Oct. 9, 1956 E. O. CAMPUS 2,765,500

DISMANTLABLE SHELTER

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Fig. 1.

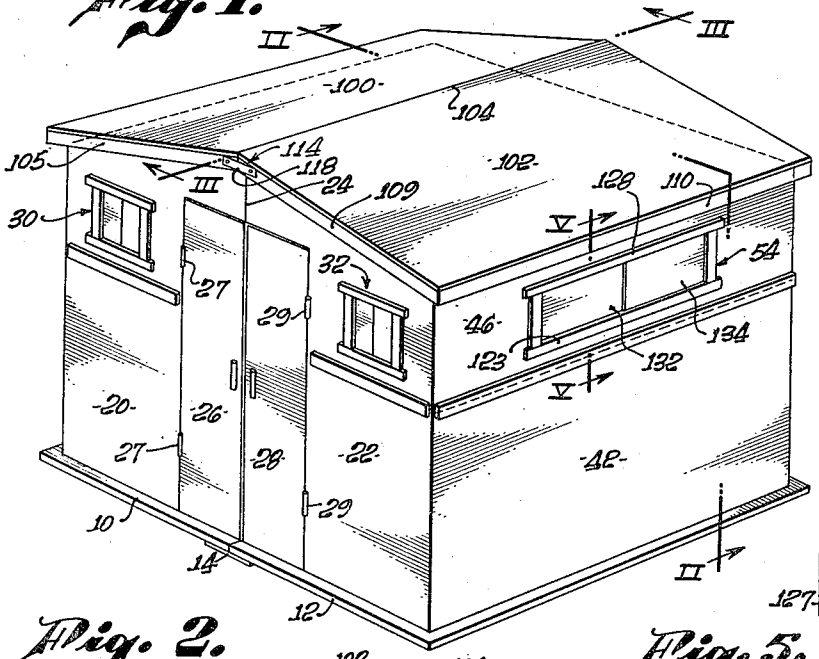


Fig. 2.

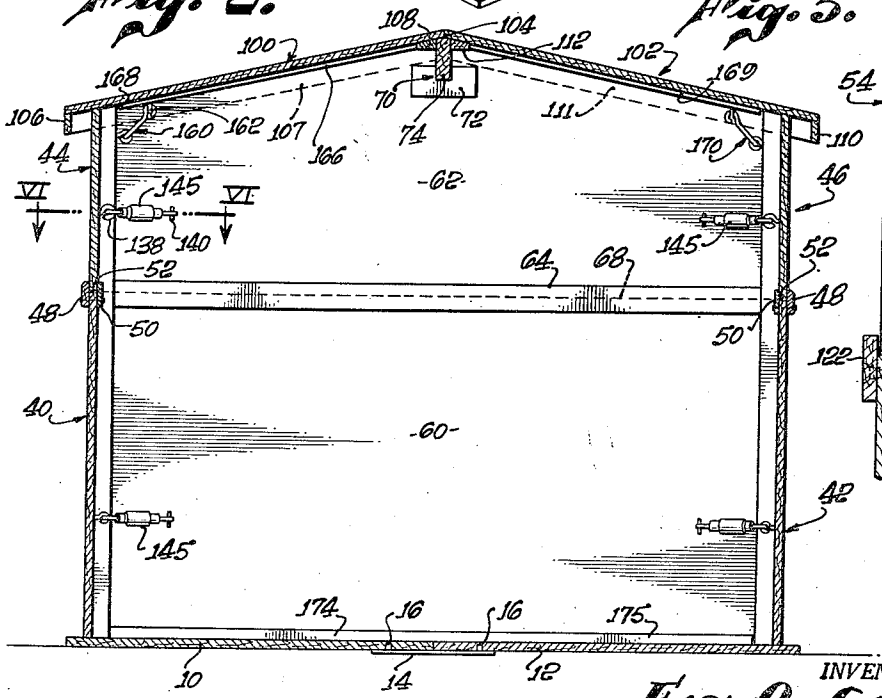
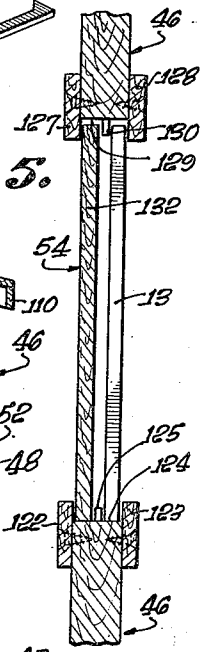


Fig. 5.



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Fig. 3.

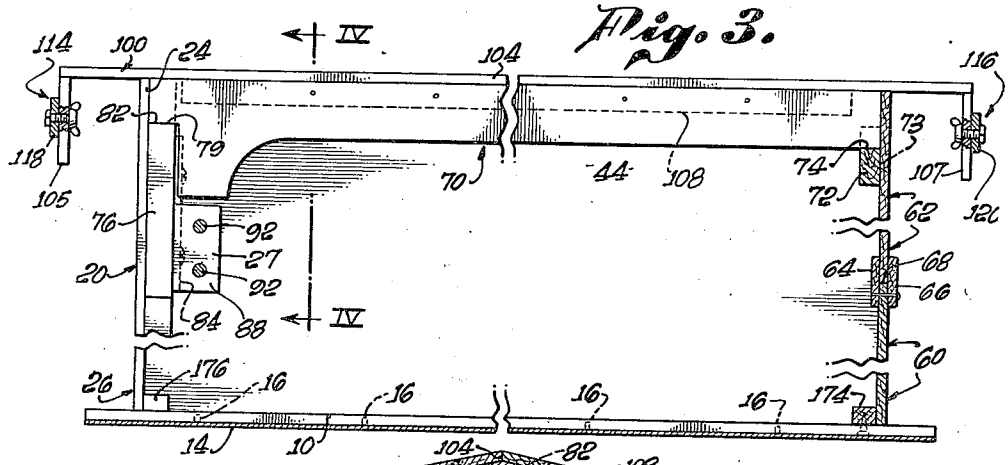


Fig. 4.

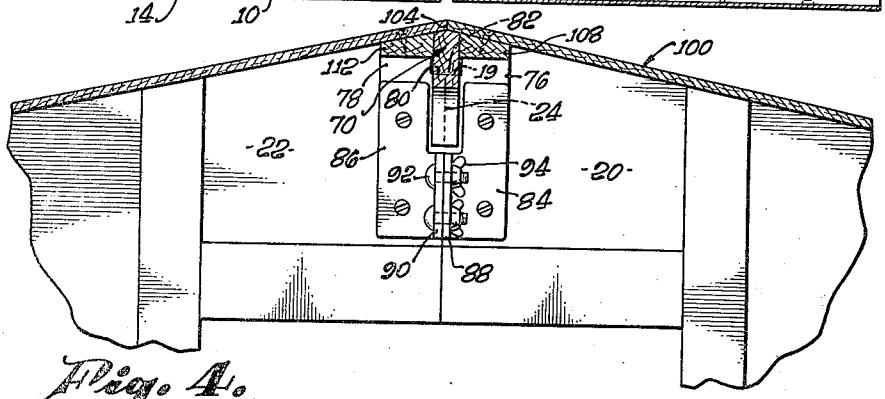


Fig. 6.

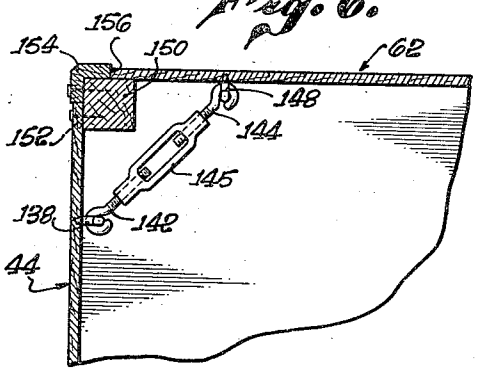
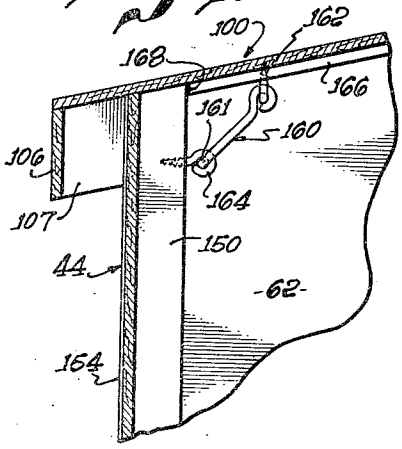


Fig. 7.



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DISMANTLABLE SHELTER

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Application May 18, 1953, Serial No. 355,725

1 Claim. (Cl. 20—2)

This invention relates generally to building construction and in particular relates to a dismantlable shelter especially characterized by ease of portability and assembly and including component sections having width no greater than desired maximum, which may exemplarily be assumed to be approximately four feet.

My invention makes it possible for the component parts of a cabin or shelter to be transported in compact form in any desired manner, such as strapped to the roof of a conventional automobile, and each of the component floor members, wall members and roof members may be easily and quickly set in place and assembled by one person working alone. Thus the shelter of my invention affords great convenience when camping out of doors, as for example on sporting expeditions and it may also be used as a playhouse or the like for children in the yard of a home.

Prior structures of the general nature referred to above have been characterized by important disadvantages which have prevented their wide use by the public. Particularly, such prior devices have included component elements which are so ungainly and awkward that they cannot be transported conveniently. Moreover, they have generally been beyond the capacity of a man to assemble without help. The present invention, however, provides relatively commodious sleeping accommodation for two persons but at the same time no single element of the structure is wider than approximately four feet. The several floor, roof and wall members may be economically fabricated of plywood or the like. Such elements may therefore be stacked one upon another on the roof of an automobile and when strapped securely in position may be conveniently transported from one location to another. A single person working alone can assemble the present shelter in less than thirty minutes, and the structural elements are so fastened together when assembled as to provide exceptional strength and rigidity to the finished structure.

It is an object of the present invention therefore to disclose a dismantlable shelter having novel and useful constructional features.

Another object of the invention is to provide a dismantlable shelter wherein no component structural element is wider than approximately four feet.

A further object of the invention is to provide such a shelter including a door made up of a pair of cooperating juxtaposed door members.

A still further object of the invention is to disclose a dismantlable shelter having the above advantages but of simple and inexpensive construction.

These and other objects and purposes of the invention will become clear from the following description of a preferred embodiment thereof taken in connection with the accompanying drawings in which:

Fig. 1 is a perspective view of a dismantlable shelter according to my invention.

Fig. 2 is a vertical sectional view taken on the plane II—II of Fig. 1.

Fig. 3 is a fragmentary vertical sectional view taken on the plane III—III of Fig. 1.

Fig. 4 is a fragmentary sectional view taken on the plane IV—IV of Fig. 3.

Fig. 5 is a fragmentary sectional view of a preferred window construction taken upon line V—V of Fig. 1.

Fig. 6 is a fragmentary sectional view taken upon plane VI—VI of Fig. 2.

Fig. 7 is a fragmentary sectional view on an enlarged scale of a preferred form of fastening means between a roof member and an upper side wall panel as seen generally in Fig. 2.

Referring now in detail to the drawings and particularly to Figs. 1 and 2 thereof, my shelter includes a pair of rectangular floor members **10** and **12** which lie, when the shelter is assembled as shown, in parallel side-by-side relation with one longitudinal edge of each floor section abutting a longitudinal edge of the other floor section. The two floor sections are retained in this parallel side-by-side relation by suitable means which in the present illustration may include a floor assembly plate **14** underlying the abutting marginal portions of the two adjacent floor sections **10** and **12**. The assembly plate **14** is desirably made of metal and includes one or more pairs of upstanding pins **16** which register with and are received within complementary apertures formed in marginal portions of the floor sections **10** and **12**.

A pair of vertically extending front wall panel sections is provided and indicated generally at **20** and **22**, the width of each wall panel section being substantially equal to or slightly less than that of the floor sections **10** and **12**. The two front wall panel sections **20** and **22** are joined along the central vertical line **24**, the edges of the front wall panel sections being in abutting relation. In addition, each of the front wall panel sections is provided with a door member or half door indicated generally at **26** and **28** respectively, the door members being mounted for swinging in a vertical plane about vertically aligned hinges **27** and **29** respectively, carried by the front wall panel sections **20** and **22**. The free vertical edges of the door members **26** and **28** are in juxtaposed relation along line **24** as shown when the door is in closed position. In the upper portions of each of the front wall panel sections **20** and **22** there may be provided a window indicated generally at **30** and **32** respectively. The windows may include hinged closure members similar to the door members **26** and **28**, or slidable closure members similar to those shown in the preferred construction of the side window **54** to be later described.

Intersecting the front wall panel sections **20** and **22** perpendicularly and extending longitudinally of the floor sections **10** and **12** adjacent the outer edges thereof is a pair of symmetrically disposed rectangular lower side wall panel sections indicated generally at **40** and **42** respectively. The height of the lower side wall panel sections **40** and **42** is made to be equal to or slightly less than the desired maximum width of component elements of structure, which in the present instance may be assumed to be approximately four feet and equal to the width of the floor sections **10** and **12**. Above the lower sections **40** and **42** is a pair of upper side wall panel sections indicated generally at **44** and **46** respectively and means are provided for supporting the lower edges of the upper sections **44** and **46** upon the upper edges of the lower sections **40** and **42**. Such means in the present illustration are shown as including outer and inner longitudinal strips **48** and **50** respectively, such strips being fixed to the upper marginal portions of wall sections **40** and **42** and extending slightly above the upper edges of the lower wall sections in order to form a pair of longitudinal channels **52** to receive and support the lower edges of the upper wall sections **44** and **46**.

The upper wall sections 44 and 46 may be provided with suitable ventilating openings or windows, the window of the right wall section 46 being indicated generally at 54 and shown in detail in Fig. 5.

Like the side walls just described, the rear wall of my dismantlable shelter is also preferably made up of a lower and an upper section, such sections being indicated generally at 60 and 62 respectively. Desirably also the upper section 62 is supported in its correct relationship with lower section 60 by suitable means similar to the means described in connection with the side walls, the means associated with the rear walls including inner and outer strips 64 and 66 respectively (see Fig. 3) forming a channel 68 for receiving the lower edge of the upper rear wall panel section 62.

A roof support means is provided and desirably takes the form of a longitudinally extending ridgepole indicated generally at 70 and supported by suitable means by the front wall panel sections 20 and 22 and by the upper rear wall panel section 62. As best appears in Fig. 2, the supporting means for ridgepole 70 on the rear portion of the shelter may desirably include a block 72 fastened by any desired means such as screws 73 (see Fig. 3) to upper rear wall panel section 62. A centrally disposed upwardly facing channel 74 is formed in the block 72, the channel 74 being adapted to receive and support the rearmost end of the ridgepole 70. The means carried by the front wall panel sections for supporting the front end of the ridgepole 70 may desirably include a pair of blocks 76 and 78 carried respectively by the front wall panel sections 20 and 22 adjacent their line of abutment 24. Each of the blocks 76 and 78 is provided with a notched-out portion 79 and 80 respectively, the notched-out portions cooperating to form a centrally disposed upwardly directed channel or saddle 82 to receive and support the front end of the ridgepole 70.

Means are provided for connecting together the left and right front wall panel sections 20 and 22 respectively, and such means in the present illustration include a pair of complementary angle plates 84 and 86 mounted respectively on blocks 76 and 78. The angle plates 84 and 86 include integrally formed inwardly extending flanges or arms 88 and 90 respectively having formed therein registering apertures through which connecting means such as bolts 92 may extend, the bolts being held in position by wing nuts 94.

The roof of the present invention is desirably made up of a pair of substantially rectangular roof members indicated generally at 100 and 102 respectively. The roof members are disposed so that longitudinal edges of the members lie in abutting relation along the center line 104 of the roof. Roof member 100 includes downwardly extending flange-like trim members 105, 106, and 107 along the front, side and rear respectively and is provided with a longitudinally extending positioning cleat 108 along its inner longitudinal edge and spaced slightly from said edge. Similarly roof member 102 is provided with downwardly extending flange-like trim members 109, 110 and 111 along its front, side and rear edges respectively and includes a longitudinal positioning cleat 112 along its abutting edge 104 and spaced slightly therefrom. Means are provided for retaining the two roof members 100 and 102 in assembled relation, such means in the present illustration being indicated generally at 114 and 116. Retaining means 114 may include a narrow strap 118, preferably of metal, extending between the flanges 105 and 109 and disconnectibly attachable by suitable bolt means to the flanges. Similarly, retaining means 116 includes a narrow strap 120 preferably of metal and disconnectibly attachable by suitable bolt means to the flanges 107 and 111.

The preferred construction of the window 54 in the upper side wall panel section 46 is shown in detail in Fig. 5. A pair of longitudinally extending strips 122 and 123 preferably of wood or similar material are attached to the side wall panel 46 by suitable means and are so disposed that the upper edges of the strips 122 and 123 extend above the lower edge of the window opening. Thus a channel 124 is formed and is desirably divided by a narrow strip 125 into two smaller parallel channels. Similarly, a pair of longitudinal strips 127 and 128 is attached along the upper edge of the window opening, the strips forming a downwardly directed channel 129. The channel is divided into a pair of smaller channels by a central dividing member 130. A pair of rectangular window members 132 and 134 constitute the closure means for the window opening 54, and the window members 132 and 134 are made to be slidable within the channels formed by the longitudinal strips and by the dividing members 125 and 130 above described.

Means are provided for detachably fastening the lower side wall panels 40 and 42 in assembled relation with the lower rear wall section 60 and also for detachably fastening the upper side wall panel sections 44 and 46 in assembled relation with the upper rear wall section 62. Such means are shown in detail in Fig. 6 and in the present illustration include metallic loop members 138 and 140 attached to the wall members 44 and 62 respectively. Hooks 142 and 144 are connected to the loop members 138 and 140 in swivelable fashion and a longitudinally adjusting means such as turn-buckle 145 is threaded to the shanks of the hooks 142 and 144. By this means the respective wall sections 44 and 62 may be adjusted and retained in assembled relation as shown.

Means are desirably provided for reinforcing the corners of the structure of the present invention, such means being exemplarily shown in Fig. 6 as including a vertically extending corner member 150 permanently secured by suitable fastening means 152 to the vertical edge of the side wall panel section 144. An angled channel member 154, desirably made of metal, is also attached by suitable fastening means to the corner member 150 and the channel member 154 in cooperation with the corner member 150 forms a vertically extending seat or right angled channel 156 for the reception of the vertical side edge of the wall member 62. It will be understood that similar means for forming the corner engagements are used throughout my structure whereby to insure that the entire shelter when assembled is held in rigid rectangular relationship.

Means are provided for retaining the roof members 100 and 102 in assembled relation on the shelter, and such means may desirably take the form shown in detail in Fig. 7. As there indicated, hook 160 is swivelably attached by suitable fastening means 162 to the roof member 100 and its outer free end 161 is selectively engageable with a metallic loop 164 fastened to the vertically extending corner member 150. The roof member 100 is retained in correct relation to side wall panel section 44 by a laterally extending strip 166 fixed to the lower surface of roof member 100, the lower end of strip 166 being in abutting contact at 168 with the vertical corner member 150. As will be seen from Fig. 2, similar means are provided for maintaining roof member 102 in assembled relation with side wall panel section 46, such means including strip 169 fixed to roof member 102 and detachable fastening means in the form of hook 170 extending between the roof member 102 and the upper side wall panel section 46. It will be understood that detachable fastening means similar to those shown in Figs. 6 and 7 are also provided at the front end of the structure for retaining the side walls and roof members in assembled relation with the front wall sections 20 and 22.

Means for holding the several wall panel sections in correct relation with the floor are provided. As seen in Figs. 2 and 3, cleats 174 and 175 are fixed to the upper surfaces of floor members 10 and 12 respectively and are parallel to and spaced from the rear edges thereof, cleats 174 and 175 serving as blocks against which rear wall panel section 60 may be drawn during assembly of the

structure. In like manner a cleat 176 is fixed to floor member 10 parallel to and spaced from the front edge of the floor member, and a similar cleat (not shown) is fixed to floor member 12 and is symmetrical to cleat 176. It will be understood that the last named cleats serve as blocks against which the front wall panels may be drawn in assembling the structure.

Accordingly it will be seen that I have provided in the present invention an easily assemblable shelter affording sleeping accommodations for two people and made up of component structural elements of thin sheet material no one of which is greater in width than a desired maximum, for example, four feet. The front, side and rear walls as well as the roof members of the structure may be conveniently made of conventional plywood and when so made standard size sheets four feet by eight feet may be used with a minimum of wastage of stock. The upper side wall panel section such as 46 may be conveniently made by longitudinally slitting a four foot wide plywood panel, thus forming two upper side wall panel sections without wastage. In such construction, the overall height of the side walls is approximately six feet, so that with the roof members sloping as shown, persons of average height may easily walk about inside the shelter without stooping. Each of the door members 26 and 28 is relatively narrow (desirably approximately one and one-half feet wide), and the construction shown, wherein both door members 26 and 28 cooperate in forming an entrance opening having twice the width of a door member, provides exceptional strength and stability in the structure, while at the same time permitting easy access into the structure for such equipment as cots, luggage and the like.

Many modifications and changes from the specific forms of the invention herein shown and described will readily occur to those skilled in the art, and all such modifications and changes not departing from the spirit of the invention are intended to be embraced within the scope of the appended claims.

I claim:

A dismantlable shelter comprising: a floor including a pair of rectangular floor sections disposed in horizontal side-by-side relation; a vertically disposed rear wall supported on said floor including a rectangular lower rear wall section and an upper rear wall section; a pair of rectangular side walls each including coplanar rectangular lower and upper side wall sections supported on said floor and disposed in vertical spaced parallel planes perpendicularly intersecting said rear wall; a front wall supported on said floor and disposed in a vertical plane parallel to said rear wall, said front wall including a pair of front wall panels having edges abutting along a central vertical line, each panel being provided in its lower portion with a door member hingedly attached thereto for swinging about a vertical axis, the free vertical edges of the door members, when closed, being in juxtaposition along said central line; a longitudinally extending ridgepole supported at its one end by said front wall and at its rear end by said rear wall; a roof including a pair of rectangular roof members having longitudinal edges juxtaposed, said juxtaposed edges resting upon said ridgepole and opposite edge portions supported by the upper edges of said side walls; and means for detachably fastening together said side, front and rear walls and said roof in assembled position.

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