appearance of the building, the building having a conventional appearance of similar buildings made of other materials, such as wood, for example, and not the appearance of the usual metallic building that detracts from its usefulness for residence purposes. A structure utilizing the applicant's gable construction will have substantially the same appearance externally as a building made of conventional building materials and there are thus no objectionable features to the appearance of the building due to the use of sheet metal as a building material, as has been previously the case due to the unconventionality of the appearance of metallic buildings previously constructed of sheet metal or their similarity to commercial structures, such as warehouses, barns and sheds.

What I claim is:

1. In metallic building structure, a gable member having an outward offset therein at a point spaced from the bottom edge thereof, a vertical wall portion depending from the outer edge of said offset, and a flange extending inwardly from said vertical wall portion at its bottom edge.

2. In metallic building structure, a gable member having a vertical wall, having an outward offset therein, said outward offset comprising an upper horizontal portion at a point spaced from the bottom edge of said member, and a vertical portion depending from said upper horizontal portion and an inwardly directed flange on said vertical portion at its bottom edge, said inwardly flanged portion terminating in an upwardly directed flange.

3. In metallic building structure, a gable member having a vertical wall, having an outward offset therein, said outward offset comprising an upper horizontal portion at a point spaced from the bottom edge of said member, and flanged inwardly at its bottom edge, and a trough-like member on the inner side of said vertical wall adjacent the upper horizontal portion of said offset.

4. In a metallic building structure, a gable member having a vertical wall offset outwardly at a point spaced from the bottom edge thereof, and flanged inwardly at its bottom edge, and a trough-like member on the inner side of said vertical wall adjacent said offset, said trough-like member comprising a vertical wall portion secured to said first mentioned vertical wall above said offset and depending below said offset, a horizontal bottom wall, and an upwardly directed flange at the inner edge of said bottom wall.

5. In metallic building structure, a gable member having a vertical wall offset outwardly at a point spaced from the bottom edge thereof, and flanged inwardly at its bottom edge, and a trough-like member on the inner side of said vertical wall adjacent said offset, said trough-like member comprising a vertical wall portion secured to said first mentioned vertical wall above said offset and depending below said offset, a horizontal bottom wall, and an upwardly directed flange at the inner edge of said bottom wall, said bottom wall having an opening therein.

6. In metallic building structure, a gable member having a vertical wall offset outwardly at a point spaced from the bottom edge thereof, and flanged inwardly at its bottom edge, a trough-like member on the inner side of said vertical wall adjacent said offset, and vertical flanges ex-

tending inwardly from said vertical wall at opposite ends of said gable member.

7. In metallic building structure, a gable member, a wall panel having a flat vertical outer face, means for securing said gable member to said wall panel, said gable member overlapping said wall panel and engaging said outer face thereof at a point spaced from the top edge of said panel, a column and means for securing said gable to said column, said column overlapping said gable member.

8. In metallic building structure, a gable member, a wall panel, means for securing said gable member to said wall panel, said gable member overlapping said wall panel and engaging the outer face thereof, a column and means for securing said gable to said column, said column overlapping said gable member, the portion of said gable member overlapping said wall panel comprising a vertical portion outwardly offset beyond the main body portion of said gable member.

9. In metallic building structure, a gable member, a wall panel, means for securing said gable member to said wall panel, comprising interfitting channel members on said gable member and wall panel and means for clamping the same in interfitting engagement, said gable member overlapping said wall panel, a column and means for securing said gable to said column, said column overlapping said gable member.

10. In metallic building structure, a gable member, a wall panel, means for securing said gable member to said wall panel, said gable member overlapping said wall panel, a column and means for securing said gable to said column comprising an inwardly directed vertical flange on the side edge of said gable member, said column overlapping said gable member.

11. In a metallic building structure, wall panels and columns, a gable member, said panels and said gable member having interengaging channeled means thereon to interlock said panels and gable member, means for securing said gable member to said columns, and means for clamping said gable member to said panels at said interengaging channeled means.

12. In a metallic building structure, wall panels and columns, a gable member, said panels and said gable member having interengaging channeled means thereon to interlock said panels and gable member, means for securing said gable member to said columns, and means for clamping said gable member to said panels at said interengaging channeled means, the bottom portion of said gable member overlapping the outer side of said wall panels and the columns overlapping the opposite ends of said gable member.

13. In a metallic building structure, a gable member, a plurality of spaced aligned hollow box-like formations at the bottom edge thereof extending lengthwise of said bottom edge, and an intermediate column fitting between the adjacent ends of said formations.

14. In a metallic building structure, a gable member, a plurality of spaced aligned hollow box-like formations at the bottom edge thereof extending lengthwise of said bottom edge, and a vertically extending hollow box-like member on said gable member aligning with the space between adjacent box-like formations.

15. In metallic building structure, a gable member, an intermediate column, a channel member on said gable member, a recess in the upper end of said column, said channel member being mounted in said recess, a transverse wall at the bottom of said recess, and means for clamping said channel member to said transverse wall to interlock said gable and column.

16. In metallic building structure, a gable member having inclined top edges, means providing an inwardly directed flange along the top edges thereof, a clip on the outer face of said gable extending parallel to an inclined edge, and a box-like member having a flange thereon engaging said clip and a top wall overlying the inwardly directed flange on said gable and secured thereto.

17. In metallic building structure, a gable member having inclined top edges, means providing an inwardly directed flange along the top edges thereof, a clip on the outer face of said gable extending parallel to an inclined edge, and a box-like member having a flange thereon engaging said clip and a top wall overlying the inwardly directed flange on said gable and secured thereto, said top wall having a box-like flange adjacent its inner edge.

CARL HENNING.