United States Patent

[11] **3,601,825**

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Continuation-in-part of application Ser. No. 696,674, Dec. 11, 1967, now abandoned.

[54] QUICKLY MOUNTABLE AND DEMOUNTABLE ACCESSORY

3 Claims, 9 Drawing Figs.

[52] U.S. Cl. 5/113, 135/1
[51] Int. Cl. A47c 29/00
[50] Field of Search ..... 5/113, 110, 121, 82; 135/1 A, 1

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Assistant Examiner—Andrew M. Calvert
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ABSTRACT: There is disclosed a cot and cot-cover combination in which the side rails of the cot comprise three sections which extend to form elongate, straight rails and which fold to U-shape. Two canopy brace structures, one at each end of the cot, are pivotally carried on hinged brackets which embrace the side rails. The brackets slide along the rails to reduce spacing of the canopy brace structures to facilitate folding of the cot and its cover and to increase canopy brace spacing to increase the space within the pliant cot covering carried by the canopy braces.

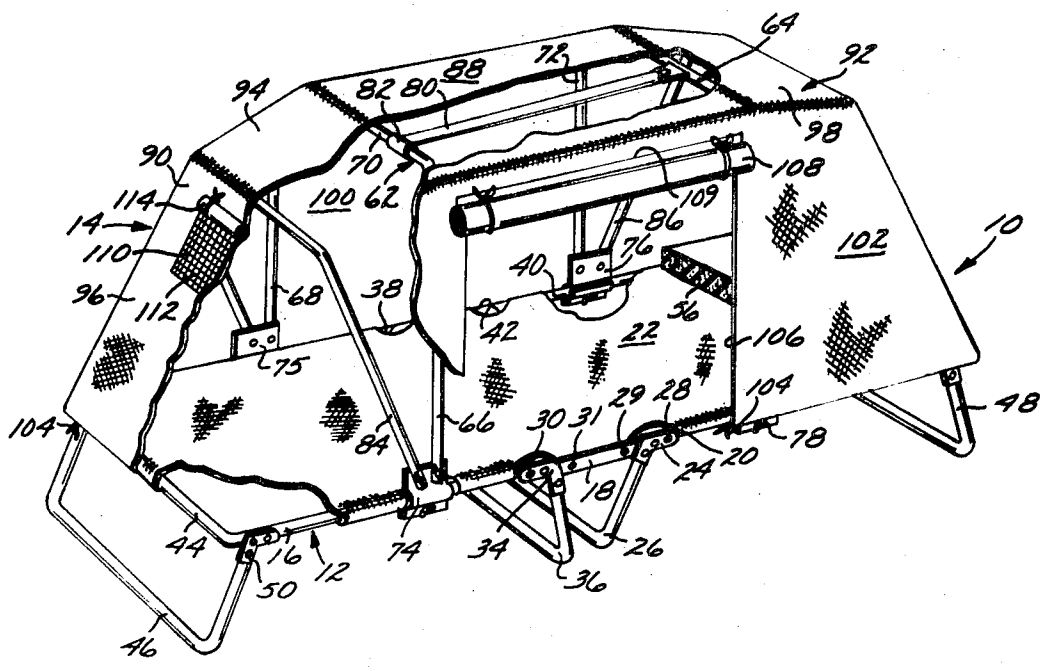


FIG. 1

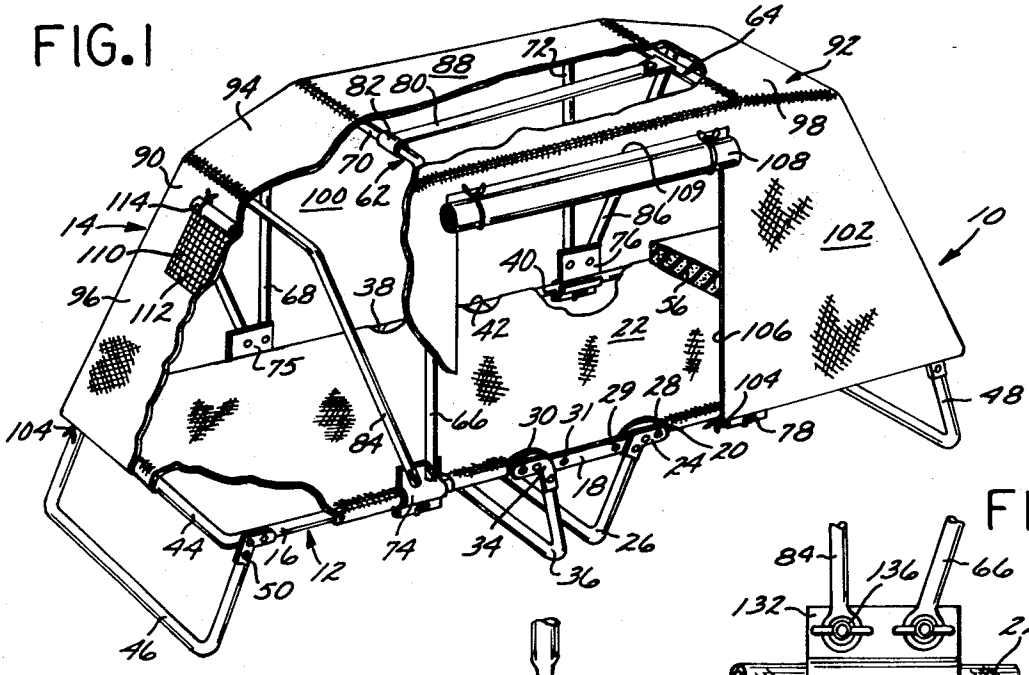


FIG. 3

FIG. 6

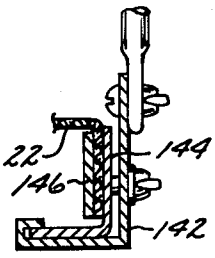


FIG. 7

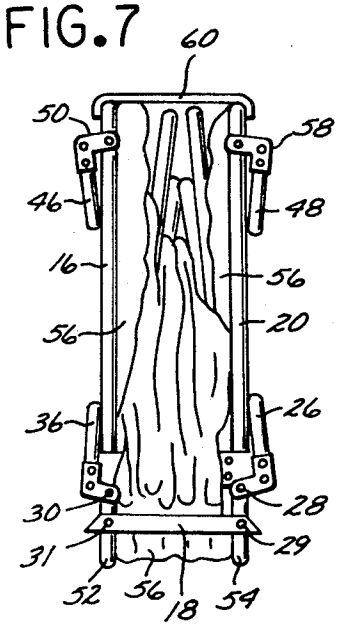


FIG. 5

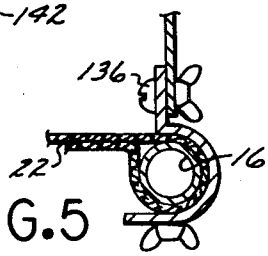


FIG. 4

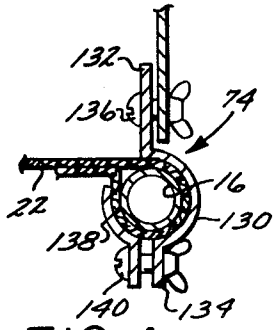


FIG. 8

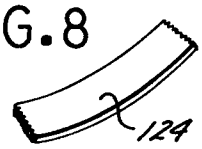


FIG. 2

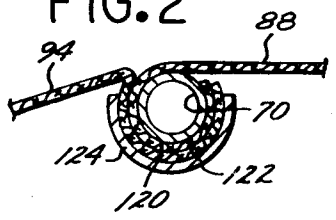
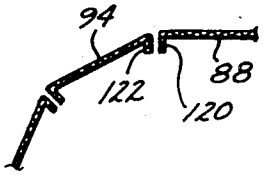


FIG. 9



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QUICKLY MOUNTABLE AND DEMOUNTABLE ACCESSORY

This application is a continuation-in-part of copending original application Ser. No. 696,674, filed by us on Dec. 11, 1967, for a COTOP or QUICKLY MOUNTABLE OR DEMOUNTABLE (ATTACHABLE AND DETACHABLE) ACCESSORY, which application has since been abandoned.

The invention relates to improvements in covers for cots and to covered cots.

A cot is a small or narrow bed. They are produced in various forms. Some are rigid but most may be folded, the better to store or transport them. Some, intended for use indoors with a mattress are called rollaway beds. Others are intended for outdoor use and are called camp cots. In general cots comprise a frame across which a platform or covering of sheet material extends and legs to hold the frame elevated in a horizontal position. The cot frame may be made of wood or metal or both. Tubular aluminum and angle iron and wooden staves are frequently employed frame materials. The invention is applicable to all cot forms but is particularly applicable to cots having frames whose side rails comprise three sections which fold to U-shape, that section which forms the bottom of the U being shortest of the sections and generally only long enough to permit the end sections to be folded parallel with bedding and a cot cover between them. The invention has broader application but is especially advantageous when embodied in a cot or the cover for a cot, which has these features. Accordingly, a covered cot of this kind has been selected for illustration in the accompanying drawings.

An object of the invention is to provide such a folding cot which has an improved cover. Another object is to provide a novel, improved cover for such a cot. Another object is to provide a novel, improved cover useful with any of a wide variety of cot forms. A further object is to provide a cot cover which includes certain, or all, of the attributes of being waterproof, ventilated, screened, easily assembled upon a cot and disassembled therefrom, collapsible, easily folded, and readily stored either assembled with the cot or apart from it.

Other objects are to provide a readily manufactured and relatively inexpensive cot cover, which is sturdy and cleaned with relative ease, which can provide protection and a measure of privacy for disaster victims, campers, and outdoor nappers and sleepers generally.

The several purposeful utility features of an apparatus embodying the invention are that it can serve to quickly convert any conventional type of indoors bed cot into a canopied fully enclosed weatherproof, screened and well-ventilated out-of-doors recreational and sleeping shelter thereby obviating every necessity for a tent or any other type of weatherproof shelter for camping or other out-of-doors sleeping purposes. For home use it can serve as an out-of-doors sleeping compartment on the patio or swimming deck, or where desired. For recreational highway, beach, mountain, desert, safari, or exploration purposes where temporary fully sheltered sleeping accommodations are essentially required. When the apparatus is attached to and mounted on any conventional type indoors bed cot it will also be a boon as an extra sheltered sleeping accommodation for the several million compact trailers, tourist truck campers, house trailers and mobile home owners in the United States and elsewhere, as a compact stow-away figurative extra bedroom or bedrooms for overnight or weekend visitors, when and if required. Apparatus embodying the invention can and will also advantageously serve as temporary emergency relief shelters for the injured, destitute or homeless victims of major disasters when and where other enclosed roof sheltered relief and sleeping facilities are not immediately available. In a matter of a few minutes of time an apparatus embodying the invention can be quickly and easily collapsed, detached and demounted, without the need of any tools, for compact truck transportation or convenient stowaway purposes, in a closet or under a bed or hung on a garage wall, thus

permitting the use of the apparatus for its primarily intended purpose as the needed extra guest indoor sleeping accommodation when, as and if required.

When collapsed and folded the complete assembly bed cot, cover, pad and blankets can be compactly folded within the confines of the overall perimeter of the collapsed cot so that one or more can be compactly stored for transportation in the trunk or on the roof of any automobile, in a station wagon, carry-all trailer, camper truck or house trailer. Mobile home owners with limited storage facilities can always store them under their conventional bed or built-in bunk beds. When mounted and attached to a noncollapsible or rigid cot with foldup legs, for indispensible use as a disaster relief facility, the cover of the invention can be collapsed to a flat position on top of the bed pad and blankets with the cot legs folded beneath and in line with the deck of the cot so that a great number of these compacted units can be conveniently warehoused or speedily transported for quick assembly and immediate disaster relief purpose. Later when indoors shelters become available, without tools, the cover can be quickly removed in a matter of a few minutes thus reconverting it for its primarily intended use as an indoor bed cot or it can be collapsed and compactly stowed away for future use when, as and if needed. To provide such a structure is another object of the invention.

In the drawings:

FIG. 1 is an isometric view of a cot and cot cover embodying the invention in which a fragment of the cot cover is broken away and a fragment of bedding is shown;

FIG. 2 is a cross-sectional view illustrating how the fabric of the cover is fixed to the canopy brace of the cover;

FIG. 3 is a view in front elevation of a sliding bracket employed in the invention assembled with fragments of the cot frame and canopy braces;

FIG. 4 is a view in end elevation of the bracket of FIG. 3;

FIG. 5 is a view in end elevation of an alternative form of bracket;

FIG. 6 is a view in end elevation of another alternative form of bracket;

FIG. 7 is a view in end elevation of the cot and cot cover when in fully folded condition;

FIG. 8 is an isometric view of a cover-clamping member before being clamped to final form; and

FIG. 9 is a schematic drawing showing how the top sections and end section pieces of the cover are fastened together.

Referring to FIG. 1 of the drawing, there is shown a cot and cover assembly generally designated by the reference numeral **10** which comprises a cot **12** and a cover **14**. The cot comprises a frame which includes two side rails and a pair of end members one at each end of the frame interconnecting the side rails. Each side rail is formed of three sections. The foremost rail in FIG. 1 comprises a left end rail section **16**, an intermediate rail section **18** and a right end rail section **20**, only a very small portion of which is visible at the point where the canvass covering **22** of the cot is cut away around the pivoting bracket **24** of one of the center legs **26** of the cot. The pivot pin **28** serves as the pivot for rotational movement of the leg **26** relative to the intermediate section **18** of the front rail. An adjacent pin **29** serves as the pivot for pivotal movement of the end rail section **20** relative to the intermediate section. The manner in which these elements are pivoted is illustrated in FIG. **7**. At the other end of the intermediate section **18** of the forward rail another pivot pin **30** serves as the pivotal axis for bracket **34** upon which the other center support **36** is pivoted. An adjacent pin **31** serves as the pivot for the left end rail section **16**.

The rearmost side rail in FIG. 1 similarly constructed, includes a left end rail section **38**, a right end rail section **40** and an intermediate rail portion **42** which are similarly connected by pivots to one another and to brackets to which the other ends of the support structures **26** and **36** are connected. The two side rails are interconnected by cot end members the leftmost one of which is visible in FIG. 1 and is designated by the

reference numeral 44. A similar end member at the other end of the cot is hidden from view by the cot cover 14.

The cot is provided with a left end support 46 and a right end support 48 which, like the midsupports 26 and 36, are formed as U-shaped members. The ends of the arms of these members are connected by brackets to the side rails such that the bracket and support is pivoted whereby the supports can be made to lie flat against the side rails. One of these brackets is visible in FIG. 1 where it is designated by the reference numeral 50.

The cot is structured so that when folded its end rail sections lie in parallel planes separated a distance determined by the spacing of the pivot points 28 and 30 on the intermediate rail section 18. The cot is shown to be so folded in FIG. 7 where the reference numerals 52 and 54 designate extensions of the end rail portions 16 and 20, respectively. These portions 52 and 54 fold within the intermediate section 18 when the sections of the side rail are extended to form an elongate rail which is the form they are shown to have in FIG. 1. The end rail sections 16 and 20 are thus spaced so that bedding which is ordinarily placed upon the canvass platform sheet 22, can be left on the cot when the latter is folded. A portion 56 of such bedding is visible in FIG. 1 and also is visible in FIG. 7.

The manner in which the supports 46 and 48 are attached to and folded against the end rail sections is illustrated in FIG. 7 where the bracket interconnecting rail 48 with the end rail section 20 is designated by the reference numeral 58. A strap 60, not visible in FIG. 1 and which is permanently fixed to the right cot end member, extends from the right end member to the left end member where it is secured by means not shown to hold those cot end members from spreading to unfold the cot.

The cot is provided with a covering structure which may be removed from the cot or attached to it with ease and which may be secured to the cot and folded into the space between the end rail sections when the cot is folded. The cot cover 14 includes a pair of canopy braces each of which includes a generally U-shaped member formed with a pair of spaced, generally parallel brace arms interconnected at corresponding ends by a cross brace member. Two pairs of brackets, one pair associated with each of the braces are included and one bracket of each pair has pivotal connection to the opposite end of a respectively associated one of the canopy brace arms. Each one of the brackets includes a portion capable of embracing a side rail of the cot such that it can be fixed to the side rail or moved along the side rail and it includes a means by which the embracing portion can be made effective to clamp the arms of the canopy braces to the side rails or to move the lower end of the arms along the side rails. In the embodiment selected for illustration in the drawing, the two canopy braces are formed of tubular aluminum metal and are designated by the reference numerals 62, in the case of the brace at the left in FIG. 1, and 64 in the case of the brace at the right in FIG. 1. Canopy brace 62 has a forward leg 66 and a rear leg 68 interconnected by a cross brace member 70. The rear arm 72 of canopy brace 64 is visible but the forward arm of this brace is hidden behind the cover. Bracket 74 at the lower end of arm 66 connects that arm to the end rail 16 of the forward rail of the cot. Bracket 75 connects the lower end of arm 68 to the right end rail section 38 of the rear rail. Bracket 76 connects the lower end of arm 72 to the right end rail section 40 of the rearward rail. A fourth clamp connects the other arm of the right canopy brace 64 to the right end rail section 20 of the forward rail but only the clamping means, in this case a wingnut 78, is visible in FIG. 1.

In the preferred form of the invention, means are provided in the form of a member which interconnects the cross brace members for maintaining the crossmembers in fixed spaced relation when the cot is set up as it is shown to be in FIG. 1. In FIG. 1 this means comprises a bar 80 having a pivotal connection at 82 to the cross brace member 70 and having a quickly detachable connection to the cross brace member of brace 64. When the unit is to be folded the cross brace members are spread slightly so that the right end of the bar 80 is free to swing downwardly parallel with the arms 66 and 68 of the canopy brace 62. Inclusion of this means facilitates keeping the cover taut when set up so that less strain is placed upon the ties by which the cover member is secured down to the frame of the cot.

This preferred embodiment includes a second pair of U-shaped canopy braces having arms pivoted at their lower end to the same brackets to which the arms of canopy braces 62 and 64 are pivotally connected. Thus, the arms of canopy brace 84 have pivotal connection to brackets 74 and 75 whereas the right end canopy brace 86 has pivotal connection at the lower end of its arms to the bracket 76 and the bracket of which wingnut 78 is a part. In preferred form, these latter-described canopy braces extend upwardly and outwardly to points overlying the ends of the cot.

The canopy braces and the separator bar 80 comprise a frame over which a cover of pliant material is placed and to which the cover is fixed in the preferred form of the invention. Advantageously, as shown, the cover comprises a top section 88 which extends between the cross brace members of the two canopy braces 62 and 64. The cover further includes end sections 90 and 92 which are connected along a seam to the ends of the top section 88. Each of the end sections is formed of two pieces. Thus the end section 90 is formed of an upper end section 94 and a lower end section 96. Only the upper end section 98 of end section 92 is visible in the drawing. The cover further comprises side sections, the rear one of which is designated by the reference numeral 100 in FIG. 1 and the forward one of which is designated by the reference numeral 102. Means are provided by which the lower margins of the cover may be secured to the frame of the cot whereby the cover will be held taut over its framework of canopy braces. This means may, and advantageously does, comprise a series of ties in the form of strings, or of fabric strips several of which are visible in FIG. 1 and are designated by the reference numeral 104. In preferred form the cover is formed of canvass and the strips 104 are formed of canvass. Alternatively, the covering can comprise a cloth mesh in which case the cover and the upper end portions of the ends may be formed of an opaque material to afford a protection against the sun. In preferred form one sidewall is provided with a cutout to form an entrance way. That cutout advantageously extends to the lower margin of one sidewall. In the embodiment shown the cutout, a margin of which is designated by the reference numeral 106, is provided with a cover 108 which is here shown to be rolled up and tied adjacent to the upper seam 109 by which the cutout covering is secured to the sidewall 102 of the cover. Advantageously, the lower end wall of at least one end of the cover is provided with a window such as the window 110 in which a cloth mesh 112 is fixed. The window is provided with a roll cover 114 similar to the cover 108 of the side opening 106.

In the preferred form of the invention the cover is fixed to the cross brace members of the canopy braces. In general any suitable means may be employed to secure these elements one to the other. However, in the preferred form of the invention the top portion 88 is connected to the upper section 94 and 98 of the end section, and the upper portions and lower portions of the end sections are sewn to one another, along a deep seam. When connected by such a seam, the margins of the adjacent parts extend inwardly sufficiently far to permit their being wrapped together around the cross brace members of the canopy braces and there held by clamps in the manner illustrated in FIG. 2. FIG. 2 shows the connection between the top section 88 and the upper section 94 of the left end section of the cover. The two are joined along a sewn seam, not visible in FIG. 2, so that their margins extend inwardly toward the interior of the cover. The margin of the cover section 88 is designated by the reference numeral 120. The margin of section 94 is designated by the reference numeral 122. Together they are wrapped around the tubular cross brace member 70. They are held in this position by a plurality of clamps which initially have an appearance like that of the clamp 124 shown in

FIG. 8 and which are squeezed and pinched to the shape illustrated in FIG. 2 which shape is retained to ensure that the cover is clamped securely to the canopy braces. The diagram of FIG. 9 serves to depict how the several sections of the cover are sewn together prior to attachment to the canopy braces.

The frame of the cot of FIG. 1 is formed of tubular material round in cross section and the clamps at the ends of the arms of the canopy braces are arranged so that they may be clamped upon or slide along these tubular members. The clamp 74 is shown in front view in FIG. 3 and in an end view in FIG. 4 where it is clamped around the end rail section 16 and the margin of the canvass covering 22 which is stretched over and around the side rail member 16. The clamp 74 has a central section 130 which is bulged laterally out of the plane of the upper end 132 and the lower end 134 of the clamp. The bulge section is curved upwardly to form a segment of a circle on a radius sufficiently large so that the bulge section fits firmly around the side rail and its wrapping of canvass. The lower end of a canopy brace arm is secured to the upper end portion 132 of the clamp by a bolt and wingnut assembly 136. Another portion 138 of the clamp is curved to fit against the inner side of the side rail 16 and its canvass wrapping 22. A downward extension of the piece 138 is secured by a bolt and wingnut assembly 140 to the downward extension 134 of the outer side of the bracket. Alternative constructions of clamps are illustrated in FIGS. 5 and 6. The clamp of FIG. 5 is arranged for attachment to a tubular side rail whereas the L-shaped clamp 142 of FIG. 6 is arranged for attachment to a side rail in the form of an angle iron 144 to which the cot cover 22 may be clamped by a bar 146.

The sliding clamp arrangement permits the canopy braces to slide down to the point at which the end rail section is pivoted to the intermediate section when the cot is folded whereby the canopy braces and the cover are stored below the level of the cot end members in folded condition as shown in FIG. 7. When the structure is unfolded the clamps are slid toward the ends of the cot to provide a wide entrance opening and large interior space under the cover. Thus, the sliding bracket aids in realizing maximum volume when open and minimum volume when folded.

We claim:

1. A structure comprising, in combination:

a pair of canopy braces each including a U-shaped member having a pair of spaced, generally parallel brace arms interconnected at corresponding ends by a cross brace member;

two pairs of brackets, one pair associated with each of said braces and one bracket of each pair having pivotal connection to the opposite end of a respectively associated one of the brace arms, each of said brackets including a rail-embracing portion formed to embrace a side rail of a cot and each of said brackets further including means for selectively rendering said embracing portion effective to slide relative to a rail and to clamp against sliding motion relative to the rail; and

a cot formed with a pair of side rails, each of said side rails comprising end rail sections and an intermediate rail section having hinged connection at each of its ends to the adjacent end portion of one of said end rail sections enabling said side rail to be extended with its end rail sections arranged end to end to form an elongate and substantially straight rail and enabling said side rail to be folded to U-shape in which the end rail sections of the rail form the arms, and the intermediate section forms the interconnecting portion, of the U-shape; and in which one of said clamps is disposed upon and embraces a respectively associated one of said end rail sections of said pair of side rails.

2. The invention defined in claim 1, in which the length of said brace arms approaches the length of said side rail sections from the point of their pivotal connection to the intermediate rail section to the end opposite that connection whereby said brace arms may be adjusted by sliding adjustment of their respectively associated brackets to the level of the ends of said end rail sections when said side rails are folded to U-shape.

3. The invention defined in claim 2, in which said cot further comprises a pair of cot end members one interconnecting said pair of side rails at each end of said rails such that each of said cot end members and one end rail section of each rail form a U-shaped cot end; and which further comprises a cot cover of pliant material including a top section extending between said cross brace members and including two end cover sections one extending between each of said cross brace members and the adjacent cot end member; and which further comprises means fixing said top section and said end cover sections to said cross brace members and means for removably securing each end cover sections to an associated one of said cot end members.