

June 20, 1944.

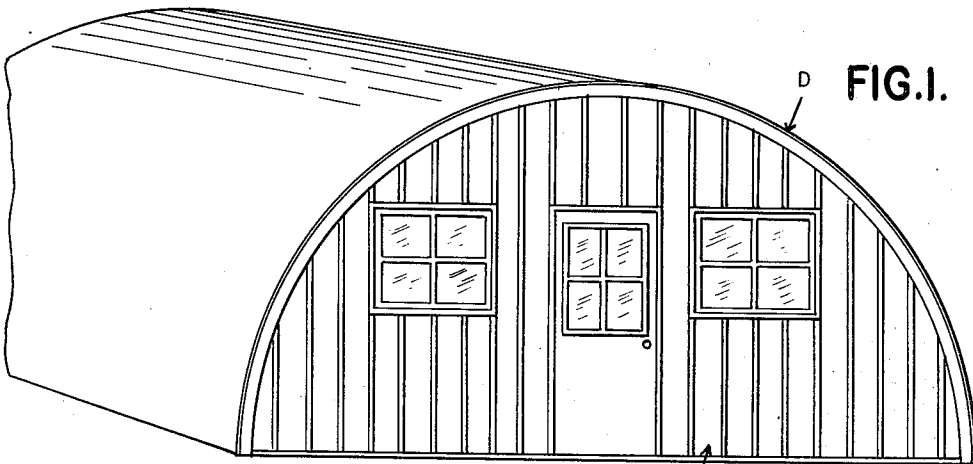
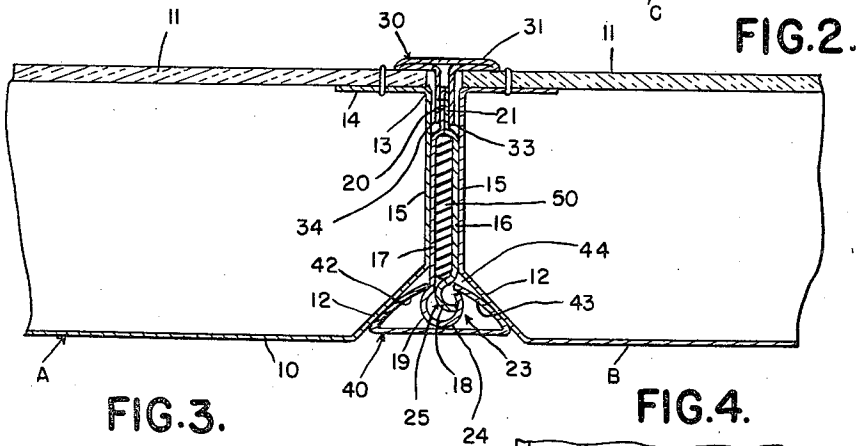
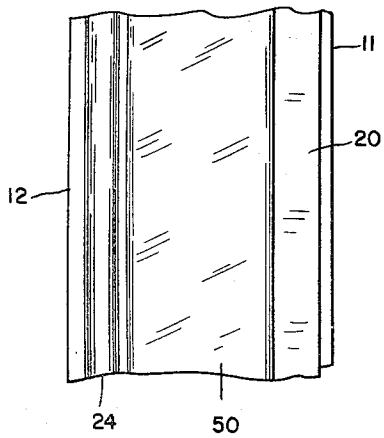
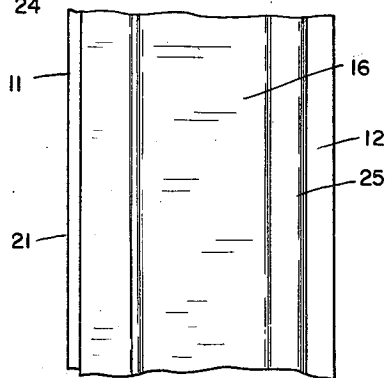
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2,351,820

STEEL HOUSE CONSTRUCTION

Filed April 2, 1943

2 Sheets-Sheet 1



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FIG. 5.

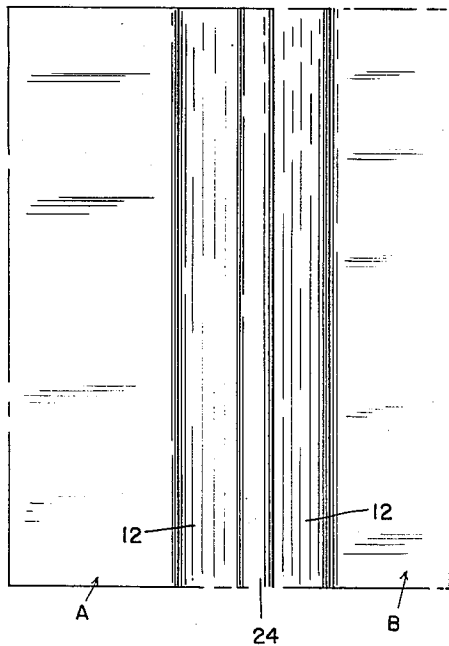


FIG. 6.

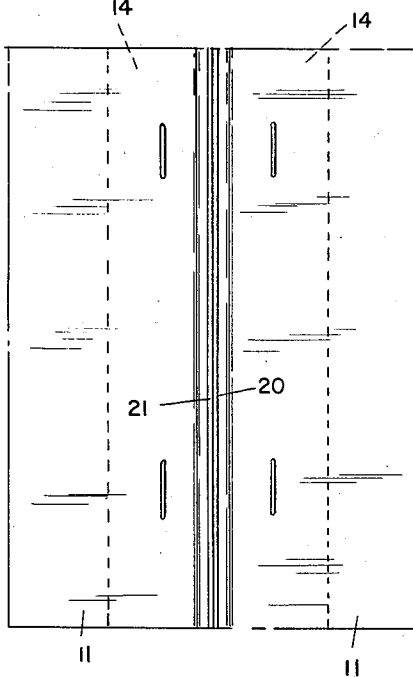


FIG. 8.

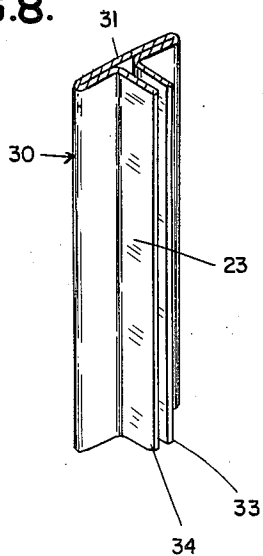
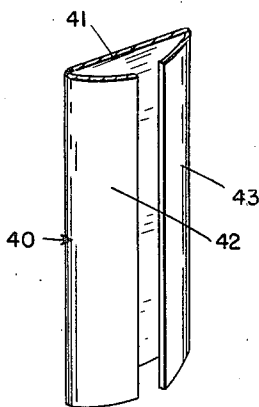


FIG. 7.



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STEEL HOUSE CONSTRUCTION

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Application April 2, 1943, Serial No. 481,613

4 Claims. (Cl. 189—34)

This invention relates generally to fabricated houses and refers more particularly to metal houses having formed sections that may be transported or shipped by the manufacturer in unassembled or knockdown condition and may be readily and quickly assembled by unskilled labor wherever they are to be erected or used.

One of the essential objects of the invention is to provide a sectional wall structure capable of universal use but primarily adapted for use in the construction of the front and rear end walls or bulkheads of Quonset huts, shelters and small houses of the type now being employed by the government for housing soldiers, marines and workmen.

Another object is to provide a wall structure wherein the upright sections thereof are preferably hollow and are adapted to receive or be filled with suitable material for insulating purposes.

Another object is to provide a wall structure wherein the upright sections thereof are preferably composite units having outer portions of metal and inner portions of insulating board.

Another object is to provide a wall structure wherein the metal portions of the sections are so designed that they may be made by rolling machines from strip or sheet stock.

Another object is to provide a wall structure wherein weather-tight joints are provided between adjacent sections thereof.

Another object is to provide a wall structure wherein the weather-tight joints include means for effectively connecting the sections together.

Another object is to provide a wall structure wherein the connecting means at one side of the structure includes a hinge joint between the sections that serves as an anchorage means for molding or trim strips for concealing such joint.

Another object is to provide a wall structure wherein the connecting means at the other side of the structure includes suitable molding or trim strips which hold the hinged sections in closed edge to edge relation and conceal the joints therebetween.

Another object is to provide a wall structure that is simple in construction, economical to manufacture, easy to erect and efficient in use.

Other objects, advantages and novel details of construction of this invention will be made more apparent as this description proceeds, especially when considered in connection with the accompanying drawings, wherein:

Figure 1 is a perspective view of a Quonset hut having a wall structure embodying my invention;

Figure 2 is a horizontal sectional view through two sections of said wall structure;

Figure 3 is an edge elevation of one of the sections illustrated in Figure 2;

Figure 4 is an edge elevation of the other of the sections illustrated in Figure 2;

Figure 5 is an outside elevational view of the joint between the sections before the molding is applied thereto;

Figure 6 is an inside elevational view of the joint between the sections before the molding is applied thereto;

Figure 7 is a detail perspective view of the outside molding;

Figure 8 is a detail perspective view of the inside molding.

Referring now to the drawings, A and B respectively are adjacent upright sections of a wall structure C embodying my invention. In the present instance such sections A and B are used in the formation of the end walls or bulkheads of a Quonset hut D, however it will be apparent that the sections may be used in wall or partition structures of other types of shelters or buildings as desired.

As shown, these sections A and B are substantially rectangular shape in cross section and are arranged in edge to edge relation. Preferably the sections are hollow composite units and have inwardly opening channel shaped outer portions 10 formed of sheet metal, and substantially flat inner portions 11 formed of insulating board. The channel shaped portions 10 have inclined outer corners 12 and have right angular inner corners 13 provided with inturned flanges 14.

The insulating board 11 overlaps and is secured to the inturned flanges 14 of said channel shaped portions.

Welded or otherwise secured in surface to surface relation to the adjacent edge portions 15 of the sections A and B are hinge strips 16 and 17 respectively provided throughout their length at the outer edges thereof with mating tongue and groove portions 18 and 19 respectively and provided throughout their length at their inner edges with inwardly offset portions 20 and 21 respectively that are disposed in spaced substantially parallel relation to the respective edge portions 15 of said sections.

The tongue 18 and groove 19 arrangement provides a hinge joint 23 between the sections A and B so that they may be swung into edge to edge relation, and also provides an interlock between the sections at the outer sides thereof. Preferably the groove 19 is provided by an open return

bent edge portion 24 of the strip 17, while the tongue 18 is provided by a transversely curved or arcuate edge portion 25 of the strip 16. When the sections A and B are disposed substantially at right angles to each other the tongue 18 may be inserted into the groove 19. Then either or both sections A and B may be swung about the hinge joint 23 provided by said engaged elements until the sections are in edge to edge relation. When in this position an effective interlock between the sections is provided at the outer faces thereof.

To cooperate with the hinge interlock or joint 23 to hold the sections A and B in edge to edge relation, a metal molding strip 30 of substantially T cross section is anchored upon the offset portions 20 and 21 respectively of the hinge strips at the inner sides of the sections A and B. As shown, the head 31 of the T is flat and sufficiently wide to overlie the adjacent inner faces of the sections A and B and thereby conceal the inner joint therebetween. Preferably this head 31 consists of flattened return bent portions of the metal from which the strip is formed. The stem 32 of the T is at the longitudinal median line of the head 31 and consists of spaced substantially parallel flanges 33 and 34 respectively which extend inwardly between the sections A and B and straddle and serve as a yoke or clamp for the offset portions 20 and 21 respectively of the hinge strips 16 and 17.

For concealing the hinge joint 23 between the sections A and B is a metal molding strip 40 of the snap-on type having a substantially flat head 41 between and substantially flush with the outer faces of said sections and having inwardly inclined flanges 42 and 43 respectively that engage opposite sides of the hinge joint 23 upon the inner side of the open return bent portion 24 of the hinge strip 16. In this connection it will be noted that the inclined corners 12 of adjacent sections A and B provide from a point upon the inner side of the hinge joint 23 to the outer faces of said sections an outwardly opening channel 44 of substantially V cross section that contains both the hinge joint 23 and the molding strip 40. Thus, the parts are very compactly arranged.

Preferably a weather strip 50 of suitable material is adhered to the outer face of one of the hinge strips, preferably the strip 16, so as to be compressed between both strips when the sections A and B are fastened as aforesaid in edge to edge relation. As shown, the weather strip 50 is secured in surface to surface relation to the outer face of the hinge strip 16 and is engaged by the outer face of the hinge strip 17 when the parts are in assembled position.

In use, the hollow sections A and B may receive or be filled with insulating material of any suitable type. After the tongue 18 of one section is engaged with the groove 19 of an adjacent section, the desired edge to edge relation between said sections may be quickly obtained by relative swinging movement between the sections. The molding strip 30 may then be applied to the offset portions 20 and 21 as aforesaid to maintain the edge to edge relation and thereby hold the weather strip 50 under compression. The other molding strip 40 may then be snapped upon the hinge joint 23 to complete the assembly.

What I claim as my invention is:

1. A joint of the class described comprising

adjacent preformed sections, a hinge connection between said sections including hinge strips secured to opposed portions of said sections, said strips being provided at one side of said sections with interlocking hinge elements providing a hinge joint and provided at the other side of said sections with substantially contacting inwardly offset edge portions, and means cooperating with the hinge joint to hold the sections in assembled relation including a molding strip having a head overlapping and concealing the joint between the sections and having a bifurcated stem extending between said sections and straddling the contacting edge portions of said hinge strips.

2. A joint of the class described comprising adjacent preformed sections, a hinge connection between said sections including hinge strips secured to opposed portions of said sections, said strips being provided at one side of said sections with interlocking hinge elements providing a hinge joint and provided at the other side of said sections with substantially contacting inwardly offset edge portions, the hinge strips being spaced apart and cooperating with the hinge joint and contacting edge portions aforesaid to provide a pocket, a weather strip filling said pocket, and means cooperating with the hinge joint to hold the sections in assembled relation including a molding strip having a head overlapping and concealing the joint between the sections and having a bifurcated stem extending between said sections and straddling the contacting edge portions of said hinge strips.

3. A joint of the class described comprising adjacent preformed sections, a hinge connection between said sections including hinge strips secured to opposed portions of said sections, said strips being provided between said sections at one side thereof with interlocking hinge elements providing a hinge joint and provided between said sections at the other side thereof with substantially contacting edge portions offset inwardly from said opposed portions of said sections, and means cooperating with the hinge joint to hold the sections in assembled relation including a molding strip having a head overlapping and concealing the joint between the sections and having a bifurcated stem extending between said sections and straddling the contacting edge portions of said hinge strips.

4. A joint of the class described comprising adjacent preformed sections, a hinge connection between said sections including hinge strips secured to opposed portions of said sections, said strips being provided between said sections at one side thereof with interlocking hinge elements providing a hinge joint and provided between said sections at the other side thereof with substantially contacting edge portions offset inwardly from said opposed portions of said sections, and means at opposite sides of the sections for concealing the hinge strips and the joint between said sections, a portion of said concealing means cooperating with the hinge strips to hold the sections in assembled relation and including a molding strip having a head overlapping and concealing the joint between said sections and having a bifurcated stem between said sections and straddling the contacting edge portions of said hinge strips.

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