

Sept. 4, 1962

S. W. SEAMAN ETAL

3,052,249

TENT STRUCTURE

Filed Feb. 9, 1959

3 Sheets-Sheet 1

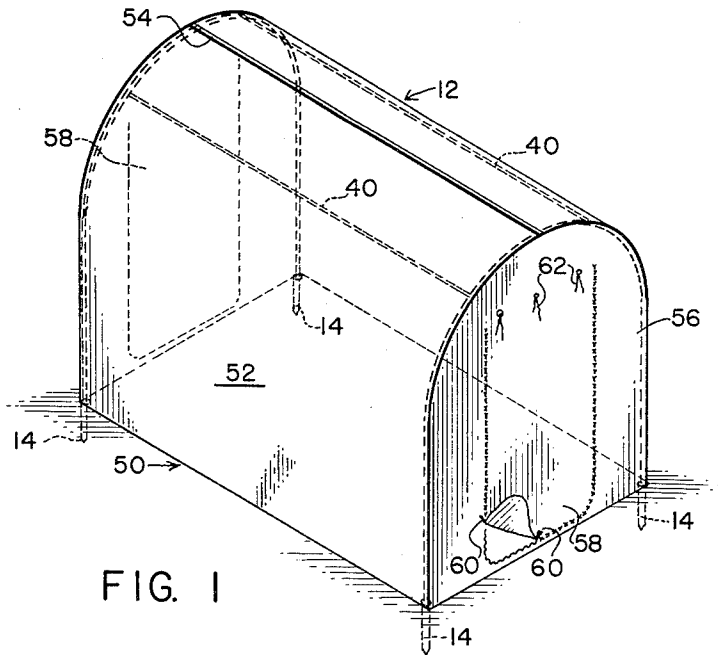


FIG. 1

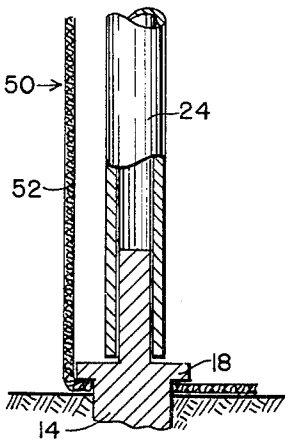


FIG. 4

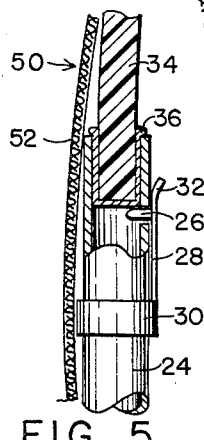


FIG. 5

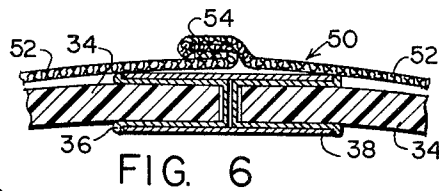


FIG. 6

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3 Sheets-Sheet 2

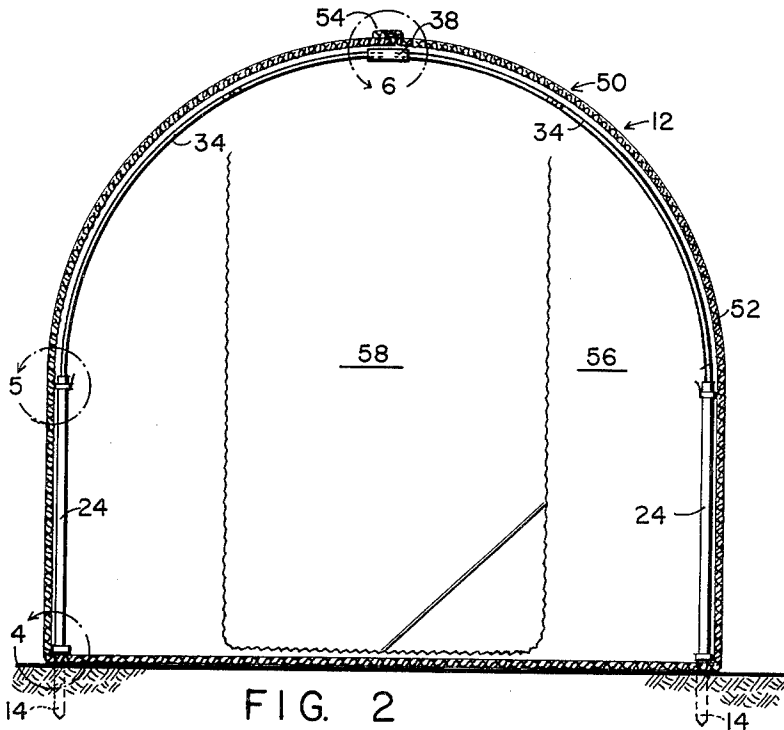


FIG. 2

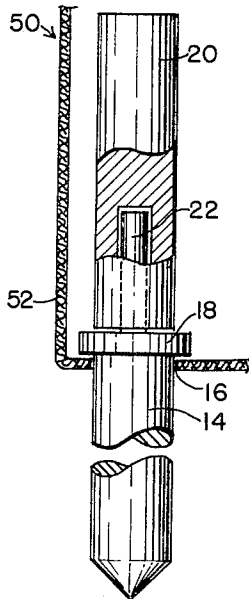


FIG. 10

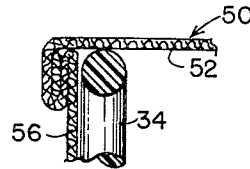


FIG. 8

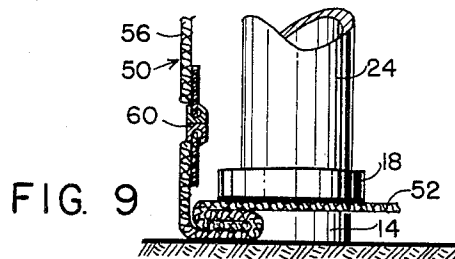


FIG. 9

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TENT STRUCTURE

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3 Sheets-Sheet 3

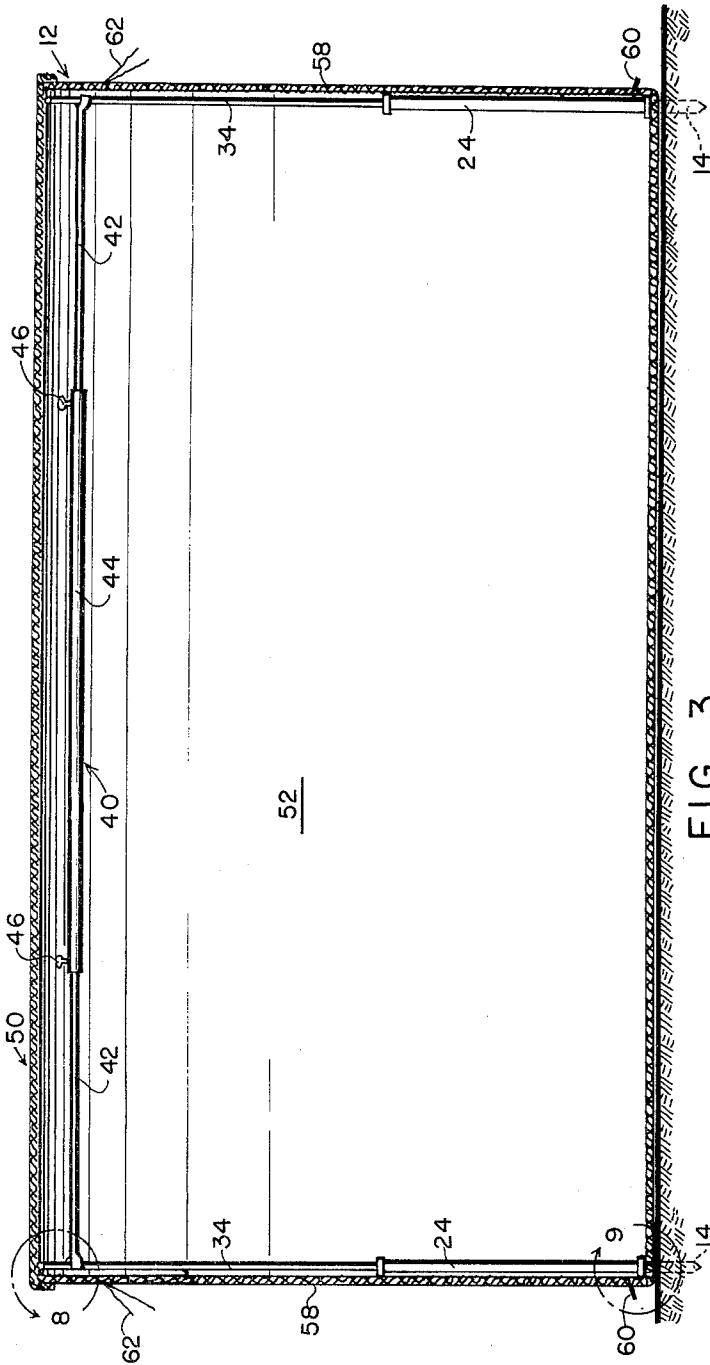


FIG. 3

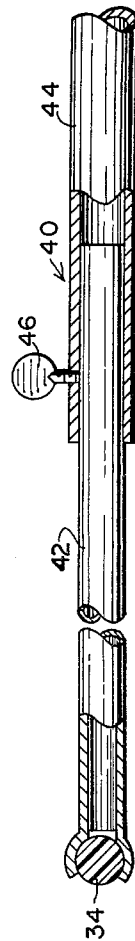


Fig. 7

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TENT STRUCTURE

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6 Claims. (Cl. 135-1)

This invention relates to housing. In a more specific aspect, this invention relates to tent housing. In still a more specific aspect, this invention relates to tent structure, particularly to a new tent structure having a cross section substantially of the shape of a semi-circular arch. Still a more specific aspect of this invention relates to easily erectable and dismemberable tent structure of a cross section when erected substantially in the shape of a semi-circular arch and similar in shape to a quonset hut. In yet a more specific aspect, this invention relates to new easily and dismemberable tent structure which can be stored and transported in a relatively small package.

Many forms of housing have been known for a long time, and tent structures of many shapes and descriptions have been used, shapes such as the so-called umbrella tent, igloo shaped tents, tents shaped substantially the same as simple building structures, and tents having a cross section substantially the shape of a semi-circular arch have been proposed. The latter type of tent structure has not been adopted widely and used for living or camping out of doors, because the tent structures known of this shape are poor of structure, disadvantageous to use and live in, and inconvenient and expensive to make, market, store, use and erect and disassemble. The new quonset hut-like tent structure of our invention having a cross section substantially of the shape of a semi-circular arch overcomes all the disadvantages of other tent structures of similar shape of the prior art, and the new tent structure of our invention is decidedly better than the many other known tent structures from the standpoint of ease of erection and disassembly of the tent, compactness in disassembled condition for storage and transporting, convenience in use, sturdiness to withstand the elements when erected, and our new tent structure is easy and economic to maintain and repair, if necessary.

The new tent structure of our invention has a frame. A cover is mountable on the frame to form a tent having a cross section substantially of the shape of a semi-circular arch. The frame proper has oppositely mountable dismemberable end assemblies which are erectable into substantially a semi-circular arch. Each of the end assemblies of the frame structure has at least two members and a bendable member. A ridge pole is employed and it is mountable between the end assemblies of the tent frame structure. Preferably this ridge pole is adjustable in length, and means are used to maintain the ridge pole in extended position, which is the position when the tent is erected.

It is an object of our invention to provide new housing means.

It is another object of our invention to provide new tent structure.

Still another object of our invention is to provide new easily erectable and disassembleable tent structure having a cross section substantially of the shape of a semi-circular arch.

Still another object of our invention is to provide new tent structure having a cross section substantially of the shape of a semi-circular arch which is easy and economic to manufacture, use, store, transport and maintain, and which is sturdy when erected and in use and exposed to the elements.

Other objects and advantages of the new tent structure of our invention will become apparent to those skilled in the art upon reading this disclosure.

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Drawings accompany and are a part of this disclosure. These drawings depict preferred specific embodiments of the new tent structure of our invention, and it is to be understood that the drawings are not to unduly limit the scope of our invention.

In the drawings,

FIG. 1 is a preferred specific embodiment of the new tent structure of our invention shown in perspective view.

FIG. 2 is an enlarged elevational cross section view of the tent structure of FIG. 1.

FIG. 3 is an elevation view enlarged in longitudinal cross section of the tent structure of FIG. 1.

FIG. 4 is an enlarged view partially in cross section and partially cut away taken on line 4 of FIG. 2.

FIG. 5 is an enlarged view partially in cross section and partially cut away taken on line 5 of FIG. 2.

FIG. 6 is an enlarged view in cross section taken on line 6 of FIG. 2.

FIG. 7 is an enlarged view partially in cross section and partially cut away of the ridge pole of the tent structure and shown mounted therein in FIG. 3.

FIG. 8 is an enlarged view taken on line 8 of FIG. 3.

FIG. 9 is an enlarged view taken on line 9 of FIG. 3.

FIG. 10 is a view partly cut away and partly in cross section showing preferred auxiliary means for driving the tent stakes of the tent structure into the ground through apertures in the bottom of the tent cover.

Following is a discussion and description of the new tent structure of our invention made with reference to the drawings whereon the same reference numerals are used to indicate the same or similar structure and/or assembly. The discussion and description are of preferred specific embodiments of the new tent structure of our invention, and it is to be understood that such discussion and description is not to unduly limit the scope of our invention.

Referring now to the drawings, FIGS. 1 through 10, the tent structure depicted and referred to generally by numeral 12 is a preferred specific embodiment of the new tent structure of our invention.

Tent 12 preferably has an easily erectable and dismemberable frame, and in tent erected position, a cover preferably or tent canvas covers this dismemberable frame. The dismemberable tent frame structure is preferably made of metal with the exception of the bendable members which are preferably made of fiber reinforced plastic material in rod form, and the tent canvas cover is most advantageously waterproof and treated against mildew, such tent canvas being commercially available on the market.

The preferred dismemberable frame structure for the tent of our invention has a pair of oppositely mountable end assemblies, these end assemblies being erectable into substantially a semicircular arch to form a tent structure of the general appearance of a quonset hut. These end assemblies for the dismemberable frame structure have tent stakes 14 which are preferably insertable into the ground by driving them thereinto. The bottom of the tent canvas cover, which will be described hereinafter, has four corner holes 16 through which tent stakes 14 pass prior to their being driven into the ground. These holes are preferably reinforced as in the manner of button holes, or with metal grommets, or other common and suitable means. FIG. 10 of the drawings best shows this. We have found it desirable to provide the tent stakes 14 with a flange 18 which is larger in diameter than the holes 16 in the tent canvas bottom. When stake 14 is driven all the way into the ground, flange 18 directly contacts the bottom tent canvas to hold it down on the ground firmly and to provide a moisture or water barrier and seal to make the tent leak proof even under the most adverse conditions.

Again referring to FIG. 10 specifically, we prefer to provide an auxiliary member 20 to aid in driving tent stakes 14 into the ground. This auxiliary member 20 has a hole drilled in one end to receive the spindle 22 of the tent stake 14, so that the auxiliary member 20 when mounted on the spindle directly contacts the integral flange 18 on stake 14. This protects spindle 22 in driving the stake into the ground, since in doing so, blows are directed onto the upper end of auxiliary member 20, and the force of the blow is transmitted to the flange 18. Spindle portion 22 of tent stake 14 is used to mount a middle member of the end assembly of the tent frame, and is desirably not battered or bent. Of course, auxiliary member 20 can be a length of pipe or tubing, if desired.

Each of the end assemblies of the tent frame have a pair of substantially upright positionable tubular members 24 which are oppositely mountable on the corresponding tent stakes 14 with the lower end portions of the members 24 fitting over the spindles 22 of the tent stakes 14. These tubular members 24 in their upper end portions have an aperture through the wall thereof. This aperture (FIG. 5) receives a stop 26 which is fixed to a spring member 28. The spring 28 is in turn fixed to a clamp 30 rigidly secured in a suitable manner around tubular member 24. Spring 28 is loaded to normally project stop 26 through the wall of 24 and into the hollow therein. A lip 32 on spring 28 is conveniently provided for withdrawing stop 26 from projection within member 24. Thus, the upper end portions of tubular members 24 are provided with spring loaded stop means normally projecting into members 24 through the apertures in the wall thereof.

Each of the end assemblies of the dismemberable tent frame structure have a pair of end reinforced bendable members 34 which are oppositely mounted in constructing the tent in the upper end portions of the tubular members 24 corresponding thereto, and these bendable members 34 are inserted into tubular members 24 to contact the stops 26 therein which position and limit the projection of members 34 into the tubular members 24. These bendable members 34 are preferably made of fiber glass reinforced plastic material, but of course, can be made of other suitable material, and they are preferably capped on the ends by metal caps 36 to protect the end portions thereof. Stop 26 is constructed to be withdrawable from tubular member 24, so that when withdrawn, the normally substantially straight member 34 can be telescoped into tubular members 24 for protection, and for compactness in storing and transporting the dismantled tent structure.

The end assemblies of the tent frame structure have a center positionable joining member 38, which is preferably a relatively short length of metal tubing or pipe. The upper capped ends of bendable members 34 are inserted into opposite ends of the joining member 38 with the members 34 in bent condition, as best depicted in FIGS. 2 and 6. In erecting the end assemblies of the tent frame structure, the tent canvas bottom is properly stretched and the tent stakes 14 driven into the ground through the apertures 16 in the tent canvas bottom. The tubular members 24 are then installed by mounting them over the spindles 22 of the tent stakes 14. Next, the bendable members 34 are properly mounted in the upper end portions of the tubular members 24, followed by bending them inwardly and fitting them into the center positioned joining member 38. It has been found in practice that the end assemblies will remain in constructed position under the most adverse weather conditions exerting forces on the tent, principally because of the pressure exerted in locking engagement as a result of putting bending stress on the bendable members 34.

To complete the dismemberable frame of the tent structure of our invention, and to provide means for placing the tent cover in stretched condition, and to provide for putting the entire frame structure under tension, a pair of ridge poles 40 are oppositely mounted when the frame is erected between opposite end ones of the bendable members 34. These ridge poles 40 are preferably made ad-

justable as to length, such as the telescopic structure shown in the drawings (FIG. 7). Opposite end members 42 are slidably mounted in end portions of middle member 44, and these members 42 and 44 can conveniently be made of tubular metal material, or other suitable material, if desired. Set screws 36 in the end portions of member 44 are employed to retain members 42 in member 44 in the desired position. In extended position for members 42 (FIG. 3), and locked in such extended position by set screws 46, the ridge poles 40 contact the members 34 to properly space the end assemblies of the tent frame structure. The outer ends of members 42 are preferably shaped as shown in the drawings into a yoke-shaped end so as to better receive the members 34 and retain same in proper position, members 34 preferably being round as shown in the drawings.

The tent cover 50 of canvas can conveniently be made in three pieces, if tent canvas of sufficient width is available, and commercially tent canvas can be purchased in widths up to 110 inches. With tent canvas of sufficient width to provide the length of the tent desired, the center section 52 is made in one piece, joined together at the very top of the tent at seam 54. Like ends 56 of the tent cover are conveniently made in one piece and sewn to the center section 52 in any suitable manner, such as by the seaming shown in FIGS. 8 and 9 of the drawing. The ends of the tent cover 56 are preferably provided with flap doors 58, which are preferably cut out therefrom to raise upwardly to provide entryways into the tent structure from both ends. Of course, one door 58 can be used, if desired, and windows can be placed in center section 52 of the tent cover, if desired. The means of providing windows in tent covers of canvas is well known in the art. A pair of zipper fasteners 60 are preferably provided for each door 58, such operating to close the flap door 58 by coming together in closed position at the center of the bottom of the door. A plurality of ties 62 are preferably used to maintain the doors 58 in raised position, such being rolled up from the bottom. Common eyes (not shown) properly sewn to the flap doors can be used for this purpose, if desired.

In erecting the new tent structure of our invention shown in the drawings, we have found it preferable to lay out the tent cover 50 in desired position on the ground with the bottom portion of the cover in contact with the ground. With one of the flap doors 58 open, the user can reach in under the center section of the tent cover to drive the tent stakes 14 into the ground through the holes 16 and the bottom of the tent cover. With one stake 14 driven, the end thereof can be easily stretched tight for the driving of the opposite tent stake 14. All of the tent stakes 14 can be driven prior to erection of the end assemblies of the frame, or one end assembly can be constructed. It has been found that in the latter instance some convenience results, because of raising the tent sides and top from the bottom to give more work space. In any event, the end assemblies are erected, followed by the installation of ridge poles 40 to properly space the end assemblies and stretch cover 50 properly over the dismemberable frame of the tent.

In disassembling or dismantling the tent structure, the ridge poles 40 are first removed, followed by disassembling the end assemblies of the frame, and then removing the tent stakes 14 from the ground. With the telescoping ridge poles 40, and the disassembled end assemblies of the frame into relatively short sections, the tent structure can be rolled into a very small and compact package with the frame members wrapped within the tent cover 50. No sharp or cutting edges are present to tear or damage the tent cover 50, and the whole tent structure has been found to easily fit in the trunk of standard stock automobile, even with a tent bottom 9 feet by 9 feet and a center height when erected of 6½ feet.

As will be evident to those skilled in the art, various modifications of this invention can be made, or followed,

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in the light of this disclosure and discussion, without departing from the spirit or scope of the disclosure or from the scope of the claims.

We claim:

1. A tent structure comprising, in combination, an easily dismemberable frame, and a tent canvas cover mountable on said frame and forming when mounted thereon a closeable tent having substantially flat and perpendicular ends and a transverse cross section substantially of the shape of a semicircular arch, said cover being constructed from two end pieces and a center piece of said canvas sewn together, said center piece forming the top, sides and bottom of said tent structure and each of said ends having a flap door section raiseable upwardly when mounted and means with said ends to maintain said door sections in raised position, and said frame comprising a pair of oppositely mountable end assemblies each erectable into substantially a semicircular arch and each having a pair of tent stakes driveable into the ground through corner apertures in said bottom of said center piece of canvas in spaced relation, each of said stakes when mounted having a portion contacting said canvas to hold down said bottom and an upwardly projecting spindle-like portion, a pair of substantially upright positionable tubular members oppositely mountable on said stakes over said spindles and each in an upper end portion having a spring loaded stop means normally projecting into said tubular member through an aperture therein, a pair of end reinforced bendable members oppositely mountable in the other end portions of said tubular members to contact said stop means to limit projection thereinto and a center positionable tubular joining member to oppositely mount the other end portions of said bendable members in bent condition, said bendable member when mounted in said tubular members and said center joining member exerting force upwardly and outwardly in contact with said piece of canvas, and a pair of ridge poles oppositely mountable between opposite ends ones of said bendable members, said ridge poles being telescopic and having means therewith to maintain same in extended position.

2. A tent frame structure to receive and mount a tent cover comprising, in combination, a pair of oppositely mountable end assemblies each erectable into substantially a semi-circular arch and each having a pair of tent stakes drivable into the ground in spaced relation to contact and hold down a tent cover, an upwardly projecting spindle-like portion on each of said stakes, a pair of substantially upright positionable tubular members oppositely mountable on said stakes over said spindles and each in an upper end portion having a spring loaded stop means normally projecting into said tubular member through an aperture therein, a pair of end reinforced bendable members oppositely mountable in said upper end portions of said tubular members to contact said stop means to limit projection thereinto and a center positionable tubular joining member to oppositely mount the other end portions of said bendable members in bent condition, said bendable members when mounted in said tubular members and said joining member exerting force upwardly and outwardly to contact a tent cover, and a pair of ridge poles oppositely mountable between opposite end ones of said bendable members, said ridge poles being telescopic and having means therewith to maintain same in extended position.

3. A tent frame structure to receive and mount a tent cover comprising, in combination, a pair of oppositely mountable end assemblies, each erectable into a substantially semi-circular arch and each having a pair of tent stakes drivable into the ground in spaced relation to contact and hold down a tent cover, upwardly projecting mounting means with each of said stakes of diameter less than said stakes, a pair of substantially upright positionable members having hollow end portions oppositely mountable on said stakes over said mounting means there-

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with and each in an upper end portion having stop means normally projecting into the hollow of said member through an aperture therein, a pair of bendable members oppositely mountable in the hollow of said upper end portions of said upright positionable members to contact said stop means therewith to limit projection thereinto, and a center positionable joining member having hollow end portions to oppositely mount the other end portions of said bendable members in bent condition, said bendable members when mounted in said upright positionable members and said joining member exerting force upwardly and outwardly to contact a tent cover, and a plurality of spaced ridge poles mountable between opposite end ones of said bendable members, said ridge poles when mounted maintaining said end assemblies in spaced relation in the upper end portions thereof.

4. A tent frame structure to receive and mount a tent cover comprising, in combination, a pair of oppositely mountable end assemblies each erectable into a substantially semi-circular arch and each having tent stakes drivable into the ground in spaced relation to contact and hold down a tent cover, upwardly projecting mounting means with each of said stakes, a pair of members positionable substantially upright and oppositely mountable on said stakes on said mounting means therewith and having stop means therewith in an upper end portion, a pair of bendable members oppositely mountable in said upright positionable members and engageable with said stop means therewith to position same in assembled relation, and a joining member having means to mount the other end portions of said bendable members with said bendable members in bent condition, said bendable members when mounted on said upright positionable members and said joining member exerting force upwardly and outwardly to contact a tent cover, and means connectable to said end assemblies with said last-named means when connected maintaining said end assemblies in spaced relation in the upper end portions thereof.

5. A tent structure comprising, in combination, an easily dismemberable frame, and a tent cover mountable on said frame and forming therewith when mounted thereon a closeable tent having end portions and a connecting portion therebetween with at least one door section openable to permit access to the interior of said tent, and said frame comprising a pair of oppositely mountable end assemblies, each erectable into a substantially semicircular arch and each having a pair of tent stakes drivable into the ground in spaced relation to contact and hold down a tent cover, upwardly projecting mounting means with each of said stakes of diameter less than said stakes, a pair of substantially upright positionable members having hollow end portions oppositely mountable on said stakes over said mounting means therewith and each in an upper end portion having stop means normally projecting into the hollow of said member through an aperture therein, a pair of bendable members oppositely mountable in the hollow of said upper end portions of said upright positionable members to contact said stop means therewith to limit projection thereinto, and a center positionable joining member having hollow end portions to oppositely mount the other end portions of said bendable members in bent condition, said bendable members when mounted in said upright positionable members and said joining member exerting force upwardly and outwardly to contact said tent cover when mounted, and a plurality of spaced ridge poles mountable between opposite end ones of said bendable members, said ridge poles when mounted maintaining said end assemblies in spaced relation in the upper end portions thereof.

6. A tent structure comprising, in combination, a tent frame, and a tent cover positionable on said frame and forming therewith when mounted thereon a closeable tent having end portions and a center connecting portion, door means in said tent cover, and said frame comprising, a pair of oppositely mountable end assemblies each erect-

able into a substantially semi-circular arch and each having tent stakes drivable into the ground in spaced relation to contact and hold down a tent cover, upwardly projecting mounting means with each of said stakes, a pair of members positionable substantially upright and oppositely mountable on said stakes on said mounting means therewith and having stop means therewith in an upper end portion, a pair of bendable members oppositely mountable on said upright positionable members and engageable with said stop means therewith to position same in assembled relation, and a joining member having means to oppositely mount the other end portions of said bendable members with said bendable members in bent condition, said bendable members when

mounted in said upright positionable members and said joining member exerting force upwardly and outwardly to contact said tent cover when mounted, and means connectable to said end assemblies with said last-named means when connected maintaining said end assemblies in spaced relation in the upper end portions thereof.

References Cited in the file of this patent

UNITED STATES PATENTS

10	1,061,547	Kennedy et al.-----	May 13, 1913
	1,649,324	Raber -----	Nov. 15, 1927
	1,856,658	Rummler -----	May 3, 1932
	2,069,479	Pluth -----	Feb. 2, 1937
	2,649,102	McDonough -----	Aug. 18, 1953