Sept. 11, 1951 F. C. CRAIGHEAD, JR., ET AL 2,567,697

TENT

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Fig. 1.

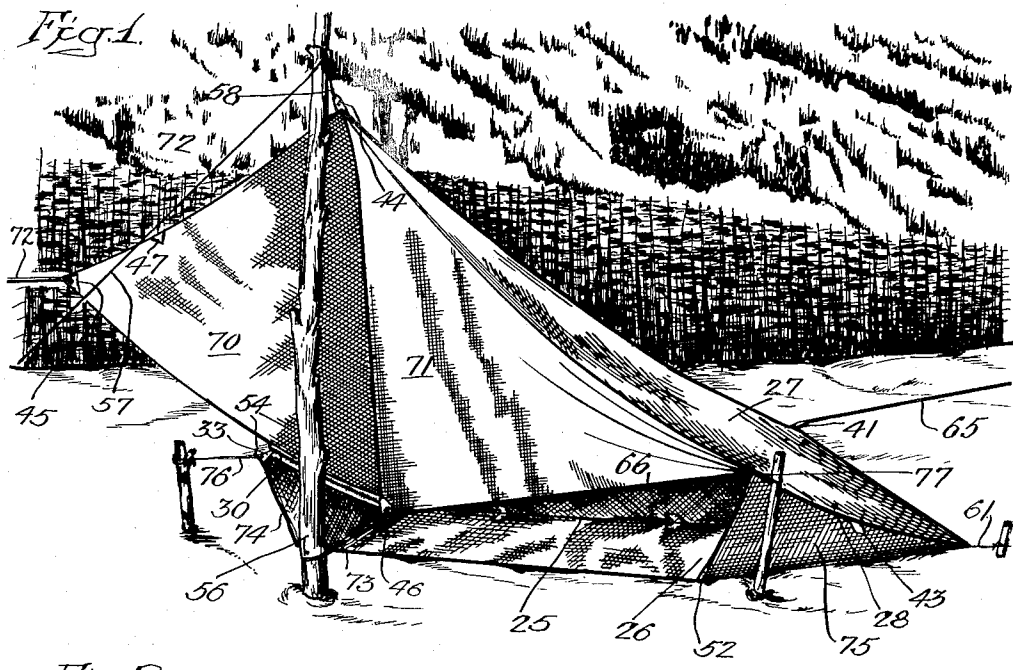
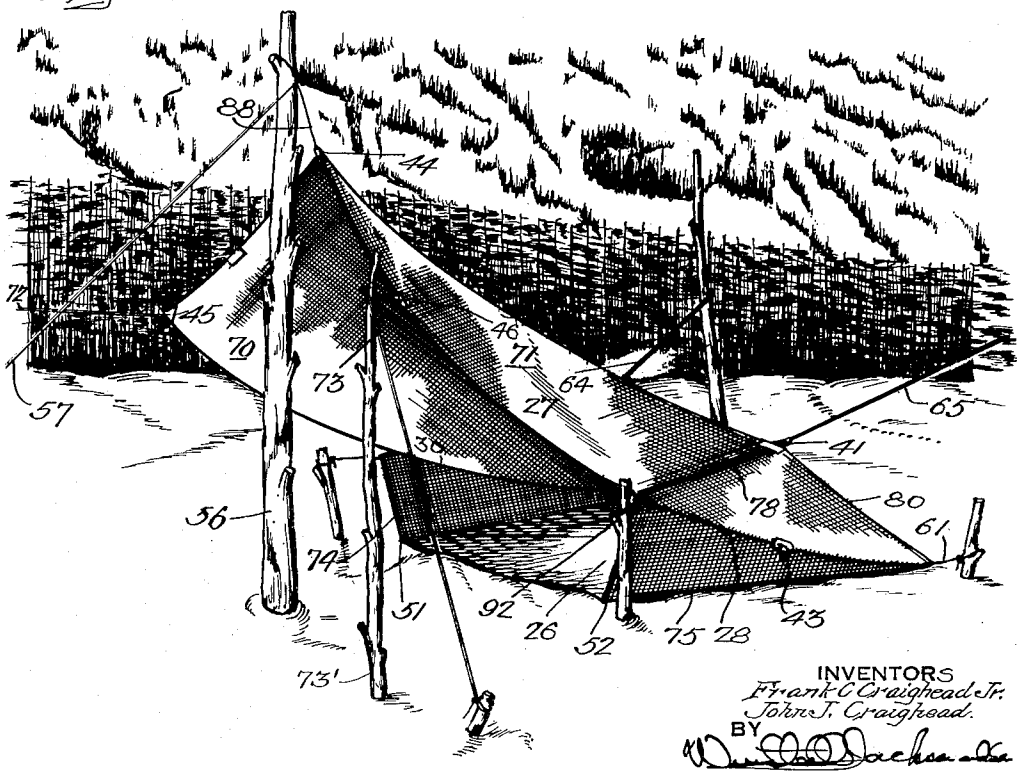


Fig. 2.



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Fig. 3.

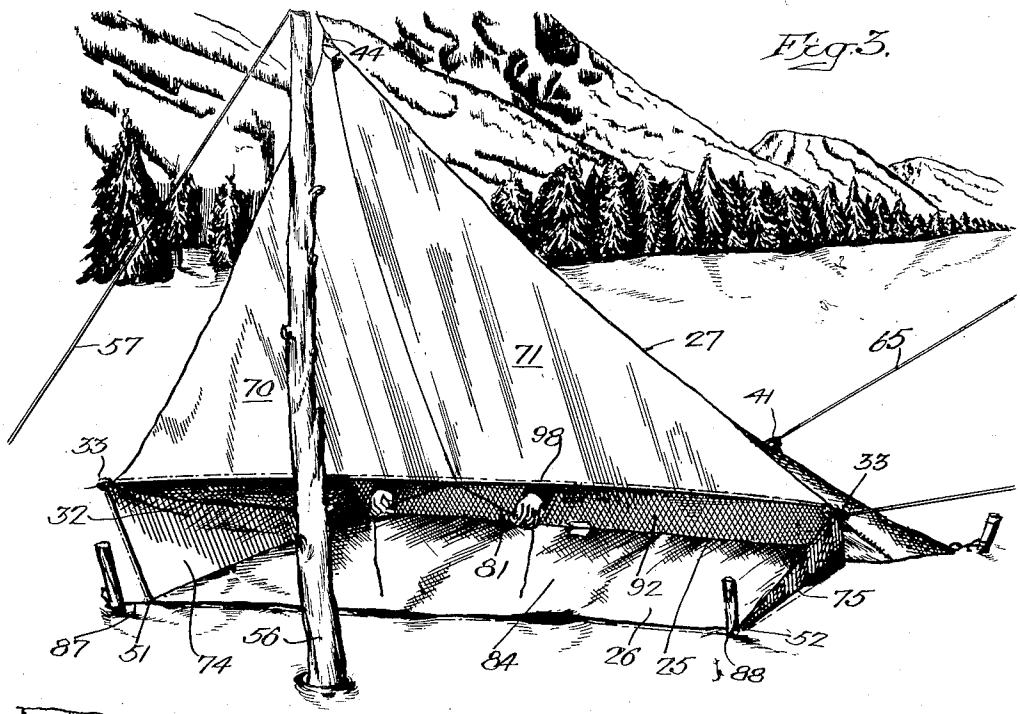
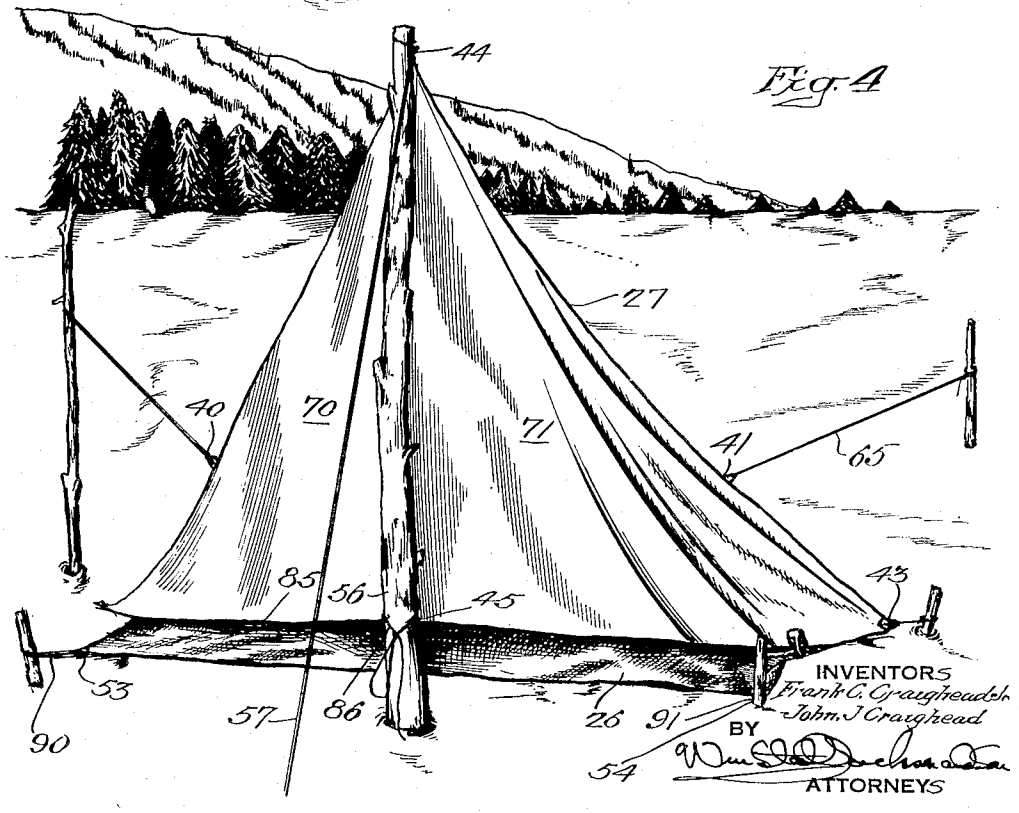


Fig. 4



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Fig. 5.

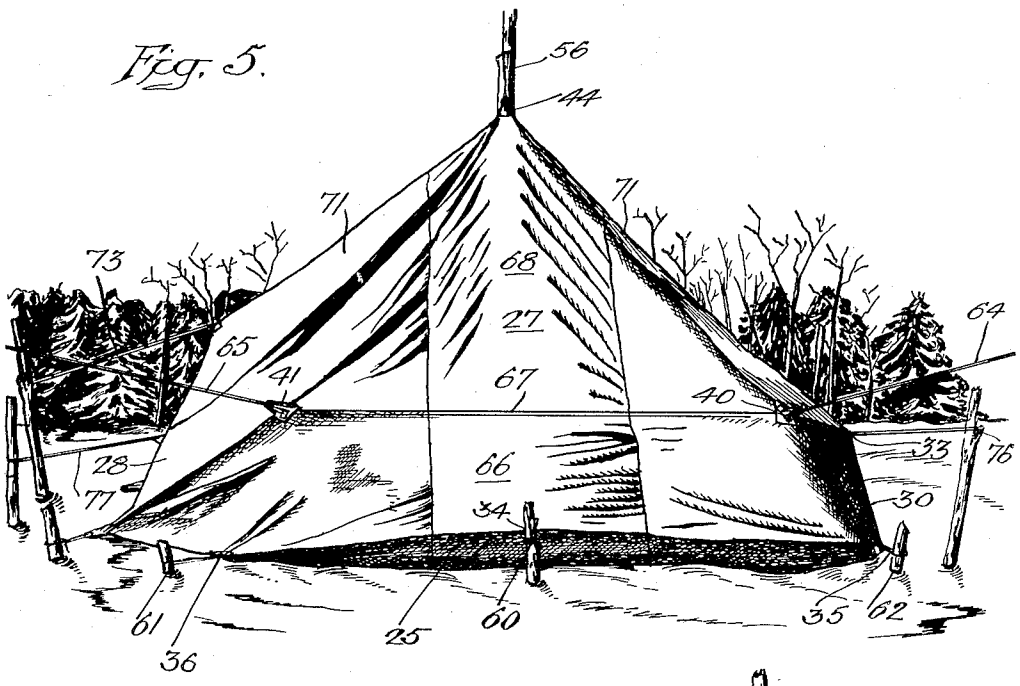


Fig. 7.

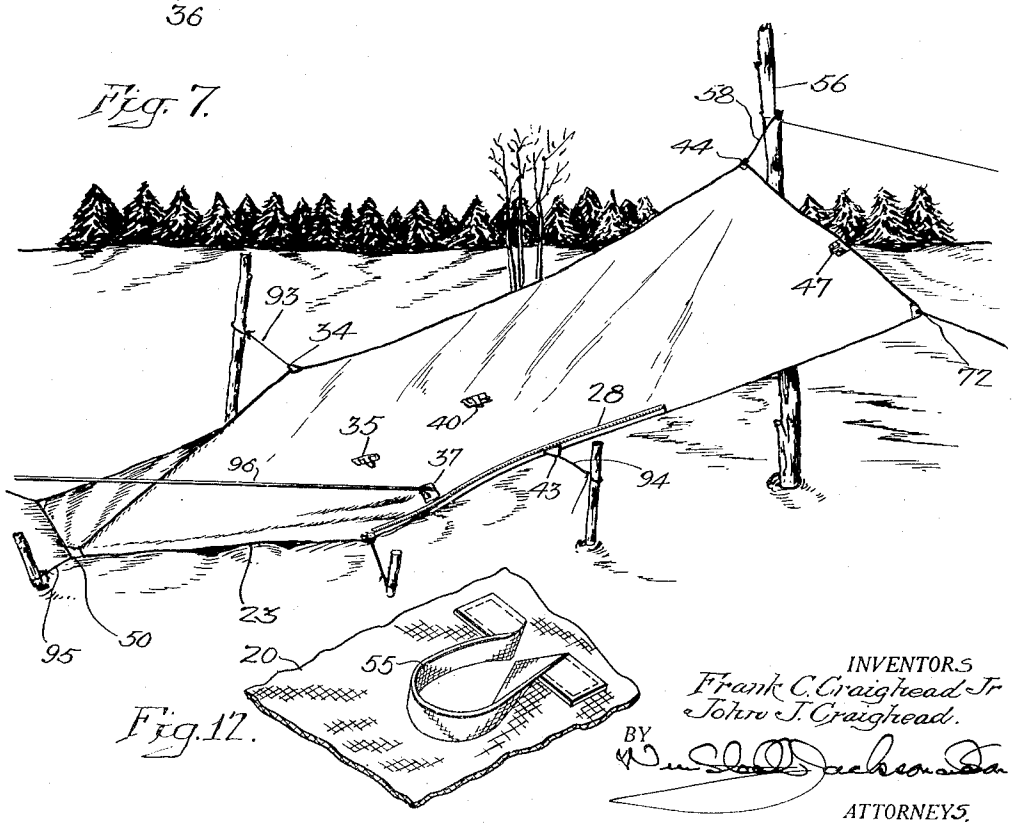


Fig. 17.

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TENT

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Fig. 8.

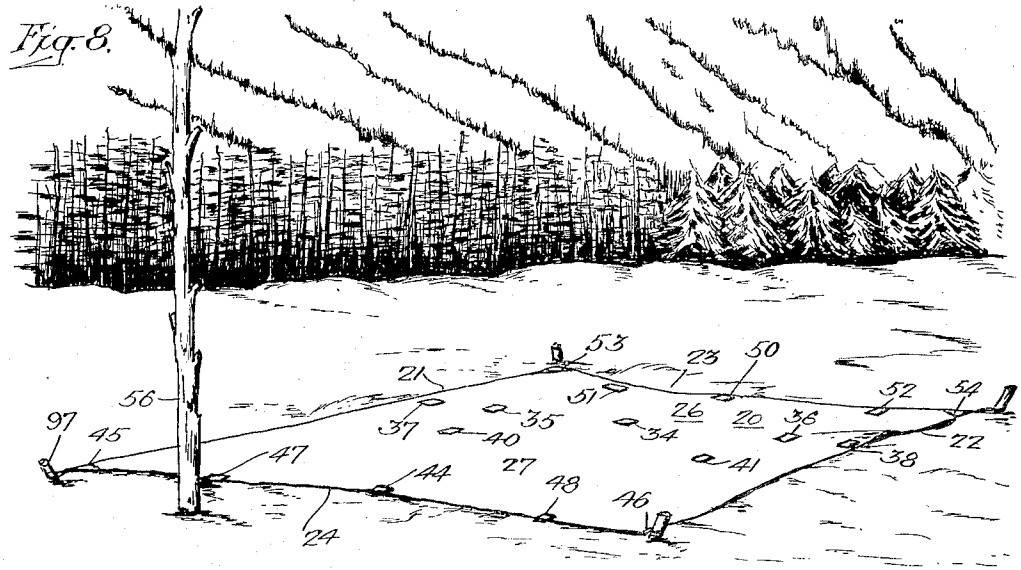
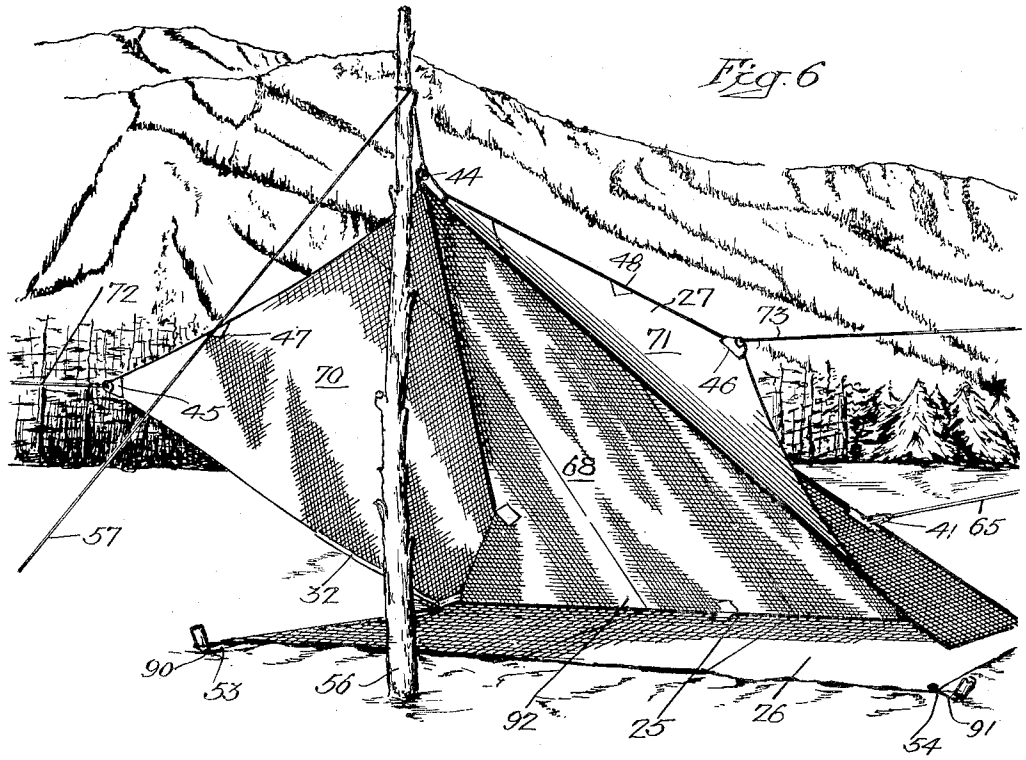


Fig. 6



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TENT

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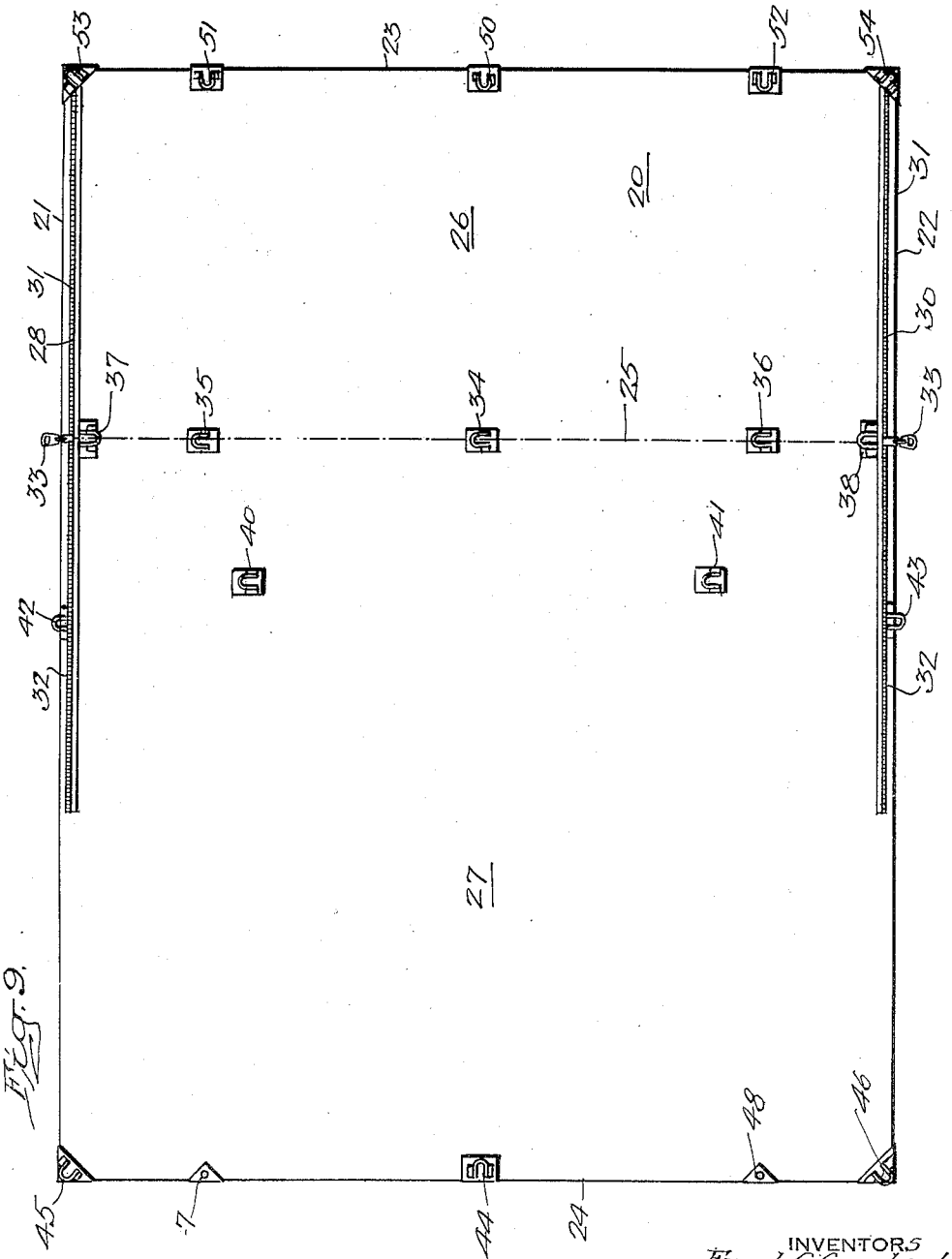


Fig. 9.

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Fig. 10.

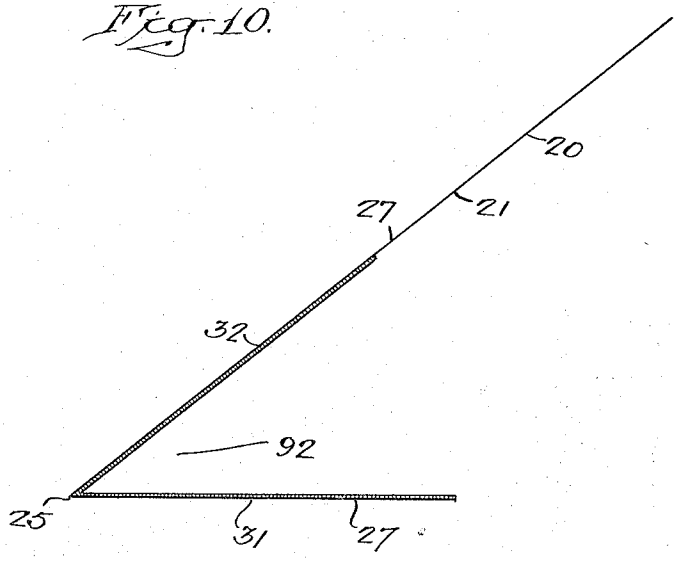
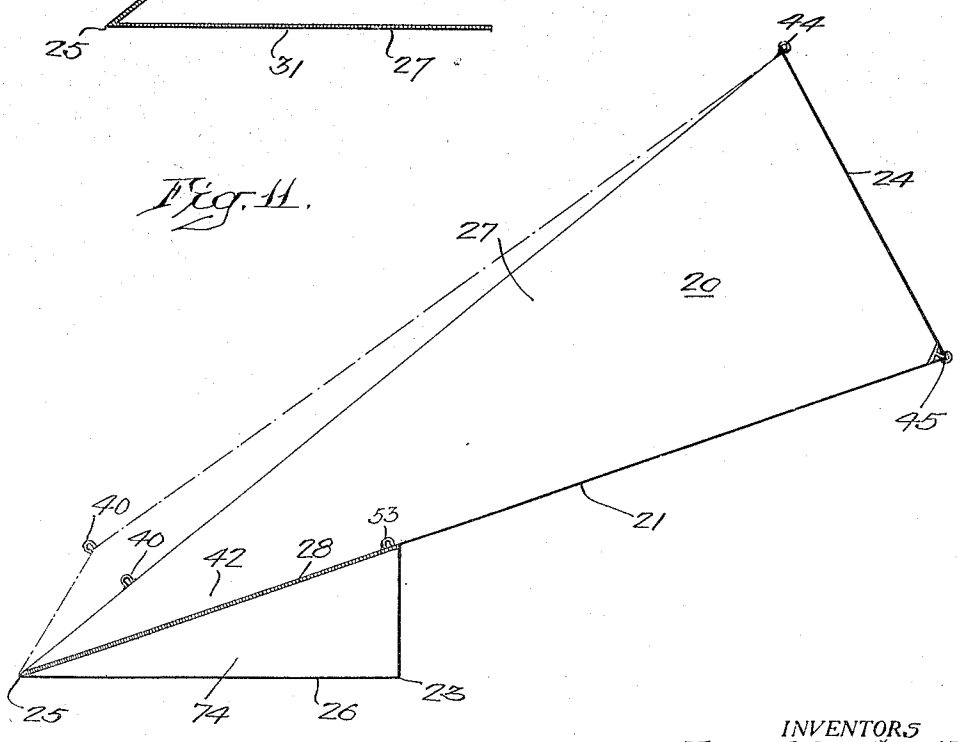


Fig. 11.



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2,567,697

TENT

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Application November 21, 1947, Serial No. 787,398

3 Claims. (Cl. 135—1)

1

The present invention relates to tents intended for camping.

A purpose of the invention is to reduce the difficulty in manufacture and simplify the design of tents, eliminating all unnecessary weight, and avoiding the necessity of producing and transporting special poles and pegs, so that one man can carry in his pack with other equipment a shelter tent which can be used by special persons.

A further purpose is to render a shelter tent more adaptable to the variations in camp sites and to the different characters of natural attachments available.

A further purpose is to provide a single tent which can alternatively be employed as a paulin, as a canoe cover, as a pack wrap, as a ground cloth, and also as a very effective envelope or pocket tent, pup tent, or lean-to shelter.

A further purpose is to permit closure in bad weather and adjustability of closure without reducing the possibility of ventilation or heating of the interior by a reflector fire outside the tent when the weather conditions are favorable.

A further purpose is to permit maximum protection from the sun of the desert and maximum camouflage in the desert, on snow and in country covered with vegetation.

A further purpose is to join side wall portions of a tent to a roof by slide fasteners which not only permit adjustable raising or dropping of the sides, but also permissibly provide guy attachments to the sides at any point which the slider of the slide fastener may be.

A further purpose is to set the two halves of a slide fastener on each side of the tent oppositely toward opposite ends of a fold line which makes a rear ground corner of an envelope tent.

A further purpose is to provide a ridge sloping to a maximum at the front, with roof portions on either side of the ridge which in good weather can be staked out in high position to permit easy standing in the forward section and in bad weather can be dropped to meet at the front, with or without ventilation beneath the front flaps.

A further purpose is to set the half of the slide fastener attached to the roof portion in under the edge at the side to provide an overhang which will deflect moisture.

Further purposes appear in the specification and in the claims.

In the drawings we have chosen to illustrate one only of the numerous embodiments in which our invention may appear, with a diversity of

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erection variations, choosing the form shown and the variations in erection from the standpoints of convenience in illustration, satisfactory operation and clear demonstration of the principles involved.

Figures 1 to 8 inclusive are perspectives showing the tent of the present invention erected or employed in various forms.

Figure 9 is a top plan view showing the tent of the invention spread out flat.

Figure 10 is a diagrammatic side elevation with the side wall portion down and the slide fasteners open, omitting a portion of the roof.

Figure 11 is a diagrammatic side elevation with the side wall closed, the slide fastener closed and the roof erected to provide a ridge.

Figure 12 is a fragmentary detailed perspective of an attachment.

Describing in illustration but not in limitation and referring to the drawings:

In the prior art tents have frequently been unduly heavy because of the failure to make use of natural attachments, the lack of adaptability to camp sites, and the provision for interior holes and for pegs which must be carried along. Frequently such prior art tents have been capable of erection in only one or a very few forms which may not fit the peculiarities of the climate or the weather. Due to the provision of coverage to an unnecessary extent in certain positions or directions, such prior art tents have frequently been complicated to produce and cumbersome to transport and erect, including frequently such features as interlocking or interbuttoning sections.

The superiority of the tent of our invention is apparent not only in the simplicity of the invention but particularly in the convenience and adaptability to camp craft, making possible erection in a wide variety of forms, only a few of which are discussed in detail.

The preferred construction will be best understood by reference to Figures 9 to 12, inclusive.

The tent of the present invention will suitably comprise a fabric sheet **20** having generally parallel sides **21** and **22** and suitably of rectangular form, so that the ends **23** and **24** are likewise generally parallel when the tent is spread out flat as shown in Figure 9.

Generally parallel to the ends **23** and **24**, and closer to the end **23** than to the end **24**, a fold line **25** extends across the tent, dividing the same into a floor portion **26** and a roof portion **27**.

On either side of the tent are placed slide fasteners **28** and **30**, each of which has a half

31 extending preferably from the end 23 to the fold line 25, and also a half 32 extending from the fold line an equal distance toward the end 24. The opening direction of the two halves of the slide fasteners is opposite and the slide fastener is open when the tent is stretched out flat as in Figure 9, but the opening directions are the same when the floor portion 26 is folded back on the roof portion, so that by closing the slide fasteners, an envelope or pocket is formed as later described. The slider 33 of each slide fastener is provided with a suitable loop so that it can be tied open or closed or engaged by a guy as desired.

The fold line 25 is provided with plurality of attachments for staking down or for connections. As shown there is a center attachment 34, two outlying attachments 35 and 36 near to but spaced from the sides and two side attachments 37 and 38 near to the edges. It is important to note that the tent of the present invention will preferably be reversible for reasons later explained, and accordingly Figure 9 represents a view of either the top or the bottom which are alike, there being attachments 34 to 38, inclusive, on both faces of the fabric at the same points.

Spaced from one another and from the sides and toward the end 24 with respect to the fold line, attachments 40 and 41 are provided, also located in corresponding positions on both faces of the fabric. It will be evident that the attachments 40 and 41 are located on the roof portion preferably only a short distance above the fold line 25.

Immediately at the sides and at a convenient point preferably near the middle of the slide fastener halves 32 are provided attachments 42 and 43 which are useful when using the device as a pocket or envelope tent and also when using the device as a pup tent.

At the front of the tent the ridge line will be maintained by an attachment 44 preferably located at the center near the edge 24, and preferably duplicated like the other attachments on both faces of the fabric.

The outer corners of the front are suitably equipped with attachments 45 and 46 which may or may not be duplicated on the two faces and will be used to hold the roof out or to pull the front flaps down. Located at intermediate points between the attachments 44 and 45 and the attachments 44 and 46 respectively are attachments 47 and 48 which are particularly useful when closing the front flaps.

At the end 23 a similar arrangement is provided for staking down the floor in an envelope or pocket tent and for attaching the ends in a pup tent or the like. A center attachment 50 is provided, and outlying attachments 51 and 52, conveniently duplicated or available on both faces, along with corner attachments 53 and 54.

The attachments may be of any suitable type, the preferred form being a loop 55, as shown in Figure 12, but grommets 47 and 48, as shown in Figure 9, are also suitable in many instances.

The device of the invention is believed to have its widest use as an envelope or pocket tent for which purpose the floor portion 26 is folded back and under about the fold line 25 as best seen in Figures 1, 2, 3, 4, 5, 10 and 11.

A typical form of tent erection for windy weather is shown in Figure 1, based upon a suitable pole 56 to hold the ridge at the front, preferably a pole obtained by cutting off the

limb of a tree, or trimming the branches from a sapling. The pole may have a guy support at 57, and is connected by a rope 58 to the ridge attachment 44 at the center of the roof of the tent.

The fold line 25 is suitably staked down at the back as by stakes 60, 61 and 62 (Figure 5) both secured to the attachments 34, 35 and 36 respectively, conveniently omitting attachment at the extreme corners of the fold line so that the tent will draw in and form auxiliary corner pockets in which clothing and the like may be kept. One of the auxiliary pockets may be seen at 63 in Figure 1. The back is raised and the roof is bulged by guys 64 and 65 suitably connected to limbs or stakes and attached to the attachments 40 and 41 respectively.

It will thus be seen in Figure 5 that a back 66 is created extending between the fold line 25 and a line 67 across the roof between the attachments 40 and 41, creating ample head room well back in the tent for sitting. The roof then tends to form three sections, a rear section 68 of generally triangular form as best seen in Figure 5 and two front sections 70 and 71. The front sections in open positions are held by guys to the corners. The guy 72 in Figure 1 connects to the attachment 45 and holds the front flap 70 up, but the guy 73 connects to the attachment 46 to pull the front flap 71 down to protect against wind or driving rain or snow.

As shown in Figure 1 the floor portion at either side of the attachment 51 and 52 is pulled up to form side wall portions 74 and 75 which join the bottoms of the roof sections 70 and 71 due to the closing of the slide fasteners 28 and 30. The sliders 33 on the slide fasteners are connected by guys 76 and 77 to suitable stakes or the like which tend to pull out the side wall portions as shown and further extend the roof sections 70 and 71.

In the form of Figure 2 the tent erection is similar to that of Figure 1 except that both front flaps are fully open. The guy 73 holds the front flap 71 up to a pole 73'. The ridge is steeper in this form, with a more pronounced fold line 78 at the side toward the back to form sections 80 in the corners.

Figures 1 and 2 illustrate one or both of the roof sections 70 and 71 raised and open. In very bad weather both of these sections are folded down as front flaps as shown in Figure 3 and suitably laced together if desired at the attachments 47, 48 and 45, 46. A lacer 81 is shown in Figure 3. If the tension on the various guys is maintained there will be a bottom front opening 84 below the front flaps 70 and 71, providing ventilation and access. If weather of greater severity occurs, the guys may be relaxed as shown in Figure 4 so as to permit the bottom edges 85 of the front flaps 70 and 71 to engage the front of the floor portion 26 and completely close the bottom. In this case the attachments 47, 48 have been laced to the ridge pole 56 at 86.

In the form of Figures 1, 2 and 3 the attachments 51 and 52 at the front of the floor portions are tied down as shown at 87 and 88 in Figure 3, but in the form of Figure 4 the side wall sections 74 and 75 themselves lie along the ground and the attachments 53 and 54 at the extreme corners of the front of the bottom portion are held by tie-downs 90 and 91.

The rear construction in the form of Figures

1 to 3 is shown in Figure 5, and the difference will be very slight in Figure 4.

Where it is not desired to have side protection, the slide fasteners may be open as shown in Figure 6, attaching the corner attachments 90 and 91 on the floor portion far out at the sides as in Figure 4, but otherwise drawing the tent taut and raising and spreading front roof sections 70 and 71 as shown.

In all of the forms thus far discussed a pocket 92 extends fully across the back of the tent formed by the reverse bend at the fold line 25. If preferred, however, the tent can be erected as a pup tent as shown in Figure 7, where the arrangement of the front is similar to that of Figure 1, but the rear is spread out and supported by a guy 93 to attachment 34 and pulling upward and guys 94 on each side to attachments 42 and 43 pulling to each side. The edge 23 is staked by stakes 95 as shown and guys 96 are carried to attachments 37 and 38 pulling toward the rear.

In operation the tent of the present invention may be transported to the camp site as a wrap or covering on a pack or bedding roll, as a component of the pack, or as a paulin or canoe cover or the like. At the camp site it may be used as a ground cloth to permit the marshalling of the equipment prior to the erection of the tent, as shown in Figure 8 in which the corners are staked out by pegs 97 as shown. The use as a ground cloth as shown in Figure 8 may likewise be made in good weather in which a tent as such is not required.

During the transportation of the tent to the camp site, the extreme lightness of the tent will be of great benefit, since the tent is effectively a one man tent, in that it can be carried on a protracted camping trip by one man along with his food and equipment, while on the other hand it can accommodate several men for sleeping purposes or be combined and used in conjunction with other similar tents to provide more ample quarters. While the tent may be made effectively from waterproof muslin or light weight canvas it is preferable, particularly from the standpoint of lightness, to use waterproof linear polyamide. While tie ropes and guys may, of course, be made of hemp, jute or the like, they will preferably be made of linear polyamide, which shows much less tendency to tangle.

The extreme lightness is a distinct advantage over the well known two man mountain tent, which is too heavy for effective transportation by one man. A two man tent according to the present invention can be made to weigh less than five pounds and to fold easily into a volume of less than 0.3 cubic feet.

The design of the tent is such that transportation of pegs and poles is not necessary. No precise length or contour of pole is required as in many army tents and in the two man mountain tent, and the stress on the various guys is so well divided that crude pegs or rocks secured at the camp site can be used without any need for transporting special pegs.

In pitching the tent as an envelope tent, a site is selected for the floor, the slide fasteners are closed along both sides and the floor is spread out, stretched and staked down at the front and back. The front middle guy line is then pulled to form the roof ridge and temporarily affixed to a suitable pole or tree. The two back ties that form the back wall of the envelope are then pulled out to the desired shape and tied. After this is done the front ridge guy is pulled tight and tied securely. Next the guy attachments to the corners of the floor portion at the ends of the slide fasteners are attached to stakes to form the side walls of the envelope. Lastly the guys to the two forward corners of the roof are secured, either to pull the two forward corners up horizontally as shown, for example, in Figure 6, or dropped to stakes or to the ridge pole close to the ground as shown, for example in Figures 3 and 4.

If preferred these front flaps can be allowed to drop free or folded back over the roof. Of course, due consideration can be given to the direction from which weather may be coming or may be expected, by staking down one side and leaving the other up as in Figure 1, or back or free as desired. When the slide fastener is closed one end of the guy rope attached to the corner of the floor portion will preferably be tied to the slider of the slide fastener to prevent it from opening. Or, if desired, guy attachment may be made at any position to the slider of the slide fastener.

The tent of the present invention is quite adaptable to camp craft and fits the existing topography. Instead of pitching it as an envelope or pocket tent it may also be pitched as a lean-to as indicated in Figure 7.

Experimental use of the tent of the present invention in winter and cold weather camping have indicated much greater adaptability as compared with the two man mountain tent. Fabric is preferably coated on one side with a waterproof white layer such as rubber or synthetic rubber and on the opposite side with a similar layer which assists in camouflaging in the presence of vegetation, suitably green. With the envelope tent erected with the white layer inside, a reflector fire in front materially raises the interior temperature. In extensive experiments it has been found that the effectiveness of the fire is greatly increased by reflection from the white interior so that even a small fire will produce enough reflection so that reading and writing at night in the tent become a pleasure. When camping on snow, with a snow temperature of 30° F., a small reflector fire just beyond the forward edge of the roof raises the temperature at the forward edge of the floor portion in the envelope tent to 80° F. and at the back of the tent to 50° F. On the other hand when fuel is not available, the front flaps can be pulled down and the quiet air inside aids in retaining the warmth of the body of the user.

The tent is readily reversible and can be erected with the white side out to reflect the sun's heat when the weather is warm. In such cases the slide fasteners will usually be open.

The forward section provides ample space to stand up, sit down or move about. This completely eliminates the cramped conditions of small tents and gives the advantages of large tents without great weight or size. This has been found in experiments to be especially advantageous in rainy weather and as an aid to dressing and performing the tasks required of scientists and professional explorers. No tendency has been noted in the present tent to produce claustrophobia which may be caused in closed tents. The thoroughness of the ventilation will be appreciated when it is recognized that no tendency has been noted to cause condensation or frost on the inside in cold weather notwithstanding that the fabric is water impenetrable.

The tent of the invention can readily be equipped with mosquito protection. At the expense of ventilation, mosquito protection is ac-

complished in Figure 4, but without loss of ventilation. This can be accomplished in the form of Figure 3 by snapping on a mosquito curtain or mosquito bar 98, using snap fasteners not shown. In the same manner mosquito coverings may be adapted to any of the other forms to cover the open end of the tent.

Notwithstanding the great advantages, the device may be produced very cheaply due to the extreme simplicity of the construction.

In view of our invention and disclosure variations and modifications to meet individual whim or particular need will doubtless become evident to others skilled in the art, to obtain all or part of the benefits of our invention without copying the structure shown, and we, therefore, claim all such insofar as they fall within the reasonable spirit and scope of our claims.

Having thus described our invention, what we claim as new and desire to secure by Letters Patent is:

1. A tent having a fold line along its rear ground edge, a floor portion extending forwardly over the ground from the fold line and having at each edge an upwardly extending side wall portion united to the floor portion, a back rising above the fold line, a roof having a ridge extending to a maximum height at the front and rising gradually from the top of the back, slide fasteners for uniting and disconnecting the tops of the side wall portions to the sides of the roof over the lengths of the side wall portions, guy supports for the center of the roof at the front, for the top of the back at the rear, and for the top of the side wall portions, and tie-downs for the fold line.

2. A tent having a fold line along its rear ground edge, a floor portion extending forwardly over the ground from the fold line and having at each edge upwardly extending side wall portions united to the floor portion, a back rising above the fold line, a roof having a ridge extending to a maximum height at the front and rising gradually from the top of the back, slide fasteners for uniting and disconnecting the tops of the side wall portions to the sides of the roof over the distance forward of the side wall portions, front flaps closed and folding along the lines between the high point of the ridge at the front and the fronts of the side wall portions, guy supports for the top of the ridge at the front, the fronts of the side wall portions, and the top of the back at the rear, and tie-downs for the fold line.

3. A tent having a fold line along its rear ground edge, a floor portion extending forwardly over the ground from the fold line and having at each edge an upwardly extending side wall portion united to the floor portion, a back rising above the fold line, a roof having a ridge extending to a maximum height at the front and rising gradually from the top of the back, slide fasteners for uniting and disconnecting the tops of the side wall portions to the sides of the roof over the distance forward of the side wall portions, front flaps closed and folding along the lines between the high point of the ridge at the front and the fronts of the side wall portions, guy supports for the top of the ridge at the front, the fronts of the side wall portions, and the top of the back at the rear, and tie-downs for the fold line, the front flaps terminating on a level with the tops of the side wall portions.

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