E. T. O'NEAL.

TENT.

APPLICATION FILED JAN. 17, 1921.

1,410,830.

Patented Mar. 28, 1922.

2 SHEETS—SHEET 1.

Fig. 1.

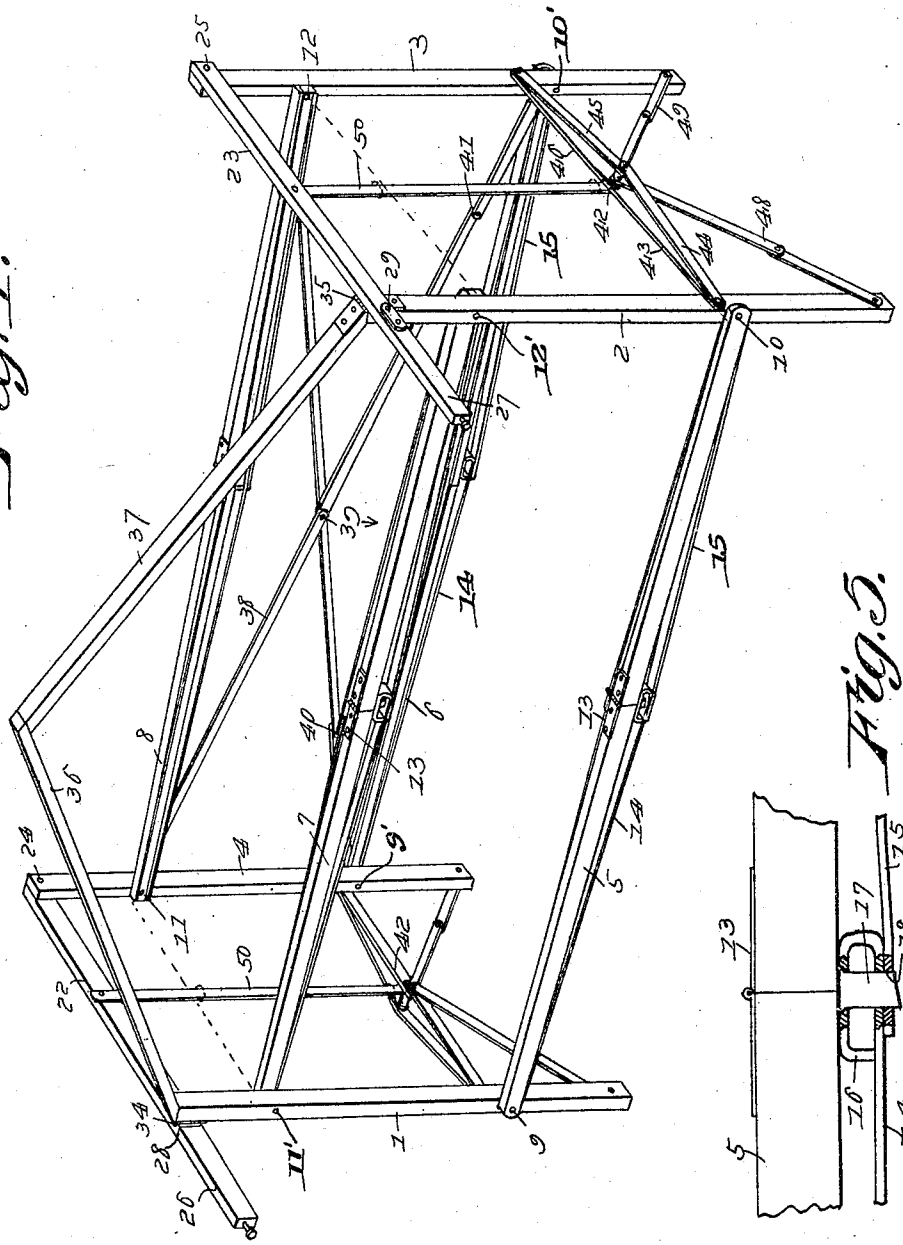


Fig. 2.

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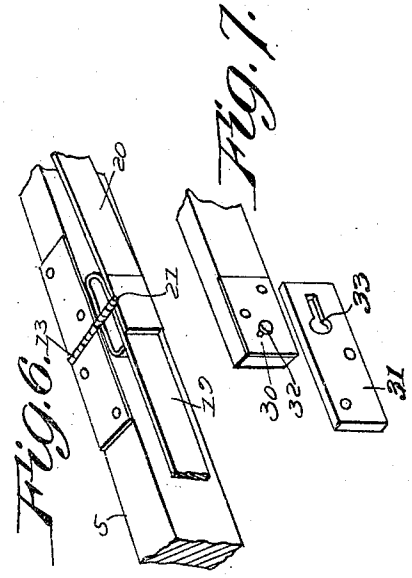


Fig. 6.

Fig. 7.

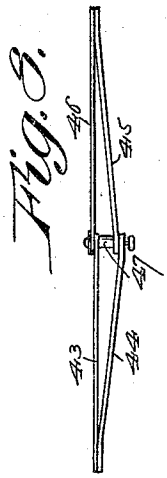


Fig. 8.

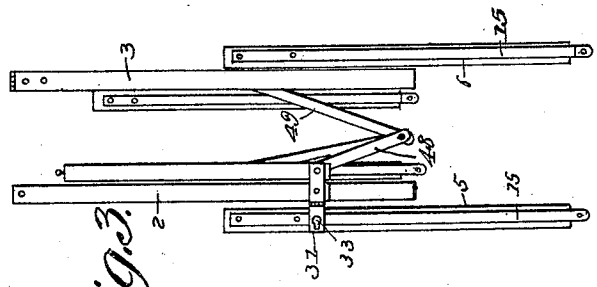


Fig. 3.

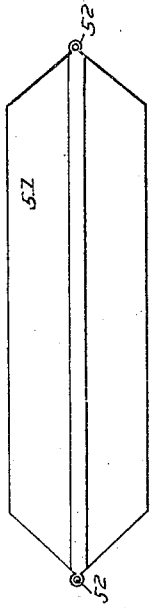


Fig. 4.

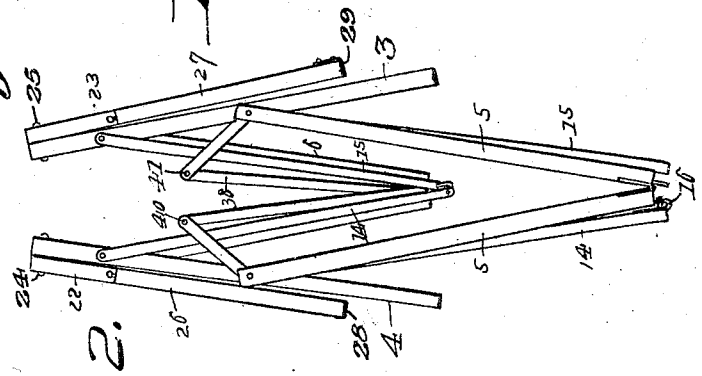


Fig. 2.

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UNITED STATES PATENT OFFICE.

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TENT.

1,410,830. Specification of Letters Patent. Patented Mar. 28, 1922.

Application filed January 17, 1921. Serial No. 437,902.

To all whom it may concern:

Be it known that I, EDWIN T. O'NEAL, a citizen of the United States of America, and resident of Springfield, in the county of Greene and State of Missouri, have invented certain new and useful Improvements in Tents, of which the following is a specification.

The present invention has reference to improvements in tents and relates more particularly to a portable and collapsible type of tent frame or skeleton, which can readily be set up and taken down by one person without the use of tools or without the necessity of dismembering any of the parts, with the exception of the canvas covering.

A tent, according to this invention, when collapsed occupies relatively little space and can readily be carried about or accommodated on the running board of an automobile or suspended therein from suitable supports. The tent provides two superimposed berths in the form of canvas hammocks, which in the collapsed state of the structure, are completely surrounded by the frame work and are thus protected against damage.

My invention will best be understood when described in connection with the accompanying drawings, in which—

Figure 1 illustrates a perspective front view of the tent frame all set up to receive the canvas covering and the two hammocks;

Figure 2 illustrates a rear elevation of the frame partly closed up;

Figure 3 illustrates a similar end view with several parts left out for the sake of clarity.

Figure 4 illustrates a plan view of one of the hammocks;

Figure 5 illustrates a side view partly in section of the hinge and truss connection in the center and on lower face of each of the four hammock supporting side rails;

Figure 6 illustrates a perspective view of another hinge and truss connection on the inside of each of the four side rails;

Figure 7 illustrates the pin and slot connection between the upper cross rails and the front corner posts; and

Figure 8 illustrates a plan of the articulated lower cross rails.

The tent structure essentially comprises four corner posts 1, 2, 3 and 4 respectively, which are normally, that is in the set up position, connected by two lower longitudinal rails 5 and 6 and two upper longitudinal bars 7 and 8, and by upper and lower pairs of cross rails 22, 42 and 23, 43 respectively. The upper longitudinal rails 7 and 8 are fulcrumed on the inside of the corner posts by the pivot pins 11′, 12′ and 11, 12 respectively, and the lower rails 5 and 6 are similarly pivoted to the corner posts, but on the outside thereof, by the pins 9, 10 and 9′, 10′, as clearly shown in Fig. 1. Each rail is composed of two similar halves, which are connected intermediate their extremities by means of hinges 13 and each rail is braced on the under face as well as on the inside. Truss members or straps 14 and 15 are respectively fixed with their outer ends to the rail halves and are connectable at their adjacent inner ends by means of the snap connection shown on a larger scale in Fig. 5. The inner end of one of the truss straps is bent double into a loop 16 and a tongue or catch 17 is secured in this loop. The respective end of the other truss strap is provided with a slot 18 designed to snap over the protruding catch 17 in the extended position of the rail. On the inside of each side rail a similar truss arrangement is provided with the difference that the two overlapping inner truss strap ends 19 and 20 are hingedly connected by the hinge bolt 21 so as to operate with and in the sense of the rail hinge 13, as will be clear from Fig. 6.

The upper ends of the four corner posts are normally connected by cross rails 22 and 23, the rear ends of the latter being pivoted to the respective rear posts at 24 and 25 respectively and their front ends 26 and 27 respectively hinged at 28 and 29 with capability of folding back upon the rail proper, as shown in Fig. 2.

To the front posts 1 and 2 the cross rails are detachably secured by means of the pin and slot connections 30 and 31 shown in Fig. 7, the one member 30 for instance the one with the pin 32 fixed to the corner post, and the other member 31 with the slot 33 fixed to the cross rail. To the upper end of each front post are further hinged, as at 34 and 35 respectively, the rafters 36 and 37, which are connected at the apex in any suitable readily detachable manner.

In the rear the frame is further strengthened by a cross-brace 38, composed of six members pivotally secured to one another at the points 39, 40 and 41 respectively and

also with their outer ends to the rear corner posts at the points where the side rails are suspended.

The ends of the frame are connected below by identical cross braces 42, each brace being composed of four members 43, 44, 45 and 46, arranged in pairs and the outer extremities of each pair fulcrumed on the corner posts and their inner ends hingedly connected by a bolt 47 on which latter also loosely turn the upper inner ends of the articulated cross braces 48 and 49, whose lower outer ends are pivotally secured to the floor ends of the respective corner posts.

A rod 50 at either frame end is pivotally secured above to the cross rail 23 (22) and and below to the cross-brace 42.

The hammocks 51 preferably of the outline shown in Fig. 4 are suitably secured to the side rails for instance by tacking or lacing and are secured to the upright rods 50 by end rings 52, in which the rods can readily slide during setting up or taking down.

The operation of the described parts, when taking down the frame from the set up position of Fig. 1 is the following:—

First disconnect the pin and slot connection 32, 33 between the front corner posts 1 and 2 and the upper cross rails 22 and 23, then fold extensions 26, 27 back upon their cross rails and push these latter down when the joint at 42 will break in a downward direction, while the joints in the braces 48 and 49 break upwardly. Next swing back the two rafters 36 and 37 about their hinges 34 and 35 respectively. Now unsnap all four side rails 5, 6, 7 and 8 and bend them through downwardly. The joint 39 in the rear cross-brace will hereby break downwards, while the joints 40 and 41 will break upwards. Now lift upward the one end of the frame and push forward, when the other frame end will fall backward onto the ground. By bringing the two ends together the parts will fold together from all directions, as shown in Figs. 2 and 3, with the hammocks completed folded in. One person can set up or take down this frame, but the operations can be considerably quickened by two persons getting hold of the two opposite frame ends and then working toward or away from each other, as the case may be, the operative movements taking place in four different directions, as it were.

I claim:

1. In a collapsible tent frame of the character set forth, in combination, corner posts, rafters hingedly connected at their outer ends to the respective corner posts, two-part foldable side rails, truss means for bracing said side rails below and inside when in the extended operative position, a multipart rear cross-brace extending and operating in a vertical plane and in hinged connection with the two rear corner posts at the points of fulcrum of said side rails, upper end rails secured to the respective rear corner posts by pivotal connection and to the respective front corner posts by a readily disconnectable connection, extensions to said upper end rails in hinged connection therewith, lower end brace structures each comprising a centrally hinged, horizontally extending four-part upper member of extended lozenge shape, and articulated, angularly directed two-part lower members pivotally secured with their upper inner ends to the hinge pintle of said upper end member and the outer ends of said upper and lower members fulcrumed to the respective corner posts, and uprights fulcrumed above and below to the center of the upper end rail and lower end brace structure respectively.

2. In a collapsible tent frame, in combination with the corner posts, doubly braced side rails, each comprising two halves with a hinge connection therebetween, truss members secured with their outer ends to the under face of said rail halves, the one of said truss members having a slot near its inner free extremity and the other truss member presenting at its inner end a spacing member obtained by doubling back the truss end upon itself to form a closed loop, a catch member protruding from said spacer loop and adapted to engage in said registering end slot in the overlapping other truss member in the extended operative position of the rail with the two said rail halves in alinement, a side truss arrangement comprising two members rigidly secured at their outer extremities to the inside of the respective rail halves and their inner ends hingedly connected coaxially with the hinge axis of said rail halves, and means spacing the said side member hinge connection away from the rail.

EDWIN T. O'NEAL.