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DEMOUNTABLE BUILDING CORNER STRUCTURE

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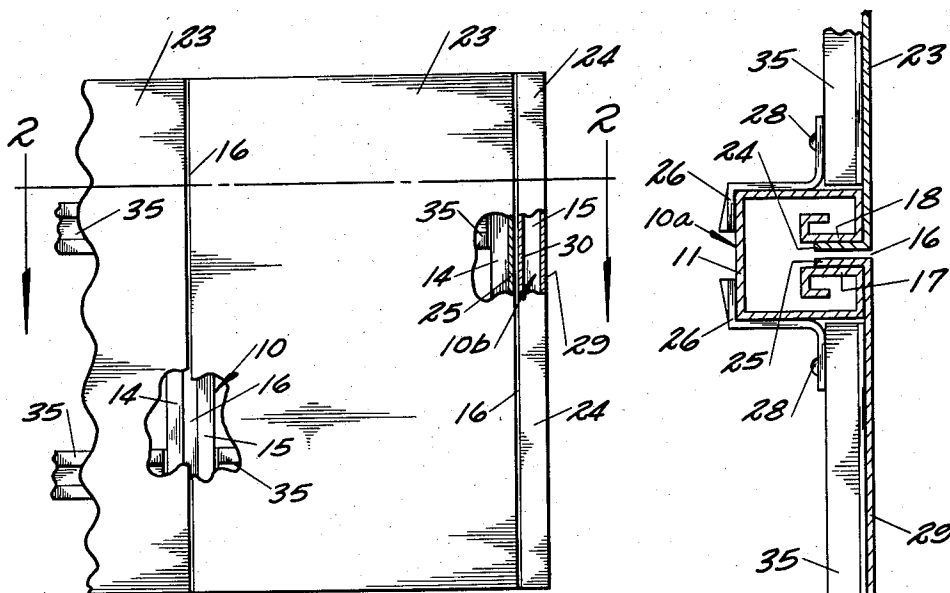


FIG-1

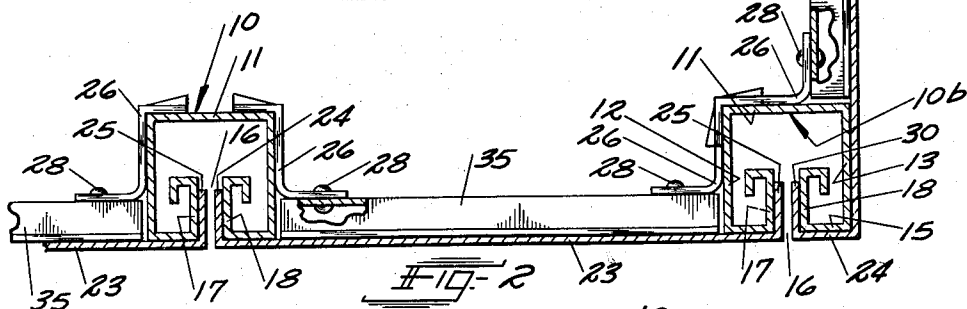


FIG-2

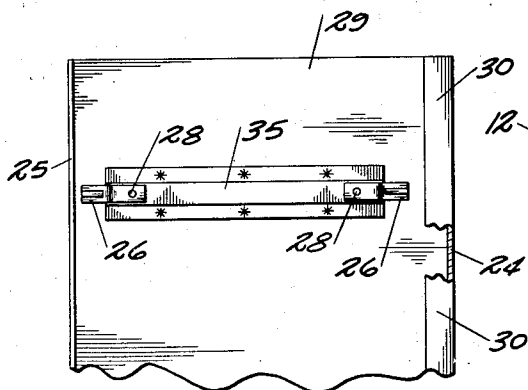


FIG-3

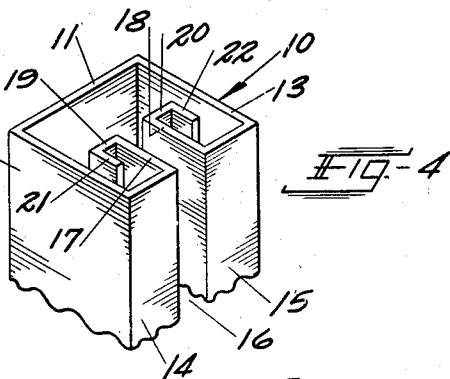


FIG-4

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DEMOUNTABLE BUILDING CORNER STRUCTURE

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1 Claim. (Cl. 189—88)

This invention relates to a wall corner construction in a demountable metal building structure, and reference is made to my pending application filed July 26, 1954, Serial No. 445,545, on which Patent No. 2,832,445 is to be issued April 29, 1958.

The building wall is made up out of a number of metal panels having inwardly extending flanges at their vertical marginal edges entering slots in upstanding posts. A corner return panel is provided having a leg turned from one of the marginal flanges to enter the slot at a corner post. That marginal flange lies across a portion of the corner post, and from which flange the panel in general extends at right angles to that flange along a side of the post to have another intumed flange presented in a slot of the next adjacent post on the side or end wall.

A primary purpose of the invention is to provide a rigid, simplified wall construction for continuing an end wall around from a side wall utilizing the same design of posts on both end and side walls, all in a manner which may be readily assembled and disassembled without any metal or machine working on the job.

A further important object of the invention is to provide means for holding the expansion and contraction of the metal side wall panels to a minimum throughout a considerable range of variations at atmospheric temperatures such as the difference in temperatures from night time to temperatures produced when exposed directly to the rays of sunlight. This is particularly advisable when the metal may be aluminum as is desirable for reducing the overall weight of the building structure, although steel may be employed, such as in galvanized or lead-coated sheets.

These and many other objects and advantages of the invention will become apparent to those versed in the art in the following description of one particular form of my invention which is illustrated in the accompanying drawing, in which

Fig. 1 is a fragmentary portion of a side wall in end elevation at the corner of the wall;

Fig. 2 is a view in horizontal section on an enlarged scale on the line 2—2 in Fig. 1;

Fig. 3 is a view in inside elevation and partial section of a wall panel; and

Fig. 4 is a view in top end perspective of a wall post.

A post generally designated by the numeral 10 is formed to be externally rectangular in shape. It is provided with a web side 11 from which extend legs 12 and 13 in parallel, spaced apart relation, Fig. 4, and from the ends removed from the web 11 there extend respectively from the legs 12 and 13 at right angles thereto the planar members 14 and 15 separated by their opposing ends by an entryway 16 therebetween. The opposing end portions of the members 14 and 15 have inwardly extending legs 17 and 18 extending therefrom at right angles to be spaced parallel to and from the legs 12 and 13. For reinforcing these legs 17 and 18, there extend at right angles thereto toward the legs 12 and 13 flanges 19 and

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20 in turn carrying feet 21 and 22 turning therefrom at right angles to be parallel to and spaced from the insides from the legs 12 and 13. The entryway 16 provides in effect a slot hereinafter termed a slot 16.

These posts 10 are set upright in spaced apart vertical positions and in alignment one with the other along a side wall, having the slot 16 turned outwardly toward the outside of the wall.

A plurality of metal panels 23 are formed in like manner to form the outer wall enclosure. Each of these panels 23 consists essentially of a sheet of metal, from the vertical edges of which are turned flanges 24 and 25 extending entirely along the side edges of the panel in each instance. These flanges 24 and 25 are entered in the slots 16 of adjacent posts 10, these posts 10 being spaced apart so that the flanges 24 and 25 will preferably be in engagement along the opposing faces of the intumed members 17 and 18 of the posts 10. These sheets of metal 23 are relatively thin, and quite flexible.

A plurality of battens 35 are secured laterally to and across the inside faces of the panels 23. In the present form, each of the battens 35 is hollow and is secured to the panel 23 by any suitable means such as by welding. Preferably these battens are made out of a good heat conducting metal such as aluminum. These battens serve a number of purposes, one being to radiate heat from the panel 23 so as to prevent undue temperature rise therein, these battens being on the inner sides of the panels 23 and out of direct sunlight, being faced toward the inside of the building.

An additional purpose of the battens 35 is to provide spacers to carry a latch member 26 at each end, pivotally interconnected with the batten 35 such as is indicated in Fig. 2 where the latch member 26 is rotatable upon a rivet 28 carried by the batten wall. When the panels 23 are positioned to have their flanges 24 and 25 entered into the slot 16 of the respective, adjacent post 10, the latches 26 are turned around to overlap the web 11 in each instance as indicated in Fig. 2.

In forming the end wall of the structure, posts 10a are lined up with the corner post 10b, but are turned ninety degrees therefrom to have their slots 16 opening on the end wall side of the structure.

An initial panel 29 is provided on the end wall to extend from the corner post 10b. This panel 29 carries the flanges 25 and 24 the same as found in connection with the panel 23. However the flange 24 is made to be of that width which will permit it to overlap the member 15 of the post 10b with the panel 29 in contact with the side leg 13, and the edge portion of the flange 24 removed from the panel 29 continuing into a leg 30 which normally bears in close proximity with the face of the member 18. In other words this end portion of the panel 29 hooks around the post 10b, lying along the end side thereof, leg 13, and has the flange portion 30 entering the groove 16.

The panel 29 has the flange 25 entered into the slot 16 of the post 10a, Fig. 2. To install the panel 29, the panel should be brought up to the corner post 10b to enter the leg portion 30 in the slot 16 therein, and then the flange 25 brought around into the post 10a slot 16. The inside face of the panel 29 carries the battens 35 as above described, and in turn carries the latch members 26, one of them engaging over the side leg 12 of the post 10b and the other engaging over the web 11 of the post 10a. From the post 10a on across the end wall, panels 23 as above described are employed.

While two of the purposes of the battens 35 have been enumerated above, these battens 35 further serve the purpose of confining the lateral expansion and contraction of the panels 23 and 29 rather than permitting those

panels to buckle between adjacent posts and thereby set up an undesirable noise. These battens 35 permit the panels 23 and 29 to expand particularly by their end portions, the battens 35 preferably being made out of the same metal and of the same thickness as that of the panel areas proper, so that the end flanges may travel somewhat in the slot 16, the slot 16 being sufficiently wide to receive therein the flanges of adjacent panels with a clearance therebetween. This clearance offers no undesirable effect since the posts are hollow and completely closed off from the innerside of the walls, and any moisture entering therein may drain out from the lower ends of the posts.

While I have herein described my invention in the one particular form, it is obvious that structural changes may be employed without departing from the spirit of the invention, and I therefore do not desire to be limited to that precise form beyond the limitations which may be imposed by the following claim.

I claim:

A wall corner construction between side and end walls, one normal to the other, comprising a vertically disposed post having a pair of adjacent wall sides normal to each other and having a single slot entering but one of said sides and extending vertically thereof; a wall panel hav-

ing an end portion lying against said slot side of the post; a flange extending substantially normally from said end portion and entering said slot; a latch member secured to said panel and engaging over a back side of the post opposite to said slot side and retaining the flange within said slot; a second wall panel normally disposed to the first wall panel and having an end portion lying against the other of said post sides and extending therefrom; a first flange extending at right angles from said second panel end portion over and against said post slot side to said slot; a second flange extending at right angles from the first flange and entering said slot; and a second latch member secured to said second panel abutting said back side and extending around onto a post side opposite from said second panel end portion; said second latch member restraining said second panel against shifting horizontally along said post other side and also restraining the second panel from lateral separation from the post.

References Cited in the file of this patent

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