Sept. 28, 1926. 1,601,664

F. L. ACKERMAN

FOLDING TENT FRAME

Filed March 27, 1926 2 Sheets-Sheet 1

Fig. 1.

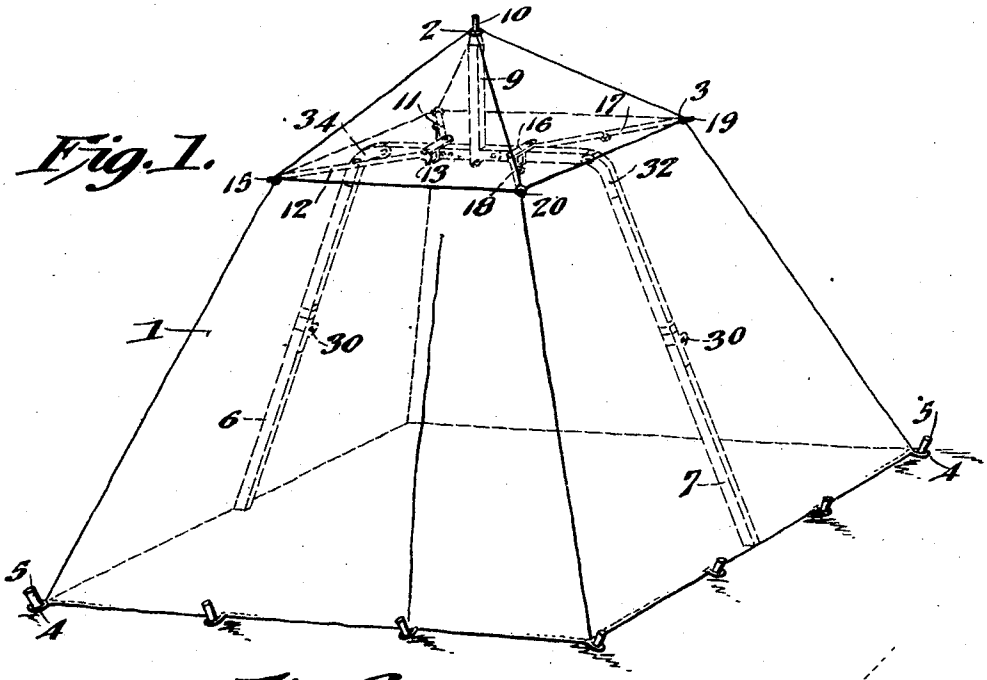
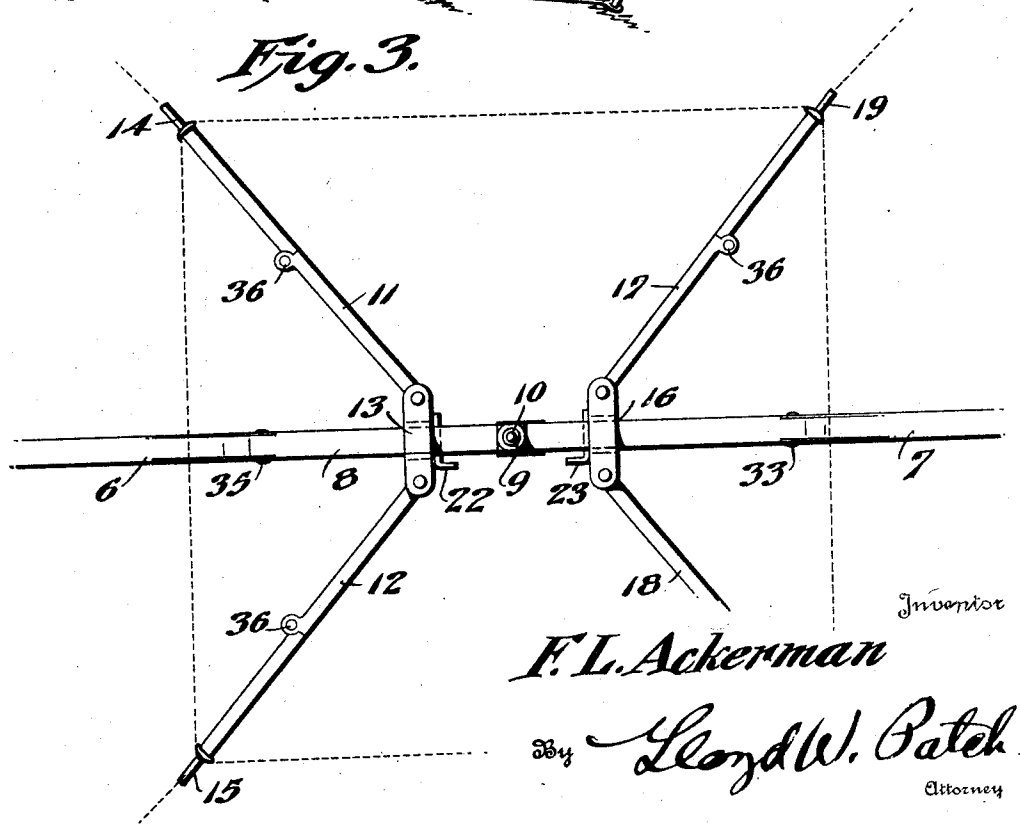



Fig. 3.




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Fig. 2.

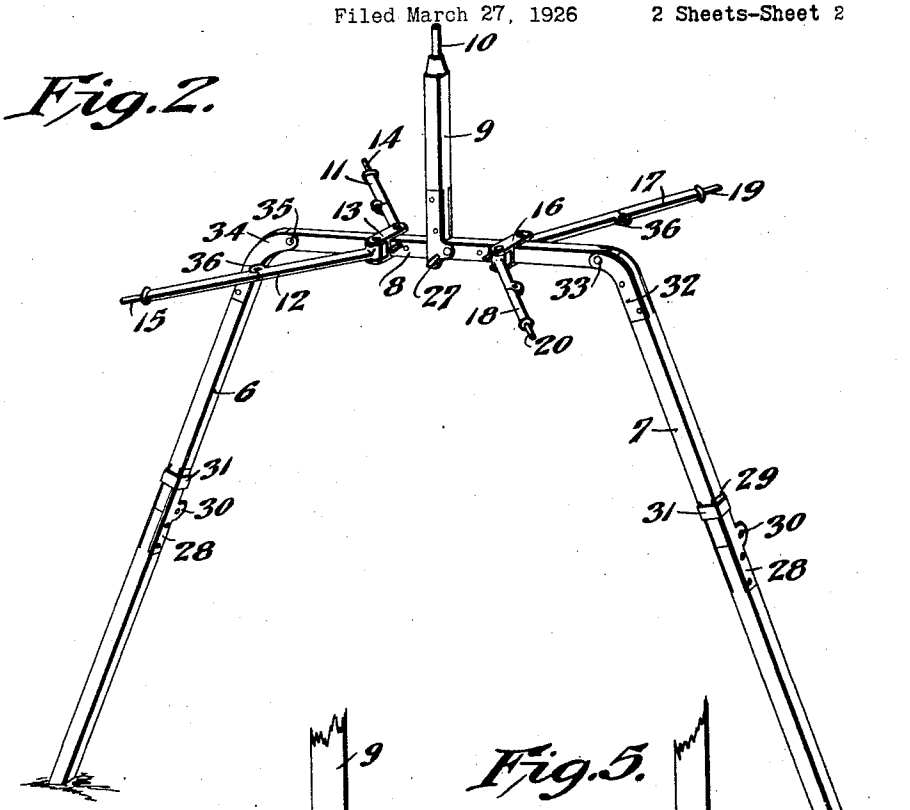



Fig. 4.

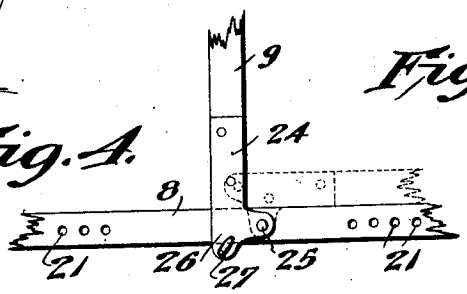



Fig. 5.

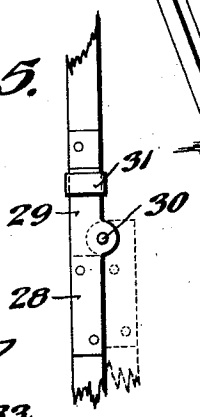



Fig. 6.

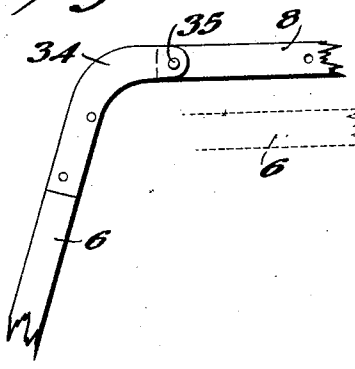
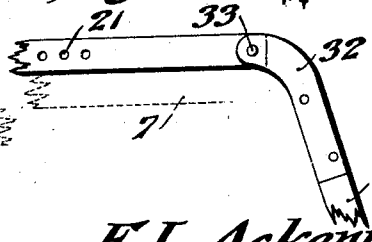



Fig. 7.




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# UNITED STATES PATENT OFFICE.

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## FOLDING TENT FRAME.

Application filed March 27, 1926. Serial No. 98,015.

My invention relates to folding tent frames, and particularly to a frame adapted for use with a tent of the beach or umbrella type.

An object of my invention is to provide a collapsible supporting frame which eliminates the objectionable center poles or other supporting or bracing members in the middle of the tent, thus affording space of the full size of the tent entirely unobstructed by a center post or other support.

A further object is to so construct the supporting frame that all units, while collapsible to permit compact folding of the various parts, are permanently connected so that no member can be lost.

Another object is to provide a folding frame which can be erected and taken down with facility, and which is rigid when set up for use in a tent, thus eliminating the necessity of guying from either the top or hips of the tent to prevent the tent from falling down or collapsing accidentally.

A still further object lies in so constructing the tent supporting portions that positive adjustment of the parts can be made to tighten the roof of the tent regardless of how much the canvas may shrink or stretch.

With the above and other objects in view, which will be apparent to those skilled in the art, my invention includes certain novel features of construction and combination of parts which will be set forth in connection with the drawings.

In the drawings:—

Figure 1 is a view in perspective of the tent with the frame shown in dotted lines.

Fig. 2 is a similar perspective view, with the tent fabric eliminated, to better show the construction of the frame.

Fig. 3 is a top plan view of the frame illustrating the stretching members in use.

Fig. 4 is a fragmentary view showing the mounting of the tent peak supporting pole.

Fig. 5 is a detail view illustrating the hinge joint in one of the frame uprights.

Fig. 6 is a fragmentary view illustrating the connection of one of the frame uprights with the cross bar.

Fig. 7 is a view similar to Fig. 5 showing the connection of the remaining upright with the cross bar.

The canvas or other fabric 1 is made up to be of the usual type and form necessary for a tent of the character shown, and popularly known as the umbrella, beach, or palmetto type of tent. This covering can be provided with any type and number of door and window openings, flaps or the like, and may be made up with or without a sod cloth. At its peak the fabric has a pin opening 2, the pin openings are provided at 3 at each of the corners, these openings being preferably finished with grommets or eyes. The usual loops 4 will be preferably provided at the lower edge of the cover 1 to receive pegs 5 or other fasteners by which the tent is anchored.

The main supporting frame consists of supporting uprights 6 and 7 connected hingedly at their upper ends to the cross bar 8, and peak pole 9 foldably mounted in the middle of the cross bar. This supporting frame is made of such form and size that the uprights 6 and 7 will extend parallel with the fabric 1, on the inner side, along two sides, and the cross bar 8 will extend between the sides at a height corresponding substantially to the hip between the roof and side walls of the tent fabric. The peak pole 9 is made of sufficient length to properly elevate or raise the peak of the roof, and a pin 10 is provided on this peak pole 9 to fit through the opening 2.

Roof spreader members 11 and 12 are pivotally connected with a slide member 13 fitted on the cross bar 8 on one side of the peak pole 9, and these spreader members are provided with pins 14 and 15 which fit through the openings 3 at adjacent corners of the tent fabric. A similar slide member 16 is fitted on the cross bar on the opposite side of the peak pole 9, and spreader members 17 and 18 pivotally connected with this slide member 16 have pins 19 and 20 at their ends to fit through the openings 3 at the remaining corners of the roof hip of the fabric. The cross bar 8 has a plurality of openings 21 formed therethrough on opposite sides of the peak pole 9, and pins 22 and 23 are fitted through these openings to hold the slides 13 and 16 in adjusted positions. With this construction and mounting of the hip or roof spreader frame, the slides 13 and 16 can be adjusted for the purpose of stretching and tightening the roof of the tent, a positive adjustment and tightening being accomplished regardless of how much the canvas or fabric may shrink or stretch.

As tents of this type are commonly used by campers, automobile tourists, and others

who must transport the tent and frame from place to place, it is essential that provision be made to collapse the frame to be folded into the smallest bundle or space possible.

With this in mind I hingedly connect the uprights 6 and 7, and the peak pole 9 with the cross bar 8, and provide for the folding of the spreader members when the frame is collapsed. As shown in Figure 4, the peak pole 9 has bearing plates 24 at its lower end pivotally connected at 25 on the cross bar 9. These plates 24 are provided with extensions 26 which fit the cross bar on opposite sides when the peak pole is swung up, alined openings being provided through the extensions to receive pin 27 by which the pole is locked in the upright position. The folded position of the peak hole is indicated by dotted lines.

In Figure 5 I have shown the folding hinge of one of the upright members. The hinge plates 28 on the lower section of the upright member are provided with extensions 29 to receive the upper section of the upright member, which is hingedly connected with the lower member at 30. The ring 31 is slidably fitted on the upper member to be moved down to embrace the extensions 29 and hold the upper and lower sections in alinement when the frame is erected. The folded position of the upper member is indicated by dotted lines.

In Figures 6 and 7 the hinged connection between the uprights 6 and 7 and the cross bar 8 is illustrated in detail. The hinge members 32 are connected on opposite sides at the upper end of upright 7 and are extended to offset the pivot or hinge pin 33 by which the upright is hingedly connected with cross bar 8 so that this upright can be folded or collapsed against the underside of the cross bar, and the hinge members 34 secured on opposite sides at the upper end of upright 6 have their hinge or pivot pin 35 so located that the upright can be folded or collapsed to the position indicated in the dotted lines in which position it will rest upon the collapsed upright 7. With this construction and mounting, the main supporting frame structure can be readily folded or collapsed, and at the same time this frame structure will fold and set up to make a strong and rigid supporting frame.

While the slides 13 and 16 can be moved inwardly upon the cross bar 9 when the supporting frame is collapsed it is perhaps desirable that the spreader members be more compactly folded, and with this in mind I make each of the spreader members 11, 12, 17 and 18 in two parts and provide a hinge joint at 36 between these parts. This hinge joint is preferably made of the buggy brace type so that the spreader members will be secure and rigid when in use.

From the foregoing it will be seen that I have provided a supporting frame structure which leaves the full space of the tent unobstructed; that the tent can be erected without the use of guy ropes or supplementing braces or supports; that the frame can be collapsed and folded into a very compact bundle which is readily transported; and, that the various parts and members of the frame structure are all permanently secured together so that no member can be lost.

While I have herein shown and described only certain specific forms and embodiments of the various parts, it will be appreciated that changes and variations can be made without departing from the spirit and scope of my invention.

I claim:

1. A tent frame comprising a pair of uprights, a cross bar carried by said uprights, and adjustable spreaders carried by said cross bar to project substantially radially from the middle portion of the cross bar to the corners of the tent roof to spread the roof of the tent.

2. A tent frame comprising a pair of supports, a cross bar carried at an elevation by said uprights, a peak pole mounted on said cross bar, and adjustable spreaders carried by the cross bar to project substantially radially from the peak pole to the corners of the tent roof to spread the roof.

3. A supporting frame for use with a wall tent comprising a pair of uprights, a cross bar carried at an elevation by said uprights, slides adjustably mounted on the cross bar, and spreaders carried by said slides to engage with the tent adjacent the hip and spread the roof.

4. A tent frame comprising an upright frame, a peak pole carried by the frame, slides adjustably mounted on the frame, and spreader arms extending from said slides to project substantially radially from the peak pole to the corners of the tent roof.

5. A tent frame for use with a wall tent comprising a pair of inclined uprights, a cross bar carried at the upper ends of said uprights, a peak pole carried by the middle portion of the cross bar, a slide adjustably mounted on said cross bar on each side of the pole, and spreader arms pivotally connected with the slides on each side of the cross bar.

6. A folding tent frame comprising a pair of uprights, a cross bar hingedly connected with the upper ends of said uprights, a peak pole hingedly mounted on the cross bar, slides adjustably mounted on the cross bar on each side of the peak pole, and spreader members hingedly mounted on the slides.

7. A folding tent frame comprising a pair of uprights each consisting of two members hingedly connected together to collapse one against the other and to fold out to extend in alignment, means to secure the two members of each upright in the extended positions, a

cross bar hingedly connected at its ends with the upper ends of said uprights, a peak pole hingedly mounted on the middle portion of the cross bar to fold down thereagainst and to fold up to an upright position, means to secure the peak pole in the upright position, slides mounted on the cross bar on each side of the peak pole, foldable spreader arms pivotally connected with said slides on opposite sides of the cross bar, and means to hold said slides in adjusted positions.

In testimony whereof I hereunto affix my signature.

FREDERICK L. ACKERMAN.