Nov. 1, 1932. O. P. CHERDRON ET AL 1,885,329

SHED CONSTRUCTION

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Fig. 1.

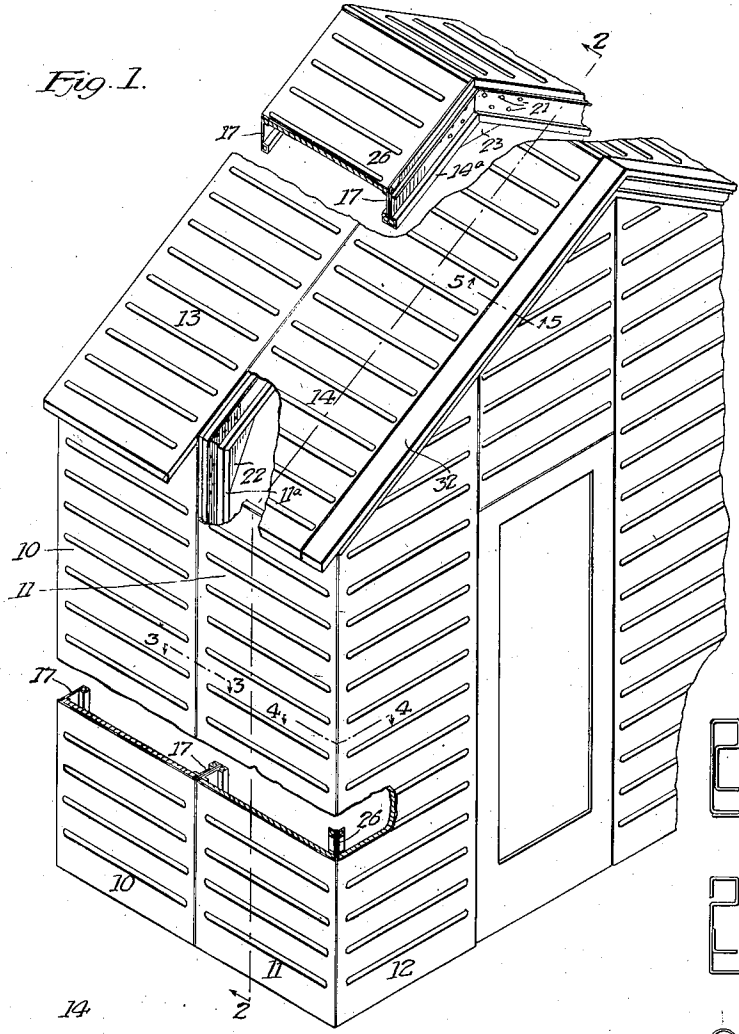



Fig. 6.

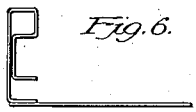


Fig. 7.

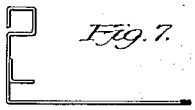


Fig. 8.

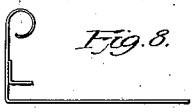


Fig. 9.

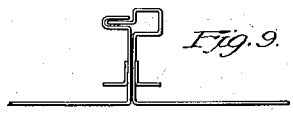
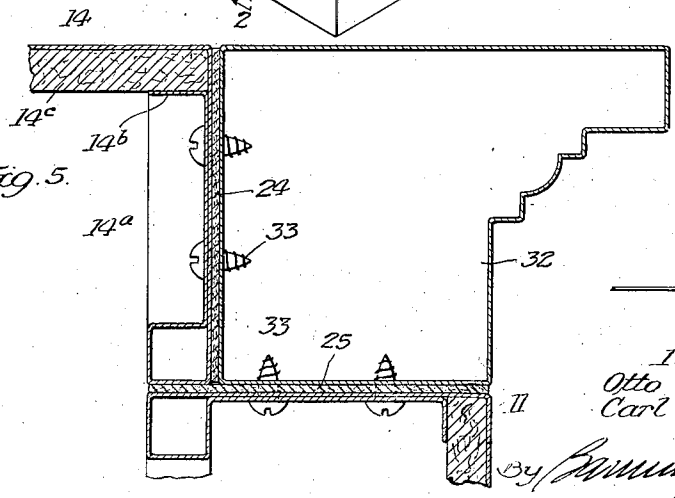


Fig. 5.




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Fig. 2.

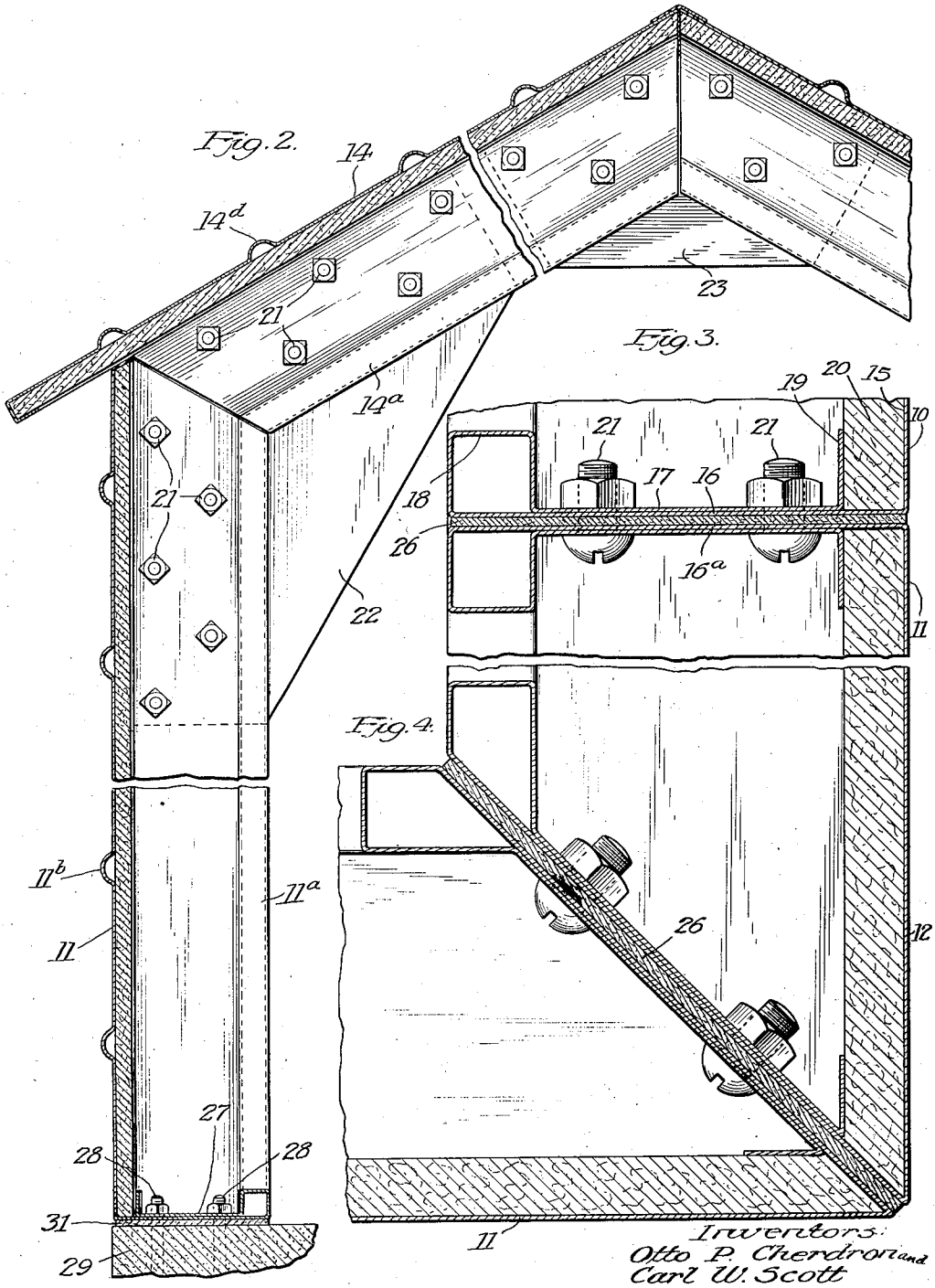



Fig. 3.




Fig. 4.

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# UNITED STATES PATENT OFFICE

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## SHED CONSTRUCTION

Application filed September 1, 1931. Serial No. 560,621.

An object of this invention is to provide a satisfactory shed construction which can be made up in sections in a shop and assembled on the job, which might be called sheds of panel type with integral frame.

Another object is to provide a shed construction which is light in weight, easily handled, shipped, stored, assembled and disassembled without loss, and inexpensive to manufacture.

Another object is to provide a shed construction which will be very strong and rigid for a given weight of material.

These and other objects, as will hereinafter appear, are accomplished by this invention which is fully described in the following specification and shown in the accompanying drawings, in which—

Figure 1 is a partial perspective view of a shed embodying the invention;

Fig. 2 is a partial enlarged vertical section on the line 2—2 of Fig. 1;

Figs. 3, 4 and 5 are enlarged sections on the lines 3, 4 and 5 respectively of Fig. 1; and

Figs. 6, 7, 8 and 9 are transverse sections showing modified forms of flanges.

The embodiment illustrated comprises a shed construction made up essentially of a series of panels made by bending the edges of metal panels to form flanges which greatly strengthen the panel. These flanges are bolted in assembling the shed, thus forming a structural frame which carries the principal stresses of the shed. These elements consist of vertically extending side panels 10, 11, 12, with a series of roof panels, 13, 14, all secured together, as will presently be described. A vertical side panel as 10 is made up of a central web 15, preferably of metal, such as sheet-iron, having at each edge a flange 16 turned up substantially at right angles thereto, and bent back upon itself as at 17 to form an open box or bead 18, which serves to greatly stiffen and strengthen the flange due to the metal thus introduced in the bead 18, which thereby greatly increases the section modulus of the flange.

The flange portion 17 is returned upon the flange 16 and lies adjacent thereto, the inner edge or ear 19 being bent up so as to lie parallel to the body of the sheet 15 and spaced therefrom so as to hold a sheet 20 of heat insulating and sound deadening material, such as celotex, plaster board, and the like. The flanges 16, $16^a$ thus formed are secured together as by means of a series of bolts 21. Gusset plates 22, 23 are secured between these flanges where the studding $11^a$ formed by these flanges meets the rafters $14^a$ similarly formed by flanging the margins of the roof section 14. At other points, as shown by Figs. 4 and 5, the spaces between the flanges 16, $16^a$ may be filled by strips of a water repellent material, such as asphaltum paper 24, 25, 26.

The bottom of the vertical panels 10, 11, 12 have their edges bent up to form horizontal flanges 27 through which pass anchor bolts 28 for firmly securing these panels to a base 29 of concrete, wood, or the like. A sheet of water repellent material 31, such as asphaltum paper, is preferably inserted at this point. The roof sections 13, 14, as are clearly shown in Fig. 5, are provided with flanged portions similar to those of the vertical panels, and these have edge portions or ears $14^b$ parallel to and spaced from the main body of the roof members 14 so as to retain a sheet of heat insulating material, such as wallboard, celotex, or the like, $14^c$ as in the vertical panels. These are preferably cemented to the metal panel to add stiffness and rigidity thereto under load.

The vertical panels at 11 (Fig. 2) are provided with ribs $11^b$ of any desired shape to add stiffness to the panel and to improve its appearance. Similarly, the roof sections as 14 (Fig. 2) are provided with ribs $14^d$ for the same purpose. In Fig. 5 is shown a cornice 32 which may be secured to the side panel 11 and roof section 14 by means of screws 33.

In Figs. 6 to 9 are shown modified forms of the edge flanges. Fig. 6 shows a separately formed flange spot-welded to the panel body. Figs. 7, 8 and 9 shows separately formed angles spot-welded to the inner surface of the flange to provide means for retaining the insulating board. Fig. 9, in addition, shows a lip portion of the flange adapted to enter a

groove in the opposite member to form a seal to prevent the passage of wind or rain without the use of a gasket member.

Thus it will be seen that a very simple and efficient form of shed construction is provided which is relatively inexpensive to manufacture, which provides for a practically indefinite expansion by the addition of similar units. These sections can be made up in the shop, and are in convenient form for shipping to the point where the building is to be erected, and lend themselves to rapid and easy assembly with only a few tools, the use of which does not require highly skilled labor. The shed when constructed is strong, rigid, and of pleasing appearance, and can, if desired, be readily disassembled and moved to a new location.

While we have shown and described but a few embodiments of our invention, it is to be understood that it is capable of many modifications. Changes, therefore, in the construction and arrangement may be made which do not depart from the spirit and scope of the invention as disclosed in the appended claims.

We claim:

1. An insulated structural unit for walls and roofs of sheds comprising a sheet metal panel bent to provide edge flanges and a transverse series of stiffening beads extending substantially from one edge flange to the other, an insulating board united to the inner beaded surface of said panel between said flanges, and said flanges being inturned and reversely bent upon themselves and terminating adjacent said insulating board to provide spaced flange strengthening beads and board supporting ears.

2. An insulated structural unit for walls of sheds comprising a sheet metal panel bent to provide an edge flange at the bottom and two vertical sides, an insulating board covering said panel between said flanges, and said flanges being inturned and reversely bent upon themselves and terminating adjacent said insulating board to provide board supporting ears and strengthening beads spaced from said board, and the sill stud and sheathing forming an integral sheet metal unit.

3. A self-sustaining sheet-metal panel construction for walls and roofs of sheds bent into substantially pan shaped formation, a side flange of said panel being inturned and reversely bent upon itself providing a hollow strengthening bead and a portion extending substantially parallel to and reinforcing the web of said flange to form with said flange and panel an integral studding construction.

4. A sheet of metal panel construction for walls and roofs of sheds bent into substantially pan shaped formation, a side flange of said panel being inturned and reversely bent upon itself providing a hollow strengthening bead and integral studding construction when secured to the flange of an adjacent panel to form a wall, and a panel lining retaining ear carried by said flange in spaced relation to said bead and panel.

5. A self-sustaining sheet metal panel construction for walls and roofs of sheds bent into substantially pan shaped formation, a side flange of said panel being inturned and reversely bent upon itself providing a hollow strengthening bead and a portion extending substantially parallel to and reinforcing the web of said flange to form with said flange and panel an integral studding construction, said inturned bent portion of said flange terminating in an ear adjacent said panel, whereby to secure an insulating board to said panel between said flanges.

6. A shed construction built up of a plurality of sheet metal units of substantially equal width and each unit being bent into substantially pan shaped formation, a side flange of each panel being inturned and reversely bent upon itself providing a hollow strengthening bead and a portion extending substantially parallel to and reinforcing the web of said flange to form with said flange and panel an integral studding construction, and the reinforcing web portion of said flange between the bead and panel having means for connecting said flange to the flange of an adjacent panel, whereby to provide a self-supporting structure having integral studding and rafter portions.

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