United States Patent [19]

Maiken

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[45] **Dec. 30, 1975**

[54] **UMBRELLA TENT**

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[21] Appl. No.: **407,553**

[52] **U.S. Cl.** ..... **135/2;** 135/4 R; 135/15 CF; 135/25; 135/34

[51] **Int. Cl.²** **A45F 1/04**

[58] **Field of Search** ..... 135/1 R, 2, 3 R, 4 R, 14 V, 135/5 E, 34

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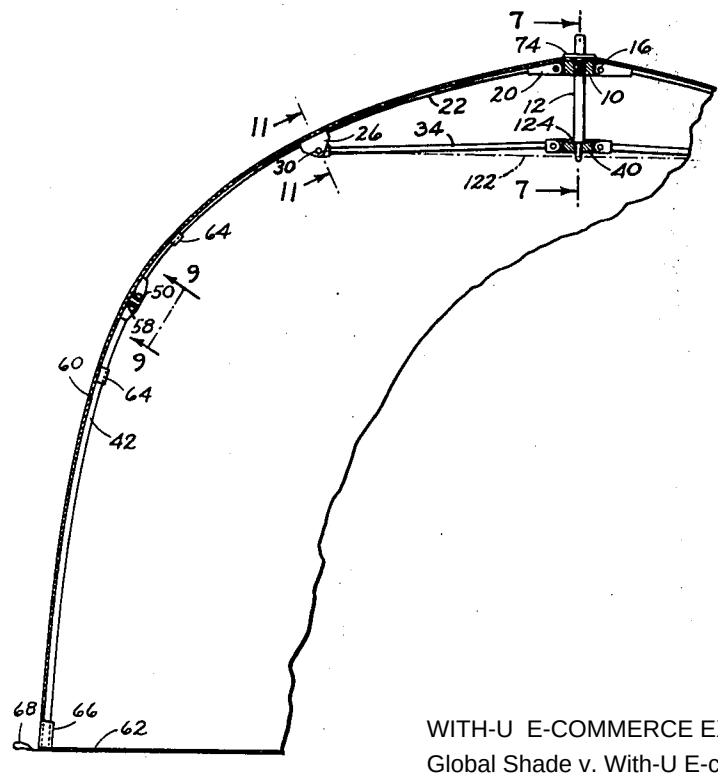
Primary Examiner—Philip C. Kannan
Attorney, Agent, or Firm—Oliver D. Olson

[57] **ABSTRACT**

An umbrella tent construction includes a plurality of elongated resilient ribs each pivoted at one end to the flange portion of a top base member which includes a vertical post portion projecting downward from the flange. A brace is pivoted at one end to each rib intermediate the ends of the latter, and the opposite end of the braces are pivoted to a hub disposed vertically below the base member. The hub is movable vertically toward and away from the base member across a plane extending through the axes of the pivot connections of the braces to the ribs, to effect opening and closing of the ribs. Abutment means operatively interengages the base member and hub in a predetermined position of the latter above said plane, to limit the upward movement of the hub toward the base member and thus establish the open condition of the ribs. A flexible tent cover is secured to the ribs and is stretched tight as the ribs move toward said open position. The stretched cover resiliently resists vertical movement of the hub upward across said plane, whereby the hub snaps upwardly across said plane to said open position of the ribs in which the abutment means ingerengages the base and hub. The stretched cover thus locks the hub in said upward position and thereby secures the ribs in said open condition. By pulling the hub downward across said plane, against the resistance of the stretched cover, the hub and braces are unlocked, whereupon the braces and ribs are collapsed to tent-folding condition.

10 Claims, 21 Drawing Figures



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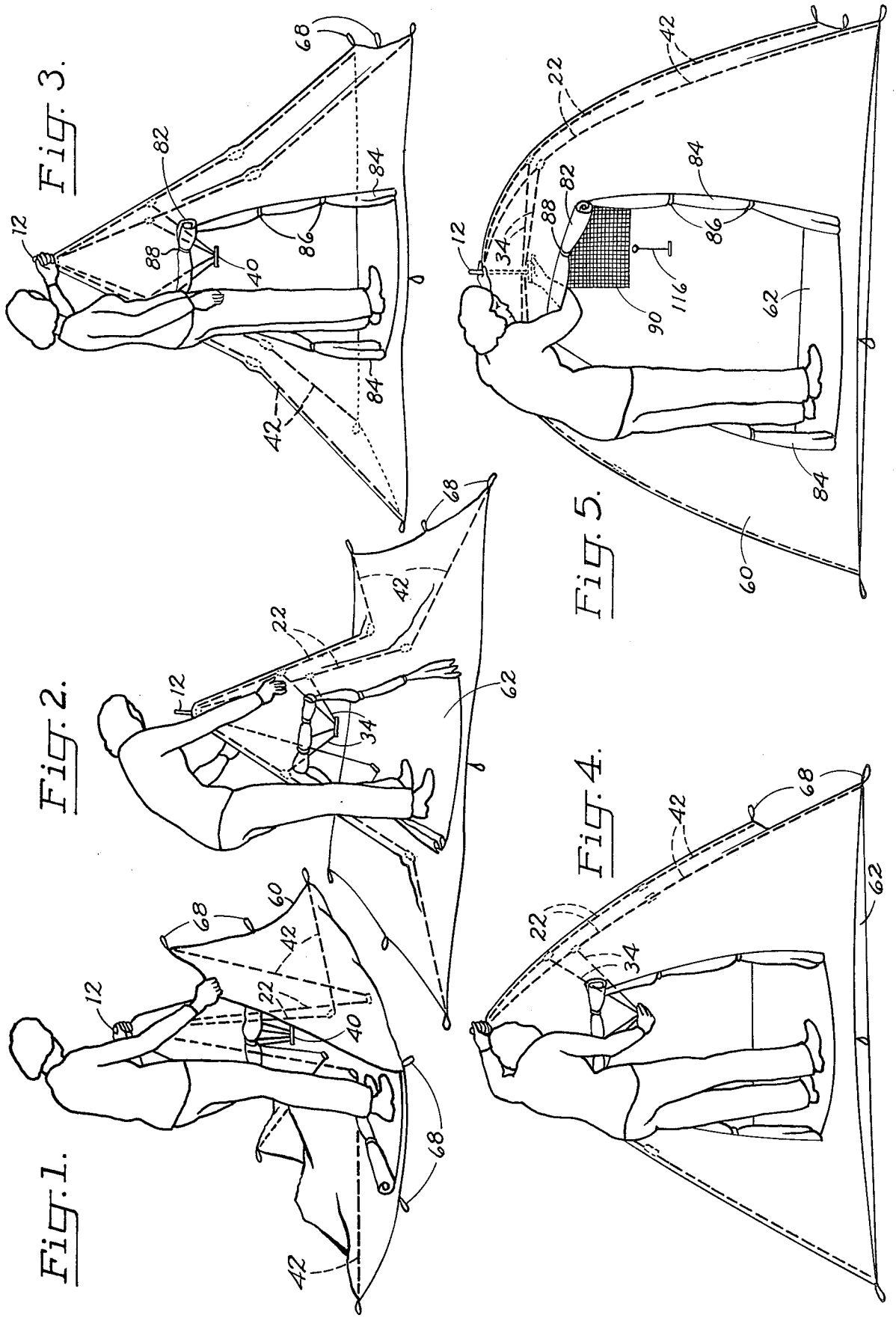
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Fig. 5.

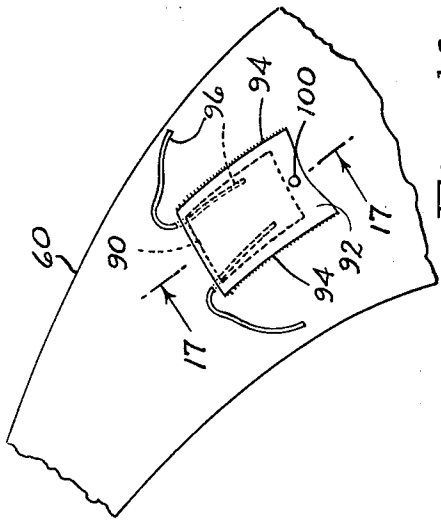


Fig. 16.

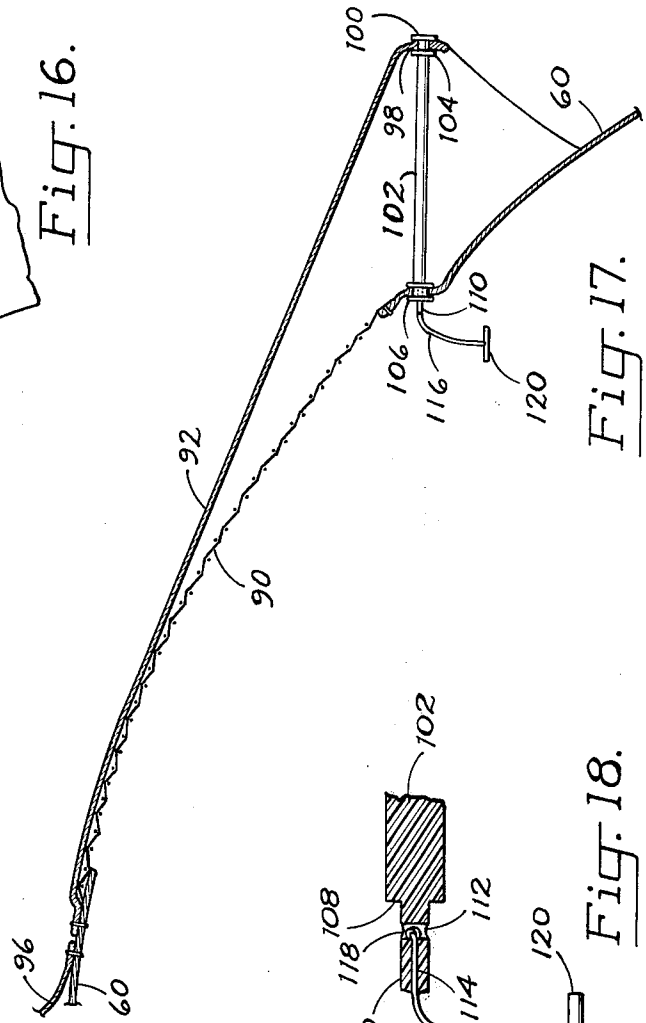


Fig. 17.

Fig. 18.

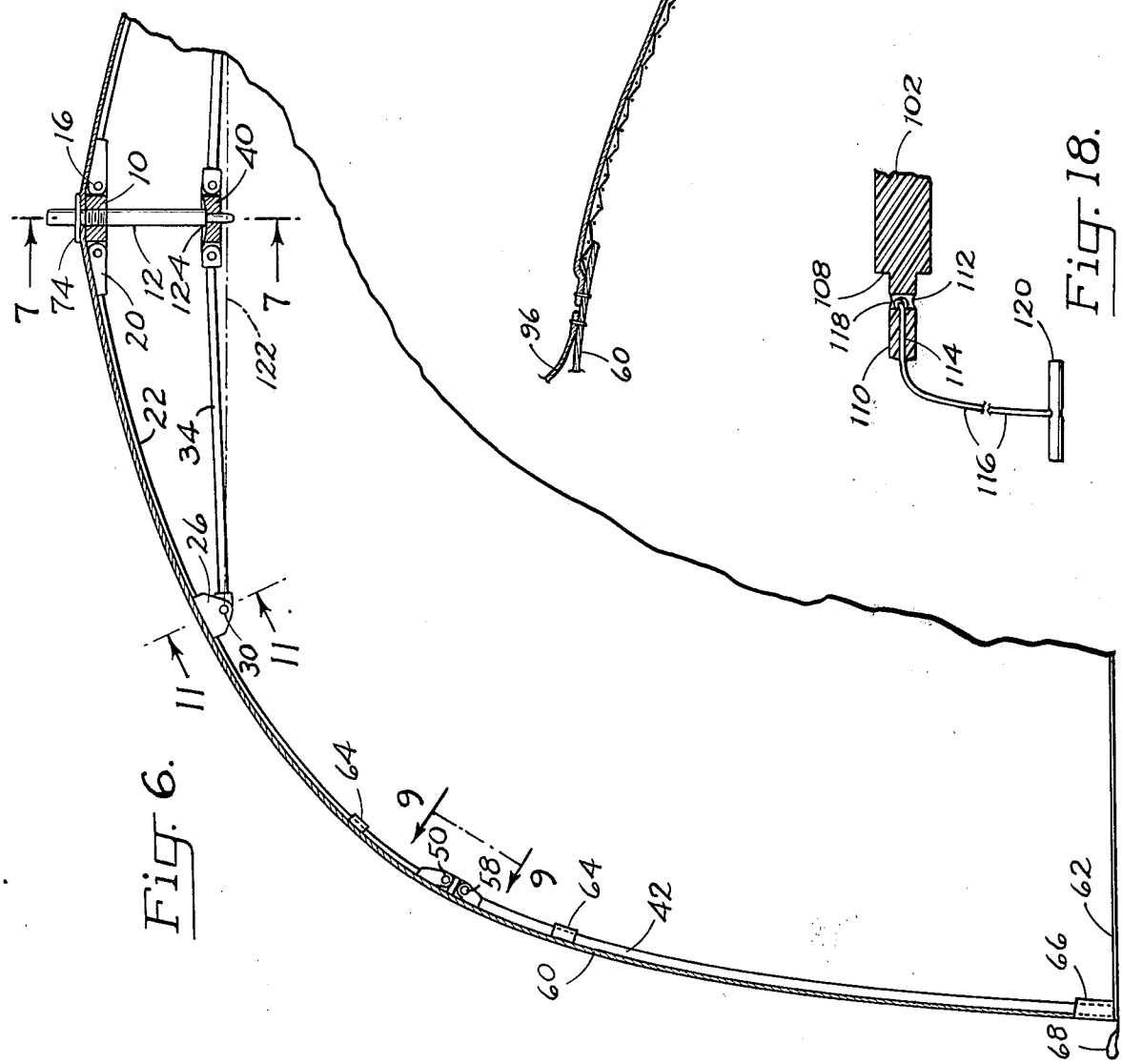
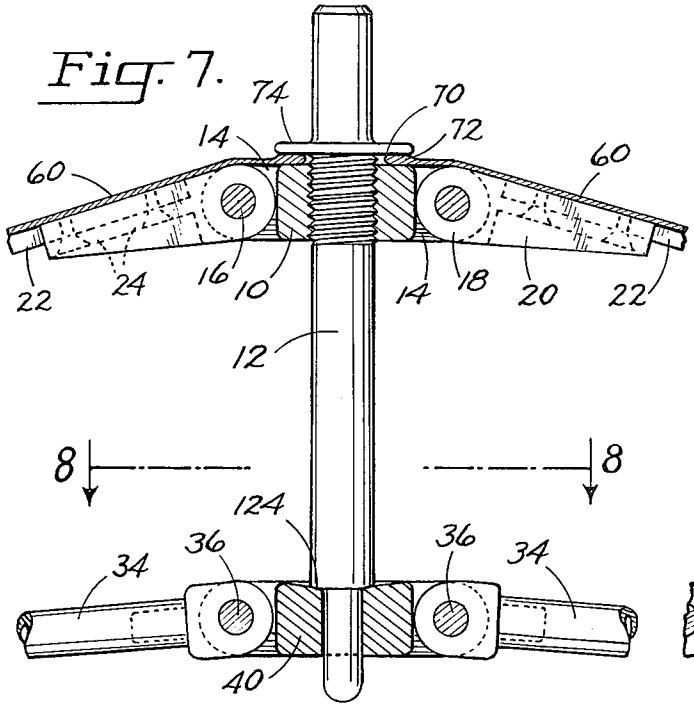


Fig. 6.

Fig. 7.



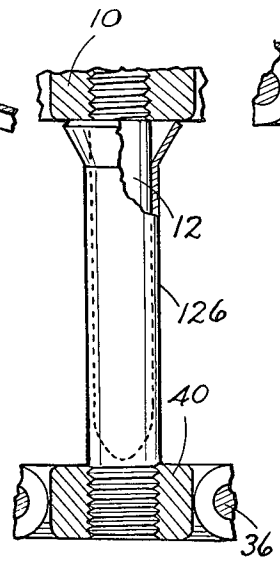
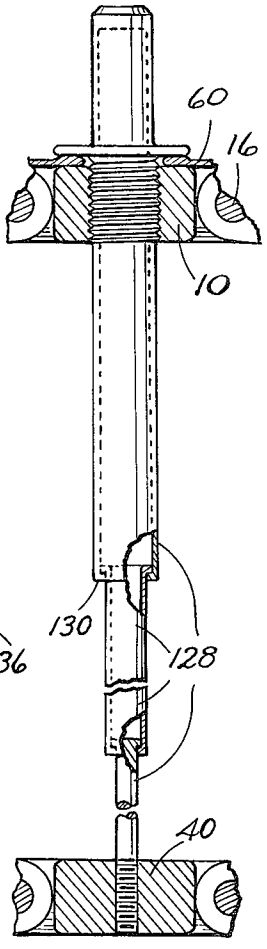


Fig. 12.



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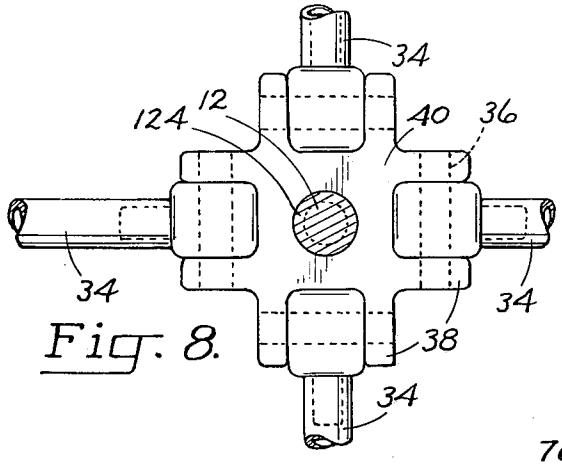

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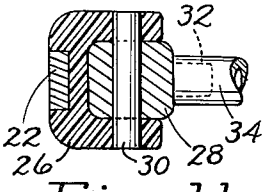

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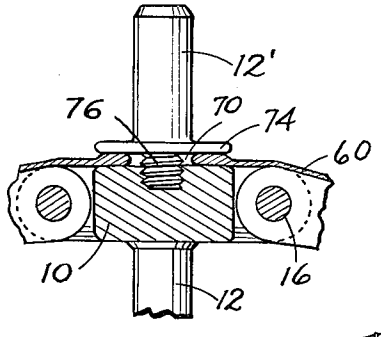

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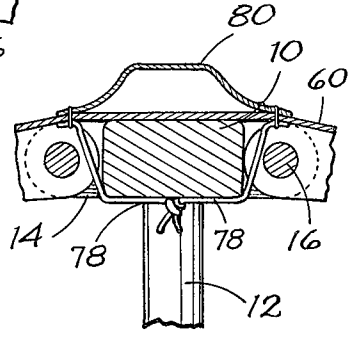

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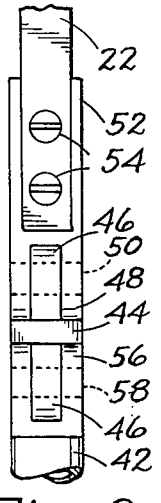

Fig. 9.

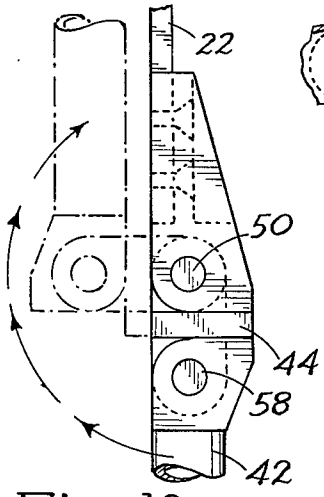

Fig. 10.

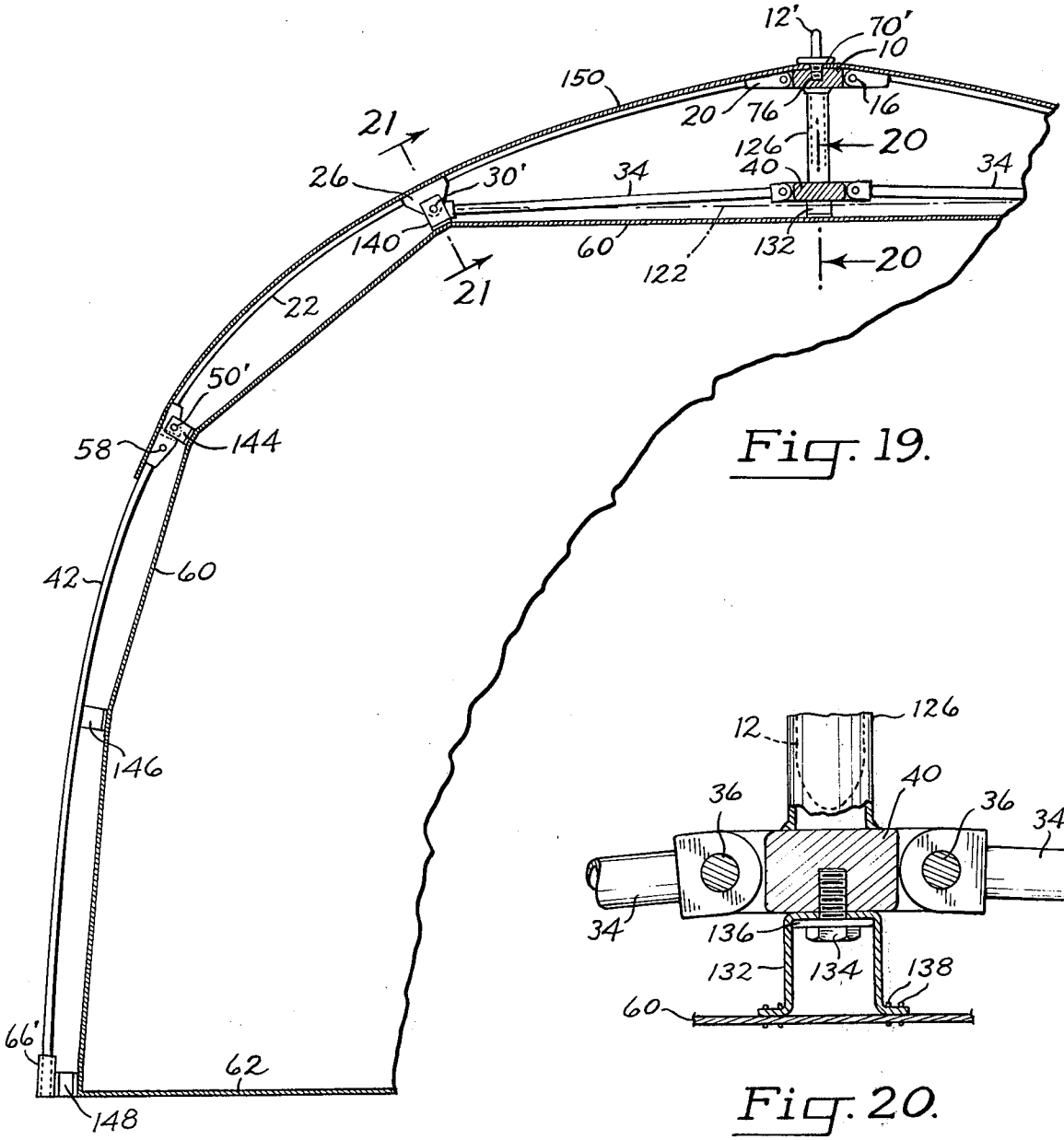

Fig. 19.

Fig. 20.

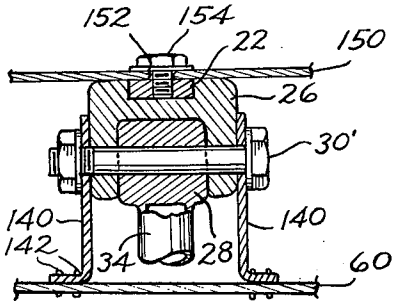

Fig. 21.

UMBRELLA TENT

BACKGROUND OF THE INVENTION

This invention relates to umbrella tents, and more particularly to a collapsible umbrella tent construction which is self-locking in the erected condition and which affords erection and collapsing in but a matter of a few seconds.

Collapsible umbrella tents provided heretofore utilize manually operable locking devices to secure the tent in erected condition. Such manually operable locking devices are unreliable, being capable of inadvertent release with consequence collapse of the tent. The operating parts of such locking devices also are susceptible of loss, breakage, or wear, thereby rendering the tent useless. Such manually operable locking devices also generally are located in positions not easily accessible for operation, thereby rendering the erection and collapse of the tent cumbersome and slow. Further, prior collapsible umbrella tents generally are characterized by a construction which includes a center post slidable through an apertured member at the top of the tent, thereby rendering difficult and costly the provision and maintenance of a liquid tight seal therebetween.

SUMMARY OF THE INVENTION

In its basic concept, the umbrella tent of this invention utilizes the stretching of a flexible tent cover during erection of the tent to resiliently resist the over-center movement of a brace-supporting hub toward and away from a predetermined position relative to a top base member, to secure the tent releasably in erected condition.

It is by virtue of the foregoing basic concept that the principal objective of this invention is achieved; namely, to overcome the aforementioned disadvantages associated with umbrella tents of prior construction.

Another important object of this invention is to provide an umbrella tent construction which affords anchoring to the ground at an initial stage of erection, whereby to facilitate such erection under such adverse conditions as high winds.

A further object of this invention is to provide a collapsible umbrella tent construction which, in erected condition, is devoid of a long center rod projecting upwardly from the tent.

Still another object of this invention is the provision of a collapsible umbrella tent construction in which a screened opening in the tent cover may be sealed and exposed selectively by an external flap operable from within the tent.

The foregoing and other objects and advantages of this invention will appear from the following detailed description, taken in connection with the accompanying drawings of preferred embodiments.

BRIEF DESCRIPTION OF THE DRAWINGS

FIGS. **1–5** are perspective views illustrating the sequence of manipulations in the erection of an umbrella tent embodying the features of this invention.

FIG. **6** is a fragmentary vertical section through the center of the erected tent illustrated in FIG. **5**, showing details of construction.

FIG. **7** is a fragmentary sectional view taken on the line **7—7** in FIG. **6.**

FIG. **8** is a fragmentary sectional view taken on the line **8—8** in FIG. **7.**

FIG. **9** is a fragmentary vertical elevation of a hinge component for connecting rib sections together, as viewed in the direction of arrows **9—9** in FIG. **6.**

FIG. **10** is a fragmentary side elevation as viewed from the right in FIG. **9** showing the hinge extended in full lines and folded in broken lines.

FIG. **11** is a fragmentary sectional view taken on the line **11—11** in FIG. **6.**

FIG. **12** is a fragmentary sectional view similar to FIG. **7** showing a modified form of abutment means for determining the minimum spacing between the top base member and hub component of the tent.

FIG. **13** is a fragmentary sectional view similar to FIG. **7** showing a further modified form of abutment means.

FIG. **14** is a fragmentary sectional view similar to the upper portion of FIG. **7** showing a modified form of cover clamp.

FIG. **15** is a fragmentary sectional view similar to FIG. **14** showing a still further modified form of means for securing the tent cover to the top base member.

FIG. **16** is a fragmentary perspective view of a window screen cover flap embodying features of this invention.

FIG. **17** is a fragmentary sectional view taken on the line **17—17** in FIG. **16.**

FIG. **18** is a fragmentary, foreshortned sectional view showing a construction for the inner end of the flap control peg illustrated in FIG. **17.**

FIG. **19** is a fragmentary vertical section, similar to FIG. **6,** showing details of a modified construction in which the tent cover is supported inwardly of the frame.

FIG. **20** is a fragmentary sectional view taken on the line **20—20** in FIG. **19.**

FIG. **21** is a fragmentary sectional view taken on the line **21—21** in FIG. **19.**

DESCRIPTION OF THE PREFERRED EMBODIMENT

The umbrella tent of this invention comprises a framework supporting a tent cover. The framework includes a top base member comprising a horizontal flange **10** and a vertical post **12** secured to the flange to form an integral, fixed unit. In the embodiment illustrated in FIG. **7,** the flange is provided with a central threaded bore engageable removably by the intermediate threaded portion of the post, whereby to secure the flange and post together as an integral unit.

The flange is provided with a plurality of laterally extending pairs of lugs **14.** The lugs of each pair are spaced apart and provided with axially aligned bores for the reception of a pivot pin **16.** The space between the lugs of each pair freely receives the terminal end portion **18** of a connector component. Said terminal end portion is provided with a transverse bore arranged to align with the bores in the lugs to receive the pivot pin **16** therethrough. The connector component thus is secured pivotally to the flange.

The portion **20** of the connector component projecting outwardly from the pivoted portion **18** is provided with an outwardly extending groove in its top surface, for the reception of an end portion of an elongated resilient rib **22.** In the embodiment illustrated, the rib is an elongated bar of rectangular cross section conforming to the cross sectional shape of the groove. The bar

is secured to the connector component by such means as the screws **24** illustrates.

In the embodiment illustrated, the tent framework includes four such ribs **22** disposed 90° from each other. Accordingly, the flange **10** is provided with four pairs of laterally extending lugs **14** disposed at 90° intervals.

In this regard, it will be understood that a triangular tent may be provided by a flange having three pairs of lugs disposed at 120° intervals; a five sided tent may be provided by a flange having five pairs of lugs disposed at 72° intervals; and so on.

Intermediate the ends of each rib **22** there is secured a pivot bracket **26.** As best illustrated in FIG. **11,** this bracket is substantially C-shaped in cross section. The closed end of the bracket is provided with a longitudinal groove for the reception of the intermediate portion of the rib. The rib is secured to the bracket by such means as screws, in the manner of the screws previously described.

The spaced ends of the bracket receive freely between them the outer end portion **28** of a coupling component. Registering openings in the spaced end portions of the bracket and the coupling component receive a pivot pin **30** by which the coupling component is secured pivotally to the bracket.

The inner end portion **32** of the coupling component is reduced in diameter for the reception thereover, in a permanent press fit, one end of a tubular brace **34.** The opposite end of the brace is provided with a similar coupling component, the outer end portion of which is secured pivotally, by means of a pivot pin **36** (FIGS. **7** and **8**), between spaced lugs **38** of a hub **40.** In the embodiment illustrated, the hub construction is substantially identical to the construction of the flange **10** described hereinbefore.

In order to provide a tent of substantial size when erected, but collapsible to minimum length for convenient transport and storage, each rib **22** preferably includes an elongated extension rib **42.** The extension rib is secured at its upper end to the associated main rib by means of a pivot connector which limits pivotal movement of the extension rib through an arc of 180°. Referring particularly to FIGS. **9** and **10** of the drawings, the pivot connector includes a substantially cross-shaped body formed of a transverse section **44** and a pair of longitudinal sections **46** projecting in opposite directions from the transverse section. One coupling component is provided with a bifurcated end portion **48** freely receiving therein one of the longitudinal sections **46** and secured pivotally to the latter by a pivot pin **50.** The outer end portion **52** of this coupling component is provided with a longitudinal groove for the reception of the lower end of the main rib **22** which is secured thereto by such means as the screws **54** illustrated.

A second coupling component is provided with a similarly bifurcated end **56** for the reception therein of the other of said longitudinal sections **46** of the body and for pivotal connection thereto by a pivot pin **58.** The outer end portion of this coupling component is reduced in diameter for the press fit connection thereto of the upper end of the rib extension **42** which, in the embodiment illustrated, is in the form of an elongated tube.

As best illustrated in FIG. **10,** the pivot connector functions to limit the arc of pivot of the rib extension **42** to substantially 180° relative to the main rib **22.** Thus, in the folded condition of the rib extension illustrated in broken lines, it is disposed closely adjacent and parallel to the main rib on the outer side of the latter. When the rib extension is pivoted counterclockwise from said folded position, the bifurcated end portion **48** of the coupling component is brought into abutment with the transverse section **44** of the body, after substantially 180° of pivotal movement, whereby the rib extension is in substantial alignment with the main rib.

The framework supports a tent covering **60** of flexible weather proof material. This material may be any conventional tent cover material such as canvas, but preferably is of light weight nylon or other synthetic thermoplastic material in fabric or sheet form, to minimize the weight and bulk of the assembly. It is shaped to the desired contour and dimensions of the erected tent, as will be understood.

In the preferred embodiment illustrated, a flexible floor covering **62** is secured to the bottom peripheral edge of the tent cover **60.**

In the embodiment of FIGS. **1–6,** the tent cover is secured over the framework by any suitable means. In the embodiment illustrated, and best shown in FIG. **6,** flexible cloth loops **64** are secured to the inner side of the cover material at spaced intervals to confine the main and extension ribs therein. Other means, such as flexible cloth ties, etc., may be substituted for the loops, as desired.

Means also is provided for securing the bottom ends of the extension ribs **42** adjacent the corners of the tent cover to prevent their displacement. In the embodiment illustrated (FIG. **6**) such means is provided by flexible socket elements **66** secured to the inner sides of the cover material. The socket elements may be made of canvas, leather, synthetic plastic, or any other material suitable for the purpose. Alternatively, flexible cloth ties may be substituted for the socket elements.

Means also is provided for anchoring the tent to the ground, when desired, to prevent its displacement. For this purpose a plurality of flexible anchor tabs **68** of canvas, leather, cloth, or other suitable material are secured to the outer side of the cover material **60** at the corners thereof and also preferably at the sides intermediate the corners. These tabs provide loops for the reception of anchor stakes or pegs adapted to be driven into the ground.

Means also is provided for securing the top of the cover **60** to the top base member. In the embodiment illustrated in FIG. **7,** the top of the tent cover is provided with an opening **70,** preferably defined by a thickened annular reinforcement **72.** This opening is placed in registry with the threaded opening in the top base flange **10,** prior to attachment of the post **12.** The post then is extended downward through the registering openings and the threaded section thereof engaged with the flange. A projecting annular shoulder **74** on the post above the threaded section thus is brought downward into clamping engagement with the tent cover material which thus is clamped securely therebetween to form a water-tight seal.

In FIG. **14** the threaded opening through the flange **10** of the top base member is omitted and the vertical post **12** is secured to the underside thereof as by welding or other suitable means. The clamp shoulder **74** is formed on a separated short extension **12'** of the post **12,** and the extension is provided with a threaded shank **76** extending downward from the shoulder and through

the opening **70** in the cover **60** for threaded engagement in a threaded blind opening in the upper side of the flange portion **10.** As in the embodiment illustrated in FIG. **7,** the clamp shoulder **74** functions to clamp the adjacent cover material between it and the upper side of the flange portion, to provide a weather tight seal.

FIG. **15** illustrates alternative means by which the cover material is secured to the top base member. In this arrangement the center post **12** also does not extend upwardly through the flange **10,** but additionally the cover is not provided with the top opening **70** described hereinbefore. Instead, a plurality of flexible tie straps **78** are secured to the inner side of the cover material and are brought down to the underside of the flange **10,** at the corners between adjacent pairs of lugs **14,** looped about the post **12** and tied together. The cover thus is secured firmly to the flange. If desired, a flexible strap **80** may be secured to the outer side of the cover **60,** across the flange **10,** for engagement by the hand to assist in lifting the assembly, as described hereinafter.

The tent cover **60** is provided with an opening for passage to and from the tent, and a closure is provided for the opening. Although any conventional form of cosure may be provided for this purpose, the closure illustrated is in the form of a rectangular flap **82** (FIGS. **1–5**). The flap is joined to the cover material along its upper edge, and removably closes the opening by such means as a slide fastener which extends along the sides and bottom of the flap and the corresponding sides and bottom of the cover opening. The flap may be made of the same material as the cover, or it may be of mosquito netting, or other suitable flexible material. In the embodiment illustrated, the flap is made of the same material as the cover, and an auxiliary mosquito neeting closure **84** also is provided. This netting is formed in two lateral sections secured along the side edges of the tent opening and provided at their adjacent, meeting edges with a slide fastener by which to secure the netting across the opening. When the slide fastener is open, the sections of netting material may be rolled to the lateral sides of the opening and there secured by such means as the flexible cloth ties **86** illustrated.

The flap **82** may be rolled upwardly to its top edge and secured by the flexible cloth ties **88** illustrated.

The tent cover **60** may also be provided with one or more screened windows **90** (FIG. **5**). In such event means is provided for removably sealing the screened window against the elements of weather. In the preferred embodiment illustrated (FIGS. **16–18**), such means is provided by a flexible weather-proof flap **92** which is capable of being manipulated between open and closed positions from the interior of the tent.

Thus, the flexible flap is secured at its upper edge to the outer side of the cover material **60** adjacent the upper edge of the window screen, as by means of stitching. The flap is wider and longer than the screen, whereby to completely cover the latter. The opposite side edges of the flap are provided with slide fasteners **94,** snap fasteners, or other suitable means, by which to removably secure them to the tent cover. Thus, with the slide fasteners opened, the flap may be rolled upward to its upper edge and there secured by such means as the flexible cloth ties **96** illustrated.

Adjacent the lower end of the flap **90** is a centrally located buttonhole **98.** This buttonhole is adapted to receive therethrough the enlarged head **100** at one end of an elongated peg **102.** A flange **104** spaced slightly inward of the head confines the flap material surrounding the buttonhole between it and the head, whereby the peg is secured removably to the flap.

The opposite end of the peg is adapted to extend through an opening in the tent cover **60.** In the embodiment illustrated, this opening is provided by a grommet **106** which is secured to the tent cover below the lower edge of the window screen. A shoulder **108** is provided on the peg adjacent the inner end of the latter to limit inward movement of the peg through the grommet opening. In the embodiment illustrated, this shoulder is provided by reducing the diameter of the inner end portion **110** of the peg. Alternatively, the shoulder may be provided by an annular flange on the peg, as will be understood.

Referring particularly to FIG. **18,** the inner end portion **110** of the peg is provided with a transverse bore **112** and an intercepting longitudinal bore **114** which extends to the inner end of the peg. A flexible cord **116** is threaded inwardly through the longitudinal bore and thence outward through the transverse bore. A knot **118** then is formed in the end of the cord, to prevent the cord from being pulled outwardly through the longitudinal bore. The outer end of the cord is provided with a transverse pin **120** which is longer than the opening through the grommet **106** but whose diameter is smaller than the grommet opening. Thus, when the pin remains transverse to the cord, it cannot pass outwardly through the grommet opening. However, when the pin is disposed parallel to the cord, it may be passed outward through the grommet opening.

FIGS. **16** and **17** illustrate the flap **90** in opened position, allowing air to pass through the window screen into or out of the tent. In this opened condition, the inner end **110** of the peg **102** is anchored in the grommet **106** and the peg extends outward and slightly downward therefrom, holding the lower end of the flap outwardly from the tent cover. In this position, with the slide fasteners **94** closed, the peg is prevented from swinging upward, counterclockwise in FIG. **17,** because the length of the peg from the flange **104** to the shoulder **108** is greater than the shortest distance between the buttonhole and the tent cover, on a line extending through the lower ends of the slide fasteners. Accordingly, the flap is secured in the opening condition against displacement by winds or other forces.

If it is desired to close the flap from the open condition illustrated in FIG. **17,** a person within the tent need merely to push outwardly on the inner end of the peg **102** to disengage it from the grommet opening, whereupon the flap falls by gravity downward against the outer side of the tent cover.

To once again open the flap to the position illustrated in FIG. **17,** a person within the tent merely grasps the inner end of the cord **116,** which has been prevented from passing outward through the ground opening by virtue of the crossed pin **120,** and pulls the cord inward through the grommet opening. The inner end portion **110** of the peg thus is guided into the grommet opening to the seated position illustrated in FIG. **17.** During this movement the lower end of the flap is moved outward to the opened position.

If it is desired to completely expose the window screen **90,** the inner end of the peg **102** is pushed outward from the grommet opening and the cord **116** and pin **120** also pushed outward through the grommet opening, by arranging the pin parallel to the cord so that both may be passed through the grommet opening.

The peg then is turned parallel to the lower edge of the flap **92** and the latter then rolled upwardly to its upper edge and there secured by the cloth ties **96.**

It is an important feature of this invention that as the tent unfolds to fully open position, an over-center locking mechanism functions in association with the stretched tent cover **60** to secure the tent in said open position. In this regard, it is to be noted in FIGS. **1–5** that during erection of the tent the hub **40,** to which the braces **34** are pivotally connected, moves upward toward the top base member. During its final upward movement the hub moves upward across a plane **122** (FIG. **6**) which extends through the pivot pins **30** which anchor the outer ends of the braces to the main ribs **22.** This over-center movement of the hub is resisted resiliently by the cover **60** which has become stretched across the ribs as the hub moved upward to said plane **122.**

Thus, as the hub moves across said plane, the tension of the stretched cover impresses an inward force on the ribs and braces, tending to snap the hub further upward. Accordingly, means is provided for limiting the upward movement of the hub **40** toward the flange **10** of the top base member and hence to limit the inward contraction of the ribs to a degree that maintains the tent cover stretched.

Various types of abutment means may be interposed between the hub **40** and top base member to limit the upward movement of the hub beyond said plane **122.** In the embodiment illustrated in FIGS. **6–8,** the abutment is provided by a shoulder **124** formed between the reduced diameter lower section and main upper section of the vertical post portion **12** of the top base member. The hub thus is brought into abutment with the shoulder shortly after it has passed upward over said plane **122.**

In the embodiment illustrated in FIG. **12,** a tubular sleeve **126** is secured at its lower end to the hub **40** and extends upwardly therefrom. The upper end of the sleeve preferably is flared upwardly to guide its entrance over the post. Although the post may be long enough to extend through the hub, in the manner illustrated in FIG. **7,** it may be sufficiently short, as illustrated in FIG. **12,** to render it unnecessary to provide an opening through the hub. In such instance, the lower end of the sleeve may be secured to the upper surface of the hub, as by welding or other suitable means.

In the embodiment illustrated in FIG. **13,** the post portion of the top base member is provided in the form of multiple telescoping sections **128,** the lowermost section of which is secured to the hub **40.** The shoulder **130** formed at the lower end of the uppermost section functions as an abutment for the hub, in manner similar to the shoulder **124** illustrated in FIG. **7.**

It is to be noted, particularly from FIGS. **7, 12** and **13,** that the post portion of the top base member is either a solid rod (FIGS. **7** and **12**), or is otherwise closed at its upper end (FIG. **13**). This construction is made possible by avoiding the necessity, as in some prior art constructions, of securing an elongated rod or cord at its lower end to the hub and extending it upward through an opening in the top base member. Thus, the present invention avoids the structural complication necessitated in such prior art constructions of providing a weather tight seal between such rod or cord and the top base member.

The operation of the collapsible umbrella tent described hereinbefore is as follows: First, let it be assumed that the tent is in its fully collapsed condition, i.e. the hub **40** is moved fully downward so that the main ribs **22** are pivoted inward on their pivot pins **16** and lie substantially parallel to each other closely adjacent the hub, and the extension ribs **42** are pivoted upward and lie closely adjacent the outer sides of the main ribs. From this fully collapsed condition, the first step of erection is illustrated in FIG. **1,** wherein the extension ribs **42** are folded outward to rest upon the ground. This is accomplished by grasping the short outer extension of the vertical post portion **12** of the top base member in one hand to stabilize the vertical assembly, while the other hand swings the extension ribs outward.

Diametrically opposite main ribs **22** then are grasped one by each hand and pulled outward as far as possible (FIG. **2**). By this means the bottom edge of the tent cover **60,** and hence the floor **62** of the tent, are extended to their maximum dimensions. In the event the tent is being erected under such adverse conditions as a strong wind, the base of the tent may now be anchored to the ground, by stakes engaging the loops **68,** as previously mentioned, while the main body of the tent is still in substantially collapsed condition and thus lease reactive to the wind.

In any event, the next step (FIG. **3**), is to pull upward on the top base member, again by gripping the upward extension by the hand, until the hub **40** is elevated above the ground to a distance convenient to the operator.

The operator, who has been standing in the open door of the tent cover, then reaches into the tent with his free hand and pushes upward on the hub (FIG. **4**) until the hub has snapped upward over the plane **122** (FIG. **6**) and is brought to its fixed position of spacing relative to the top base member.

The foregoing sequence of manipulations illustrated in FIGS. **1–5** are capable of completion in the matter of about a few seconds. Equally rapid is the reverse sequence of collapsing the tent for transport or storage.

The tent is collapsed simply by pulling downward on the hub **40** with sufficient force to move it downward across said plane **122** (FIG. **6**), whereupon the components of the tent assembly collapse substantially to a condition illustrated in FIG. **2.** The extension ribs **42** then are folded upward against the outer side of the main ribs **22** and the latter collapsed fully toward the hub. The excess cover and floor material is then merely coiled about the collapsed framework and retained by encircling straps or cords, or by slipping the assembly into a carrying bag.

The tent construction described hereinbefore accommodates the provision of tents of diverse sizes and shapes. In the event the height of the tent is such as to render it difficult to grasp the short upper extension of the top base member, or the strap **80** (FIG. **15**) in the hand, during the final stages of erection (FIGS. **4** and **5**), these final stages of erection may be accomplished by the operator solely by manipulation of the hub from within the tent.

In the embodiment of FIGS. **1–6** the cover **60** is supported by the framework on the outer side thereof. FIGS. **19–21** illustrate a construction by which the covering **60** may be supported by the framework on the inner side thereof. For this purpose the top base member is provided in a form similar to that illustrated in FIG. **12,** wherein a tubular sleeve **126** extends upwardly from a solid hub **40** for reception of the post **12**

which extends downward from a solid horizontal flange **10.**

A flexible strap **132** is secured intermediate its ends to the underside of the hub **40,** as by means of a bolt **134** and interposed washer **136** (FIG. **20**). The terminal ends of the strap are secured to the outer side of the top center of the cover **60,** as by means of stitching **138.**

In similar manner, a pair of flexible straps **140** are secured to the opposite sides of each of the pivot brackets **26.** In the embodiment illustrated, this is achieved by replacing the pivot pins **30** of FIGS. **6** and **11** with pivot bolts **30'** (FIG. **21**) the head and nut of each being backed by washers, with the flexible straps interposed between the washers and the bracket **26.** The inwardly extending ends of the straps are secured to the outer side of the cover **60,** as by stitching **142.**

Similarly, a pair of flexible straps **144** are secured to the opposite sides of each of the upper portions of the pivot connector for each rib section **22,** as by replacing the pivot pin **50** of FIGS. **6** and **9** with a pivot bolt **50',** similar to the pivot bolt **30'** described hereinbefore. The inwardly extending ends of the straps are secured to the outer side of the cover **60** as by stitching.

If desired, a similar flexible strap **146** may interconnect the cover **60** and an intermediate portion of eadh of the rib sections **42.**

The socket elements **66',** similar to the socket elements **66** of FIG. **6** which anchor the bottom ends of rib sections **42,** are connected to the bottom edge of the cover **60** by means of flexible straps **148,** as will be apparent.

The foregoing arrangement of flexible straps allows the frame to be collapsed in the manner described hereinbefore and to be extended to the erected condition illustrated in FIG. **19,** following the same procedures described hereinbefore in connection with FIGS. **1–5.** In the erected condition of FIG. **19,** the stretched cover **60** resists movement of the hub **40** across the plane **122,** in the same manner as described hereinbefore.

If desired, a shielding flap **150** of flexible, waterproof material may be provided to overlie the upper portion of the tent framework and cover **60.** As illustrated in FIG. **19,** the flap is contoured to the external shape of the erected framework and is provided with a central opening **70'** for reception of the threaded shank **76** on a separate short extension **12'** which includes a clamp shoulder **74,** in the manner illustrated in FIG. **14.** The central portion of the flap thus is secured in position against the flange **10** of the top base member. The flap also may be secured to each of the rib sections **22.** In the embodiment illustrated (FIG. **21**), this is achieved by providing openings **152** in the flap material registering with threaded openings provided in the rib sections **22,** preferably adjacent the bracket **26** and coupling component carrying pivot bolt **50',** for reception of anchor bolts **154.** In this manner, the shielding flap is rendered removable, but may be retained in position substantially permanently.

The provision of the shielding flap **150** of waterproof material allows the main cover **60** to be made of very thin fabric which need only be water repellent while allowing air to pass through it. The space between the cover **60** and flap **150** allows circulation of air which reduces materially the temperature and humidity within the tent.

From the foregoing, it will be appreciated that the present invention provides an umbrella tent which may be collapsed to minimum bulk for eacy transport and convenient storage, and which may be erected with speed and facility to provide an enclosure of substantial size, free of internal obstructions. As described hereinbefore, when the tent construction includes the extension ribs **42,** the base of the tent may be expanded to full dimensions for anchoring to the ground, while the tent remains in substantially collapsed condition. This materially assists in erection and collapse of the tent under such adverse conditions as high winds. The simplified construction contributes significantly to minimum cost of manufacture and long service life with minimum maintenance and repair.

It will be apparent to those skilled in the art that various changes may be made in the size, shape, number, type and arrangement of parts described hereinbefore without departing from the spirit of this invention.

Having now described my invention and the manner in which it may be used, I claim:

1. An umbrella tent comprising

a. a framework including

1. an imperforate top base member including a flange portion and a vertical post portion extending downward from the flange portion,
2. a plurality of elongated resilient ribs pivoted at their upper ends to the flange portion of the top base member at peripherally spaced positions for movement between extended and retracted positions,
3. a plurality of braces connected pivotally at their outer ends one to each of the ribs intermediate the ends of the latter,
4. a hub pivotally interconnecting the inner ends of the braces and positioned vertically below the top base member for vertical movement toward and away from the latter across the plane extending through the pivot connections of the braces to the ribs, to move the ribs between said extended and retracted positions, and
5. abutment means on the top base member and hub interengageable when the hub moves upward across said plane to limit said upward movement, and

b. flexible cover material supported by the framework and dimensioned to become stretched as the ribs move toward extended position, whereby to maintain the abutment means resiliently in interengagement and the tent in erected condition.

2. The umbrella tent of claim **1** wherein each of the ribs includes a main rib section pivoted to the flange of the top base member and an extension rib section connected pivotally to the outer end of the main rib section for movement through an arc of substantially 180° between an extended position substantially aligned with the main rib section and a retracted position adjacent the outer side of the main rib section, the extension rib sections being dimensioned to extend laterally from the main rib sections in a position intermediate said extended and retracted positions a distance defining the ground dimensions of the erected tent, whereby the tent may be secured to the ground at an initial stage of erection of the tent.

3. The umbrella tent of claim **1** wherein the top base member includes a clamp member adjustable toward and away from the flange portion for clamping the cover material therebetween.

4. The umbrella tent of claim **1** wherein the flange portion of the top base member has a threaded opening therethrough and the vertical post portion has an intermediate threaded section engageable removably with said threaded opening, and a clamp member is located on the post adjacent the outer end of the threaded section for clamping said cover material between said clamp member and flange portion.

5. The umbrella tent of claim **1** including securing means on the inner side of the cover material arranged to engage the top base member for securing the cover material thereto.

6. The umbrella tent of claim **5** wherein the securing means comprises a plurality of tie straps arranged to be tied together under the flange portion of the top base member.

7. The umbrella tent of claim **1** wherein the post portion of the top base member includes a plurality of telescoping sections, one end section being secured to the flange portion and the opposite end section being secured to the hub, and said abutment means comprises the end of said one end section opposite the flange portion.

8. In a tent having a flexible cover provided with a window, a window closure comprising

a. a flexible flap connected at one edge to the cover and overlying the window,

b. fastener means on the cover and flap for releasably securing the flap to the cover at the ends of the flap edge opposite the connected edge,

c. an elongated peg secured at its outer end to the flap adjacent said opposite edge intermediate the ends of the latter,

d. an opening in the cover inwardly of said fastener means arranged to removably receive the inner end of the peg,

e. abutment means on the peg adjacent said inner end for abutting the cover at said opening,

f. the length of the peg from said outer end to said abutment means being greater than the shortest distance between said secured end and a line extending transversely between said fastener means, and

g. a flexible cord extending from the inner end of the peg into the tent for guiding the peg inwardly into said cover opening.

9. The window closure of claim **8** including a cord retainer on the outer end of the cord having one dimension greater than the cover opening, whereby to prevent its passage outwardly through said cover opening.

10. The window closure of claim **9** wherein the cord retainer has a second dimension smaller than the cover opening, whereby to enable its passage outwardly through said cover opening.

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