Jan. 28, 1964 C. F. BLEICK 3,119,402

TENT ASSEMBLY

Filed Jan. 3, 1961

FIG. 1.

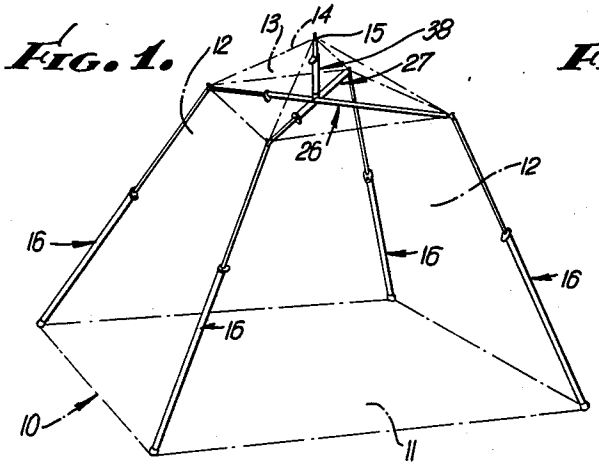


FIG. 4.

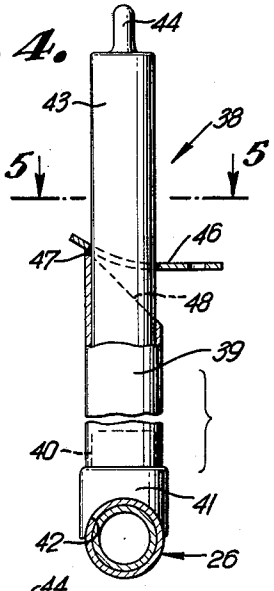


FIG. 5.

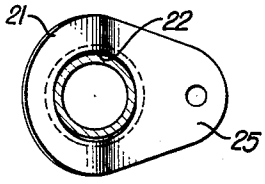


FIG. 2.

FIG. 3.

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TENT ASSEMBLY

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1 Claim. (Cl. 135—1)

The present invention relates to enclosures, and more particularly to tent structures enclosed by canvas, or similar material.

An object of the invention is to provide an improved tent assembly capable of being easily erected and dismantled, and which is free from center poles or other obstructions in its interior necessary to support the assembly.

Another object of the invention is to provide a tent assembly embodying corner poles that are easily extended to the proper length and locked in extended position to hold the tent covering in a taut condition, extensible cross bracing being provided between the corner poles for holding the parts of the tent structure in assembled position, an extensible pole being carried by the cross bracing to hold the top of the tent structure in a taut condition.

This invention possesses many other advantages, and has other objects which may be made more clearly apparent from a consideration of a form in which it may be embodied. This form is shown in the drawings accompanying and forming part of the present specification. It will now be described in detail, for the purpose of illustrating the general principles of the invention; but it is to be understood that such detailed description is not to be taken in a limiting sense, since the scope of the invention is best defined by the appended claims.

Referring to the drawings:

FIGURE 1 is an isometric projection of a tent assembly embodying the invention;

FIG. 2 is an enlarged fragmentary section through a portion of the tent assembly, parts being shown in side elevation;

FIG. 3 is an enlarged side elevation, partly in section, of a portion of the tent structure;

FIG. 4 is a side elevational view, on an enlarged scale, of the peak pole portion of the apparatus resting upon one of the cross members;

FIG. 5 is a section taken along the line 5—5 on FIG. 4.

As disclosed in the drawings, the tent assembly is adapted to appropriately support a covering or enclosure 10 which may be made of a suitable material, such as canvas. The canvas material may include a floor portion 11 adapted to rest upon the ground, and also tapered sides 12 extending upwardly from the floor portion, there being tapered, generally triangular top sections 13 that join at their corners 14 to form a pyramid meeting at the apex or peak 15 of the tent.

A corner pole 16 is provided at and immediately within the meeting corners 17 of each of the tent sides 12. This corner pole may have a tip or foot portion 18 adapted to rest upon the ground or the floor 11 of the tent cover. A lower outer tubular member 19 is secured to this foot portion 18 and extends upwardly along the inner corner 17 of the tent. The corner pole further includes an upper inner tubular member 20 telescoped downwardly within the outer tubular member 19. The

inner tubular member 20 can be moved upwardly with respect to the lower tubular member 19 until the desired overall length of the corner post 16 is secured, after which downward telescoping or collapse of the inner tubular member within the outer member is prevented by a locking device in the form of a gripping type of washer 21 having an opening 22 therethrough through which the inner tubular member 20 can pass. The upper end 23 of the lower outer tubular member 19 is on a bias or is tapered to provide an upper projection 24 adapted to engage the lock washer 21 and tilt it relative to the axis of the inner tubular member, and thereby bring diametrically opposed edges of the washer surrounding its opening 22 into gripping contact with the inner tubular member 20, preventing the inner tubular member from moving downwardly within the outer tubular member 19. To facilitate release of the locking member or washer 21 from the inner tubular member 20, the washer may be provided with a suitable extension or tab 25 that will enable the washer to be tilted upwardly and thereby release its opposed gripping edges from the inner tubular member.

The inner tubular member 20 is readily extended merely by pulling it upwardly with respect to the outer tubular member 19, the lock washer 21 automatically freeing itself from the inner member, and remaining in contact with the upper end 24 of the outer tubular member. However, any tendency for the inner member 20 to move downwardly within the outer tubular member 19 immediately causes the uppermost end 24 of the outer tubular member to prevent downward movement of the washer, the inner tubular member then tilting the washer into a gripping position against its periphery, thereby precluding the downward collapsing movement of the inner member within the outer member.

The sides 12 of the tent are inclined in an upward and inward direction, and the corner poles 16 also are inclined to the vertical, extending in an upward and inward direction. The tent assembly further includes diagonal cross members or cross arms 26, 27, there being one cross arm 26 extending diagonally between a pair of corner poles 16, and another diagonal cross arm or member 27 extending between the other pair of corner poles. Each cross arm is secured at its ends to the upper portions of corner poles 16. As shown, each cross arm includes an outer tubular member 28 slidably receiving an inner tubular member 29 which is telescopically related thereto. The outer tubular member 28 has a beveled end 30 adapted to engage a lock washer 31 surrounding the inner tubular member, this lock washer being rocked to an inclined position, when the inner tubular member 29 tends to move inwardly within the outer tubular member 28. However, the inner tubular member 29 can readily be grasped and moved outwardly of the outer tubular member 28 whenever the tent structure is to be assembled. The lock washer 31 is placed adjacent to the actuating end 32 of the outer tubular member so that the inner tubular member will rock the lock washer into gripping engagement with its periphery, in the event the inner tubular member 29 tends to telescope or collapse within the outer tubular member 28.

Each cross arm 26, 27 is secured to a pair of diagonally opposed corner poles 16 by means of a corner fitting 33. This fitting includes a generally horizontal pin 34 piloted

within the end of an inner tubular member 29 of the cross arm, or within the outer tubular member 28 of the cross arm at its opposite end, as the case may be. The corner fitting also has a depending pilot pin 35 snugly piloted within the upper hollow end of the inner tubular member 20 of a corner post. The lower downwardly extending pilot pin 35 of the diagonally opposite corner fitting 33 will extend into the upper end of the diagonally opposite corner post 16. By virtue of the oppositely directed corner fittings 33, a cross arm 26 or 27 interconnects the upper ends of the diagonally opposite corner poles 16. The cross arm, such as arm 26, interconnecting one pair of diagonally opposite corner poles will be disposed immediately above the cross arm, such as arm 27, interconnecting the upper portions of the other diagonally opposite pair of corner poles 16.

Each corner fitting 33 has an outwardly projecting prong 36 adapted to extend through a suitable hole or grommet 37 in the tent cover 10 at the meeting corner where the tapered sides 12 of the tent cover are joined with the meeting sides 13 of the generally triangular top portions of the cover. In this manner, the tent frame structure within the cover 10 is secured at its upper portion to the cover itself, the lower foot portions 18 of the corner poles 16 being disposed immediately within the lower corners of the cover.

In order to hold the upper portion of the tent cover in its appropriate position, a peak pole 38 is provided. This pole includes a lower outer tubular member 39 that receives an upwardly extending pin 40 of a saddle 41 having a curved lower portion 42 adapted to embrace and rest upon a curved outer or inner tubular member 28 or 29 of one of the diagonal cross arms 26 or 27. An inner member 43 of the peak pole is telescoped within its lower outer member 39 and terminates in an upper vertical prong 44 adapted to extend upwardly through a hole or grommet 45 in the apex 15 of the top portion of the tent cover. A lock washer 46 surrounds the upper inner tubular member 43 and is adapted to engage the uppermost terminal 47 of the bias or inclined end 48 of the lower tubular member, so that any tendency for the inner member 43 to move downwardly within the outer member 39 will be resisted by rocking of the lock washer 46 into gripping engagement with diametrically opposite portions of the inner member.

In the assembly of the tent structure, the corner fittings 33 are inserted within the upper ends of the corner poles 16, and the corner poles are then extended to the appropriate length, the collapsing or telescoping of the inner members 20 within the outer members 19 being prevented by the lock washers 21 engaging the uppermost ends 24 of the outer tubular member. Each cross arm 26, 27 is then placed near the top of the tent cover and one end inserted onto a pilot pin 34 of a corner fitting, whereupon the inner and outer tubular members of each cross arm are moved outwardly of one another until the opposite end of the cross arm fits over the pilot pin 34 of the diagonally opposite corner fitting. Inward collpasing of the inner and outer members 29, 28 with respect to one another is prevented by engagement of the lock washer 31 with the beveled outermost end 32 of the outer tubular member 28, and its tilting into gripping contact with the inner tubular member 29. The other cross arm is then assembled in the same manner diagonally across the upper portion of the tent with the outer end portions of its inner and outer tubular members 29, 28 receiving the horizonal pilot pins 34 of the diagonally opposite corner fittings 33. Inward collapse and telescopic movement of the inner and outer tubular members of this other cross arm is also prevented by its lock washer 31.

The peak pole 38, with its inner and outer tubular members 43, 39 in a comparatively collapsed position, is then mounted within the top of the covering, its prong 44 being inserted through the opening 45 in the apex of the top. The saddle portion 41 is then caused to rest upon one of the cross arms 26 or 27, and the inner tubular member 43 of the peak pole extended upwardly with respect to the lower tubular member 39 of the peak pole until the top 13 is in a taut condition, the lock washer 46 gripping the upper end 47 of the outer tubular member 39 and the inner tubular member to prevent downward collapse of the peak pole.

The various poles 16, 38 and cross arms 26, 27 can be additionally extended to bring the sides 12 of the tent enclosure and its top 13 in a taut condition. The gripping action of the lockwashers on the several inner tubular members will insure the maintenance of the tent in the taut condition. In view of the inclined relation of the corner poles 16 with respect to one another, and the diagonal cross arms 26, 27 extending between the diagonally opposite corner poles, the entire tent structure will remain in appropriate assembled condition and cannot be inadvertently disassembled or removed from such assembled condition.

When the tent is to be dismantled, it is merely necessary to grip the lock washer 46 of the peak pole and release it from gripping engagement with the inner tubular member 38, which will then allow the latter to move downwardly within the outer tubular member of the peak pole, allowing the prong 44 to be removed from the opening 45 at the apex of the tent cover, and the saddle 41 taken from the cross arm on which it rests. The cross arms 26, 27 can then be moved to a collapsed condition by freeing the lock washers 31 from gripping engagement with the inner tubular members 29 allowing the sliding of the inner tubular members within the outer tubular members 28, and the removal of the cross arms from the pilot pins 34 of the corner fittings. The corner poles 16 can also be released by tilting the lock washers 21 from gripping relation to the inner tubular members 20, allowing the inner members of the corner poles to be shifted downwardly within the outer members 19, and the prongs 36 moved inwardly from the openings or grommets 37 in the canvas covering 10.

Following removal of the frame from within the covering, each of the poles can be collapsed to its fullest extent so as to occupy a minimum of space for storage or transportation of the frame structure.

It is, accordingly, apparent that a tent structure has been provided which can be assembled in a rapid manner by appropriate telescoping of the inner and outer members with respect to one another. There are no obstructions within the tent enclosure, the entire arrangement being strong and sturdy in view of the diagonal cross arms 26, 27 extending between the upper parts of the corner poles 16, and the fact that such corner poles are inclined upwardly and inwardly toward each other. The peak pole 38 is readily mounted on a cross arm, and can be extended to hold the upper part 13 of the tent in a taut condition. Disassembly of the tent is also rapid, being effected simply by releasing the lock washers and telescoping the inner and outer members of each pole and cross arm relative to one another. The entire structure occupies relatively small space when in storage or when not being used.

I claim:

In a tent: an enclosure of flexible sheet material having sides inclined upwardly and inwardly and meeting at corners inclined upwardly and inwardly, said enclosure also having a pyramidal top extending upwardly and inwardly from the upper ends of said sides and terminating in an apex; a tubular corner pole at each corner of said enclosure extending to the upper ends of said sides; a pair of tubular crossing arms extending between the upper portions of diagonally opposite corner poles; fittings connecting the end portions of said crossing arms and adjacent corner poles, each fitting including a generally horizontal pin piloted within a crossing arm, a downwardly extending pin piloted within the upper end of a corner

pole, and a prong between said pins projecting upwardly and outwardly and received within a companion hole in said enclosure at the upper end of each corner of said enclosure; each of said fittings at its prong having an outer bevelled surface against which the adjacent corner portion of said enclosure bears; a peak pole having a saddle resting upon one of said crossing arms to be supported thereby and engaging the apex of said top; each of said poles and arms including inner and outer member telescopically related to each other, the terminus of each outer member being inclined to provide a projecting end; and a lock member on each inner member completely outwardly of and extending fully across said outer

member terminus and shifted by said projecting end into gripping engagement with said inner member.

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