Aug. 6, 1940. M. J. SATER 2,210,342

TENT STRUCTURE

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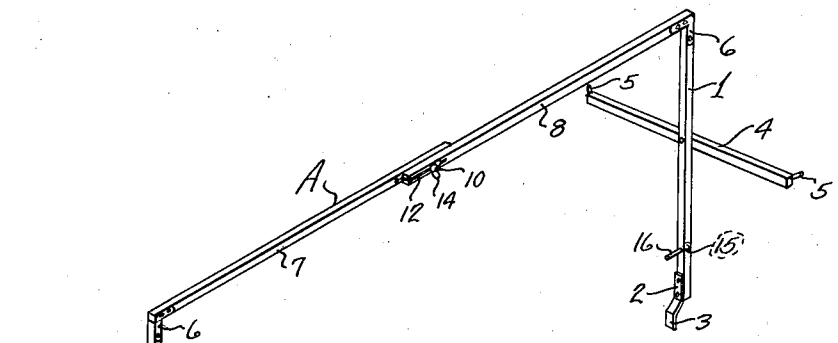


FIG. 1.

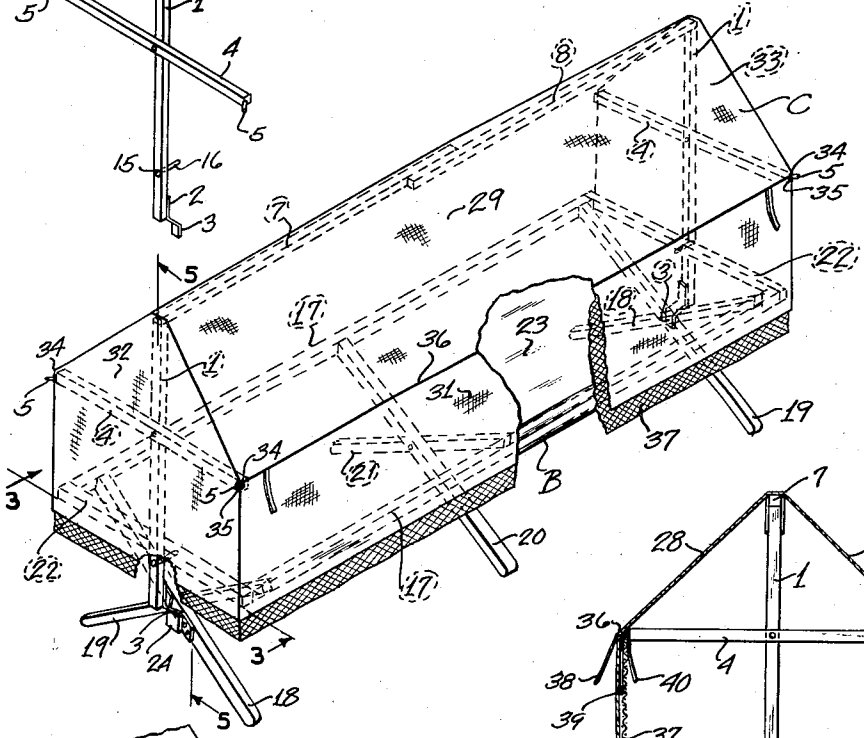


FIG. 2.

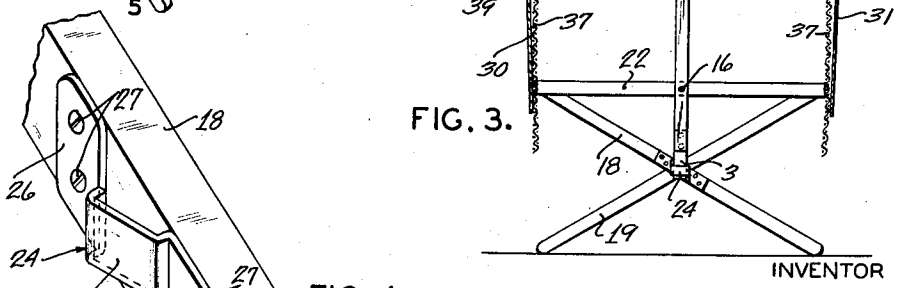


FIG. 3.

FIG. 4.

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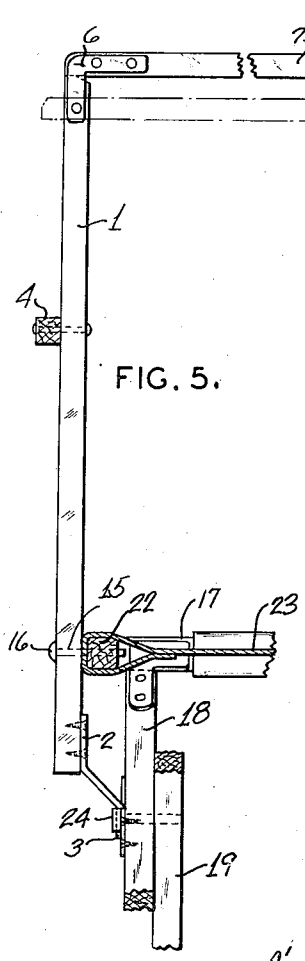


FIG. 5.

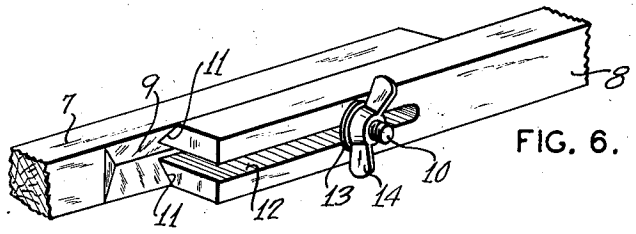


FIG. 6.

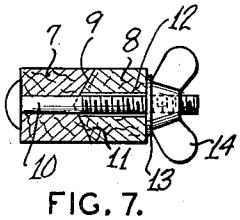


FIG. 7.

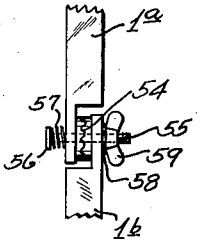


FIG. 8.

FIG. 10.

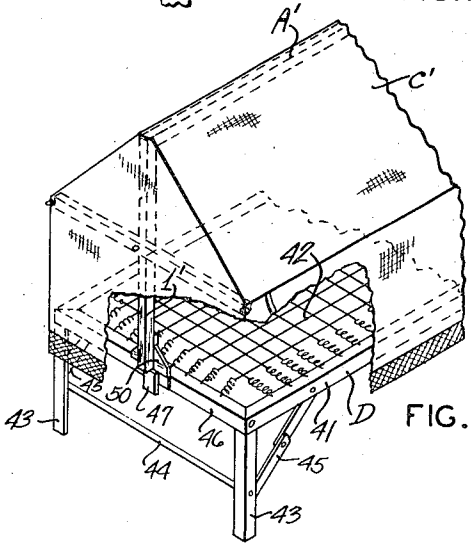
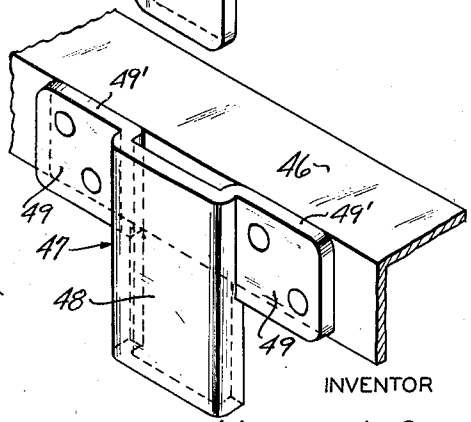


FIG. 9.



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TENT STRUCTURE

Maurice J. Sater, St. Louis, Mo.

Application November 12, 1938, Serial No. 240,076

6 Claims. (Cl. 135—1)

This invention relates to a certain new and useful improvement in tent structures.

Campers, hunters, fishermen, and other sportsmen living outdoors usually provide themselves with tents, sleeping bags, and other paraphernalia designed for comfort as well as safety. As is well known, considerable time, skill, and effort are required in setting up even the simplest type of tent, and after the tent has been set up, it is necessary to dig a series of ditches around the tent to prevent flooding of the tent in case of a sudden rain or storm. And then it is also necessary to provide a sleeping-pad consisting of several blankets, an air mattress, a sleeping bag, or some other similar expedient conducive to comfortable sleeping. Even the most carefully and properly prepared camp sites are frequently subject to the danger of crawling insects, reptiles, small prowling animals, and the like. In addition, many adults object to sleeping directly on the ground even when protected by sleeping devices of the character mentioned. Finally, in this connection, it will be appreciated that, in the case of young boys, who are members of various outdoor youth organizations, such as the Boy Scouts of America, there is frequently substantial psychological objection on the part of parents to having the boy camp out where he must sleep substantially on the ground.

With these considerations in view, my invention has for its primary objects the provision of a unique tent structure, which is simple and economical in cost of construction and maintenance, which is capable of being collapsed or folded into a compact light weight package or bundle, which may be speedily unlimbered and quickly set up in a very simple and convenient manner, which provides a bedding support substantially elevated from the ground, thus obviating all the difficulties and hazards normally associated with outdoor camping, and which is highly efficient in the performance of its stated functions.

And with the above and other objects in view, my invention resides in the novel features of form, construction, arrangement, and combination of parts presently described and pointed out in the claims.

In the accompanying drawings (2 sheets)—

Figure 1 is a perspective view of a collapsible tent supporting frame constructed in accordance with my present invention;

Figure 2 is a perspective view, partly broken away and in section, of a fully set-up tent structure embodying my present invention;

Figure 3 is a transverse sectional view of the tent structure, taken approximately along the line 3—3, Figure 2;

Figure 4 is a fragmentary perspective view of a leg bracket of the tent structure of my present invention;

Figure 5 is a fragmentary sectional view of the tent structure, taken approximately along the line 5—5, Figure 2;

Figure 6 is a fragmentary perspective view of an adjustable ridgepole joint of the tent structure of my invention;

Figure 7 is a transverse sectional view of the ridgepole joint, taken approximately along the line 7—7, Figure 5;

Figure 8 is a fragmentary side elevational view of a modified form of vertical frame member of the tent structure of my invention;

Figure 9 is a fragmentary perspective view of a modified form of tent structure constructed in accordance with and embodying my present invention; and

Figure 10 is an enlarged perspective view of the frame supporting member of the tent structure of Figure 9.

Referring now in more detail and by reference characters to the drawings, which illustrate practical embodiments of my invention, the tent structure includes a frame A which comprises a pair of suitably spaced vertical members 1 fixed to which at their lower extremities are preferably metallic leg members 2 each having a downwardly presented inwardly offset engagement portion 3, all as best seen in Figure 1 and for purposes presently more fully appearing.

Pivotally mounted upon, and approximately at the mid-point of, the respective vertical members 1, are cross members 4 preferably provided at their outer extremities with outwardly projecting pins 5.

At their upper extremities, the vertical members 1 are each provided with a pair of hinge forming plates 6 having the shape of an inverted L connected by screws or other suitable fastening elements to the respective outer ends of cooperable or companion ridgepole members 7, 8, all as best seen in Figure 1 and for purposes presently more fully appearing.

At its inner extremity, the ridgepole member 7 is provided in its one side face with a preferably V-shaped groove 9 and rigidly mounted stud bolt member 10. The companion ridgepole member 8 is complementarily provided on its one side face with outwardly extending V-shaped tongue portions 11 and a horizontal slot 12 for

slidable disposition within the groove 9 and embracing engagement around the stud bolt member 10, which is finally provided with a washer 13 and a wing nut 14 for securing the ridgepole members 7, 8, together in any adjusted position.

The vertical members 1 are each finally provided with horizontal bores 15 positioned just above the leg members 2 for receiving brace pins 16, all as best seen in Figures 1, 5, and 6 and for purposes presently more fully appearing.

B designates a folding bed or cot structure preferably, though not necessarily, of the so-called "army" type having a pair of longitudinally extending centrally jointed side rails 17 supported at each end by pivotally connected X-type cross legs 18, 19, and a centrally positioned pair of X-type cross legs 20, 21. Supported between the side rails 17 and tautened longitudinally by cross members 22 removably positioned across the ends of the side rails 17, is a suitable, preferably canvas, member 23 for supporting the bedding or other material employed for sleeping purposes. The leg members 18 are provided in the region of their pivot points with an outwardly presented bracket member 24 integrally including a central socket portion 25 and attachment wings 26 for receiving screw members 27 by which the bracket member 24 is tightly secured in place. And it may be stated in this connection that the bracket member 24 is so shaped and position on the cross leg 18 that, when the cot B is opened for use, the socket 25 will be in substantially vertical position for snugly receiving the engagement ends 3 of the foot members 2 of the vertical frame uprights 1, as best seen in Figure 2.

Provided for disposition over and around the frame structure A, is a tent or canopy C consisting of a plurality of preferably waterproof canvas or duck sections stitched together in the provision of a pair of outwardly inclined roof panels 28, 29, a pair of longitudinally extending side walls 30, 31, and a pair of five-sided end wall members 32, 33, all as best seen in Figure 2 and for purposes presently more fully appearing.

At each of its four so-called eave corners 34, the tent or canopy C is provided with an eyelet 35 for retentive embracing engagement with the projecting pins 5 of the cross members 4. Stitched to the inner faces of the side walls 30, 31, 32, and 33, adjacent the so-called eaves line 36 of the tent or canopy structure C and hanging freely downwardly therefrom, is a more or less four-sided net member 37 preferably extending substantially downwardly below the lower margin of the side walls 30, 31, 32, and 33, in the provision of a substantial lap of material which may be tucked well under the mattress or bedding roll of the occupant to keep out flying insects, such as mosquitoes, gnats, flies, and the like.

Also suitably stitched into the seam forming or eaves line 36 of the tent-like envelope or canopy C, is a plurality of sets of free swinging tie-members 38, 39, and 40, the tie-member 38 being located on the outside of the tent, the tie-member 39 being located between the tent wall and the netting member 37, and the tie-member 40 being located inside the tent. It will thus be evident that, if desired, the entire tent wall and netting structure may be rolled up as a unit and held securely by the tie-members 38 and 40. On the other hand, if desired, the outer canvas wall or any portion thereof may be rolled upwardly independently of the netting structure 37 and tied in such position by the tie-members 38, 39. By providing a suitable number of sets of tie-members around the entire periphery of the tent-structure or canopy C, any particular part of the side wall or the entire side wall thereof may be thus lifted to provide a greater or lesser degree of ventilation to the interior of the tent-structure or canopy C as may suit the particular taste of the user or occupant.

In Figures 9 and 10 is shown a collapsible steel cot D having a rectangular, preferably centrally jointed frame 41 formed of angle iron members and provided with a spring mounted mattress supporting member 42. Pivotally mounted at each corner of the frame 41, are downwardly swinging leg members 43 transversely connected in pairs across the end of the cot D by means of brace members 44 and held rigidly in upright cot-supporting position by means of conventional snap elbows 45. Riveted or otherwise securely mounted centrally of the downwardly presented flange of each of the transverse end members 46 of the cot D, is a bracket 47 having a central outwardly deformed socket portion 48 and a pair of laterally outwardly extending mounting flanges 49, as best seen in Figure 10 and for purposes presently more fully appearing.

Provided for co-operation with the cot D, is a framework A' substantially identical in all respects with the framework A previously described, except that the vertical end members 1' are provided at their lower extremities with a somewhat T-shaped flat leg plate 50 having a downwardly extending vertical tongue portion 51 sized for snug-fitting disposition within the socket 48 of the cot bracket 47 and further having laterally outwardly extending flanges 52 provided with downwardly presented horizontal abutment margins 53 for abutting engagement with the upwardly presented margins 49' of the bracket mounting flanges 49.

Also provided for disposition over and around the supporting frame A', is a canopy or tent structure C', substantially identical in all respects with the tent or canopy structure C previously described.

I have also found that it may, under certain circumstances, be desirable to swing the entire canopy or tent structure C backwardly about an axis parallel to the longitudinal axis of the cot B during the daytime, for instance, to permit airing of the interior. For such purpose, I may form the vertical members 1 of two axially aligned members 1^a, 1^b, respectively tenoned at their adjacent ends for overlapping fit and provided with a substantially conventional friction joint 54 held together for swiveling operation by a stud-bolt 55 provided at its outer extremity with a flat head 56 for operably engaging a tensioning spring 57. At its other end, the stud bolt 55 is provided with a suitable washer 58 and wing nut 59, all as best seen in Figure 8. As will be readily understood, by loosening the wing nut 59, the member 1^a may be swung in either direction with respect to the member 1^b, thus permitting the framework and tent structure associated therewith to be swung, as above stated, about an axis parallel to and spaced upwardly from the longitudinal axis of the cot.

It should be understood that changes and modifications in the form, construction, arrangement, and combination of the several parts of the tent structure may be made and substituted for those herein shown and described without departing from the nature and principle of my invention.

Having thus described my invention, what I

claim and desire to secure by Letters Patent is:

1. A tent structure comprising, in combination, a collapsible envelope supporting frame including a pair of uprights adapted for mounting upon the opposite ends of a bed providing member, a ridgepole hingedly mounted at its opposite ends upon the upper extremities of the uprights, crossarms pivotally mounted on said uprights intermediate said bed providing member and said ridgepole, said arms having cover retaining means at their outer ends, and an envelope disposed over and engaging with said ridgepole and having means at its outer corners for retentive engagement with the cover retaining means crossarms for securing the same against movement relative to said uprights.

2. A tent structure for use with a foldable cot having opposed parallel end frames each provided with a socket, said tent structure comprising a framework including a pair of vertical members each provided at its lower extremity with angularly offset means for removable engagement in one of said sockets, a length-adjustable ridgepole mounted at its outer ends upon the upper ends of the vertical members, a cross member swingably mounted on each of the vertical members, and a tent-forming envelope mounted on the frame and having a ridge trough for engagement with the ridgepole and eaves corners for engagement with the outer ends of the cross members, said envelope being longitudinally shorter than the maximum length of the length-adjustable ridgepole so that the entire structure may be tensioned and held in mutually interdependent relatively rigid upright position by said ridgepole.

3. A tent structure comprising a frame including two uprights hingedly provided at their upper ends with pole forming elements adapted at their outer ends to interlockingly engage each other in the formation of a ridgepole, a cross member pivotally mounted centrally of its ends upon each of the uprights in downwardly spaced relation to the ridgepole when the frame is set up in operative position, and a canopy including a plurality of fabric sections stitched together in the provision of a pair of outwardly inclined roof panels, a pair of longitudinally extending side walls, and a pair of five-sided end wall members forming, when in upright position, a downwardly presented roof-trough for embracingly engaging the ridgepole and four eaves corners for respectively engaging the outer ends of the cross members, said canopy being shorter than the ridgepole so as to be longitudinally tensioned by the ridgepole in the provision of a substantially rigid upright structure.

4. A tent structure comprising, in combination, a collapsible envelope supporting frame including a pair of uprights adapted for mounting upon the opposite ends of a bed providing member, a ridgepole hingedly mounted at its opposite ends upon the upper extremities of the uprights, crossarms pivotally mounted on said uprights intermediate said bed providing member and said ridgepole, said arms having cover retaining means at their outer ends, and an envelope disposed over and engaging said ridgepole and having means at its outer corners for retentive engagement with the cover retaining means of said crossarms for securing the same against movement relative to said uprights, said uprights being provided with manually controllable swivel joints for permitting swingable movement of the structure about an axis parallel to and spaced upwardly from the longitudinal axis of the bed providing member.

5. In a device of the character described, a collapsible framework including a pair of uprights each pivotally provided intermediate its ends with a cross member and at its one end with a hingedly connected ridgepole section, said ridgepole forming sections being adapted at their outer ends for connection to each other in the formation of a continuous ridgepole.

6. In a device of the character described, a collapsible framework adapted for supporting a tent forming envelope over a bed providing member, said framework including vertical uprights each provided at its lower end with means for engaging the bed providing member and at its upper end hingedly provided with a ridgepole section, said ridgepole sections being adapted for connection with each other at their outer ends in the formation of a continuous ridgepole, and a cross member pivotally mounted intermediate its ends upon each of the uprights in downwardly spaced relation from the ridgepole supporting end of the upright.

MAURICE J. SATER.