Dec. 17, 1963 C. H. CLEMENT 3,114,377

SET-UP TENT

Filed Sept. 6, 1960 3 Sheets-Sheet 1

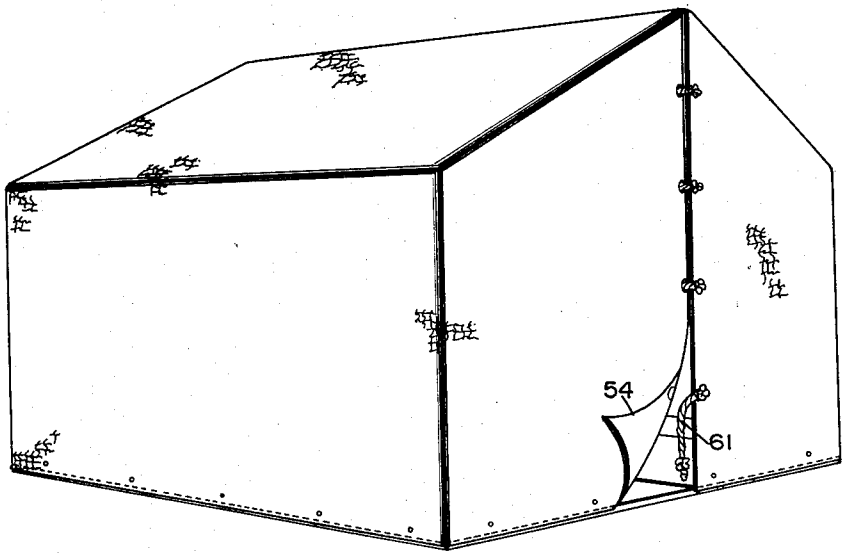


FIG 1

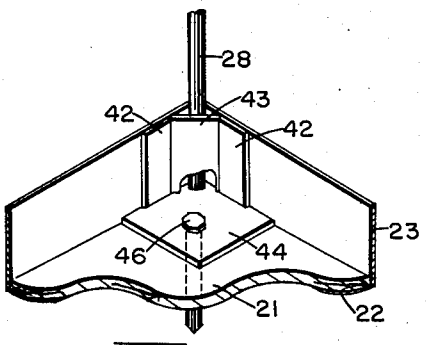


FIG 5

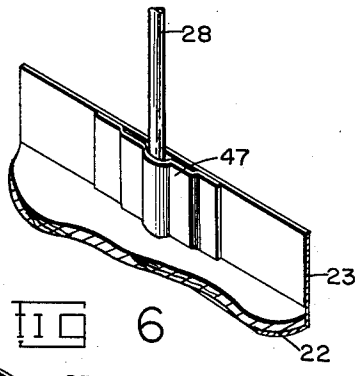


FIG 6

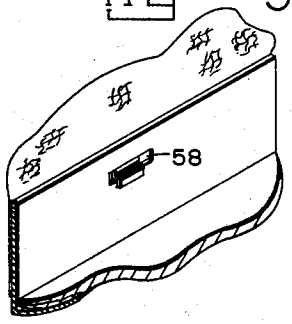


FIG 8

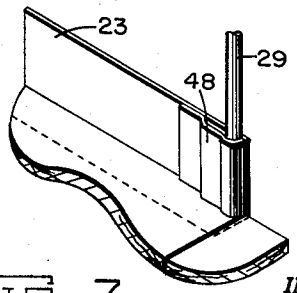


FIG 7

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SET-UP TENT

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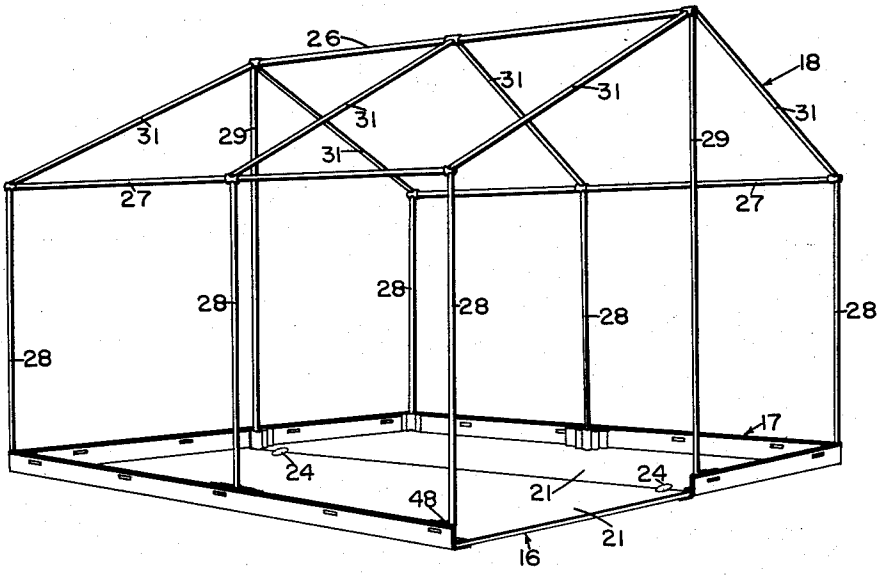


FIG 2

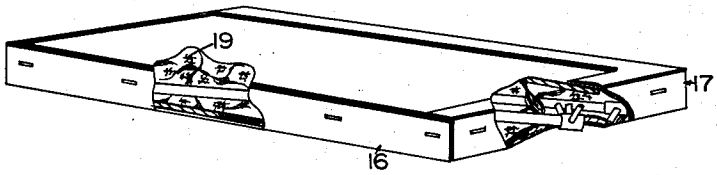


FIG 4

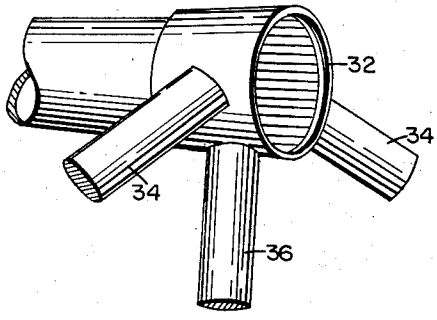


FIG 10

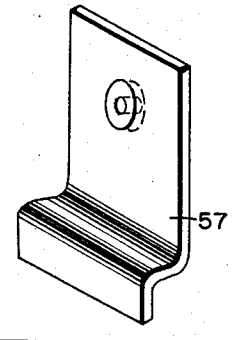


FIG 9

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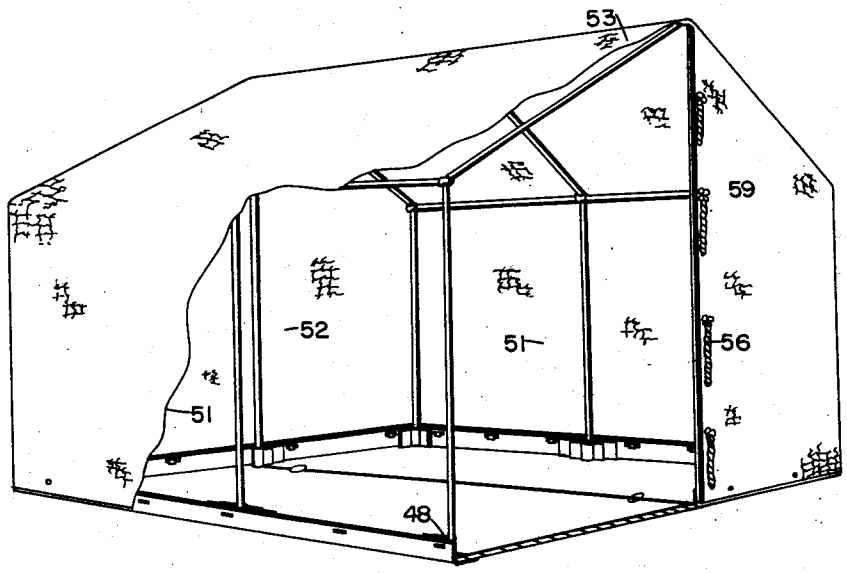


FIG 3

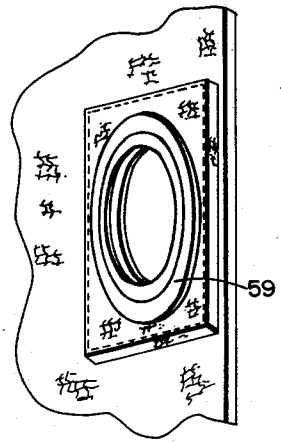


FIG 14

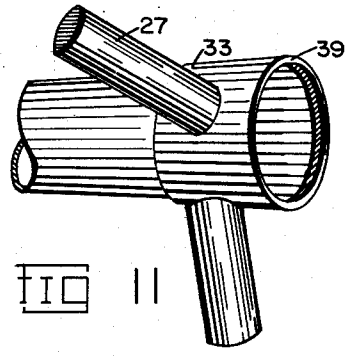


FIG 11

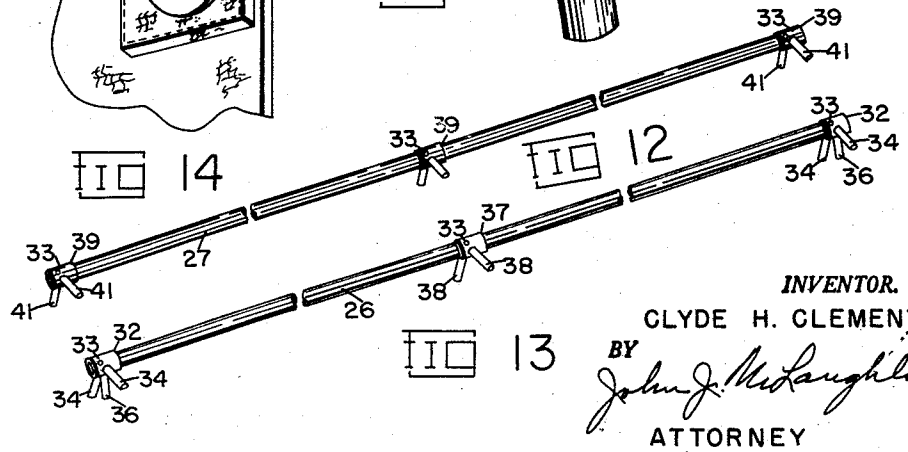


FIG 12

FIG 13

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3,114,377

SET-UP TENT

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2 Claims. (Cl. 135—3)

My invention relates to an improved tent, and more in particular to a set-up tent combination characterized by the provision of a supporting frame in the form of a plurality of separable but readily joined frame members, and a pre-formed covering of canvas fabric and the like supported by the frame and itself functioning to assist in holding the frame members in assembled relation.

Tents are one of the oldest man-made structures, and all tents have comprised some form of supporting members and a water-repellent fabric of some type draped over such member. For many years tents have conventionally employed one or more uprights, a ridge pole or equivalent, a pre-formed canvas structure forming roof and sides and some form of bracing means such as guy ropes attached to stakes placed some distance from the base of the tent structure. There have been many suggestions for improvements in this general arrangement of supporting structure and canvas cover, some of which have gone into limited use. In general, however, when such suggested structures have reached the status of semi-permanency they have become relatively complicated and difficult to transport and erect properly; so that more and more, when semi-permanent structures have been indicated, attention has been directed to prefabricated structures having no resemblance when completed either from the standpoint of cost or appearance to conventional camping, sleeping and utility tent structures.

The principal object of my invention is the provision of an improved tent structure which overcomes the disadvantages inherent in comparable products of the prior art.

Another object is the provision of an improved tent structure which has substantially all of the advantages of relatively light weight, low cost and the like common to tents, but which combines many of the advantages and functions of permanent or semi-permanent structures.

Still another object of my invention is the provision of a self-contained kit providing all of the parts needed for the erection of a tent which can be erected by a single person in only a relatively short period of time.

A further object of my invention is the provision of an improved tent comprising a frame and a pre-formed covering fabric so constructed and arranged that forces normally encountered by weight, wind and the like have a tendency to reinforce and strengthen the structure rather than weaken it.

Other specific objects and features of my invention will be apparent from the following detailed description taken with the accompanying drawings, wherein:

FIG. 1 is a perspective view showing one embodiment of the tent of my invention fully erected;

FIG. 2 is a similar view showing the supporting structure;

FIG. 3 is a view similar to FIG. 1 but with parts broken away to show structure and to indicate the relationship between the supporting structure and the covering tent fabric;

FIG. 4 shows the disassembled kit embodied in the form of a kit containing all of the tent parts, portions of the view being broken away to illustrate the arrangement of parts in the kit;

FIGS. 5, 6 and 7 are fragmentary isometric views showing the manner in which uprights forming a portion of the frame are anchored at their lower ends;

FIG. 8 is a fragmentary isometric view showing the

manner in which the bottom edge of the tent side is anchored to the supporting frame;

FIG. 9 is an enlarged isometric view showing a detail;

FIG. 10 is an enlarged fragmentary isometric view showing details of a bracket attached to ends of the rod forming the equivalent of the ridge pole of the tent;

FIG. 11 is a similar view showing a form of bracket which may be used for interconnecting a roof member and a vertical side member;

FIGS. 12 and 13 are fragmentary isometric views showing respectively a side horizontal support member and the frame member used at the ridge;

FIG. 14 is a fragmentary view showing a detail of a grommet secured in the tent flap for receiving a tie rope.

In accordance with the general features of my invention, I provide a two-part base forming a floor, each part having reinforcing frame portions of sheet steel or the like, provided with sockets for the receipt of vertical support rods which interconnect with horizontal rods forming roof braces, all of the parts together forming a rigid supporting frame corresponding substantially with the shape of a pre-formed fabric covering comprising the roof and sides. The supporting structure is interlocked in such a manner that the weight of the covering fabric and normal forces such as wind and the like applied against such fabric will have a tendency to reinforce the supporting structure and hold it tighter together than if it were standing alone. The base may be set on a flat area of ground or any plane surface for that matter without attachment, but preferably a plurality of spikes are driven through holes provided in the base to hold it more firmly to the plane ground surface on which the tent is erected.

Referring now to the drawings, the embodiment of the invention shown comprises a pair of base members indicated generally by the reference characters **16** and **17**, a plural part supporting superstructure indicated generally by the reference character **18** (FIG. 2) and a fabric covering of canvas or the like shaped to fit the supporting frame, said covering being indicated generally by the reference character **19** (FIG. 4). The two base members may be assembled in overlapping relation, the base member **17** being inverted as shown in FIG. 4, to form a kit within which all portions of the tent are housed for transportation, storage and the like.

Each of the base members includes a floor **21** formed of marine plywood or the like with a right angular reinforcement at its side edges, said reinforcement including a horizontal portion **22** extending under the floor and secured thereto by suitable means such as riveting, and an upwardly projecting right angular portion **23** forming a reinforcing flange. This reinforcing flange also cooperates with hardware, as will be described, to carry the tent supporting superstructure **18**. As indicated clearly in FIGS. 2 and 3, the reinforcing edge of the base members comprising the horizontal portion **22** and the upright flange **23** extends around the outside edges of the floor but not along the side edges of the floor where the two base members meet. If desired one floor edge of one of the base members may also be left without a supporting upright flange to facilitate entrance. If desired suitable links **24** may be used to hold the two base members together.

The superstructure **18** comprises a horizontal ridge rod **26** and identical horizontal side rods **27**. Vertical supporting rods **28** along the sides are identical, as are also a pair of vertical center rods **29** which support the ridge rod **26**. A plurality of diagonal rods **31** in the nature of rafters are also identical, and they extend, as clearly shown in FIG. 2, between the ridge rod **26** and the horizontal side rods **27**.

Special brackets are employed to secure together the

several rods comprising the superstructure, and these brackets are permanently attached to the three horizontal rods as shown in FIGS. 12 and 13. Looking now first at FIG. 13, end brackets 32 are provided on the ridge rod 26, each such bracket including a tubular portion into which the ends of the rod 26 are projected and secured as by means of a pin 33. Two projections 34 are provided for engagement with the contiguous diagonal rods 31, plus a vertical projection 36 for engagement with the two vertical rods 29. At this point, I wish to point out that in the embodiment of the invention shown all of the principal supporting rods are in the form of tubes, optionally ordinary galvanized iron pipe, but suitably special tubes providing maximum strength with lightness. In such case the projections 34 and 36 are solid and are so dimensioned as to telescope snugly but not too tightly within the hollow ends of the tubes comprising the rods. Obviously, however, this construction may be reversed by using solid rods and tubulations for the projections 34 and 36. The roof rod also includes a center bracket 37 with a tubular portion secured to the roof rod as by means of a pin 33 and a pair of projections 38 telescoping with contiguous rods 31.

Each of the rods 27 carries a plurality of identical brackets 39, each with a tubular portion secured to the rod as by pins 33 and a pair of projections 41 telescoping into contiguous rods 28 and 31 as shown in FIGS. 2 and 3. Details of the construction of the brackets 32, 37 and 39 may be examined by reference to FIGS. 10 and 11. While FIG. 10 shows the bracket 32 with the projections 34 engaging the rods 31 and the projection 36 telescopically engaging the uprights 29, the bracket 37 is identical except that it does not carry a center projection because the interior of the tent is without a center upright corresponding generally to the location of the uprights 29. In the case of the brackets 39, however, all are identical because they merely connect together the horizontal members 37 on which they are permanently mounted with the uprights 28, all of which are identical, and the diagonal rods 31, all of which are also identical. It is, of course, obvious that the angles which the projections on the several brackets take are engineered to correspond to the angles created by the differential in length between the center uprights 29 carrying the ridge rod and the side uprights 28 which frame the sides of the tent. In actual practice, I color-code the matching parts to facilitate erection, but it is obvious because of the uniformity of so many of the members only a relatively simple color-coding is required.

The superstructure 18, as already pointed out, is firmly supported on the base comprising the two base members 21. To provide a firm support brackets forming sockets for the receipt of bottom ends of the uprights are associated at appropriate places with the upright flange 23 running around the outside of the base members. At the corners where two portions of the flange 23 meet at right angles, I provide a corner bracket as shown in FIG. 5, each such bracket including a pair of flat portions 42 and a diagonal portion 43 forming with the upright flange 23 a generally triangular socket to receive the bottom end of an upright 28. A rectangular plate insert 44 lying on the corner of the base member forms a support and reinforcement for the entire structure. Thus, by welding contiguous edges of the flange 23 and welding the several parts together where they are in face-to-face relation, a reinforced, rigid and very strong corner construction is provided. A hole is provided in the plate 44 and through the floor 21 for receiving a spike 46 which is driven into the ground to anchor the tent thereto. Any number of such spikes may be employed, but when they are employed usually the links 24 tying the two base members together may be deleted.

At the sides of the tent, intermediate the corners, a socket for receiving an upright 28 may be provided by

the use of a bracket 47 in the shape of a formed strip as shown in FIG. 6, this bracket being secured as by welding to the upright flange 23. At the center line of the tent generally in line with the ridge pole 36, one of the base members (the right hand one looking at FIGS. 2 and 3) is provided with a special bracket 48 secured to the upright flange 23 by welding to support the upright 29. A similar bracket may also be provided at the entrance to the tent as indicated in FIGS. 2 and 3.

The tent 19, formed of suitable canvas or the like, is sewed together and so dimensioned with respect to the supporting framework that it completely covers it and extends down over the upright flange 23, where it may reach the ground. It comprises side walls 51, a back wall 52, top 53 and front flaps 54 and 56. While the walls of the tent may in accordance with a practice sometimes followed be provided with plastic covered openings (not shown) the tent is in fact entirely closed except where the front flaps 54 and 56 overlap. At the bottoms of the side and back walls, as well as at the bottom of the flap 56, I provide an anchoring bracket 57 which may be shaped as shown in FIG. 9, and each of which engages in a correspondingly positioned slot 58 (FIG. 8) in the upright flange 23. Grommets 59 (FIG. 14) in the flap 56 receive fastening ropes 61. While any commonly employed arrangement is suitable, I preferably knot the rope on opposite sides of the grommet 59 so that the rope may be extended through oppositely placed grommets in the opening flap 54 and tied either on the inside or outside of the tent. Suitably the grommets in the flap 56 will be somewhat smaller than the grommets in the flap 54.

The manner of using, erecting and dismantling the set-up tent of the present invention should in general be clear from the prior detailed description. Taking the kit as shown in FIG. 4, it may be placed on a selected spot at a campsite in the same position shown in FIG. 4, and the topmost base member merely turned over and set in a matching position with respect to its partner base member to place them in the same relationship shown in FIGS. 2 and 3 of the drawings. All of the necessary parts of the tent now being on the floor of one of the base members, the spikes 46 may be driven through the base members and into the ground to anchor the base members in position. Using the simple color-coding referred to hereinabove, the uprights 28 and 29 are first placed in position in their respective base sockets, the horizontal members 26 and 27 then attached to tops of the uprights, and the diagonal members 31 then fitted into position to produce the structure as shown in FIG. 2. There is enough play and enough give in the various parts before the tent covering is applied that there is no difficulty in fitting the projections on the several brackets telescopically into the ends of the pipes comprising the various frame members. The fabric covering is then pulled over the frame from rear to front, the brackets 57 attached and the flaps secured together to complete the erection. When the fabric has been placed over the frame, its weight and actions of weather, wind, rain and the like function to reinforce the frame by holding its several parts more tightly together.

While the overlapping of the tent fabric at its bottom around the upright flange 23 normally will produce all of the weather tightness required, if desired earth may be laid up against the bottom edge of the tent to further seal it and trenching and other expedients commonly employed in camping may of course also be employed.

While the tent as shown in the drawings is of a relatively small size, accommodating for example four people for sleeping, it may be constructed in various sizes with only relatively very minor changes in structure. A tent as shown of a size to accommodate four people may be erected by a single person in less than five minutes, and also taken down and reassembled in the form of a kit as shown in FIG. 4 in approximately the same period of

time. While the kit as shown in FIG. 4 is not provided with any fastening means, it is of course obvious that any suitable device such as a rope, strap or the like may be employed to retain the base members and their contents in assembled relation.

While the tent of the present invention is preferably formed of usual materials, it is obvious that any commonly available substitute materials may be used. Commonly the covering of tents is a suitably heavy canvas either treated or untreated to increase its waterproofness, resistance to fungus and the like. If desired any of the commonly available plastics, with or without fabric base, can also be used. In the specification and in the claims where I have referred to fabric, the word is used in a broad sense to cover any of the usual available sheet materials which may be sewn or otherwise secured together to form the shape of a tent and provide the necessary protection. If the tent is to be used for semi-permanent purposes, the regular fabric may of course be covered with any type of heat insulating material commonly used for the purpose. I found that a good grade of marine plywood of adequate thickness and having three to five plies is very satisfactory but other types of materials, even sheet metal, may under suitable circumstances be substituted.

I have described my invention in detail so that those skilled in the art may understand the manner of practicing the same, but the scope of the invention is defined by the claims.

I claim:

1. A set-up tent comprising a pair of bases adapted to set together to form a rectangular tent floor, said bases having upstanding peripheral flanges, eight brackets in the form of strips secured to the flanges but spaced at one point in each instance to form vertical sockets, three horizontal rods, one rod comprising a ridge pole and two comprising side rods spaced from the ridge pole, a plurality of vertical tubular rods, one for each socket, each said vertical rods adapted to have a bottom end engaged in one of said sockets and an upper end attached to said horizontal rods, two of said vertical tubular rods adapted for attachment to the ridge pole, and being longer than the remaining rods to elevate the position of the ridge pole rod with respect to the horizontal side rods, a plurality of diagonal tubular rods extending from the ridge pole on each side thereof to said side rods, and a plurality of brackets carried by the horizontal rods with projections entering ends of said vertical tubular rods and diagonal tubular rods.

2. A set-up tent of the character described, comprising in combination

(*a*) a base with front, back and two side edges and having

(1) a floor and

(2) an upstanding ridge along said back and sides, and along one half side of said front edge,

(*b*) said base comprising two substantially uniform size parts adapted for assembly in face to face relation to form a container for remaining portions of the tent,

(*c*) said base also having eight vertical sockets formed between said ridge and shaped metal plates attached thereto, there being one such socket in each corner, and at a mid point of the back, front and each side,

(*d*) a demountable superstructure supported on the base through said sockets and including

(1) six vertical rods, one at each corner and one each at a mid-point of each side,

(2) two vertical rods at mid-points of said back and front,

(3) three horizontal longitudinally disposed rods, one aligned with said back and front mid-points to form a horizontal ridge pole, and two aligned with the corner rods to form horizontal side poles,

(4) six diagonal rods running from the ridge pole to said side poles, two such diagonal rods generally aligned with said back edge of the base, two with the front edge of the base, and two at mid-point positions between said back and front edges and

(5) nine brackets securing said rods together at mutually engaging points,

(*e*) said vertical rods at mid-points of the front and back edges of the base being of a dimension greater than an average person's height, and said remaining six vertical rods being of uniform height but not as great as said two rods, whereby the said superstructure forms a gable roof shape, and

(*f*) a single piece formed fabric structure fitting over said superstructure and having bottom edges below said ridge on the base,

(*g*) said fabric structure having an operable flap at its front edge providing access to the tent at that portion of the front of the base where there is no upstanding ridge.

References Cited in the file of this patent

UNITED STATES PATENTS

2,120,180	Hungrige	June 7, 1938
2,151,908	Gottlieb	Mar. 28, 1939
2,565,746	Turner	Aug. 28, 1951
2,600,799	Otvos	June 17, 1952
2,757,677	Denn	Aug. 7, 1956
2,804,083	Wieber	Aug. 27, 1957
2,960,992	Klipfel	Nov. 22, 1960