Dec. 6, 1960 R. L. BLANCHARD 2,963,030

PORTABLE COLLAPSIBLE SHELTER

Filed Feb. 16, 1956

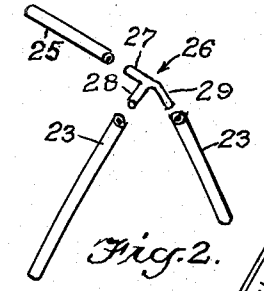


Fig. 2.

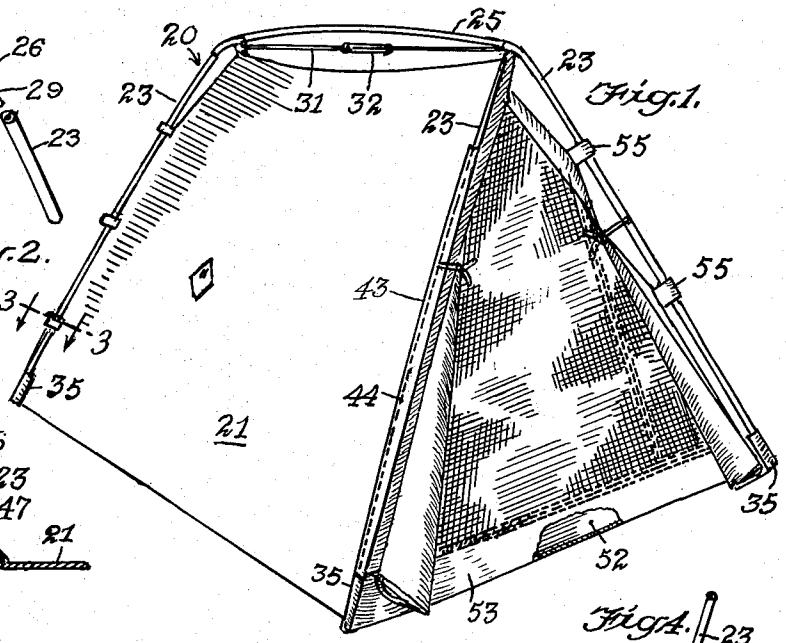
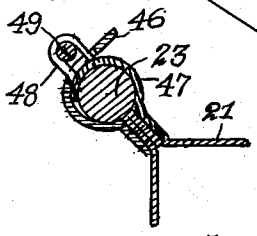


Fig. 1.

Fig. 3.



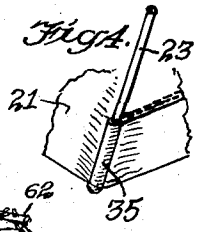


Fig. 4.

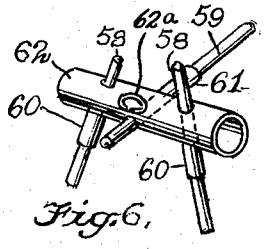


Fig. 6.

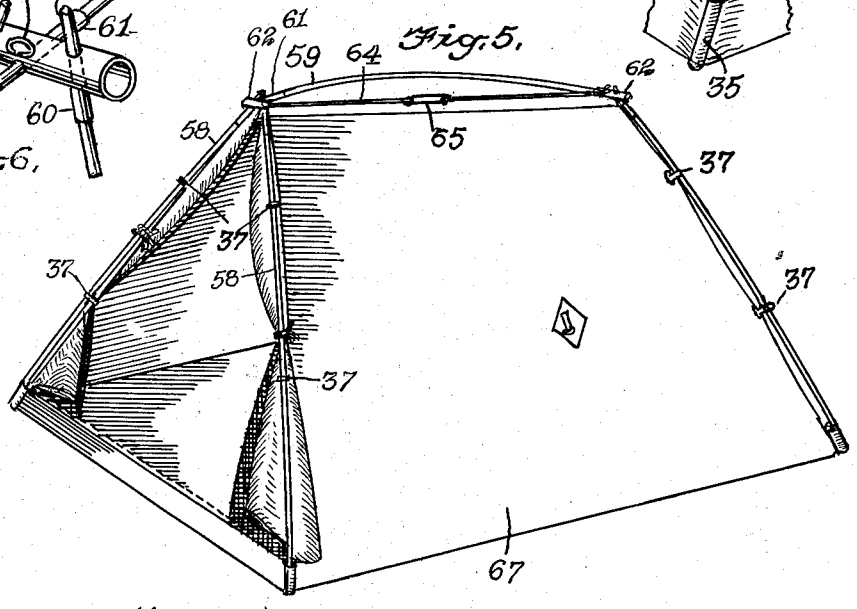


Fig. 5.

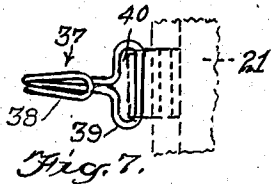


Fig. 7.

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PORTABLE COLLAPSIBLE SHELTER

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4 Claims. (Cl. 135—3)

This invention relates to portable shelters, such as tents, screened or enclosed cribs, cabanas, portable screen porches and the like.

An object of the invention is to provide a novel and improved portable shelter construction of the above class having unique features by which it may be very quickly set up and dismantled.

Another object of the invention is to provide an improved shelter construction as above characterized, which may be packed into very little space when dismantled.

A still further object of the invention is to provide an improved shelter construction of the above type and which is characterized by a relatively rigid supporting frame portion and a flexible or non-supporting screen or wall portion, wherein the frame portion may be first readily set up in its entirety and thereafter the screen or wall portion quickly and easily attached to the frame portion, the reverse operation being carried out when dismantling the shelter.

Yet another object of the invention is to provide an improved frame construction for a portable shelter, which is strong and sturdy and yet permits of quick and easy assembly or setting up of the frame, and also dismantling thereof.

A feature of the invention resides in the provision of an improved frame construction for a portable shelter as above characterized, which by suitable modification of the length of certain of the components, will enable frames of different configurations and shapes, and functions to be readily obtained.

A still further object of the invention is to provide improved means for attaching the screen or wall portions of a shelter to the rigid frame portions thereof.

Another feature of the invention resides in the provision of improved attaching means between the screen or wall portion and the frame structure, which permits of easy and rapid assembly and disassembly, even under adverse and severe conditions of weather.

Other features and advantages will hereinafter appear.

In the drawings accompanying this specification, similar characters of reference indicate corresponding parts wherever possible in the several views, in which:

Figure 1 is a perspective view of a portable shelter in the form of a tent made in accordance with the invention;

Fig. 2 is an exploded perspective view of an upper juncture of the frame structure of the tent shown in Fig. 1;

Fig. 3 is a fragmentary sectional view taken on line 3—3 of Fig. 1;

Fig. 4 is a fragmentary perspective view of a lower corner portion of the tent shown in Fig. 1;

Fig. 5 is a perspective view of a portable shelter in the form of a tent, illustrating another form of the invention;

Fig. 6 is a fragmentary perspective view of an upper juncture portion of the frame structure of the tent shown in Fig. 5;

Fig. 7 is a front elevational view of a hook member as provided by the invention, for the purpose of attaching the flexible screen or wall structure of a shelter to the rigid frame structure thereof.

Referring to Figs. 1–4 the improved portable shelter as provided by the invention comprises essentially a relatively rigid frame structure **20** to which there is releasably attached a flexible wall or covering structure **21**.

The frame structure **20** comprises a plurality of elongate, substantially rigid and yet slightly flexible, upstanding frame members **23**, here shown as four in number. The frame structure also comprises a substantially horizontal, elongate, rigid yet somewhat flexible frame member **25**. As shown in Fig. 2, the frame members **23** and **25** have tubular or socketlike adjoining terminal portions, and this may be effected by making the members of tubular stock as shown, or by making the members of solid rod or bar stock and providing sleeves on the terminal portions, as will be readily understood.

In accordance with the present invention I provide a novel and improved junction or connector means for rigidly joining the frame members **23** and **25**. This junction means comprises a multi-pronged connector member **26** which may have prongs **27**, **28** and **29** receivable in the socketed ends or terminal portions of the frame members **23** and **25**. The connector member **26** may be formed in any suitable manner, as for example by bending a short section or length of solid bar stock into a V-shape and welding another short section of bar stock to the yoke of the V.

In accordance with the invention, in conjunction with the novel junction means illustrated in Fig. 2, I provide a tension means for effecting a flexing of the horizontal frame member **25**, thereby to cause all of the frame members **23**, **25** of the structure to be placed under appreciable stress and to be securely held together in assembled relation with each other. As shown in Fig. 1, this tensioning means may comprise a tie cord **31** at its extremities joined to the upper corners of the tent, said tie cord having an elastic link **32** by which it may be connected under tension to effect the flexure of the member **25** as illustrated.

It will be understood that the frame structure as above set forth is first assembled by inserting the prongs **27**, **28** and **29** of the connector members **26** in the proper terminal portions of the frame members, and thereafter inserting the lower ends of said rods in the corner sockets **35**.

Prior to such stressing or even prior to assembly of the frame members, the lower terminal portions of the members **23** may be disposed in sockets **35** by which they are held in fixed relative positions. Such sockets, for example, may be provided on the lower portions of the covering or flexible wall structure **21** of the shelter, and may advantageously be in the form of fabric sleeves.

Further, in accordance with the invention, I provide novel and improved means by which the flexible wall structure **21** is secured to the frame structure **20**. Referring to Figs. 5 and 7, the wall structure **21** may have a plurality of hook members **37**, each of said hook members having a curved bill portion **38** adapted to extend around the frame member **23**, and having a base portion **39** provided with a relatively long slot **40** by which the hook may be secured to the corner seam of the cover structure, either with a suitable piece of fabric or webbing or by suitable stitches or other fastening means. By the provision of the hooks **37** the wall structure **21** may be easily and quickly attached to or detached from the frame structure **20** of the tent.

By this invention I also provide another novel and advantageous means by which the wall structure **21** may

be secured quickly and easily to the frame structure **20**, and as quickly and easily detached therefrom. Referring again to Fig. 1, there is shown an elongate sleeve **43** secured to a front corner seam of the cover structure **21**, said sleeve having an elongate, longitudinal cut and being provided with cooperable zipper means by which the sleeve may be separated into two distinct spread-apart portions for introducing or removing an upstanding frame member **23**, and by which the sleeve may be secured around such frame member to attach the wall structure **21** thereto. I prefer to so arrange the zipper means **44** on the sleeve **43** that the zipper is open when the slider thereof is disposed at the lower portion of the tent, and vice versa.

Additionally, in accordance with the invention, I provide yet another improved and advantageous means for attaching the wall structure **21** to the frame structure **20**. Referring now to Figs. 1 and 3, the wall structure **21** may be provided along its corner seams with pairs of flexible tabs **46, 47** formed of webbing or other suitable material, said tabs having apertures and cooperable hasp means **48** in said apertures and adapted to receive a single pull cord **49** by which the hasp means may be locked in closed positions. The tabs **46, 47** are adapted to extend around the frame member **23** when the hasp means thereof are closed, thereby to secure the wall structure **21** to the frame member. By merely removing the pull cord **49** from the hasps, which may be done by a quick and simple operation, the wall structure **21** may be quickly freed from the frame structure **20**, as will be readily understood.

By the present invention the tent construction shown in Fig. 1 may be provided with a rigid floor member **52** which is water-impervious and which may carry the sockets **35**, and the floor member **52** may have attached to it side walls **53** which are also water-impervious, thereby to enable the tent to float and be buoyant if it should be placed upon a surface of water.

In place of the hooks **37** shown in Fig. 5, loops **55** of fabric or webbing may be utilized, said loops being secured to the corner seams of the wall structure **21**.

A portable shelter in the form of a tent illustrating another form of the invention is shown in Figs. 5 and 6. In these figures there are illustrated upstanding frame members **58** and a substantially horizontal frame member **59**, all in the form of solid rods, said members being provided adjacent their terminal portions with fixed collars **60** and **61** acting as stops for a junction means. As seen in Fig. 6, the junction means comprises a short length of tubing **62** having transverse openings in its walls, constituting sockets for receiving the terminal portions of the frame members **58, 59**. While the junction member **62** is shown as a short length of tubing, it should be understood that it may be made of solid stock and of any suitable material, such as metal, reinforced plastic, wood, etc. I provide a tension means in the form of a tie cord **64** to cause flexure of the frame member **59** and stressing of all of the frame members, the tie cord **64** having an adjustment such as an elastic link **65** and being secured at its extremities to the terminal portions of the horizontal frame member **59**.

The shelter of Fig. 5 may have a flexible wall structure **67** provided with hooks **37** as described above, by which it may be quickly and easily attached to the frame structure and detached therefrom, two hooks **37** at the front and rear peaks being received in openings **62*a*** of the junctions **62**.

Variations and modifications may be made within the scope of the claims and portions of the improvements may be used without others.

I claim:

1. An external, exposed frame construction for a portable shelter, comprising pairs of elongate upstanding frame members; a single, uncovered substantially horizontal, elongate flexible frame members; rigid and non-flexing immediately separable pin-and-socket means rigidly joining one terminal portion of the horizontal frame member to the upper two terminal portions of one pair of upstanding members; rigid and non-flexing immediately separable pin-and-socket means rigidly joining the other terminal portion of the horizontal member to the upper terminal portions of the remaining pair of upstanding members; and means comprising an elongate, thin and flexible tension element extending below said horizontal frame member in closely-spaced relation thereto, said element being outwardly exposed and uncovered, and causing a flexing of said horizontal frame member, thereby to impose flexing forces on the upstanding frame members through said pin-and-socket means when the lower terminal portions of the upstanding frame members are held immovable; and means adapted to engage the ends of said horizontal member, for suspending the ridge portion of a tent covering below and coextensive with said horizontal member and said tension element.

2. The invention as defined in claim 1, in which the rigid joining means comprises junction members having appreciable tensile strength and having sockets receiving the said terminal portions of the frame members.

3. The invention as defined in claim 1, in which the element causing flexing of the horizontal member comprises an adjustable tie rod connected with terminal portions of said horizontal member.

4. The invention as defined in claim 1 in which there is a rigid, water-impervious floor member secured to the lower terminal portions of the upstanding frame members, and in which there are water-impervious side panels secured to said floor member and to said upstanding frame members, thereby to enable the shelter to float on the water.

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