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BUILDING CONSTRUCTION

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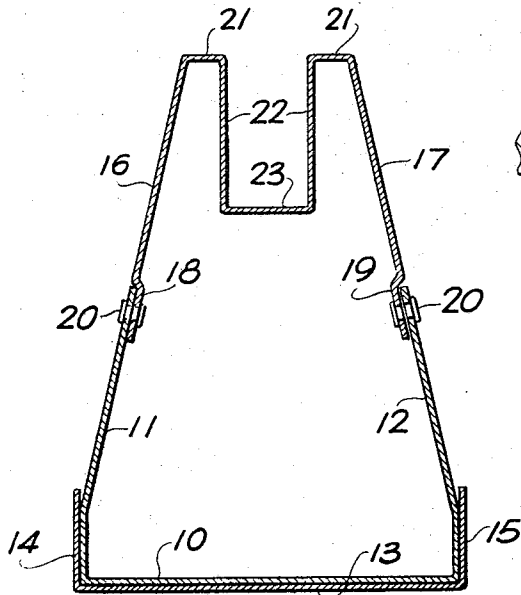


FIG. 1

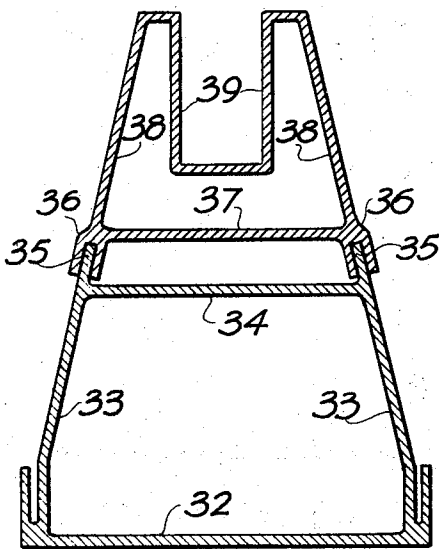


FIG. 2

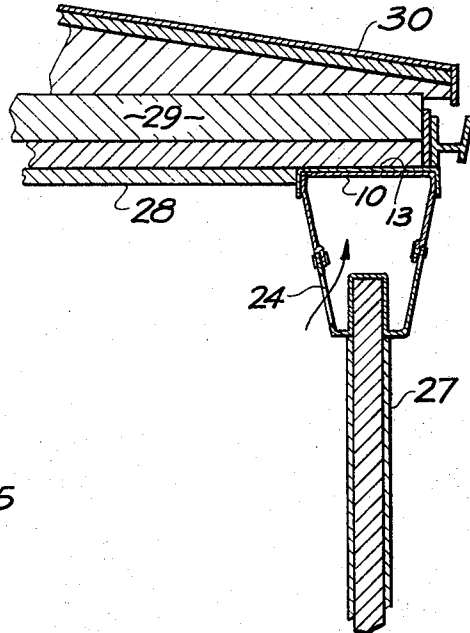
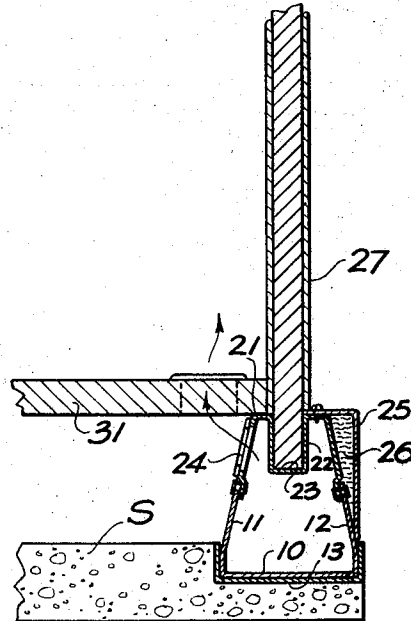


FIG. 3



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3 Claims

ABSTRACT OF THE DISCLOSURE

A building construction including a hollow structural member having a longitudinally extending channel for the reception of panels to be supported thereby and forming a perimeter ductwork for heating, lighting and air conditioning of the structure.

This invention relates to a building construction, and more particularly to a novel structural member devised to receive and retain the upper and lower edges of wall panels.

The principal object of the invention is the provision of a building construction incorporated a novel hollow structural member which forms a base supporting structure for a plurality of wall panels which may include solid panels, window panels and door panels, as desired, and which panels are held at their uppermost ends by inverted sections of the novel structural member.

A further object of the invention is the provision of a building construction, the principal point of novelty in which comprises a structural member of a hollow configuration arranged to receive and hold wall panels and the like, and which structural member can be used as a supporting base for said wall panels, as well as a supported top structural member engaging their uppermost ends, and upon which ceiling and roof forming structural members may be positioned.

The building construction disclosed herein includes a novel structural member which may be, and preferably is, formed as a shaped steel section, or alternately, as extruded aluminum sections, and which sections define perimeter ductwork for heating and air conditioning purposes and/or electrical conduits and at the same time support and hold wall panels in desirable relation.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being the intention to cover all changes and modifications of the example of the invention herein chosen for purposes of the disclosure, which do not constitute departures from the spirit and scope of the invention.

The invention is illustrated in the accompanying drawing, wherein:

FIGURE 1 is a cross-section of a shaped steel section used in the building's construction.

FIGURE 2 is a cross-section of a shaped structural member formed as a pair of aluminum extrusions and then assembled.

FIGURE 3 is a cross-sectional elevation with parts broken away showing the building construction incorporating the structural member of FIGURE 1.

By referring to the drawings, and FIGURE 1 in particular, it will be seen that a structural member has been disclosed which comprises a longitudinally extending hollow article consisting of a lower U-shaped portion having a base 10 and upwardly and inwardly inclining arms 11 and 12 respectively, with a secondary U-shaped base portion 13 secured to the base portion 10, and having upturned arms 14 and 15, the upper ends of which extend to a position spacing them with respect to the inclined

arms 11 and 12 of the base portion 10. The upper half of the structural member comprises an inverted shape having a pair of oppositely disposed inclined arms 16 and 17, the lower longitudinal edges of which are offset, as at 18 and 19, and positioned alongside the upper longitudinal edges of the arms 11 and 12 and secured thereto at intervals by rivets 20, or other suitable fastening means. The uppermost portion of the inverted shape forming the upper half of the structural member includes a longitudinally extending channel, having side sections 22 and a transverse base section 23.

By referring now to FIGURE 3 of the drawings, it will be seen that the structural member just described in connection with FIGURE 1 of the drawings, forms an integral part of a building construction, and as disclosed in FIGURE 3, it is positioned on a concrete foundation slab S, or alternately on the top of a foundation wall, not shown, and that it has been provided with openings 24 longitudinally thereof so that it may be effectively used as a heating and air conditioning duct. It will also be seen that the structural member has been provided with a longitudinally extending angle section 25 on the outer surface thereof, as seen in FIGURE 3 of the drawings, and that insulation 26 has been positioned within the area defined by the angle member 25. The structural member is shown supporting integral wall forming panels 27, their lower ends being positioned in the channel formed by the vertical walls 22 and the transverse base 23, as hereinbefore described. The upper ends of the integral panels 27 are positioned in a channel in an inverted structural member and openings 24 therein provide access to the interior thereof so that it may be used as a return air duct in a heating and air conditioning system.

Ceiling and roof structural members 28 and 29 are carried on the inverted base portion 10 of the structural member appearing at the upper end of the panels 27, and a pitched roof 30 is formed thereon, as will be understood by those skilled on the art. It will also be understood by those skilled on the art that the integral panels 27 may comprise wall panels suitably insulated, or they may include door or window openings as desired, and that a complete building structure can be formed through the use of the panels positioned in and held by the structural members as herein disclosed.

In FIGURE 3 of the drawings floor members 31 are shown carried on the structural member and the horizontal top portion 21 thereof in particular, and it will further occur to those skilled in the art that if desired hangers may be positioned on the structural member and the floor structure lowered relative thereto. By the same arrangement the structural member may be used as supporting means for ceiling joists and/or other structures in multiple story constructions.

It will occur to those skilled in the art that the longitudinally extended hollow structural member as disclosed herein, can also be formed as an assembly of two extruded shapes, and in FIGURE 2 of the drawings a cross-sectional elevation of such a modified structural member may be seen. In FIGURE 2 the lower half of the structural member comprises an extrusion having a base portion 32 and upstanding intumed side portions 33, with a transverse top portion 34. Longitudinally extending flanges 35 are formed on the side sections 33 and are received in channel-like configurations 36 formed on the lower longitudinal edges of the second extrusion which includes a base 37 and angular side portions 38, with a central longitudinally extending channel 39 formed in the uppermost end thereof. The extruded form of the structural member may be substituted for the shaped steel structural member heretofore described and illustrated in connection with FIGURES 1 and 3 of the drawings.

It will thus be seen that a building construction has been

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disclosed which incorporates a novel and efficient structural member forming both a supporting base and supported head structure with respect to wall panels engaged thereby in said building construction. It will thus be seen that a building construction has been disclosed which meets the several objects of the invention, and having thus described my invention, what I claim is:

1. In a building construction including wall panels, hollow, elongated structural members at the top and bottom of said panels holding said panels in position, said hollow members each comprising substantially parallel top and bottom walls connected by side walls converging toward said top wall, each of said side walls having overlapping connected edges forming horizontal joints extending medially thereof and dividing each of the members into upper and lower portions, each of said sides of one portion overlapping at least the inner surface of each of the side walls of the remaining portion, said top wall having medially thereof an outwardly opening rectangular channel extending inwardly of said top wall for a substantial depth and receiving an edge of the wall panels and holding them in place.

2. The building construction set forth in claim 1, and wherein said structural members have longitudinally spaced openings in one side thereof so as to permit said structural members to be used as ducts.

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3. The building construction set forth in claim 1, and wherein said structural member at the bottom of said panel has a longitudinally extending angle member secured to the upper outer side thereof and insulation disposed between said structural member and said angle member.

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U.S. Cl. X.R.

52—303, 274, 293, 300, 731