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Eckman et al.

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[54] **MULTI-USE CAMPER**

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[21] Appl. No.: **206,719**

[52] **U.S. Cl.** ..... **296/23 R,** 135/5 AT, 296/27

[51] **Int. Cl.** **B60p 3/34**

[58] **Field of Search** ..... 135/14 SA, 14 D, 135/5 AT; 296/23 R, 27; 52/66

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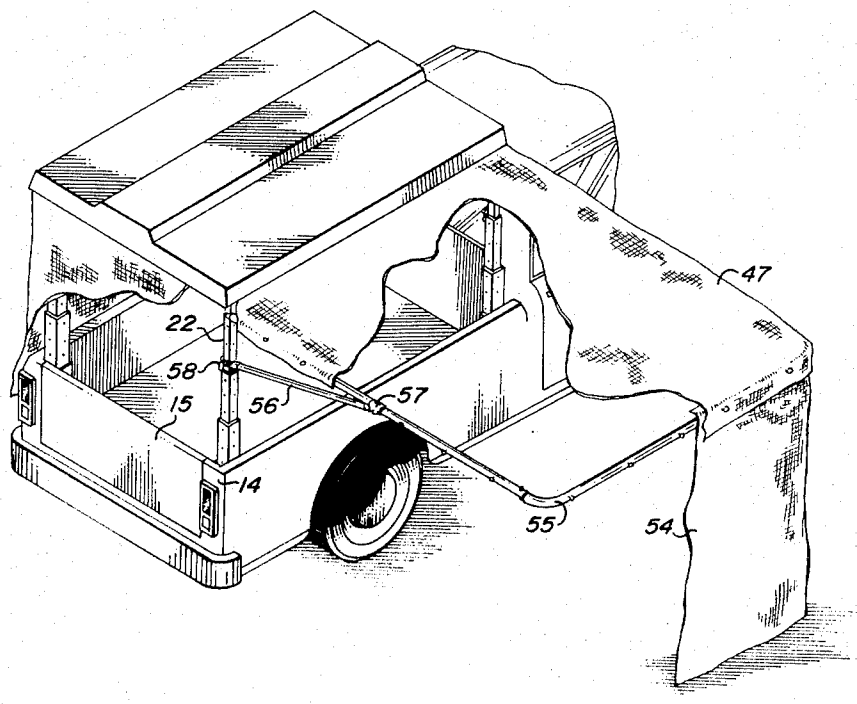
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[57] **ABSTRACT**

This specification discloses a camper that is susceptible for use in many and varied ways. It includes as essential elements a conventional body of rectangular shape having side walls, a telescopic post at each of the four corners of the body, and a rigid roof mounted on the upper ends of the posts. Each post includes at least three sections and means are provided for holding each section in an adjusted relation to adjacent sections. The upper end of the top section of each post is attached to the roof by a pin and slot connection, the slots of which are transverse of the roof. With this arrangement, the top may be adjusted with various transverse angular relations to the body and at adjacent heights above the body.

A canopy is connected to either or both side edges of the roof and may serve either as side flaps depending from the roof or as the top of a lateral extension supported by the roof and posts. The entire assembly of posts, roof and canopy or canopies may be removed from the body and used as a tent. The roof is of plastic and is formed with a central longitudinal boss presenting an internal channel, the corners of which have fillets of wood embedded therein to impart strength and rigidity to the roof structure.

16 Claims, 13 Drawing Figures



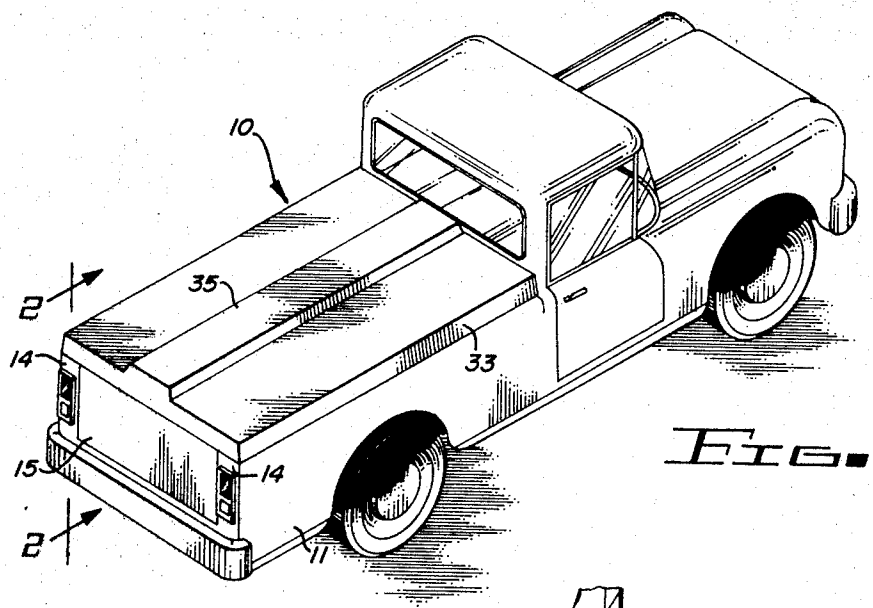


FIG. 1

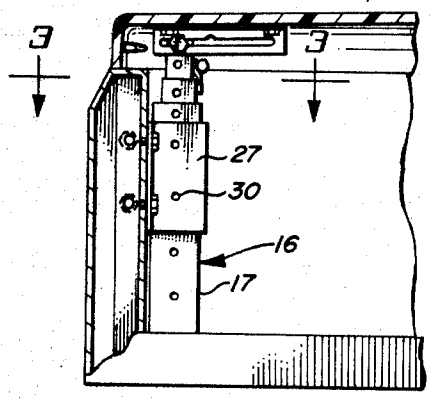


FIG. 2

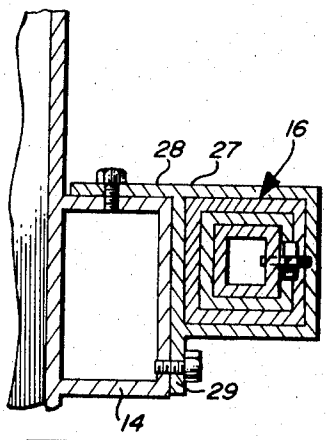


FIG. 3

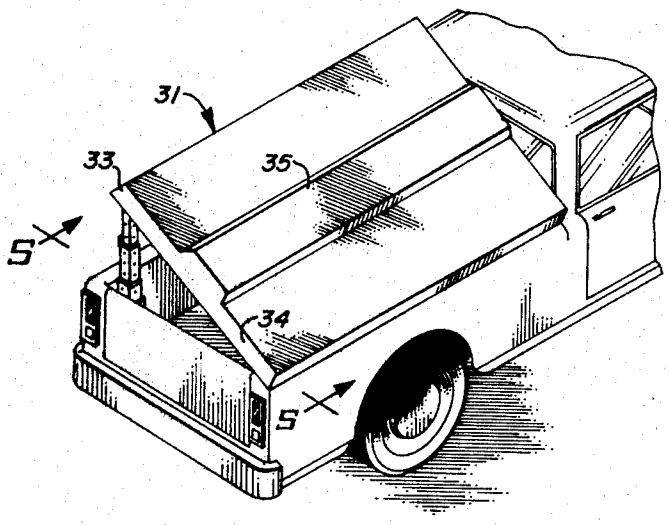


FIG. 4

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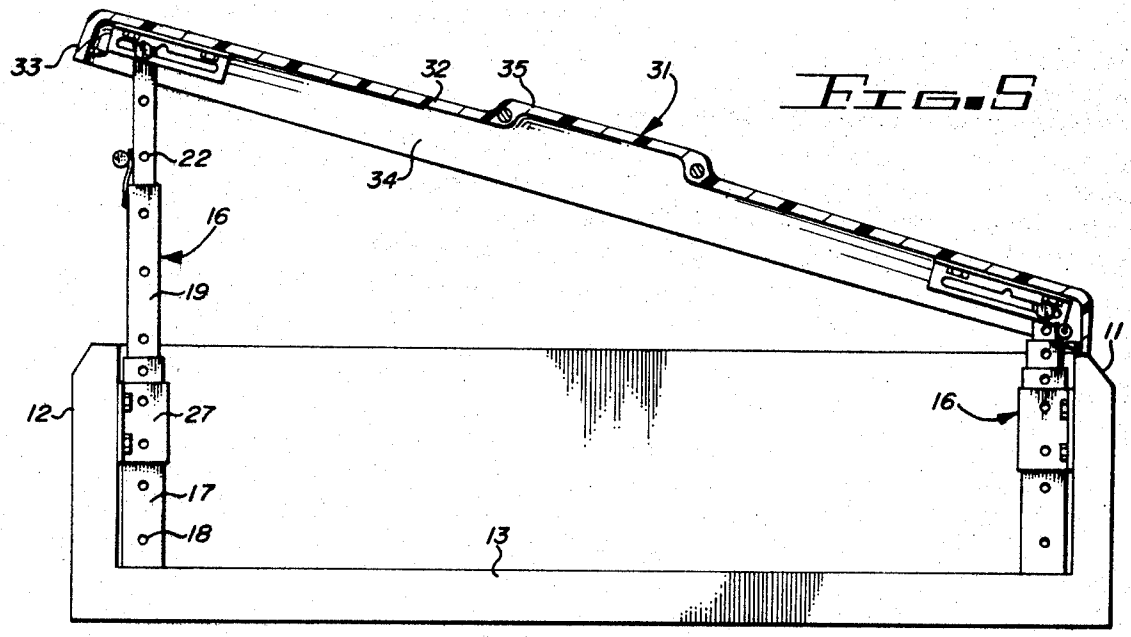


FIG. 5

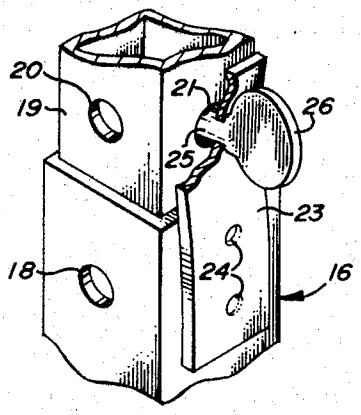


FIG. 6

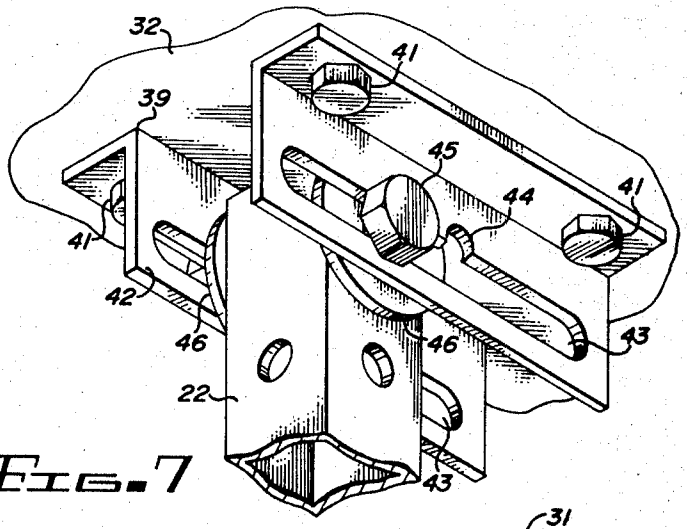


FIG. 7

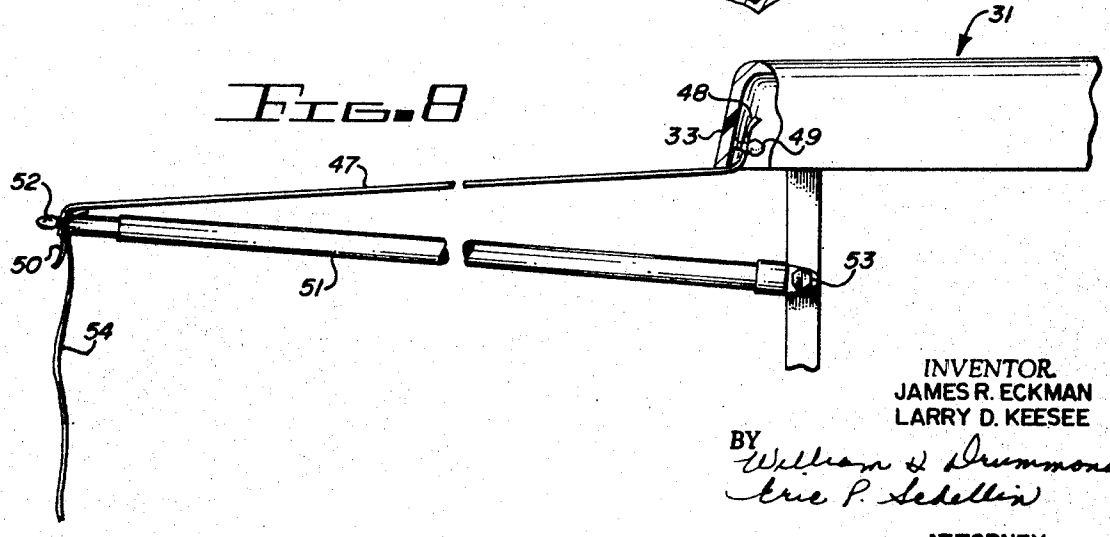


FIG. 8

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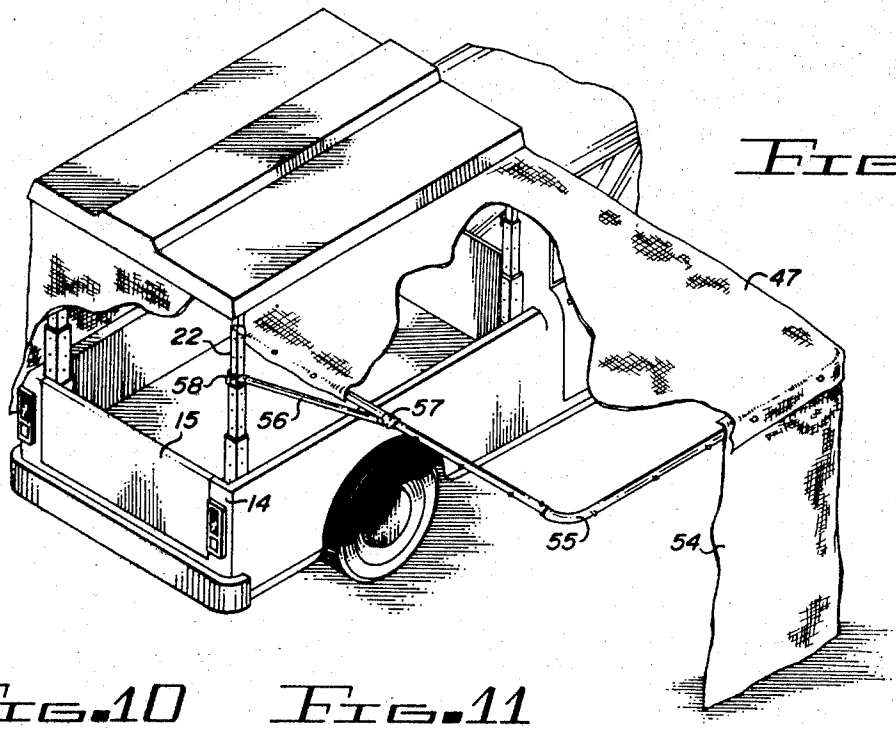


FIG. 9

FIG. 10

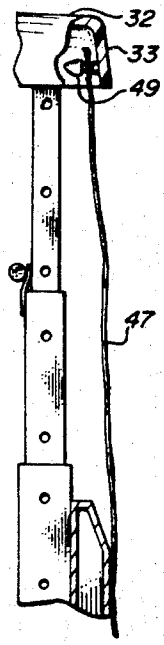


FIG. 11

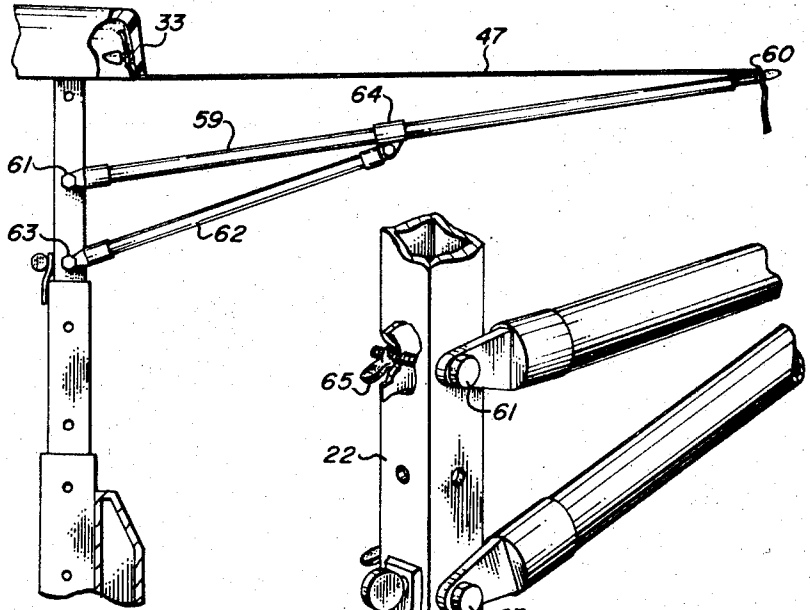


FIG. 12

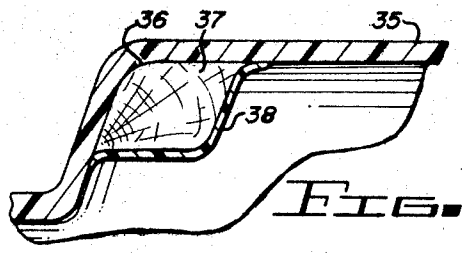


FIG. 13

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MULTI-USE CAMPER

The present invention is related to campers and is concerned primarily with a camper having a roof that is adjustable in height, and also as to its transverse angular relation to the body.

BACKGROUND OF THE INVENTION

At the present time, the use of campers is becoming more and more widespread. While campers of many and varied types are now available to the public, it is believed that the known campers are notably lacking in a roof which may be adjusted relative to the camper body in two respects. One aspect is the adjustment to height above the body and the other is a transverse angular adjustment. With the latter adjustment, it is possible to leave one side of the roof at the top edge of a body side and elevate the other roof side edge to literally open the body and provide access thereto from the open side. It is also possible to achieve a desired angular relation for the roof in an elevated position. This affords protection from the weather and drainage in the event of rainfall.

It is also deemed to be desirable to provide a camper of the type noted with a canopy for one or both sides of a roof and which canopy or canopies is susceptible of use in two ways. In a vertical position in which they depend from the side edges of the roof they function as side walls for the body when the roof is elevated. One or both of them may also be extended into a generally horizontal position from the side edge or edges of the roof and supported from the roof and its supporting structure. It is also desirable to provide a roof of the character aforesaid with adjustable supporting structure and one or more canopies which may be removed as a complete assembled unit from the camper body and used as a tent.

While it is known to make the roof of a camper of plastic, the prior art is lacking in a plastic roof that is sufficiently strong and rigid to withstand the service usage to which a multi-use camper is subjected.

OBJECTS OF THE INVENTION

With the foregoing conditions in mind, the invention has in view the following objectives:

1. To provide a camper including a body having side walls with a roof that is adjustable as to its height above the body and also angularly adjustable transversely of the body.

2. To provide, in a camper of the type noted, a rectangular body having a telescoping post at each corner with the upper ends of the posts being connected to the roof by an adjustable connection which permits the roof to assume various transverse angular positions related to the horizontal.

3. To provide, in a camper of the kind described, a roof that is adjustable in the two respects noted above and to the side edges of which are secured canopies.

4. To provide, in a camper of the type indicated, means for supporting one or two canopies in a laterally generally horizontal position and which are supported in this position by the posts and roof.

5. To provide, in a camper of the character aforesaid, a unit assembly of roof, supporting posts and canopies which is completely removable from the camper body and susceptible of use in a tent, and

6. To provide a camper having a plastic roof that is designed and constructed to impart strength and rigidity thereto to a high degree.

Various other more detailed objects and advantages of the invention will in part become apparent and in part be hereinafter stated as the description of the invention proceeds.

SUMMARY OF THE INVENTION

The foregoing objects are achieved by providing a camper having a conventional body of rectangular formation with a telescopic post at each of its four corners. Each of these posts comprises a plurality of, preferably three, sections which are adjustable relative to adjacent sections and means for securing an adjusted relation of the sections. A roof is supported by the upper ends of the top sections and attached thereto by pin and slot connections, the slots of which are transverse rather than longitudinal. A canopy has one edge secured to a side edge of the roof. Two such canopies are provided. In one position the canopies depend vertically from the roof and constitute side walls or flaps for the body when the roof is elevated. Provision is made for supporting the canopies from the roof and posts in laterally extended positions. The assembly of posts, roof and canopies is removable as a unit from the body to adapt it for use as a tent. The roof is of plastic and has a central longitudinal boss presenting an inner channel the corners of which have embedded therein fillets of wood.

For a full and more complete understanding of the invention, reference may be made to the following description and accompanying drawings wherein:

FIG. 1 is a perspective view of a camper embodying the principles of this invention;

FIG. 2 is a detailed elevational view, on an enlarged scale looking at one tail corner of the body, this view being taken on the plane of the line 2—2 of FIG. 1;

FIG. 3 is a detailed horizontal section taken on the plane of the line 3—3 of FIG. 2;

FIG. 4 is a perspective of the camper body with the cab broken away and depicting one angularly adjusted position of the roof;

FIG. 5 is a view in end elevation looking at the camper in the position of FIG. 4, being taken on the plane of the line 5—5 of FIG. 4;

FIG. 6 is a detail perspective on an enlarged scale of one of the spring detents used to maintain an adjusted position between two sections of a telescoping post;

FIG. 7 is another detailed perspective on an enlarged scale of one of the pin and slot connections;

FIG. 8 is a view in end elevation of a side of the camper with the canopy supported in a generally horizontal position;

FIG. 9 is a perspective of a modified form of canopy in the position of FIG. 8;

FIG. 10 is a detailed elevation of a canopy in a vertical position;

FIG. 11 is a detailed view, mostly in elevation, illustrating a modification of the support for holding the canopy in a generally horizontal position;

FIG. 12 is a detailed perspective on an enlarged scale depicting the connection of the support of FIG. 11 to a top post section; and

FIG. 13 is a detailed section illustrating the central longitudinal boss of the plastic roof and the fillets embedded in the corners of the channel defined thereby.

DESCRIPTION OF THE MAIN EMBODIMENT

Referring now to FIGS. 1 to 8 inclusive which illustrate a preferred embodiment, a camper body generally designated by the reference character 10 is of conventional rectangular shape. It includes side walls 11 and 12 and a bottom 13 as shown in FIG. 5. Side walls 11 and 12 having at their rear ends structures 14 (FIGS. 1 and 3) therein housing tail and backup lights. Extending between these structures 14 is a tail gate 15 (FIG. 1) which may be removable or hingedly mounted in accordance with well-known practice. slidable

A telescoping post is referred to in its entirety by the reference character 16. There are four of these posts, one at each corner of the body 10. As these posts are substantial duplicates, only one is herein described in detail as that is believed to be sufficient for our purposes of this specification. Referring now to FIGS. 5 and 6, a post 16 comprises a lowermost section 17 of square tubular cross-section. It is formed with a series of apertures 18 in a wall thereof. An intermediate section 19 also of square tubular cross-section is slidably received in section 17 and has apertures 20 in one wall and apertures 21 in a wall normal to the wall having apertures 20 therein. A top section 22 is also of tubular square cross-section and is slidably in section 19. It is formed with apertures comparable to apertures 20 and 21 of section 19.

A spring detent is mounted on the upper ends of sections 17 and 19. One of these detents is depicted in detail in FIG. 6. It comprises a leaf spring 23 one end portion of which is secured to a wall of section 17 as by rivets 24. Spring 23 projects beyond the end of section 17 and the projecting portion carries a pin 26 which is adapted to be received in any of apertures 21 in section 19. Pin 25 may pass through spring 23 and its outer end formed as a tab 26 to facilitate manipulation.

Referring now to FIGS. 2, 3 and 5, a bracket 27 is secured to each structure 14 by flanges 28 and 29 being bolted to the respective structure 14. Each bracket 27 slidably receives a post section 17 and is formed with apertures 30 which align with apertures 18 in section 19 in different adjusted positions of the latter relative to bracket 27. A detent such as a pin or bolt (not herein illustrated) passes through the aligned apertures to secure an adjusted position.

A roof is indicated in its entirety at 31. It is of rectangular shape corresponding to that of the body. As shown in FIGS. 1, 4 and 5, it is of plastic and comprises a top 32 from which depend side flanges 33 and end flanges 34. Top 34 is formed with a central longitudinal boss 35. It is generally convex on its exterior and presents an inner correspondingly concave channel defining longitudinal corners 36, one of which is depicted in FIG. 13. A fillet 37, preferably of wood, but which may be other structural material having required properties of strength and rigidity, is embedded in each corner 36 and its exposed faces covered by fiberglass shown at 38. Boss 35, with fillets 37 and fiberglass casing 38, together with flanges 33 and 34 impart strength and rigidity to roof 32.

Referring now to FIG. 7, the adjustable connection between the top section 22 of each post 16 and top 32 of the roof will be described. Immediately above each post 16 a pair of angle brackets 39 and 40 are secured to the underface of top 32 by screw bolts 41. Each bracket 39 and 40 has a depending flange 42 which extends transversely of top 32. Each flange 42 is formed with a slot 48, the upper edge of which is formed with a recess 44.

A bolt 45, the shank of which constitutes the pin of a pin and slot connection passes through slots 43 and has a nut (not illustrated) at the end remote from the head. This pin portion of bolt 45 also passes through aligned openings (not illustrated) in the upper portion of post section 22. A bearing disc or washer 46 is interposed between the inner face of each flange 42 and a side wall of post section 22.

Referring now to FIG. 8, a canopy 47, which may be of any flexible material, but with a fabric such as canvas being the preferred material, has a side end portion 48 that is detachably secured to the inner face of a flange 33 by a series of fasteners, one of which is shown at 49. As shown in FIG. 8 edge portion 50 of canopy 47 is detachably secured to the outer ends of arms 51 by fasteners 52. The inner ends of arms 51 are connected to top sections 22 of posts 16 as shown at 53. A side flap 54 is also secured to edge portion 50 and hangs therefrom. Its use is optional.

FIRST MODIFICATION

A slightly modified support for the canopy 47 is illustrated in FIG. 9. In this form canopy 47 is carried by a U-shaped frame 55 which is supported in an extended position by arms 56. The outer ends of the latter are anchored to side bars of frame 55 at 57 and the inner ends to top post section 22 at 58. Either or both of these connections 57 and 58 may be detachable. A side flap corresponding to side flap 54 is secured to the outer face or back of U-frame 55 and end flaps (not illustrated) may also depend from U-frame 55.

SECOND MODIFICATION

FIGS. 11 and 12 depict a modified support for canopy 47 in which tension on the connection to flange 33 is minimized. A main brace 59 is connected at 60 to the outer edge of canopy 47 and at its inner end to top post section at 61. An auxiliary brace 62 is connected at 63 to post section 22 and its outer end to brace 59 and 64. It is evident that there is an assembly of braces 59 and 62 at each end of the canopy. As shown in FIG. 12, each of the connections 61 and 63 may take the form of a bolt having a nut and a threaded shank. A wing nut 65 is screwed onto the shank and is readily loosened when the braces are to be disassembled from the post sections 22. The rigid roof may also be replaced by a flexible roof such as one of canvas.

OPERATION AND MODES OF USAGE

The camper body 10 is shown in its fully collapsed position in FIG. 1. In this position, all of the telescoping posts 16 are fully contracted and roof 31 engages the top edges of side walls 11 and 12.

When it is desired to have roof 31 assume a transversely inclined position in which one edge is at the top of one side body wall and the other edge is elevated above the other side body wall, the posts 16 on one side are extended. This position is shown in FIG. 5 in which one side edge of roof 31 is elevated above side wall 12. Obviously a reverse of this arrangement can be readily achieved. As roof 31 is tilted in this manner, the shanks or pin portions of bolts 45 travel in slots 43.

While it is possible and entirely practical for the shanks to assume an almost infinite number of positions

in slots 43, recesses 44 and the ends of the slots provide for three basic positions. It is also notable that any desired angle of inclination may be achieved in the roof for any distance which it is elevated.

FIG. 9 illustrates the roof as fully raised and horizontal. This condition may be achieved in the absence of the canopies.

FIG. 10 illustrates how canopies 47 may assume vertical positions when roof 31 is elevated. In this position, canopies 47 function as side flaps covering the spaces between the roof and the upper edges of the side body walls.

A highly important mode of usage is to completely disassemble the posts, roof and canopies from body 10 as a unit and erect the unit on the ground in the manner of a tent.

What is claimed is:

1. In a camper having a rectangular body including side walls and a bottom and which presents four corners, the improvement comprising:
   a. a telescoping post at each of said four corners, each of said posts comprising a plurality of telescoping sections, and means for maintaining said sections in an adjusted position;
   b. a roof supported by the upper ends of the uppermost of said sections, and
   c. transversely movable connections between the upper end of said sections and said roof, each of said connections comprising a slot transverse of the roof and a pin movable in the slot
   whereby said roof may be elevated above said side walls and in any such elevated position assume a transversely inclined position.

2. The camper of claim 1 in which the roof is rigid.

3. The camper of claim 2 in which the rigid roof is of plastic and has a central longitudinal boss and side and end flanges.

4. The camper of claim 3 in which the boss is generally convex on its upper surface and defines a generally concave channel on its underface, said channel presenting longitudinal corners, and fillets of a rigid material embedded in said corners.

5. The camper of claim 4 in which said fillets have exposed faces and casings of fiberglass covering said unexposed faces.

6. The camper of claim 1 in which each of said telescopic sections is formed with a series of apertures, and a spring detent mounted on the upper ends of all sections except for the top section, with each detent having a pin that is received in an aperture of the section thereabove.

7. The camper of claim 1 in which the lowermost section of each post is slidably mounted in a bracket secured to a side body wall in a position spaced from the bottom, said lowermost section being adjustable relative to the bracket, and means for securing such an adjusted position.

8. The camper of claim 1 in which the pin and slot connection comprises a pair of angle brackets secured to the underface of the roof, each of said brackets having a depending flange formed with a slot, the upper section of a post being positioned between said flanges and having openings in alignment with the slots, and a bolt having a pin portion passing through said aligned openings and slots.

9. The camper of claim 8 in which a washer is interposed between the interface of each flange and a wall of said post sections.

10. The camper of claim 1 together with a canopy detachably secured to each side edge of said roof, said canopies assuming vertical positions in one mode of usage, and means for supporting the canopies in generally horizontal positions.

11. The camper of claim 10 in which said supporting means comprises a detachable connection between the inner edge of each canopy and an arm at each end of each canopy, each of said arms being connected at one end to a post section and at its other end to an outer edge of a canopy.

12. The camper of claim 10 in which said supporting means includes a U-shaped frame for each canopy and a pair of arms for each canopy, each of said arms being connected at one end to a post section and at its other end to the U frame.

13. The camper of claim 10 in which said supporting means comprises a main brace at each end of a canopy, each of said main braces being connected at one end to a post section and at its outer end to the outer edge of a canopy, and an auxiliary brace at each end of a canopy, one end of each of said auxiliary braces being connected at one end to a post section at a point spaced below the connection of the main brace thereto, and at its other end to a main brace intermediate the ends thereof.

14. The camper of claim 10 together with a side flap for each canopy, each of said side flaps being detachably secured to the outer edge of the canopy with which it is used.

15. The camper of claim 10 in which the assembly of the posts, roof and canopies is removable as a unit from said body whereby said unit is susceptible of use as a tent removed from the camper.

16. The camper of claim 14 in which the assembly of posts, roof, canopies and side flaps are removable as a unit from the body and susceptible of use as a tent.

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