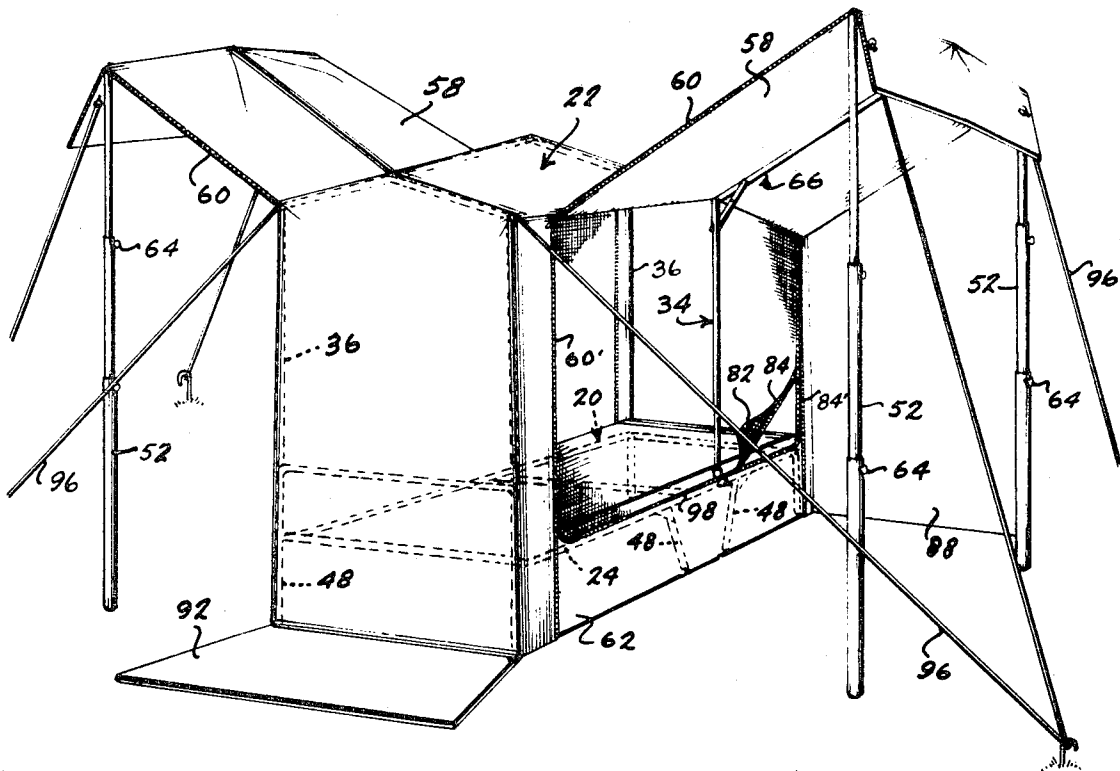
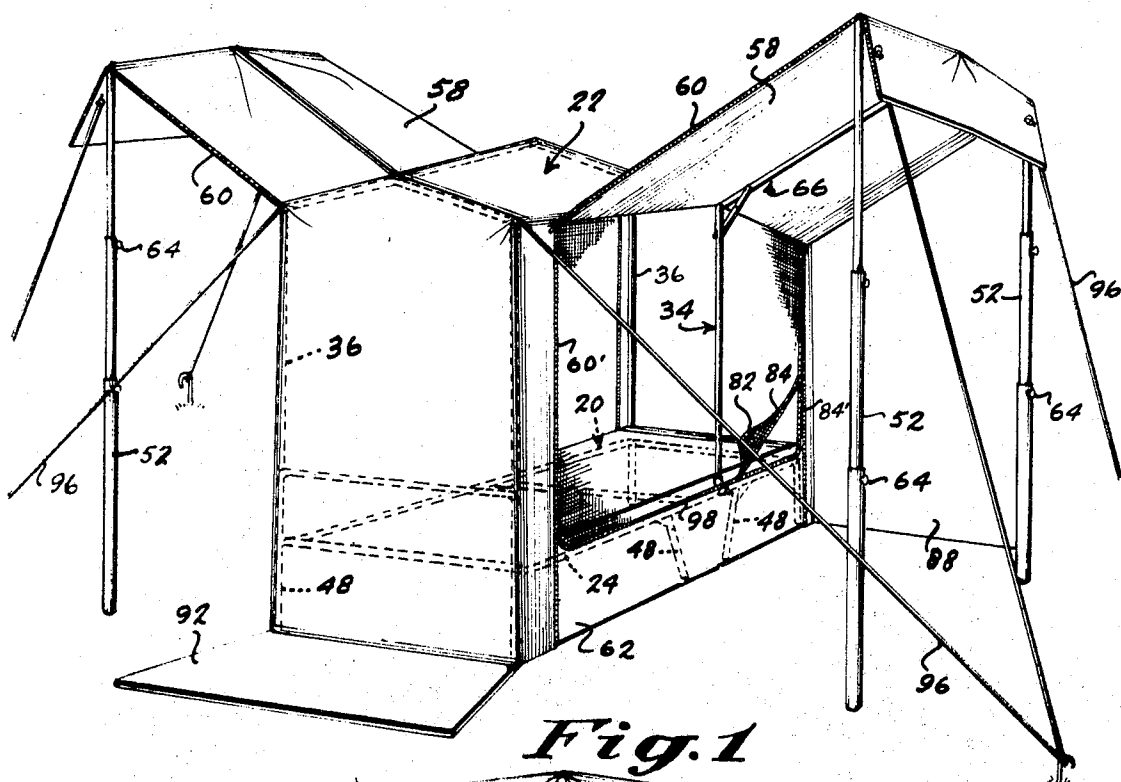
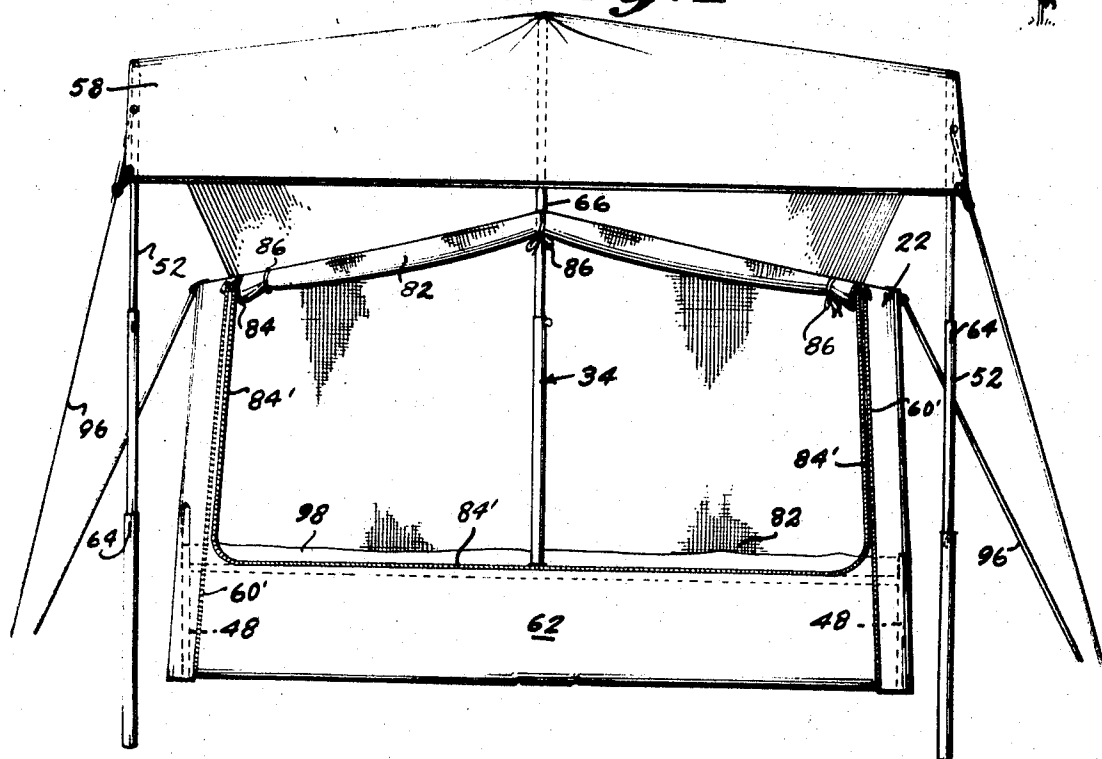


3,278,953 10/1966 Willis 5/113
3,375,836 4/1968 Domenghetti 135/1(A)UX
Primary Examiner—Casmir A. Nunberg
Attorney—Channing L. Richards, Dalbert U. Shefte and
Francis M. Pinckney

ABSTRACT: A portable camping shelter which unfolds readily to provide a bed and enclosing cover therefor. The shelter includes a support structure composed of integrated members pivotally interconnected to permit movement thereof from a compact, collapsed position to an open position at which a full size bed is formed together with upstanding cover supporting members disposed at the center and ends of the bed, and a cover member fixed to the support structure and arranged to assume a position in covering relation about the cover supporting members as the structure moves to its open position. Additionally, the cover surrounds and protects the shelter in its collapsed position.

[56]	References Cited		
	UNITED STATES PATENTS		
1,673,626	6/1928	Johnson	5/113X





INVENTOR
DALE H. REYNOLDS
BY *Channing C. Richards & Dalton W. Smith*
ATTORNEYS

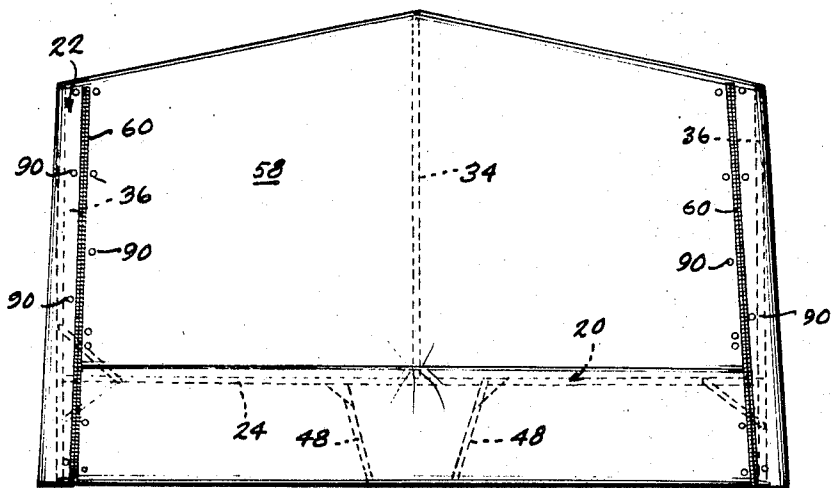


Fig. 3

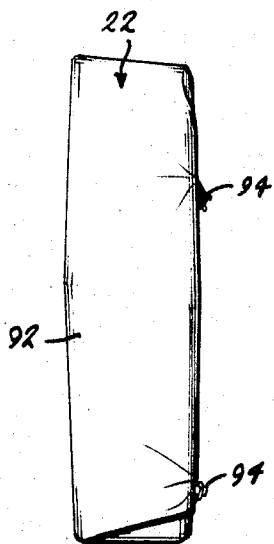


Fig. 4

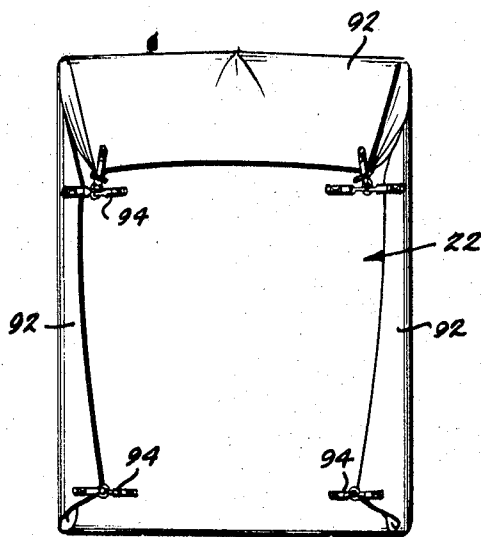


Fig. 5

INVENTOR
DALE H. REYNOLDS
BY Channing P. Richards &
Dalbert W. Sheple
ATTORNEYS

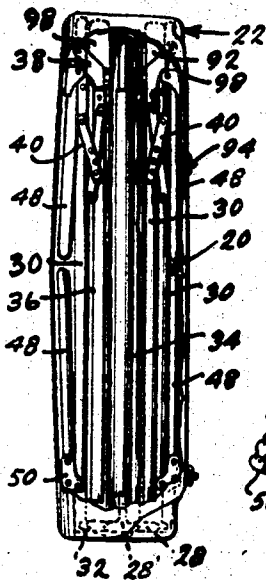


Fig. 6

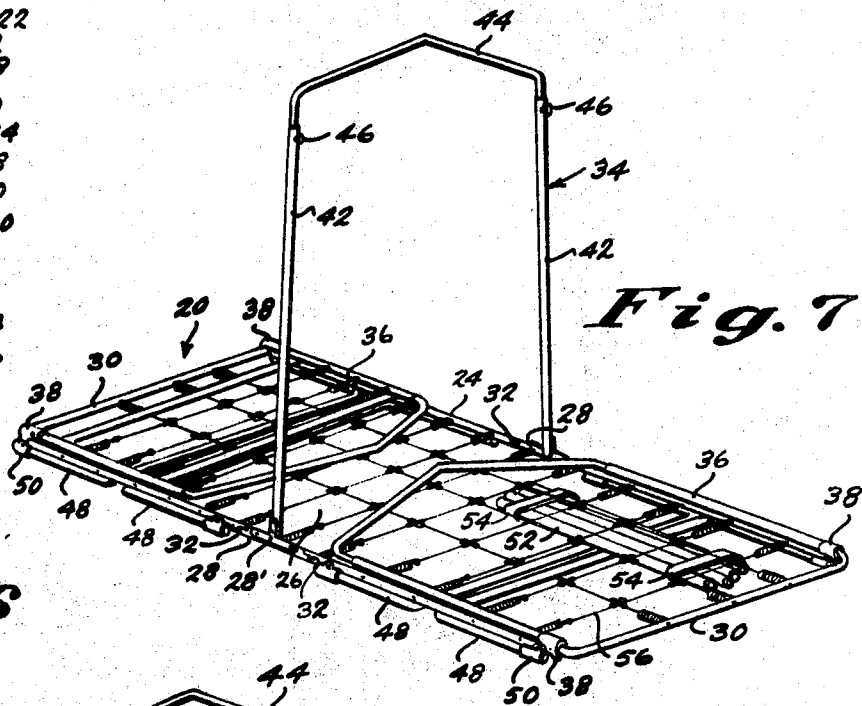


Fig. 7

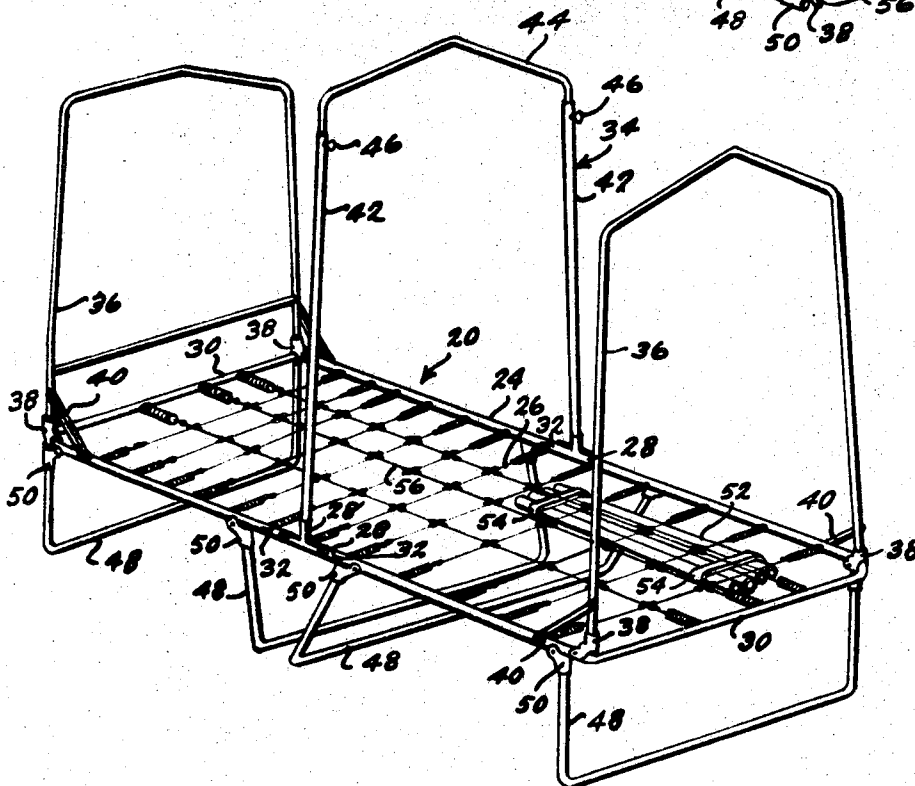


Fig. 8

INVENTOR
DALE H. REYNOLDS
BY *Channing L. Richards*
Darbut W. Shultz
ATTORNEYS

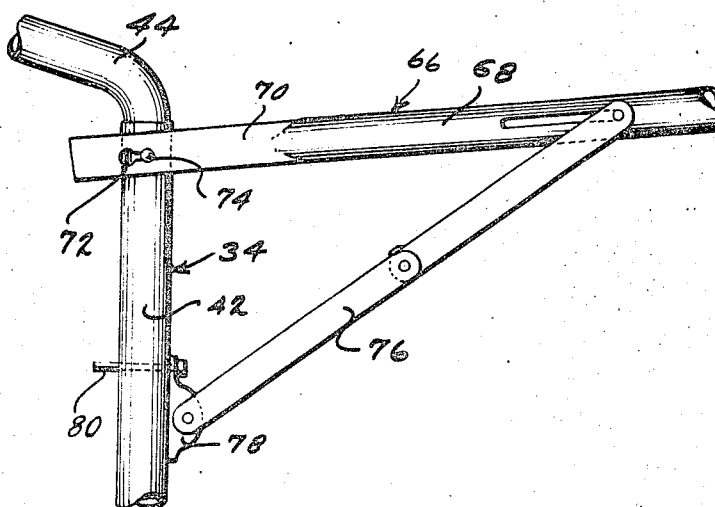


Fig. 9

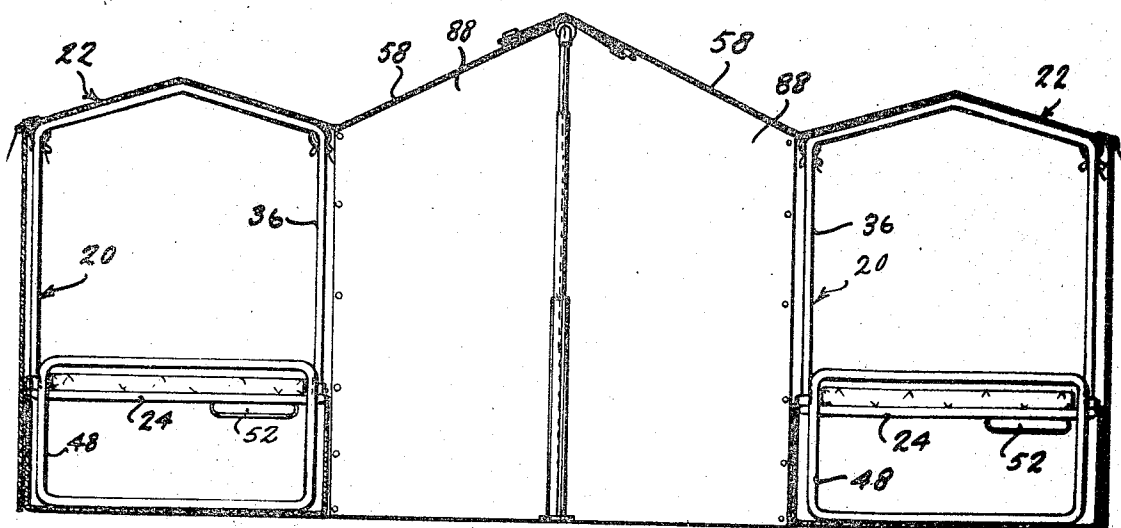


Fig. 10

INVENTOR
DALE H. REYNOLDS
BY Channing P. Richards &
Delbert C. Shiff
ATTORNEYS

PORTABLE CAMPING SHELTER

BACKGROUND OF THE INVENTION

People who participate in outdoor activities such as camping, fishing and hunting often require portable equipment that affords adequate shelter and sleeping accommodations so as to enable them to remain at remote locations either overnight or for an extended period of time. To serve properly its intended purpose, equipment of this type should be designed to provide a reasonable degree of comfort for the user as well as to protect him against the forces of nature and against insects, rodents and other small animal life normally encountered in outdoor areas. In addition, it is apparent that this equipment should be suitable for readily transporting it from one place to another, and for assembling and disassembling it with minimal effort in a short period of time.

The prior art discloses equipment of this general nature which only partially responds to these requirements and which, therefore, has certain drawbacks that limit their practical application. For example, U.S. Pat. No. 1,433,457, issued Oct. 24, 1922, to Hunter, discloses a combined tent and bed structure which can be collapsed sufficiently to form a portable pack. However, this disclosed structure includes a plurality of separable support members which must be individually connected in place and disconnected each time the equipment is set up or taken down, and, in addition, a cumbersome cover member must be carefully located about its supporting frame in a rather precise fashion to assure proper sheltering; all of which subjects the user to a substantial amount of inconvenience when the equipment is used. A somewhat similar arrangement is disclosed in U.S. Pat. No. 1,729,987, issued Oct. 1, 1929, to Chittim, except that in this patent there is no indication that the equipment can be suitably collapsed in a compact manner for transporting it.

On the other hand, prior art disclosures such as U.S. Pat. No. 2,531,501, issued Nov. 28, 1950, to Cline, describe shelters which are easily transported and can be set up and taken down with comparatively little trouble; however, shelters of this sort provide very little comfort since the user, for all practical purposes, lies upon the ground and is only partially sheltered when in a reclined position.

By substantial contrast, the present invention provides a portable camping shelter which is extremely comfortable and fully covered, yet it is light weight and compact, and it is structurally arranged so that it can be set up and taken down simply by folding a minimum number of integrated elements with respect to one another.

SUMMARY OF THE PRESENT INVENTION

In accordance with the present invention, a support structure is provided which includes a bed frame having a center portion to which a first, upstanding cover supporting member is rigidly fixed, and two end portions pivotally associated with the center portion for movement about transverse axes between an open or flat bed-forming position and a collapsed position at which they extend in parallel, side-by-side relation to the first cover supporting member. Each of the bed end portions has a second cover supporting member pivotally mounted thereon for movement between an upstanding or open position when the bed end portions are open, and a collapsed position parallel to and alongside the longitudinal sides of the bed end portions whereby each of the second cover supporting members will be neatly and compactly sandwiched between its respective bed end portions and the first cover supporting member when the former is in its collapsed position. In addition, depending leg elements are pivotally mounted to the bed end portions for collapsing movement directly therebeneath so that they lie at the opposite side of the bed end portion with respect to the second cover supporting members whereby the leg elements are also situated in a compact fashion when the supporting frame is collapsed.

A cover member for the shelter is associated with the supporting frame in a manner which enables it to completely

cover and protect the supporting frame in the collapsed position thereof, and the portions of the cover member which are not required for covering the collapsed supporting frame are arranged to fit nicely into available space among the elements of the supporting frame to maintain the overall compactness of the unit, the arrangement of the cover member also being such that as the various frame elements are moved to their open positions, the cover member will be carried by these elements to a position surrounding the supporting frame at the fully open position thereof.

In this surrounding position, the cover member completely encloses the supporting frame on all sides thereof so that the occupant of the shelter will be fully protected against inclement weather and pests. Moreover, the cover member is provided with side flaps that can be selectively unfastened using a zipper or the like to partially open the shelter when desired. These flaps can also be readily held at a disposition extending outwardly from the main portion of the shelter to provide additional covering over the areas on each side of the main portion of the shelter, and mosquito netting is conveniently fitted on the cover member and arranged to be selectively fastened across the opening left by the open side flaps whereby the occupant of the shelter will not be annoyed by insects when the side flaps are opened.

These and other features of the present invention are described in further detail hereinafter below in connection with the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS.

FIG. 1 is a perspective view of the portable camper according to the present invention at its fully open position;

FIG. 2 is a front view of the portable camper shown in FIG. 1 and illustrating one of the mosquito nets at its rolled up position;

FIG. 3 is a front view of the portable camper shown in FIG. 2 with the side flaps thereof in a closed position;

FIG. 4 is a side view of the portable camper in the fully collapsed position thereof;

FIG. 5 is an end view of the portable camper in the fully collapsed position thereof;

FIG. 6 is a side view of the portable camper corresponding to FIG. 5 and having a portion of the cover member cut away to illustrate the position of the support structure at its collapsed position;

FIG. 7 is a perspective view of the support structure at a partially opened position thereof, the cover member being deleted to better illustrate the support structure;

FIG. 8 is a perspective view of the support structure at the fully opened position thereof, the cover member being deleted to better illustrate the support structure;

FIG. 9 is a detail view illustrating the attachment of a side flap support element to the central cover supporting member; and

FIG. 10 is an end view illustrating two portable campers arranged in side-by-side relation to form an enlarged, completely enclosed shelter.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now in detail to the accompanying drawings, the portable camping shelter of the present invention comprises a support structure, generally indicated by a reference numeral 20, and a cover member 22 arranged in surrounding relation about the support structure 20 as seen in FIGS. 1, 2, and 3, which illustrate the camping shelter in an open position, and in FIGS. 4 and 5, which illustrate the camping shelter in a collapsed position.

The support structure 20 is best illustrated in FIGS. 6, 7 and 8, it being noted that the cover member 22 has been purposely deleted entirely from the latter two figures to better illustrate the various components of the support structure 20. The support structure 20 includes a bed frame 24 comprised of a center portion 26 provided with transversely opposite side

bars 28 to which bed end portions 30 are pivotally connected for movement with respect to the bed center portion 26 about axes extending transversely through oppositely located pivot points 32 in the side bars 28.

The side bars 28 are each provided with a rigidly attached upstanding bracket 28' to which is attached one end of a center cover supporting member 34 which extends from the center bed portion 26 in perpendicular relation thereto, and each of the bed end portions 30 has a U-shaped end cover supporting member 36 connected thereto by pivot brackets 38 fixed to the end cover supporting members 36 and pivotally mounted at the longitudinal ends of bed end positions 30 whereby the end cover supporting members 36 can be pivotally moved between an open position extending perpendicularly from the bed end position 30 (FIG. 8) and a collapsed position extending in parallel relation to the longitudinal sides of the bed end portions 30 at the upper face thereof (FIG. 7), hinged members 40 being provided to maintain the end cover supporting member 36 in the open position thereof.

In the preferred embodiment of the present invention, the center cover supporting member 34 includes a pair of tubular elements 42 rigidly connected to upstanding brackets 28 and a crosspiece 44 having end segments telescopically received in the tubular elements 42 to form a U-shaped construction which can be adjusted vertically by raising or lowering the crosspiece 44 in the tubular elements 42, the crosspiece 44 being selectively held at adjusted positions thereof by pins 46 which extend through preformed matching holes in the tubular elements 42 and the crosspiece 44.

The bed frame 24 is provided with four legs 48 that are pivotally mounted beneath the bed frame 24 by pivot brackets 50 for movement between a collapsed position parallel to and adjacent the bottom face of the bed frame 24 (FIG. 7), and an open position extending in bed supporting relation from the bottom face of the bed frame 24 (FIG. 8). Also mounted at the bottom face of the bed frame 24 are a plurality of extension poles 52 which are held in place by clips or similar convenient retaining elements (not shown) carried by heavy duty fabric straps 54 fixed to the undersurface of the spring 56 of the bed frame 24, the extension poles 52 being readily detachable from the fabric strap 54 for use in supporting a portion of the cover member 22 as will be described in greater detail presently.

Referring now to the cover member 22, which is made from a suitable material such as "cotton drill" weighing 7.5 oz. per square yard, attention is directed to FIGS. 1, 2, and 3 which illustrate the camping shelter with the cover member 22 disposed about the opened support frame 20 so as to completely enclose the support frame 20 at all sides thereof. The top of the cover member 22 is supported by the center cover supporting member 34 and the two end cover supporting members 36, the center cover supporting member 34 being vertically adjusted to have a slightly greater height than the end cover supporting members 36 to provide a slope for the top surface of the cover member 22 and to prevent rain water and debris from collecting thereat. Comparing FIG. 3 with FIGS. 1 and 2, it will be seen that the portion of the cover member 22 disposed at the respective sides of the bed frame 24 includes substantially rectangular side panel sections 58 that are connected to the main portion of the cover member 22 near the top of the camping shelter and that have zipper tracks 60 located along two sides thereof for cooperation with corresponding zipper track 60' carried by the adjacent portion of the cover member 22 to permit the side panel sections 58 to be selectively fastened to the remainder of the cover member 22 to close the corresponding side face thereof (FIG. 3), or to be unfastened and either turned back over the top of the camping shelter (not shown) or displaced outwardly from the main portion of the cover member 22 and supported by the previously mentioned extension poles 52 whereby the corresponding side of the camping shelter is provided with an opening therein and with a top covering at an area immediately adjacent the corresponding side of the bed frame 24 (FIGS.

1 and 2). It will be noted in FIGS. 1 and 2 that the main portion of the cover member 22 includes a section 62 that extends around the bottom of the bed legs 48 and up the longitudinal sides of the bed frame 24 so that the area beneath the bed frame 24 will be enclosed at all times regardless of whether the side panel sections 58 are in an open or closed position. This section 62 therefore provides an area in which many items such as guns or camping supplies may be conveniently stored without fear that they will be exposed to rain or marauding animals. Moreover, since the side panel sections 58 overlap the sides of section 62 when secured in a closed position (FIG. 3), the camping shelter is provided thereat with a substantially watertight area adjacent the sides of the bed frame 24 even though the side panel sections 58 may be selectively opened.

The extension poles 52 carried by the fabric strap 54 and used to support the side panel sections 58 are comprised of several telescopically arranged pieces, each piece except the smallest being provided with a suitable selectively engageable holding device 64 by which the several pieces of the extension poles 52 can be extended and held at a position which is determined by the desired length of the extension poles 52. Thus, the extension poles 52 can be reduced to a small length suitable for allowing them to be carried beneath the bed spring 56 without interfering with the collapsing movement of the bed end portion 30, or they can be selectively extended and arranged for vertically supporting the ends of the displaced side panel sections 58 as seen in FIGS. 1 and 2.

In addition to this endwise support of the side panel sections 58, the camping shelter is provided with two detachable supports 66 which can be mounted on the center cover supporting member 34 for outward extension therefrom to support the center of the side panel sections 58. As best seen in FIG. 9, As these detachable supports 66 include a tubular member 68 having a flattened end 70 formed with a slotted opening 72 to receive a bolt 74 secured to the side of the center cover supporting member 34, and the tubular member 68 has attached thereto one end of a hinged brace 76 which is provided at its other end with a foot element 78 that is held in place by a pin 80 manually inserted through preformed holes in the foot element 78 and the center cover supporting member 34. These detachable supports 66 are relatively small so that they can be easily placed in the camping shelter in the collapsed position thereof, and this detachable support 66 can be easily mounted on the center cover supporting member 34 by placing the slotted opening 72 over the screw 74 and then inserting the pin 80 through the foot element 78 and the center cover supporting member 34 to anchor the detachable support 66 thereat. Because the detachable supports 66 are not unduly lengthy, they can be conveniently carried on clips attached to the longitudinal sides of the bed end portions 30 (not shown).

The camping shelter is also provided at each side thereof with mosquito net sections 82 having a size and shape generally corresponding to the opening in the cover member 22 when the side panel sections 58 are unfastened and displaced, the net section 82 being sewn at one side thereof to the cover member 22 along a line generally defined by the connecting point of the side panel sections 58, respectively. The remaining three sides of the mosquito net sections 82 are provided with a zipper track 84 for selective attachment to a corresponding zipper track 84' provided on the cover member 22. The mosquito net sections 82 are normally rolled up and held by tie cords 86 (FIG. 2) sewn or otherwise secured to the cover member 22 at the top of the side openings therein. However, when the side panel section 58 are displaced and the occupant of the camping shelter wishes to be protected against insects or the like, the tie cords 86 are loosened and the net section 82 allowed to roll downwardly whereupon they may be secured in place across the side openings by fastening the zipper tracks 84, 84'.

When the side panel sections 58 are disposed in their outwardly displaced position as seen in FIG. 1, it may be desirable to have the area located therebeneath provided with side protection as well as overhead protection, and for this purpose

the camping shelter is provided with four attachable flaps 88 that can be selectively secured in place to depend from the extending side edges of the side panel sections 58. The attachable flaps 88, only one of which is illustrated in FIG. 1, may be attached to the main portion of the cover member 22 and to the side panel sections 58 by any suitable connections such as snaps 90 sewn to the respective parts, some of these snaps 90 being illustrated in FIG. 3. When not in use, the attachable flaps 88 may be folded up and conveniently stored between the bed spring 56 and the mattress 98 carried thereby.

In addition, the cover member 22 is provided with a cover flap 92 sewn along the bottom edge of one end thereof as seen in FIG. 1, this cover flap 92 serving to provide a neat and protective cover for the camping shelter when it is fully collapsed (FIGS. 2 and 3). For purposes of illustration, this cover flap 92 is shown extending outwardly from the camping shelter in FIG. 1, however, it will be understood that it is normally folded beneath the camping structure in the open position thereof. In this collapsed position of the camping shelter, the cover flap 92 is held tightly in place by cooperating hook devices 94 sewn to the cover flaps 94 and cover member 22, respectively (FIG. 5).

To understand the steps by which the camping shelter is opened, attention is directed to FIGS. 6, 7 and 8. In FIG. 6, the camping shelter is shown in its fully collapsed position, and after the hook devices 94 have been released, the bed end portions 30 are pivoted about pivot points 32 so that they will move from a collapsed position extending in parallel relation to the center cover supporting member 34 to an open position forming a generally flat bed surface with bed center portion 26 (FIG. 7). Next, the end cover supporting members 36 are pivoted from a collapsed position extending in parallel relation to the bed end portions 30 to an open position extending in perpendicular relation thereto, and the bed legs 48 are likewise pivoted to the open bed supporting position thereof (FIG. 8). It will be understood that during these opening movements of the various components of the camping shelter, the cover member 22 will be carried by such components to a disposition completely enclosing the support structure 20, and at this point the camping shelter will assume a position as shown in FIG. 3 at which it is completely ready for use with nothing further being necessary except, perhaps, raising the crosspiece 44 of the center cover supporting member 34 to provide the top of the cover member 22 with a slope as previously described.

To collapse the camping shelter, the components of the support structure 20 are pivoted back to their collapsed position in reverse order to that previously described, and the cover member 22 is simply tucked into the available space between the components as they are collapsed. Also, it will be noted that the relatively thin mattress 98, made of foam rubber or the like, will fold at its midpoint and be carried between collapsed bed end portions 30 (FIG. 6).

Thus, it will be seen that the camping structure of the present invention may be quite easily opened or collapsed in a matter of just a few minutes, and it is not necessary to attach or detach a single element.

Moreover, the user of this camping shelter has a wide variety of options available to him in changing the position of the camping shelter in that he can open either or both of the side panel sections 58 and place them over the top of the camping shelter or support them in an outwardly displaced position as shown in FIGS. 1 and 2. The flaps 88 may then be added, if desired, and the mosquito net sections 82 may be zipped into place if needed. It will also be noted that while conventional guy lines 96 are illustrated in FIGS. 1 and 2, they are not required to steady the camping shelter since it rests on a firm base provided by the bed legs 48, but they may be desirable when the camping shelter is exposed to unusually high winds.

Finally, as illustrated in FIG. 10, two camping shelters may be placed together in side-by-side relationship with the adjacent side panel sections 58 supported by the same extension

poles 52 and with the attachable flaps 88 added to provide a very large enclosure which is very inhabitable and private.

I claim:

1. A portable camping shelter comprising an integrally formed support structure including a bed frame having a relatively short center portion to which a transversely disposed first cover supporting member is secured for extension in perpendicular relation therefrom, and having two relatively long end portions pivotally connected to said center portion for movement about transverse axes between a collapsed position extending in parallel relation to said first cover supporting member and an open position forming a generally flat bed surface with said center portion, said bed end portions each having a second cover supporting member pivotally connected thereto for movement between a collapsed position extending in parallel relation to said bed end portions and an open position extending in perpendicular relation to said bed end portions, and cover means attached to said support structure and arranged to surround said support structure when said bed end portions and said second cover supporting members are collapsed and to extend in covering relation over said first and second cover supporting members when the latter are disposed in the open position thereof.

2. A portable camping shelter as defined in claim 1 and further characterized in that said second cover supporting members are pivotally connected to said bed end portions adjacent the outermost ends thereof and are arranged to collapse to a position adjacent the upper faces of said bed end portions, respectively, and in that bed leg elements are pivotally connected to said bed end portions for movement between a collapsed position parallel to and adjacent the opposite face of said bed end portions and an open position extending in bed supporting relation from said opposite face.

3. A portable camping shelter as defined in claim 1 and further characterized in that said first and second cover supporting members have U-shaped configurations and are connected at the open ends thereof to said bed center portion and said bed end portions, respectively, so as to lie in parallel, transverse planes when said second cover supporting members are at said open position thereof.

4. A portable camping shelter as defined in claim 3 and further characterized in that said first cover supporting member includes a pair of tubular elements extending respectively from the longitudinal side rails of said bed center portion, and a crosspiece having end segments telescopically received in said tubular elements and selectively held thereat whereby the height of said first cover supporting member with respect to said bed center portion can be adjusted.

5. A portable camping shelter as defined in claim 1 and further characterized in that said cover means completely encloses said support structure when said bed end portions and said second cover supporting members are at said open position thereof.

6. A portable camping shelter as defined in claim 5 and further characterized in that the portion of said cover means disposed at the respective sides of said bed frame in the open position thereof includes substantially rectangular panel sections that have fastener means located along at least two sides thereof to permit said panel section to be selectively unfastened thereat and displaced to provide openings at the sides of said shelter.

7. A portable camping shelter as defined in claim 6 and further characterized in that one side of each of said panel sections is connected to the main portion of cover means near the top of said shelter whereby said panel section may be unfastened and displaced outwardly from the main portion of said cover means to provide covering at an area adjacent the sides of said bed frame.

8. A portable camping shelter as defined in claim 7 and further characterized in that said cover means is provided with sections of netting material having a size and shape generally corresponding to said openings formed by displacing said panel sections, one side of each of said netting sections being

7

secured to said cover means along a line generally defined by the said connection of said one side of said panel sections, respectively, and the other three sides of each of said netting sections being provided with fastener means permitting said netting sections to be selectively fastened to said cover means in covering relation about said openings in said shelter formed when said panel sections are displaced.

9. A portable camping shelter comprising a collapsible support structure including a bed frame and integrally connected

8

cover supporting means movable to a position extending generally upwardly from said bed frame in the uncollapsed position of said support structure, and cover means associated with said support structure so as to enclose completely said support structure in the collapsed position thereof and to be carried by said movement of said cover supporting means to a disposition about said cover supporting means and completely enclosing said support structure.

10

15

20

25

30

35

40

45

50

55

60

65

70

75