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Wescott

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[54] **PORTABLE FOLDABLE COT**

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[21] Appl. No.: **171,931**

[52] **U.S. Cl.** ..... **5/113,** 135/1 R, 190/2, 224/8

[51] **Int. Cl.** **A47c 29/00**

[58] **Field of Search** ..... 190/2; 5/113, 114; 135/1 A, 5 A; 224/8, 9, 10, 5

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Assistant Examiner—Garry Moore
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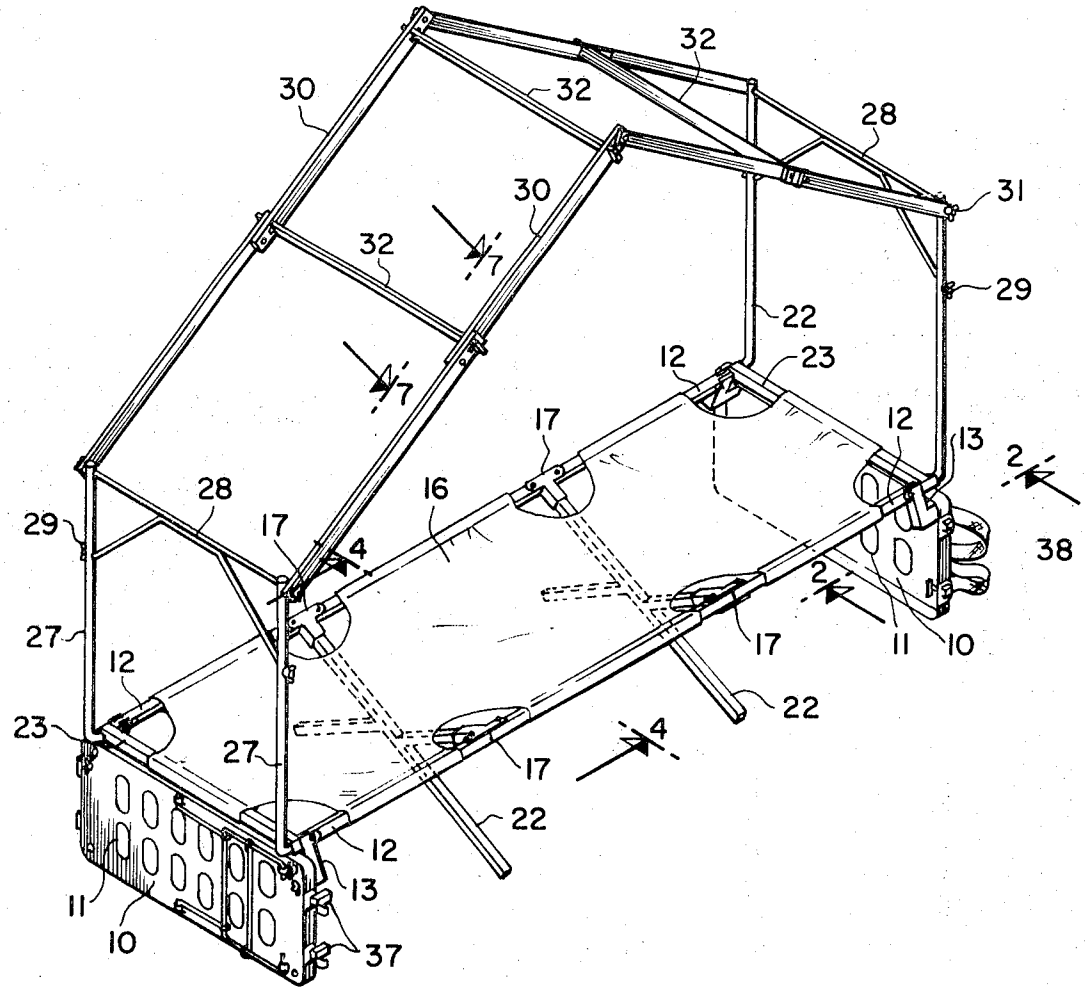
[57] **ABSTRACT**

A portable, folding cot in which a pair of rectangular-shaped support members, which support the ends of the cot, may be pivotably coupled together at one end and secured at the other end to provide a transportation enclosure for the structural members comprising the cot. A plurality of elongated rigid support members, T-shaped coupling members, and X-shaped legs are joined together to support the cot, in conjunction with the end members, during use. A tent supporting structure may be provided, if desired.

12 Claims, 13 Drawing Figures



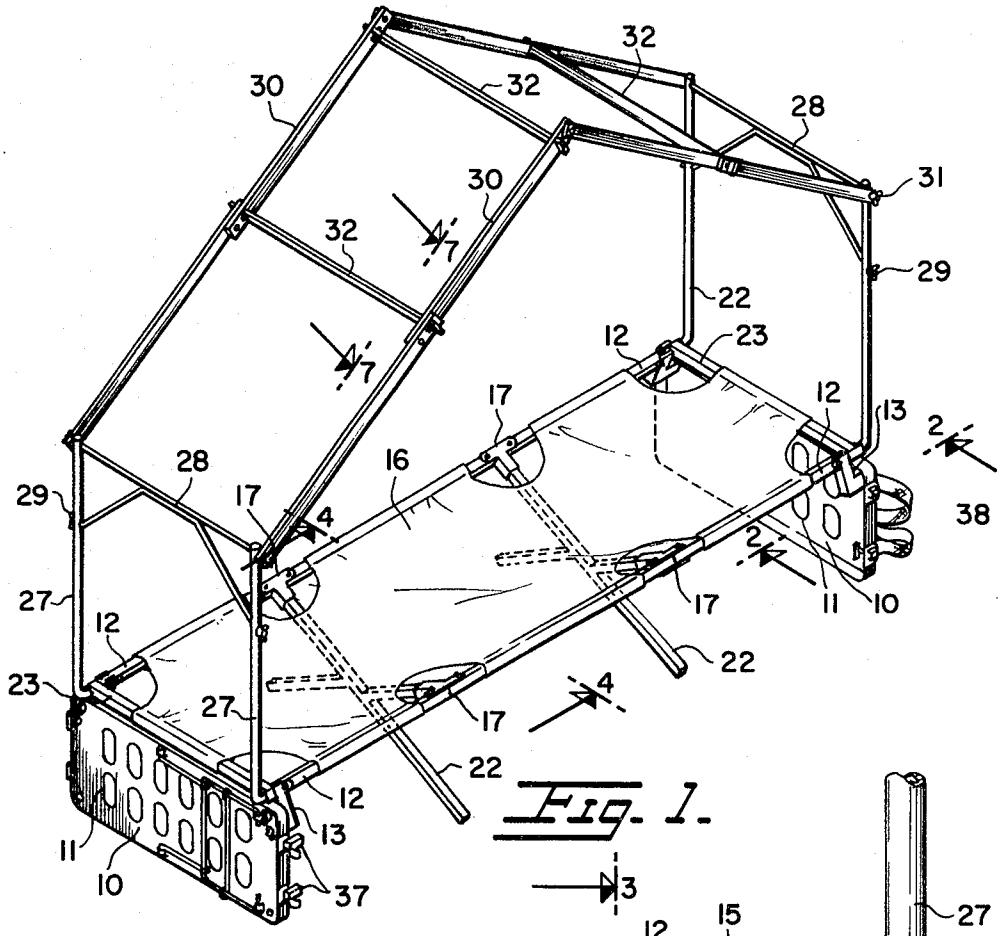


Fig. 1.

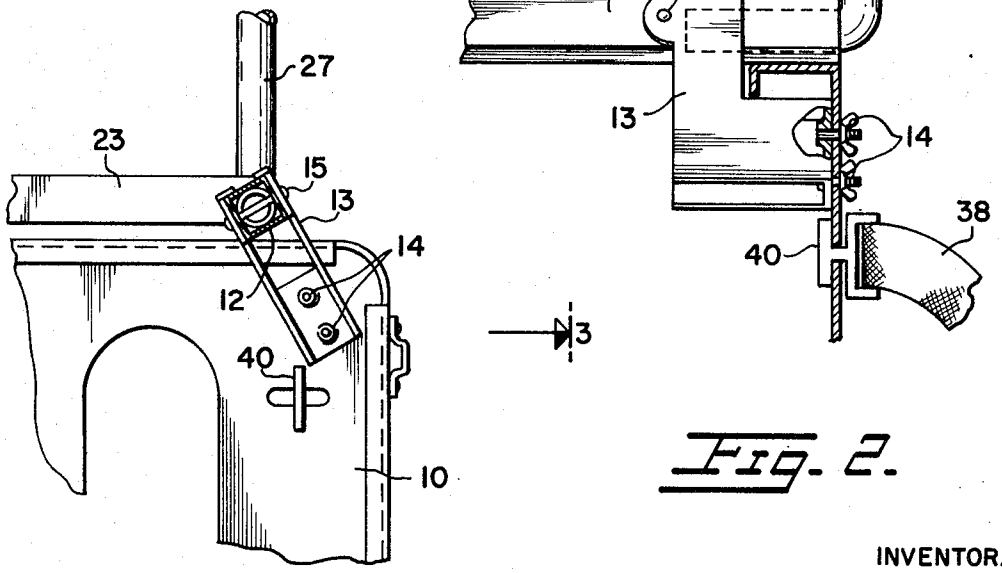


Fig. 2.

Fig. 3.

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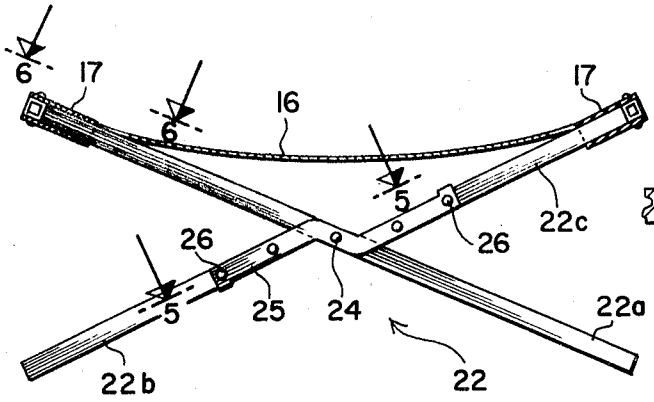


Fig. 4.

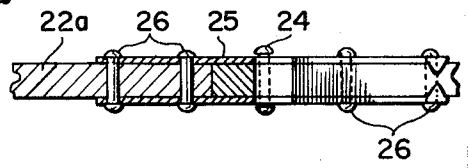


Fig. 5.

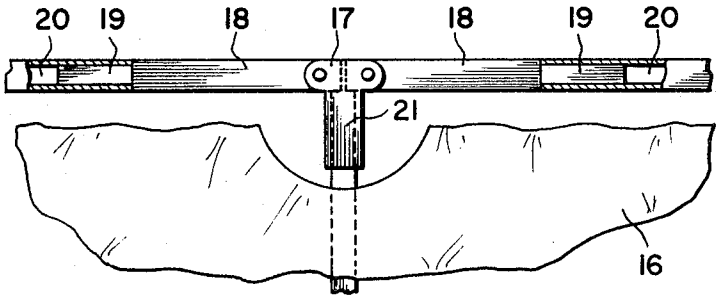
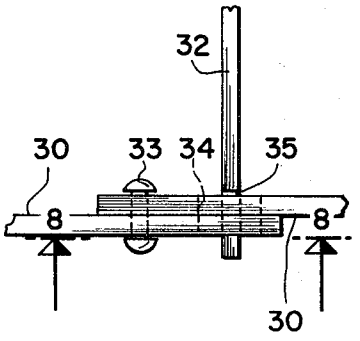


Fig. 6.



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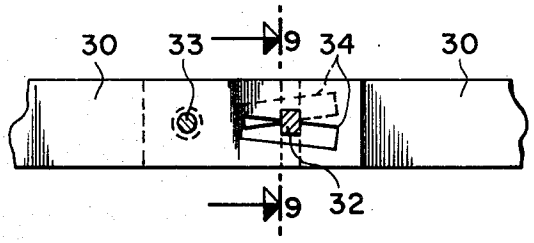

Fig. 8.

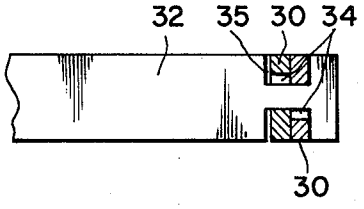

Fig. 9.

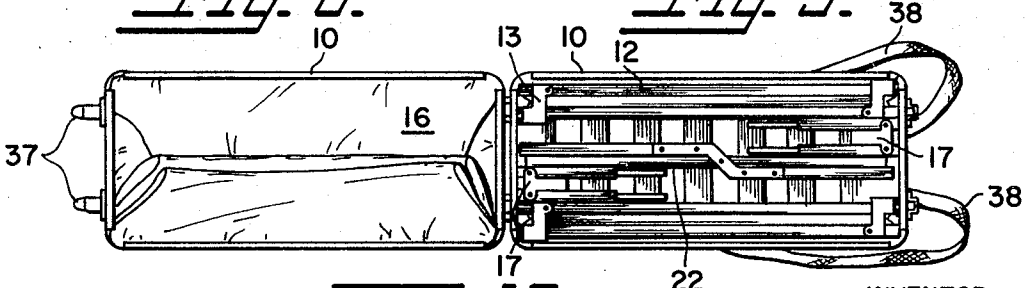

Fig. 10.

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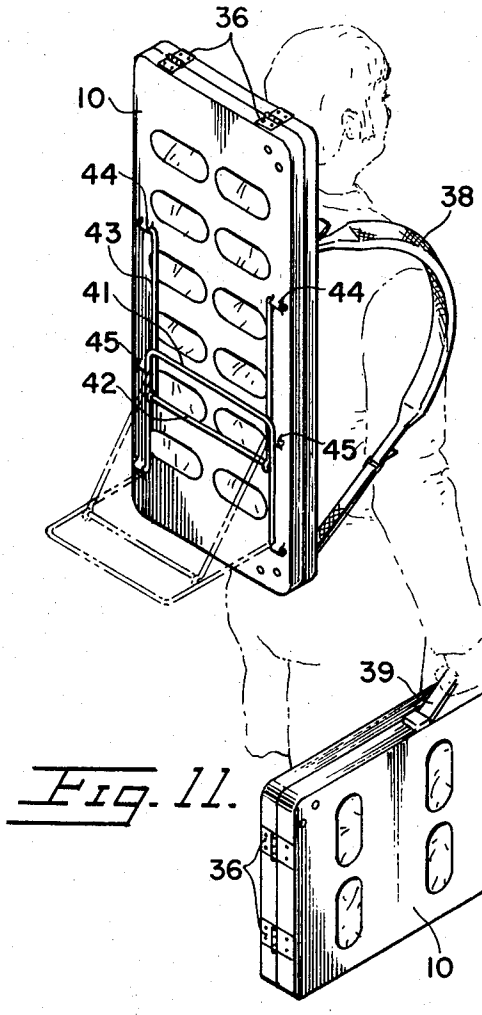

Fig. 11.

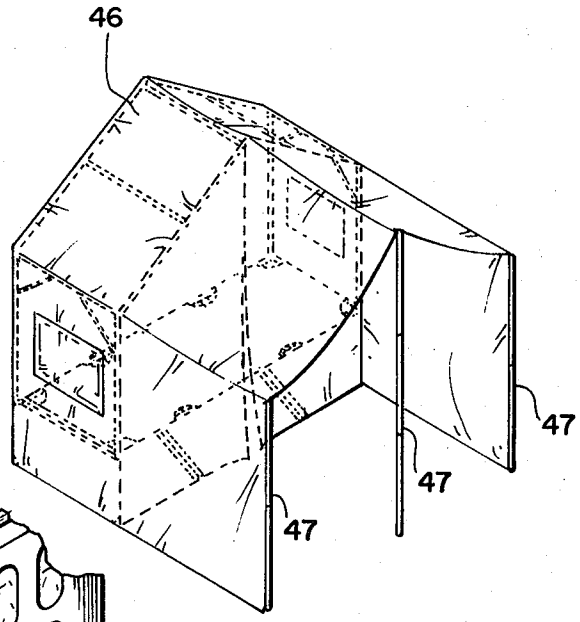

Fig. 12.

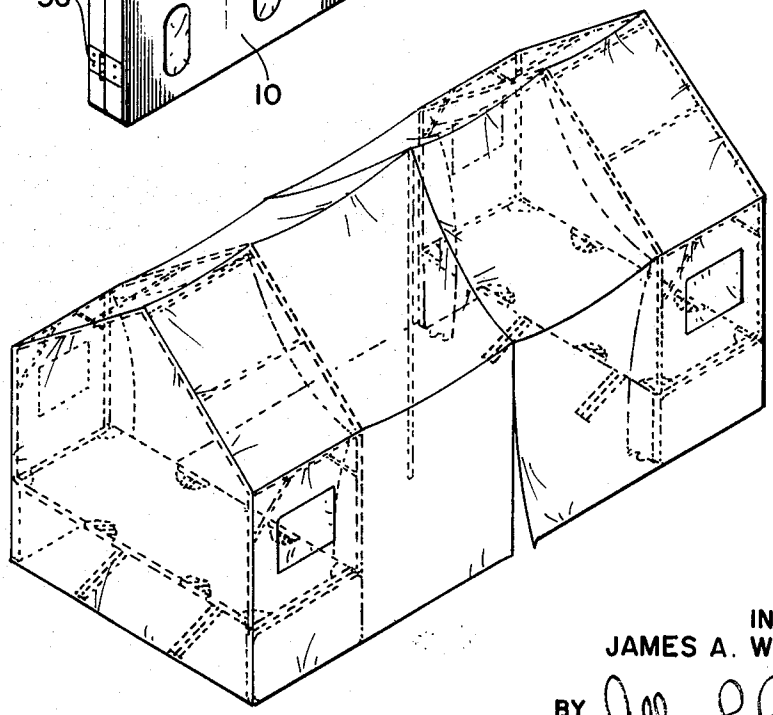

Fig. 13.

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PORTABLE FOLDABLE COT

The present invention relates to portable cots, and in particular to a light-weight, foldable, portable cot which may be transported in a container formed by a pair of support members which support the ends of the cot during use and may be pivotably coupled together at one end, and secured together at the other end, to enclose the structural members of the cot.

Conventional portable cots consist of a plurality of detachable and foldable members. They are very cumbersome and awkward to carry, especially on camping trips or excursions through wooded areas or mountains where most of the travelling is done on foot. These cots are not able to be packed into a compact container so that they can be easily transported.

Accordingly, the present invention provides a portable, foldable cot in which a canvas sheet, having a plurality of elongated slots provided at the periphery thereof, is supported by a plurality of elongated, rigid lateral support members disposed through the slots provided in the sheet of material. The ends of the support members have cylindrically-shaped recesses, which slidably receive cylindrical rods affixed to the ends of a plurality of pivotable coupling members. The coupling members are substantially T-shaped, and are provided with a pair of pivotable arms affixed thereto and a rectangular-shaped, hollow projecting member affixed to the coupling member perpendicular to the pivotable arms. A pair of rectangular-shaped end support members are connected to the lateral support members to support these members and the sheet of material during use. A pair of foldable support legs, having their ends disposed in the rectangular recesses provided in the coupling members, support the cot at selected points along its length. The legs comprise a first integrally formed support member, and a pair of second support members, rigidly affixed to a rigid mounting member, which is pivotably coupled to the first support member. The ends of the second leg support members abut the top and the bottom surfaces of the first member and thereby lock the legs in an open, X-shaped position to support the cot. A pair of rigid, elongated separation members, having V-shaped notches provided in the ends thereof, are disposed adjacent the end support members between the lateral support members to insure the separation thereof during use. The end support members are provided with U-shaped hinges for detachably and pivotably coupling the ends of the frame members together, and fastening clips disposed on the other end of the end members to secure the end support members together during transportation of the cot. A tent-support structure may also be provided, if desired. The end frame members may also be provided with a pair of shoulder straps, for carrying the folded cot on the user's back, or a handle, provided on the side surface thereof, for carrying the cot by hand.

It is therefore an object of the present invention to provide a foldable, portable cot, whose structural members are completely contained within a compact container formed by structural members of the cot.

It is also an object of the present invention to provide a foldable, portable cot, in which the container comprises support members for supporting the ends of the cot during use.

It is also an object of the present invention to provide a foldable, portable cot, which may simply and easily be provided with a tent.

It is a further object of the present invention to provide a foldable, portable cot, which is simple in design, easy to manufacture, and reliable in operation.

Other objects and features of the present invention will become apparent from the following detailed description taken in connection with the accompanying drawings which show the embodiments of the invention. It is to be understood, however, that the drawings are designed for the purpose of illustration only, and not as a definition of the limits and scope of the invention.

In the drawings, wherein similar reference numerals denote similar elements throughout the several views:

FIG. 1 is a perspective view of a foldable, portable cot constructed in accordance with the present invention, showing a tent structure coupled thereto for covering the cot with a tent;

FIG. 2 is a partial, enlarged side view of the cot, taken along section 2—2 of FIG. 1;

FIG. 3 is a partial, cross-sectional view of the cot, taken along section 3—3 of FIG. 2;

FIG. 4 is a cross-sectional view of the cot, taken along section 4—4 of FIG. 1;

FIG. 5 is a partial, cross-sectional view of the foldable legs of the cot, taken along section 5—5 of FIG. 4;

FIG. 6 is a partial, top plan view of a coupling member of the cot, taken along section 6—6 of FIG. 4;

FIG. 7 is a partial, enlarged top view of a coupling joint of the tent structure, taken along section 7—7 of FIG. 1;

FIG. 8 is an enlarged, side-view of the coupling joint of the tent structure, taken along section 8—8 of FIG. 7;

FIG. 9 is a cross-sectional view of the coupling joint of the tent structure, taken along section 9—9 of FIG. 8;

FIG. 10 is a top plan view of the disassembled, folded cot, shown disposed in the end support members;

FIG. 11 is a perspective view of the cot, shown in use as carried on the back of the user and by hand;

FIG. 12 is a perspective view of a tent supported by a folding cot and tent structure constructed in accordance with the present invention; and

FIG. 13 is a perspective view of two of the tents illustrated in FIG. 12 joined together.

Referring to the drawings, FIGS. 1–6 illustrate a portable, foldable cot having rectangular-shaped end support members 10 provided with a plurality of oval-shaped apertures 11. The end support members support elongated lateral support members 12 which have an L-shaped mounting member 13 rigidly fixed to the end thereof. Three lateral support members are provided for each side of the cot, one at each end and one disposed between coupling members 17. The mounting members are connected to end members 10 by a bolt and wing nut fasteners 14, and are disposed at an angle to increase the load-bearing capacity of the cot. A rivet 15, or other suitable fastening means, is disposed through member 12 and affixed to member 13 in order to secure the mounting member thereto.

Canvas cot 16 is provided with slots at the periphery thereof for receiving the lateral support members of the cot. Coupling members 17 are substantially T-shaped and have a pair of pivotable arms 18 affixed thereto.

The arms are provided with cylindrical members 19 affixed to the ends thereof, which are received in recesses 20 provided in lateral support members 21 to support the sides of the canvas. A hollow, rectangular-shaped projecting member 21 provided on the coupling members receive the ends of the cot legs 22. Separation members 23 have V-shaped notches provided in the ends thereof and are disposed between the ends of members 12 so that the lateral support members of the cot are securely held apart during use.

As shown in detail in FIGS. 4 and 5, legs 22 of the cot consist of a pair of pivotably coupled support members which are pivotably secured at 24 by a rivet or other suitable fastening means. Leg 22*a* is integrally formed so as to comprise a single member, while the second leg comprises individual members 22*b* and 22*c*, and metallic mounting member 25, which rigidly connects the leg members to form a single support leg. Rivets 26 secure members 22*b* and 22*c* in member 25 so that when the legs are pivoted to their open position, the ends of the legs abut leg 22*a* and secure the legs in the illustrated X-shaped position to support the cot during use. The legs may be folded towards each other to assume a closed position adjacent one another as shown in FIG. 10.

The cot may also be provided with a tent supporting structure consisting of vertically disposed support members 27 which have the end portions thereof disposed horizontally, perpendicular to the vertical portions thereof so as to slide into an aperture provided in the ends of supporting members 12. The vertical support members are coupled by horizontal members 28, which are secured to members 27 by means of wing nuts 29 and 31. A plurality of pivotably coupled, elongated rectangular-shaped rods 30 are coupled to members 27 and 28 by wing nuts 31 and have support rivets 32 disposed perpendicular to rods 30 at the pivotable coupling points thereof, thereby providing a rigid tent structure for supporting the tent. Rods 30 are pivotably coupled together by means of rivets 33 as shown in FIGS. 7, 8 and 9, and are provided with offset rectangular-shaped slots 34 through which the ends of cross members 32 are disposed. The ends of members 32 are T-shaped and are provided with a notch 35. When members 32 are disposed through slots 34, notch 35 receives members 32. When the members are aligned, slots 34 are offset; when they are nonaligned, the slots are aligned, thereby allowing removal of members 32. When the slots are offset, as shown in FIG. 8, members 32 are held securely in place and rigidly secure the tent structure. To remove the cross rib members, members 30 are moved until slots 34 are in exact alignment. Cross rib member 32 is then turned until the flat surface of the cross rib member is parallel to the slots, whereupon members 32 may be slidably removed.

As shown in FIG. 10, when the portable cot is disassembled all of the structural members thereof fit within end support members 10 and may be carried easily therein. The end members are provided with U-shaped hinges 36 attached to one end thereof. These hinges uncouple from one another when the end members are pivoted to the position shown in FIG. 10, i.e., when the members are in 180° alignment. Clips 37 affixed to the other ends of the end members secure the members in their closed position to prevent the opening of the case during transportation of the cot. A pair of shoulder belts 38, or a handle 39, may be provided on end members 10 to provide for easy carrying of the cot. If shoulder belts are used, a T-shaped member 40 is secured in an elongated slot provided in end member 10, as shown in FIG. 2. The cot can then be easily carried on the back of the user. Either the shoulder belts, or the handle, or both, may be provided on the end members, as desired.

A collapsible rack consisting of U-shaped member 41 having cross-bar 42 pivotably coupled to members 43 may also be provided. If the rack is desired to be used, members 43 are bent inwardly towards each other out of cylindrical retaining slots 44 and transferred to cylindrical retaining slots 45 provided on a lower portion of end member 10. The rack will then assume the position shown in FIG. 11 and be available for use for carrying, for example, extra camping supplies. When not being used, the rack is retained out of the way flat against the back of end member 10.

As shown in FIGS. 12 and 13, the portable cot shown in FIG. 1 may be covered with a canvas tent 46. Additional support members 47 are provided to support an additional shelter flap for the user. Two of the tents shown in FIG. 12 may be placed together to form the larger tent shown in FIG. 13.

All the structural members comprising the portable cot are preferably constructed of light-weight metallic materials, such as aluminum. Conventional wood members, however, may be used for the support members of the cot, if desired.

To use the cot, the user unclips clips 37 and pivots members 10 apart to the position shown in FIG. 10, whereupon hinges 36 will separate. After the support members, coupling members and separation members are inserted in the slots provided in canvas 16, and coupling members 17 inserted into the recesses provided in the lateral support members, mounting members 13 are attached to end members 10 by means of wing nuts 14. Legs 24 are then unfolded and inserted into projecting members 21 to support the cot. The tent structure may then be added if desired, and the tent disposed thereon by the user.

While only several embodiments of the present invention have been shown and described, it will be understood by those persons skilled in the art that many changes and modifications may be made thereunto without departing from the spirit and scope of the invention.

What is claimed is:

1. A portable, foldable cot frame, for supporting a rectangular, elongated sheet of material having a plurality of elongated slots provided on the periphery thereof, comprising:

a plurality of rigid, lateral support members, disposed through the slots in the sheet of material;

a plurality of coupling members, having at least two pivotable support members affixed thereto, said pivotable support members being slidably coupled to said lateral support members;

at least two end support members, for supporting the ends of the cot during use, having detachable coupling means affixed to the ends thereof for pivotably and detachably coupling said end members together and providing an enclosure for the disassembled structural members comprising the cot frame; and

at least one pair of support legs, pivotably coupled at a selected point along their length so as to be fold-

able, having the ends thereof detachably coupled to said coupling members, for supporting said cot frame.

2. The cot frame as recited in claim 1, wherein said end support members are rectangular-shaped, and have detachable hinges affixed at one end, and detachable fastening clamps affixed to the other end, for pivotably and detachably coupling said end members together so as to provide a rectangular-shaped enclosure for carrying the cot frame.

3. The cot frame as recited in claim 1, wherein said lateral support members have recesses in the ends thereof, wherein said coupling members further comprise a hollow projecting member, and support rods affixed to the ends of said pivotable support members for slidable disposal within said recess provided in said lateral support members, and wherein the ends of said support legs are slidably disposed in said projecting members provided on said coupling members.

4. The cot frame as recited in claim 3, further comprising a plurality of rigid separation members, disposed through the slots provided in the sheet of material and between said lateral support members at their ends adjacent to said end members, for separating said lateral support members during use of the cot.

5. The cot frame as recited in claim 4, wherein said lateral support members are provided with longitudnally disposed, cylindrically shaped recesses, wherein said projecting members affixed to said coupling members are rectangular-shaped and disposed perpendicular to said pivotable supporting members, and wherein said extension rods affixed to said pivotable supporting members are cylindrical-shaped.

6. The cot frame as recited in claim 5, wherein said pair of support legs comprises:

a first, integrally formed, rigid support member,

at least two, rigid, second support members, and

a rigid mounting member, pivotably secured to said first member and affixed to the ends of said second support members, so that said second members are pivotable about said first member and the ends thereof abut the top and bottom surfaces of said first member and thereby limit the pivotable movement of said leg members, said pair of legs having an X-shaped configuration in their unfolded position.

7. The cot frame as recited in claim 6, wherein said end support members further comprise:

at least one shoulder strap, for carrying the cot on the back of the user, said end support members being provided with a plurality of elongated slots in the surface thereof; and

a plurality of securing members, having a T-shaped ends, coupled to the ends of said shoulder strap and disposed through said slots provided in said end support members, for securing said strap to said end support members.

8. The cot frame as recited in claim 6, further comprising an elongated, flat strap affixed to a side surface of one of said end support members, for carrying the cot frame by hand when the cot is disassembled.

9. The cot frame as recited in claim 6, further comprising:

a plurality of semi-cylindrically shaped projecting slots, horizontally disposed parallel to the surface of said end support members, and protruding perpendicularly from the surface of said end support members;

a U-shaped, cylindrical rod, having the ends thereof bent perpendicular to the vertically disposed portion of said rod and slidably disposed through said slots, for pivotably securing said rod to said end support members;

a cylindrically shaped cross rod, affixed at its ends to the vertically disposed portions of said U-shaped rod parallel to the horizontal portion thereof; and

at least two cylindrical rods, pivotably affixed at one end to said cross rod, and having the other ends thereof bent perpendicular to said rods and slidably disposed in said slots, for providing a collapsible rack attached to said end support frames for carrying supplies during carrying of the cot.

10. The cot frame as recited in claim 9, wherein said lateral support members are provided with cylindrically shaped recesses in their ends, and wherein said cot frame further comprises at least two pairs of vertically disposed, cylindrically shaped rods, having one of their ends bent perpendicular to said rod for slidable disposal into said recesses in said lateral support members, a plurality of horizontally disposed, cylindrically shaped rods affixed to the ends of said vertically disposed cylindrical rods for coupling said vertical rods together, a plurality of rectangular-shaped, elongated rods pivotably coupled together at their ends and affixed to said vertical rods, and a plurality of rectangular-shaped, cross-rib members, coupled to said rectangular-shaped rods, and disposed perpendicular thereto, for securing said rectangular-shaped rods together, thereby providing a tent-supporting structure for supporting a tent above the cot during use.

11. The cot frame as recited in claim 10, wherein said rectangular-shaped rods are pivotably connected by rivets affixed to their ends, and have rectangular-shaped, elongated slots in their ends which are offset when said support rods are aligned, and wherein said cross-rib members have T-shaped ends which are slidable through said slots when said slots are aligned, and interlock with said rectangular rods.

12. The cot frame as recited in claim 11, wherein said lateral support members are connected to said end support members by a plurality of L-shaped, hollow mounting members, said members having one end slidably disposed over the ends of said lateral support members and rigidly affixed thereto, and the other end fastened to said end members by a plurality of bolts and wing nuts, said mounting members and said lateral support members being disposed at an angle with respect to the horizontal plane of said end members so as to increase the load-bearing capability of the cot frame.

* * * * *