July 21, 1953 R. L. BLANCHARD 2,646,057

TENT CONSTRUCTION

Filed Nov. 5, 1949 2 Sheets-Sheet 1

Fig. 1.

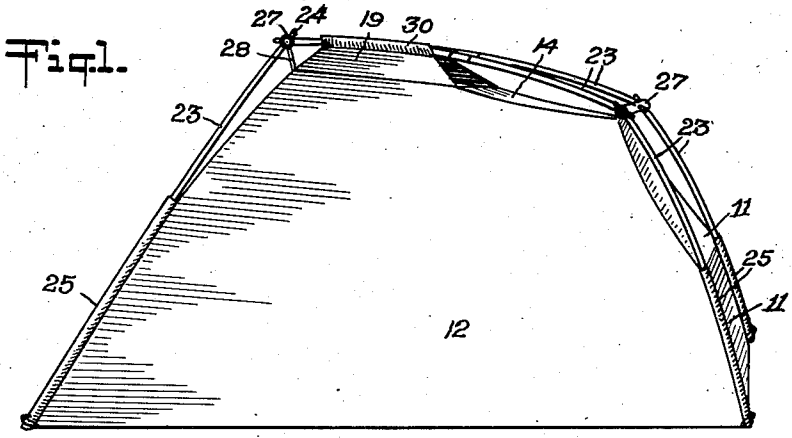


Fig. 2.

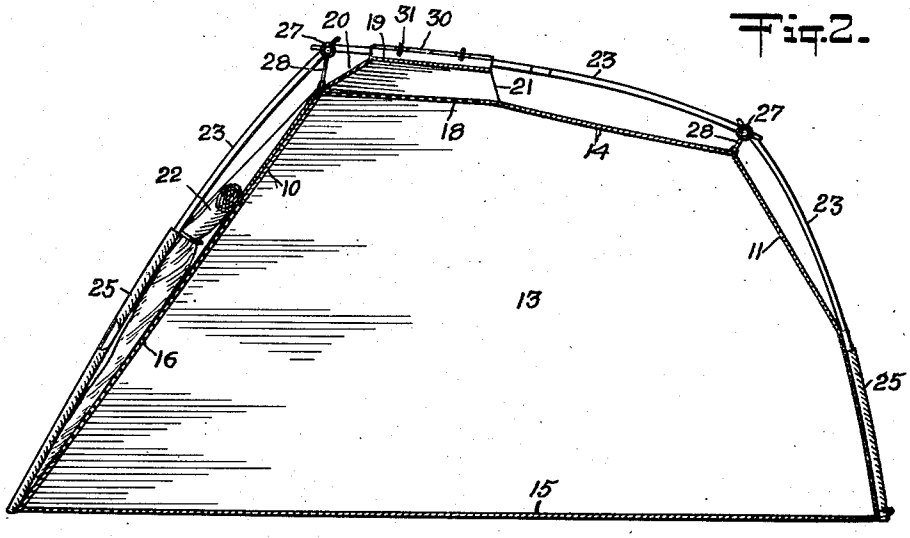
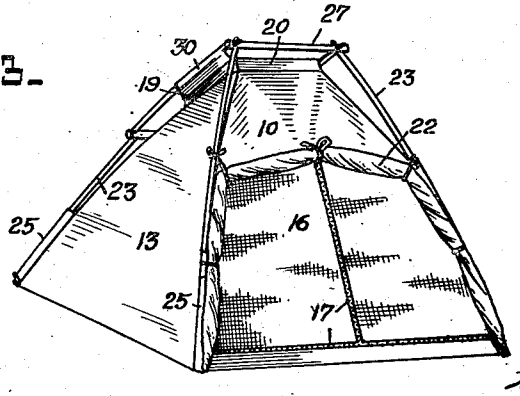


Fig. 3.



Inventor
Robert L. Blanchard
By
Munn, Liddy & Glaccum
Attorneys

July 21, 1953 R. L. BLANCHARD 2,646,057

TENT CONSTRUCTION

Filed Nov. 5, 1949 2 Sheets-Sheet 2

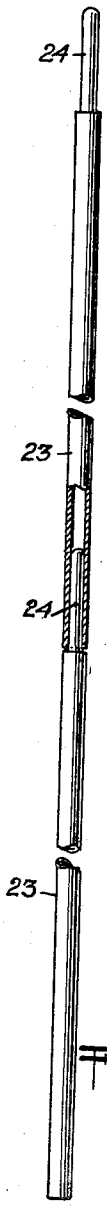


Fig. 4.

Fig. 5.

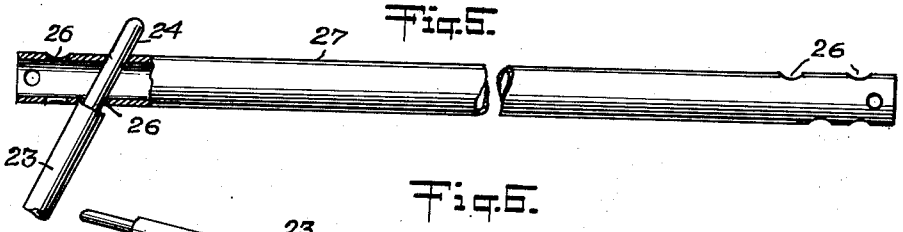


Fig. 6.

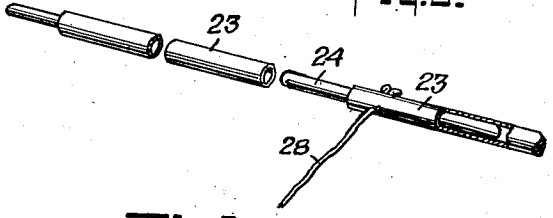


Fig. 8.

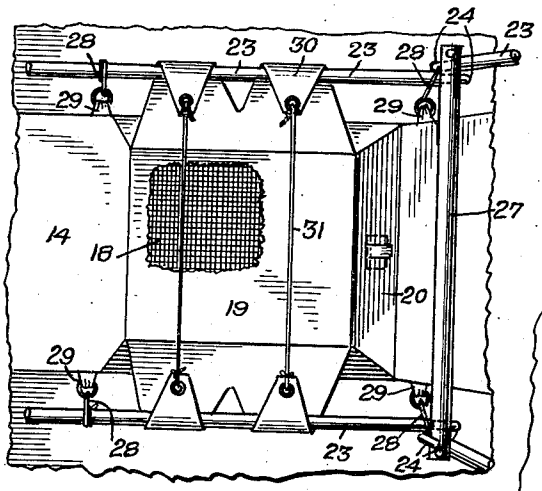


Fig. 7.

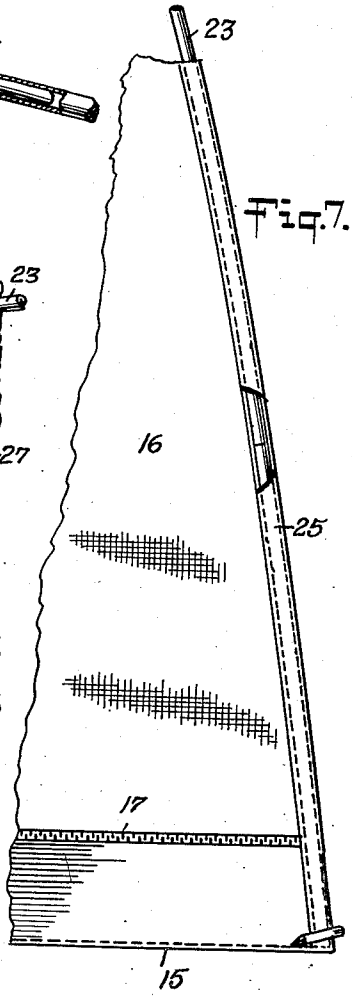
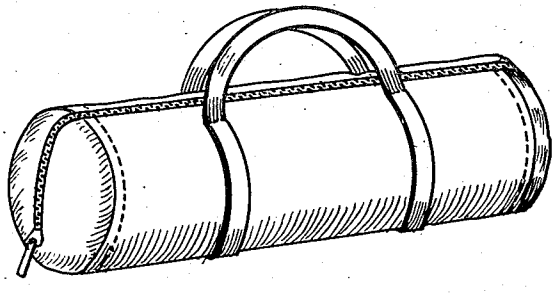


Fig. 9.



Inventor
Robert L. Blanchard
By
Munn, Liddy & Glascum
Attorneys

Patented July 21, 1953

2,646,057

UNITED STATES PATENT OFFICE

2,646,057

TENT CONSTRUCTION

Robert L. Blanchard, New York, N. Y.

Application November 5, 1949, Serial No. 125,715

8 Claims. (Cl. 135—1)

1

This invention relates to new and useful improvements in tent structures and is an improvement over the invention shown and described in my co-pending application, Serial No. 9,695, filed February 20, 1948, and entitled "Explorer's Folding Tent," now Patent No. 2,543,684, dated February 27, 1951.

An object of the invention is to provide an improved tent construction in which there is more inside space with utmost economy of material and weight.

A further object is to provide a tent construction in which there are presented no vertical surfaces, but all sides are evenly streamlined to the wind in all four directions from ridge to ground line.

A still further object is to provide a tent construction in which one man may erect the tent in not over five minutes on any terrain whatever, whether it be ice, snow, solid rock, sand, wooden floor, and without the employment of any extraneous gear but only with what is included with the tent and is included in the minimum weight of two pounds per occupant, in the smaller model.

A yet further object is to provide a tent construction in which the tent and the frame are automatically locked together on assembly to become an integral unit and can become disassembled only by intent.

Still another object is to provide an adequate and permanent tent ventilator adjustable from the inside to weather conditions and is installed at the extreme apex of the tent, and is sustained without any external means other than the frame of the tent, being integral with the tent.

Further and more specific objects, features, and advantages will more clearly appear from a consideration of the detailed specification hereinafter set forth especially when taken in connection with the accompanying drawings which illustrate a present preferred form which the invention may assume and which form part of the specification.

In brief and general terms, the tent construction includes a flexible frame member comprised of flexible tubular elements, which may or may not be formed in sections detachably connected. The frame comprises a pair of frame members which extend upward rather sharply from corners of the tent and then are disposed in a direction sloping downwardly and rearwardly to form a flat roof. These frame members extend along the top of the tent body. Transverse brace bars are disposed across between these main frame

2

members at the front and rear of their top portions to hold them in spaced relation, and to form means for connecting the sections of the frame when the frame is sectional and also to provide means to which to tie the top of the body of the tent when it is suspended within the frame members.

The invention further includes a ventilator arrangement in the top of the flat upper portion of the tent body and provided with a cover which has straps thereon to be laced to the opposite frame members. The body of the tent is also provided with cords or connector elements at the corners of its top portion in order to be pulled upwardly and outwardly at these corners to hold the sides of the tent body in taut condition. The top, side, and bottom of the tent body portion are of one piece and when raised in operative position, form an entirely inclosed water- and weather-proof structure suspended from within the frame but not containing the frame to any material extent so as to substantially eliminate the possibility of undue wear and leakage therethrough.

The present preferred form which the invention may assume is illustrated in the drawings, of which:

Fig. 1 is a side elevation of the tent in operative position;

Fig. 2 is a vertical longitudinal section through the tent in open or operative condition;

Fig. 3 is a perspective view of the tent viewed from the front thereof;

Fig. 4 is an elevation of a section of one of the frame rods or pipes, with a portion broken away;

Fig. 5 is a detail view showing how the frame rod is connected to a transverse tube;

Fig. 6 shows a detail of means for lengthening the frame elements at will;

Fig. 7 shows how the sectional frame member is connected to the body of the tent;

Fig. 8 is a partial plan view of the manner of supporting the ventilator hood and the top of the tent from the frame; and,

Fig. 9 is a perspective view of how small a package the tent forms when all packed up in a bag ready to be carried away.

As seen in the drawings, illustrative of the preferred form of the invention, there is a tent body construction of suitable water- and weather-proof material having sharply sloping front, rear, and side walls numbered respectively 10, 11, 12 and 13, all of which are tightly connected at their top edges to a top portion 14 which is so related

to the other portions that when the parts are extended, it will slope gradually downwardly and to the rear as shown particularly in Figures 1 and 2. At their bottoms, these walls are connected in a water- and weather-proof manner to a flat substantially polygonal ground piece 15.

Preferably, the lower portion of the front wall 18 is formed of netting material 16 connected along vertical and horizontal lines 17 by slide fasteners to permit ready and rapid opening and closing. At the forward portion of the top wall 14, it is provided with a reticulated portion 18 which acts as a ventilator and over this portion there is disposed a hood or cover 19 with a closed front wall 20 and open at the rear as at 21, to permit circulation and yet present the open portion of the hood at the rear of the tent. The front of the tent is provided with any suitable fly portion 22, which can be rolled back as shown in the drawings or can be extended in the usual manner when desired.

The tent body formed of the wall members thus far described is adapted to be susupended from and yet be substantially out of contact with a frame member of flexible rods, which may or may not be formed in sections. As illustrated, there are a series of frame members formed of rods such as are shown in Figure 4, which take, in one embodiment, the form of tubes 23 which may be connected in sections by means of solid connector rods 24 which are adapted to fit snugly into the ends of adjacent tubes, as seen in Figure 4. Thus the length of the frame members can be made as desired by building up and connecting the requisite number of sections as shown.

These frame members are connected to the tent body by being inserted into elongate sleeves of cloth 25, which are formed along the corners of the tent body where the vertical walls meet and extend down to the ground piece 15. The frame members extend up from the corners of the ground piece 15 at rather sharp angles, and at their upper ends, the connector rods or pins 24 thereon extend into holes 26 in transverse tubes 27 seen in Figure 5. In Figures 1 and 2, it is clear that there are two of these cross tubes 27, one across between the frame members at the front of the top portion 14 of the tent body portion, and another across the rear of the tent body portion 14. Cords or tie elements of suitable material, such as 28, extend from loops 29 on the body material and are wrapped around the frame elements 23 or to the cross tubes 27 and then connected at their other end to the loops 29. As shown in Figure 6, the cords may be knotted and pass through holes in the elements 23 and then be fastened to the tent body in any desired manner. Thus it is clear that the top of the tent body is connected to and supported from the frame elements of the tent at least at the corners thereof, and this suspension tends to keep the side walls and the top pulled tight and prevents sagging thereof, so that the interior of the tent is as commodious as possible. This suspension, it is seen, will also hold the top of the tent with a slight slope from the front downwardly to the rear of the tent.

The ventilator 18 with its hood portion 19, is kept open when the tent is put up by means of straps 30, which are connected to the opposite side of the hood and pass over and around the adjacent frame elements 23, which extend across the top of the tent top portion 14. In this extension, the elements 23 are disposed in a slightly sloping downward and rearward plane and are connected to suitable holes in the transverse tubes at their ends as shown. The straps 30 are connected by suitable tie members, such as cords 31 shown in Figure 8. Thus the hood of the ventilator is kept readily fully open with the opening facing to the rear of the tent which is generally disposed away from the prevailing winds of the site selected. As is clearly seen from an inspection of Figure 2, the end connection between the frame tubes 23 and the cross tubes, is such that the frame elements pass up at a sharp angle to meet the cross tubes and then extend in a rather flat manner across the top of the tent. Preferably, the frame members are disposed as shown, extending from corresponding corners of the tent up and alongside the top portion 14. In this disposition of the frame members, it is easy to give a four point suspension to the top of the tent to keep it as flat as possible and give a maximum of head room within the tent. With the weight of the tent body thus suspended from within the frame, it is seen that the frame members are placed under stress of tension which tends to bow them and keep them taut. When thus suspended, the body tapers from the ground line to a sloping streamlined flat roof providing far more space with the utmost economy of material and weight. The body of the tent when up, presents no vertical surfaces on any side, but are evenly streamlined to the wind in all four directions from the ridge to the ground line. The tents have no inside poles or brace members providing full unobstructed usable space. The tent body is completely suspended by webbing sleeves and draw cord ropes or cords to its outside resilient frame.

While the invention has been described in detail and with respect to the preferred form shown in the drawings, it is not to be limited to such details and forms since many changes and modifications may be made in the invention without departing from the spirit and scope of the invention in its broadest aspects. Hence, it is intended to cover any and all forms and modifications of the invention which may come within the language or scope of any one or more of the appended claims.

What I claim as my invention, is:

1. A tent body having a polygonal ground piece, side walls connected thereto and extending upward at a sharp angle, a top piece of polygonal shape and sloping slightly toward the rear and connected along its edges to the upper edges of the respective side walls, frame members of flexible material extending up from the corners of the ground piece to the corners of the top piece but out of contact therewith, frame members of flexible material extending along the side edges of the top piece but above the same, cross members extending across the front and rear edges of the top of the body but above the same, means to connect the adjacent ends of the frame members to the cross members, and means to suspend the tent body within but out of contact with the frame members and under tension.

2. A tent body having a roof, a ventilator therein, a hood over the ventilator, flexible frame elements extending along and above the sides of the roof, straps on the hood to extend over the frame members, and cords to connect the ends of the straps to hold the hood elevated and connected to the frame.

3. A tent frame comprising flexible sectional tubular elements extending upwardly along the corners of the tent, transverse tubes extending between the upper ends of pairs of said members, said tubes having apertures therein and said members having snug fitting rods or con-

nectors in their ends to extend into said holes and connect the tubes with the frame members, and frame members of similar form extending between said transverse tubes across the top of the tent.

4. A tent body having substantially flat sharply inclined walls extending upwardly, said walls connecting to the respective sides of a rearwardly sloping top piece, flexible frame members extending upwardly at a sharp angle along the corners of the body to respective corners of the top piece, transverse frame members connecting respective upper ends of said upwardly extending frame member, and flexible frame members extending from said transverse members along the sides of the top piece, and means to suspend the body of the tent within said frame members but substantially out of contact therewith.

5. A tent body having substantially flat sharply inclined walls extending upwardly, said walls connecting to the respective sides of a rearwardly sloping top piece, flexible frame members extending upwardly at a sharp angle along the corners of the body to respective corners of the top piece, transverse frame members connecting respective upper ends of said upwardly extending frame member, and flexible frame members extending from said transverse members along the sides of the top piece, and means to suspend the body of the tent within said frame members but substantially out of contact therewith, a ventilator in the top piece, a hood thereover, and means to tie the hood in open position to the frame members extending along the side of the top piece.

6. A tent body having substantially flat sharply inclined walls extending upwardly, said walls connecting to the respective side of a rearwardly sloping top piece, sleeves at the corners of the body and extending partly up the same, flexible members with their lower ends disposed in said sleeves and extending upwardly at a sharp angle along the corners of the body to respective corners of the top piece, transverse frame members connecting respective upper ends of said upwardly extending frame members, flexible frame members extending from said transverse members along the sides of the top piece, the ends of the frame members extending into holes in said transverse member, tie cords connected to the corners of the top piece and adapted to be connected to the frame members to suspend the body within the frame members but substantially out of contact therewith.

7. A tent body having substantially flat sharply inclined walls extending upwardly, said walls connecting to the respective side of a rearwardly sloping top piece, sleeves at the corners of the body and extending partly up the same, flexible members with their lower ends disposed in said sleeves and extending upwardly at a sharp angle along the corners of the body to respective corners of the top piece, transverse frame members connecting respective upper ends of said upwardly extending frame members, flexible frame members extending from said transverse members along the sides of the top piece, the ends of the frame members extending into holes in said transverse member, tie cords connected to the corners of the top piece and adapted to be connected to the frame members to suspend the body within the frame members but substantially out of contact therewith, a ventilator in the top piece, a hood thereover, and straps extending from the hood around the frame members, and cords connecting the ends of the straps to hold the hood in open position within the frame members.

8. A tent construction including a tent body formed integrally of a polygonal ground piece, side walls connected thereto and extending upward at a sharp angle, and a top piece of polygonal shape connected along its edges to the upper edges of the respective side walls, four frame members of flexible material convergingly extending up from the corners of the ground piece toward the corners of the top piece but out of contact therewith, the bottoms of said frame members adapted to repose on the ground without being inserted therein, frame members of flexible material extending along the side edges of the top piece but above the same, cross members extending across the front and rear edges of the top of the body but above the same, means to connect the adjacent ends of the frame members to the cross members, and means to suspend the tent body within but out of contact with the frame members and under tension.

ROBERT L. BLANCHARD.

References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
548,425	Biddle	Oct. 22, 1895
1,113,898	House	Oct. 13, 1914
1,818,545	Eriksson	Aug. 11, 1931
2,440,557	Power	Apr. 27, 1948

FOREIGN PATENTS

Number	Country	Date
265,080	Italy	May 23, 1929