2008

PATENT ATTORNEYS

EXAMINATION

PAPER E

The New Zealand Law and Practice
relating to Interpretation and Criticism of Patent Specifications

Regulation 158 (1) (e)

Duration: 4 hours (plus 10 minutes for reading)

2008

Paper E

Your answer should be in the form of a comprehensive report including your opinion and recommendation. You should cover all relevant matters even where you consider one aspect may not need to be decided because of your opinion on another aspect.

Your answer should demonstrate that you can correctly apply the relevant New Zealand law to this fact situation. Marks will not be awarded for unexplained conclusions, unsupported opinion, long restatements of the law or for detailed explanations of High Court or IPONZ procedure.

You may choose to write on the documents forming the examination script and include these in your answer. If so, please ensure you attach the relevant pages to your answer script.

Your client Mrs Vivien would like to manufacture a portable hunting hide. A hunting hide is also known as a blind. The hide or blind is a place for the hunter to wait without being observed by the animals being hunted, for example ducks or geese. Mrs Vivien has two alternative product proposals V1 and V2. Both variations of the portable hide are described in Document 1 (D1). The portable hide includes a collapsing framework and a tent-like cover. The framework is supported by being strapped to a suitable tree. Mrs Vivien would prefer to market V1.

Mrs Vivien informs you that her hide is going to compete directly with the "Porti Blind" made and sold in NZ by Mr Zac. The Porti Blind is shown in Document 2 (D2). D2 is a pamphlet published by Mr Zac after he filed his patent application. Mrs Vivien believes that Mr Zac is not being successful with his product because he is not commercially astute. Mrs Vivien believes he can do much better. Mr Zac has marked his product "This product is covered by NZ Patent 500,000" (D3).

Your client says the Porti Blind hide is exactly the same as V1 except that the wall is canvas and the d-rings for securing the wall to the roof canvas are provided at the outer end of each corner pocket.

Mrs Vivien informs you that she paid a designer, Mr Blake, to design V1. Mrs Vivien informs you that Mr Blake also worked on the industrial design for the Porti Blind the final design of which is shown in D2.

You have questioned Mr Blake. Mr Blake says that he was friend of Mr Zac. Mr Blake says that the portable hunting blind was Mr Zac's idea, and that Mr Zac told him about the idea in 2003.

Mr Blake says:

- He is a freelance product designer.
- At the time he started work on the project Mr Zac wanted him to make a commercial version of the hide the same as described in NZ patent 500000.
- He, Mr Blake, worked on the idea further and prepared drawings for Mr Zac.
- The Porti Blind is made exactly according to those drawings. Mr Blake says that he did the detailed design work out of friendship.
- There was never any paperwork, and he wasn't paid any money.
- Since then his friendship with Mr Zac has soured.
- Mr Zac is now under financial stress and blames some of this on Mr Blake.
- When he, Mr Blake, designed the Porti Blind he replaced the collapsing framework described in the patent, with a new design he had seen used in a shade umbrella.

Mr Blake has provided you with an excerpt from a 2000 trade catalogue (D4) that he says he worked from to detail both mechanisms for V1 and the Porti Blind.

Mrs Vivien says that she paid a designer Ms Manners to design V2. You have interviewed Ms Manners. Ms Manners says that she was only provided with D4 and was asked to design a portable hide that would secure to a tree. She says she was already well aware of the umbrella design in D4, which had been widely available for sale in outdoor furniture outlets since it was introduced in 1990. She was told the hide should include a mechanism like that in D4, with the support pole adapted to be held against a tree in an upright position, with some sort of camouflage cover to reach to the ground and enclose the hunter. She says that he has never seen the Porti Blind.

You've done a prior art search and found three documents that may be useful: US4449542 (D5), US4284095(D6) and US 373809(D7).

Mrs Vivien wants your advice before she decides which hide design to start manufacturing. Your answer should consider:

Infringement of NZ patent 500000 by product V1, and by product V2	-40 marks
Validity of the patent	-40 marks
Any other IP issues, including anything that Mrs Vivien or Mr Zac might do to improve their position	-20 marks

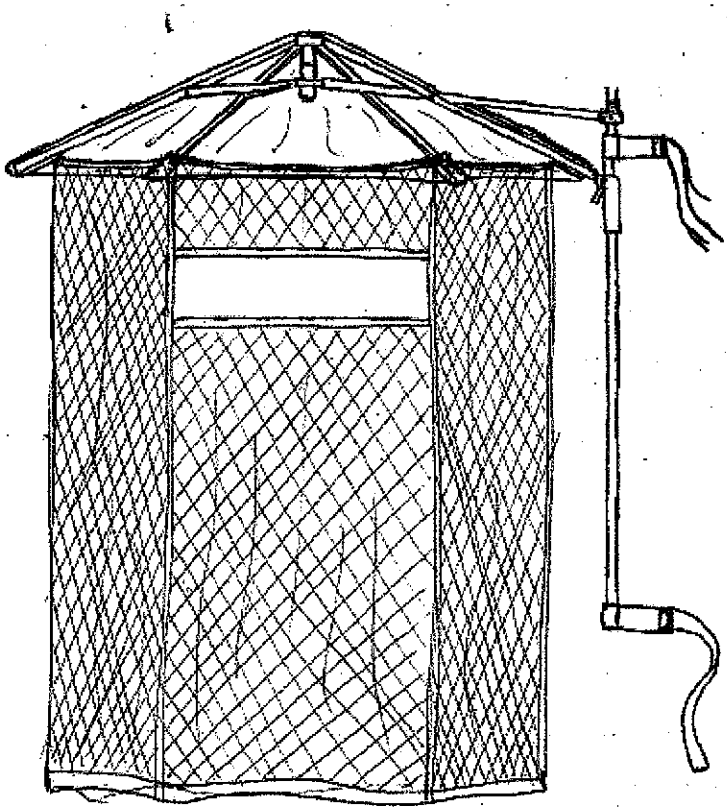
Summary of Documents:

D1 – Descriptions of Mrs Vivien's product proposals, V1 and V2
D2 – Brochure for Mr Zac's Porti-Blind
D3 – Details and specification for NZ patent 500000
D4 – Trade catalogue entry for an outdoor umbrella design (published 2000)
D5 – US Patent 4449542 (Available at the NZ Patent Office from September 1984)
D6 – US Patent 4284095 (Available at the NZ Patent Office from January 1982)
D7 - US Patent 373809 (Available at the NZ Patent Office from February 1954)

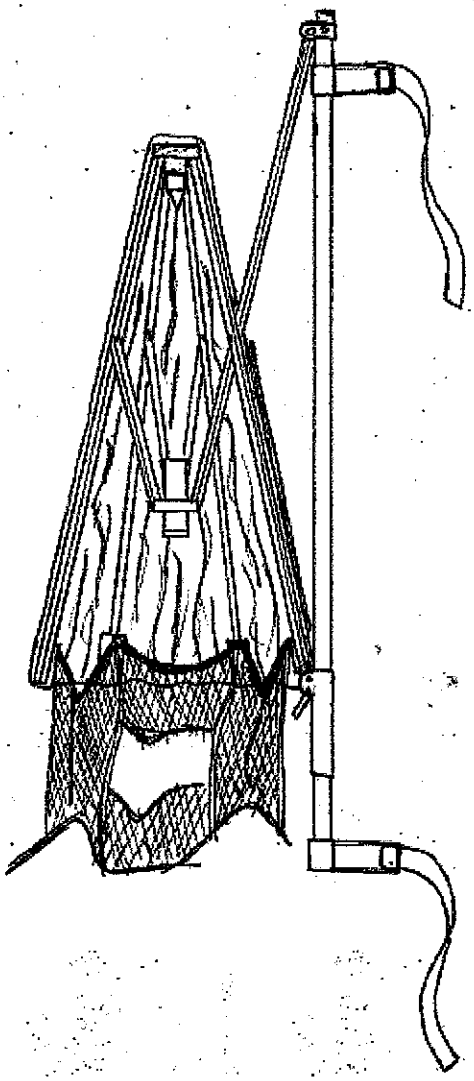
D1

V1:

This hide includes a support pole which is secured to a tree or post for use. a collapsing umbrella is connected to the support pole. The collapsing umbrella has a canvas roof and a set of netting walls. The netting walls are covered in strip camouflage material, which is not shown in the drawings.



The umbrella mechanism includes a set of radial arms pivoted to an upper boss. The radial arms act as a set of six ridge lines supporting the roof. Five corners of the roof canvas include a pocket. The ends of the respective arms fit in the pockets.



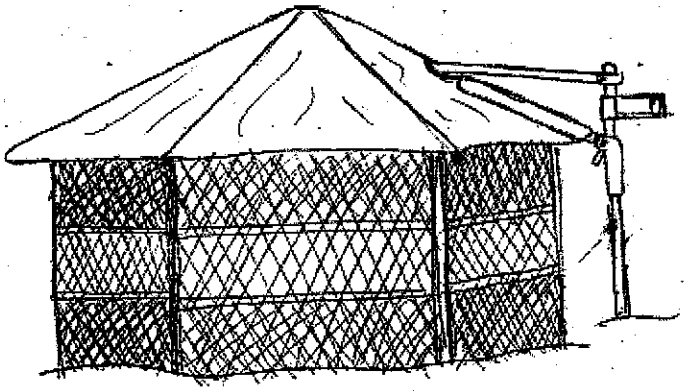
One of the roof arms is pivotally connected to a sliding tube on the support pole. The sliding tube includes a locking cam to engage the pole. The user of the hide can engage and disengage the locking cam by operating a lever on the side of the sliding tube.

The umbrella is held open by a set of six spreaders. Each spreader is pivotally connected to a lower centre boss at one end. Each spreader is also pivotally connected to one of the roof arms. One of the spreaders extends beyond the roof arm and pivotally connects to an upper end of the support pole.

To erect the umbrella the user brings the sliding tube up the support pole. The scissoring action of the spreader and the roof arm brings the lower centre boss and the upper centre boss closer. This forces

the other roof arms apart. The opening continues until the upper and lower boss are engaged. The sliding tube can then be locked in place to hold the umbrella open.

This mechanism is as described in the umbrella brochure (D4)



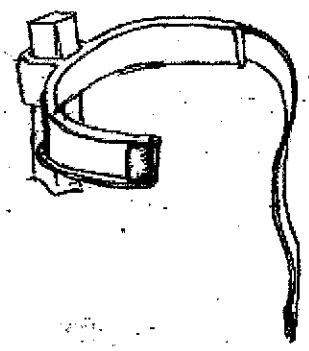
The last corner of the roof portion is fitted to the roof arm that connects to the sliding tube. This corner includes a sleeve. The roof arm passes through the sleeve.

The roof canvas has a split from this corner to the centre. A pair of flaps extend along this split. One flap is arranged either side of an opening about midway along the slit. The opening allows the spreader to pass through to connect to the support pole. The flaps include one half of a hook and loop fastener system (Velro). The other half of the hook and loop fastener is on the outside face of the other side of the split. Once the roof canvas is fitted over the umbrella frame with the roof arm ends in the corner pockets, the flaps close over the split and secure to the far side to secure the roof canvas in place.

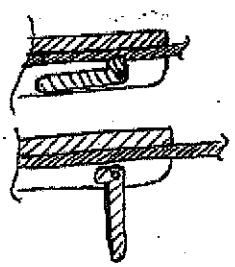
The inner end of each corner pocket of the roof canvas includes a d-ring. Each upper corner of the net wall includes a snaplock fitting that secures to the d-ring.

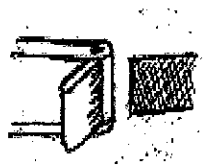
The net includes six wall sections forming a continuous hexagonal enclosure. Three of the wall sections include a window opening. A person using the hide can enter by lifting the lower edge of the enclosure. The person can observe and shoot through the window openings.

The support pole includes a concave plastic frame at top and bottom. The support frames hold the pole off the tree enough to allow the carriage to move up and down to actuate the mechanism.



Each support frame includes a strap leaving one side, that goes around the tree and into a buckle on the far side of the frame. The buckle includes a cam-lock to grip the strap. The designer says that the exact same plastic frame and strap arrangement is commonly used on collapsing golf trundlers to hold the golf bag in place.

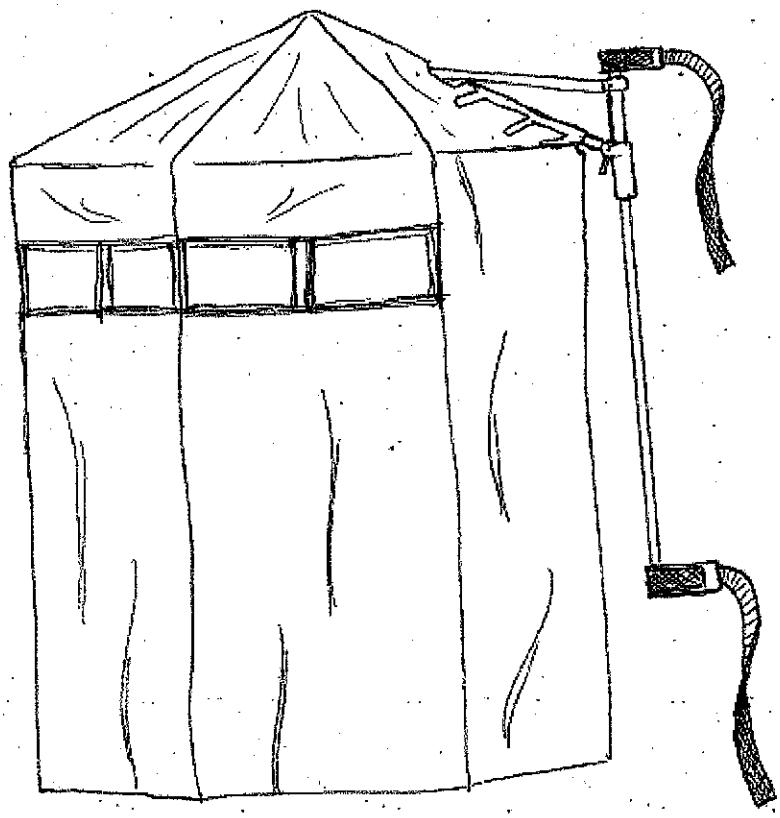




V2

Like the V1 hide, the V2 hide uses the collapsing mechanism of the umbrella described in D4. This document describes the differences between the V1 and V2 hides.

The V2 hide includes a support pole supporting the collapsing umbrella mechanism. A canvas tent, which is preferably printed in camouflage patterns, is supported over the umbrella. The canvas tent includes a roof portion, and in integral wall portion extending from the periphery of the roof portion. The wall portion forms an enclosure but includes a split at one side edge adjacent the support pole. This split is used for entering the hide. The split continues into the roof section. in the roof section the split is closed by a flap secured by hook and loop fasteners (Velcro). Once erected the flap secures through the gap between the spreader and roof arm that support the umbrealla from the support pole.



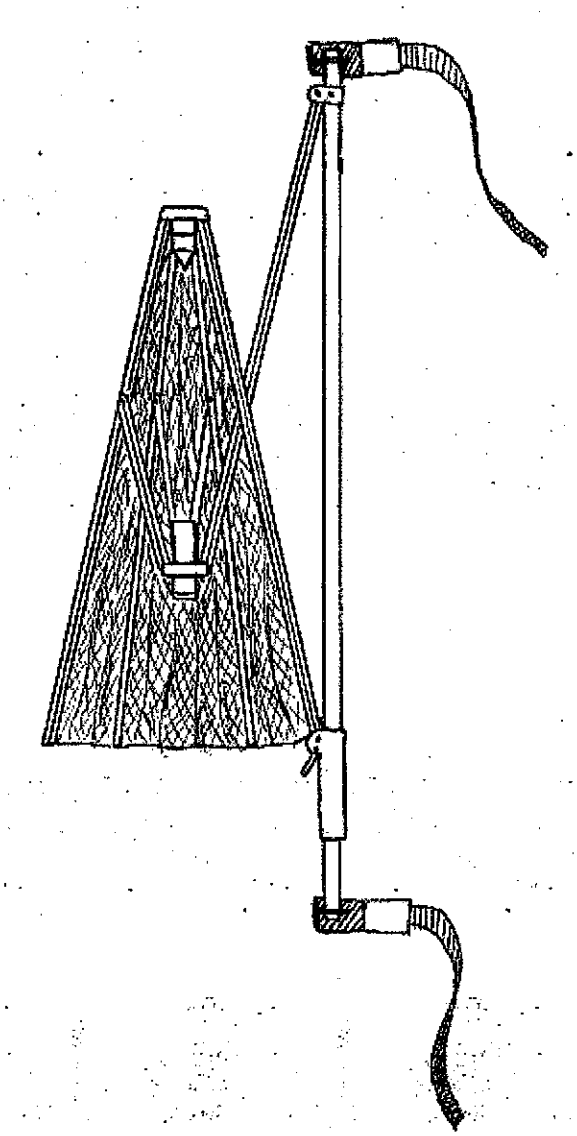
The wall portion includes a window extending around four sides; excepting only the sides adjacent the entrance split.

The support pole includes a concave foam block socketed over each end. Each foam support block includes a strap that is glued right across the back of the block and has a long free end. The inside of the strap is provided with Velcro hooks, the outside is covered in Velcro loops. The strap goes around the tree and then around the block, locking to itself. The support blocks hold the pole off the tree enough to allow the carriage to move up and down to actuate the mechanism.

For convenience a separate skin of net material is provided on the umbrella

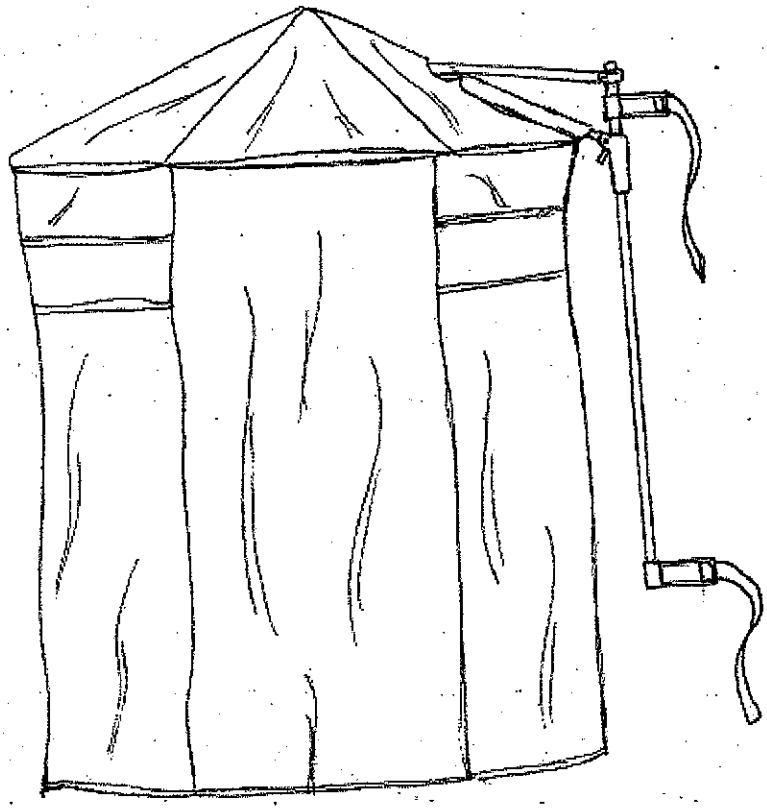
framework underneath the cover. This supports the mechanism by helping to space the arms apart correctly.

In use the tent may be prefixed over the umbrella before erecting the umbrella, or may be fitted over the umbrella after the umbrella is erected.



D2

Introducing the Porti Blind.



Covered by NZ Patent 500,000.

D3

Title: A portable blind
Filed: 17 May 2002
Complete specification date: 17 May 2002
Priority: None
Accepted: 28 April 2003
Granted: 10 August 2003

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates generally to hunters blinds, and, more particularly, to hunters blinds especially adapted for mounting in a tree.

2. Description of the Prior Art

Hunters blinds are small shelters occupied by hunters to conceal the hunters from the view of game while permitting the hunters to view their surroundings. Some types of small shelters that may be used by hunters are constructed based upon umbrella structures and fabric-type material that hangs down from the umbrella structures. In this respect, U.S. patent 4,449,542 discloses a small shelter that employs an umbrella structure. The structure is supported by the ground, independent from a tree. Compared to a strong tree, a support for an umbrella-structure-based shelter that is independent of a strong tree is a relatively weak support structure. In this respect, it would be desirable if an umbrella-structure-based shelter were provided that is mounted on a tree.

SUMMARY OF THE INVENTION

It is therefore an object of the present invention to provide a new and improved portable, tree-mounted blind apparatus which has all of the advantages of the prior art and none of the disadvantages.

To achieve the foregoing and other advantages, the present invention, briefly described, provides a portable blind apparatus for mounting on a cylindrical support and includes an umbrella mounting assembly for mounting on the cylindrical support. A collapsible umbrella is supported by the umbrella mounting assembly. The umbrella includes a collapsible umbrella canopy and a canopy support member connected to the umbrella canopy. A flexible net is draped over and supported by the umbrella. The flexible net can be fixed to the canopy support member with a quantity of adhesive material.

According to further aspects of the invention net straps are connected to the net for stabilizing the net with respect to the cylindrical support. Commonly, the cylindrical support is a tree, but can also be posts, columns, or other vertically standing cylindrical supports. A person who is inside the internal region defined by the hanging net and the umbrella is concealed from view and is protected from becoming wet by rain or snow.

According to further aspects of the invention the umbrella mounting assembly includes a block member. A pair of block-mounting straps are connected to the block member. A transverse strut is connected to the block member. An umbrella-reception member is supported by the transverse strut. The canopy support member is supported by the umbrella-reception member. The width of the block member and the length of the transverse strut are selected such that when the canopy support member is supported by the umbrella-reception member and when the umbrella canopy is in a open condition, the canopy support member is sufficiently far from the tree so that the umbrella canopy can be in a fully opened condition without being obstructed by the tree.

According to further aspects of the invention the block member includes a strut reception channel. The umbrella-reception member includes a strut receiving channel, and the umbrella-reception member includes a canopy-support-member-reception channel. The strut receiving channel and the canopy-support-member-reception channel are perpendicular to each other.

According to further aspects of the invention a locking assembly can be provided for locking the canopy support member into the umbrella-reception member. The locking assembly includes a pin-reception channel in the umbrella-reception member. A pin tether is connected to the umbrella-reception member, and a lock pin is connected to the pin tether.

According to further aspects of the invention the block-mounting straps include strap-to-strap connectors. The strap-to-strap connectors includes complimentary hook or loop material. a strut end protector mounted on the transverse strut. The block member includes a concave block side that is placed next to the tree.

In accordance with another aspect of the invention, the flexible net can include windows or portholes.

The above brief description sets forth rather broadly the more important features of the present invention in order that the detailed description thereof that follows may be better understood, and in order that the present contributions to the art may be better appreciated. There are, of course, additional features of the invention that will be described hereinafter and which will be for the subject matter of the claims appended hereto.

These together with still other objects of the invention, along with the various features of novelty which characterize the invention, are pointed out with particularity in the claims annexed to and forming a part of this disclosure. For a better understanding of the invention, its operating advantages and the specific objects attained by its uses, reference should be had to the accompanying drawings and descriptive matter in which there are illustrated preferred embodiments of the invention.

Brief Description of the Drawings

Figure 1 is a side view showing a first embodiment of the portable, tree-mounted blind apparatus of the invention mounted on a tree.

Figure 2 is an enlarged rear view of a portion of the embodiment of the portable, tree-mounted blind apparatus shown in taken along line 2-2 of Figure 1.

Figure 3 is a side view of the umbrella and umbrella mounting assembly of the embodiments of the invention shown in Figure 1.

Figure 4 is a partial top view of the embodiment of the portion of the invention shown in Figure 1 taken along line 4-4 thereof.

Figure 5 is an exploded perspective view of the umbrella and umbrella mounting assembly shown in Figures 3 to 5.

Figure 6 is a side view showing a second embodiment of the portable, tree-mounted blind apparatus of the invention mounted on a tree, wherein the second embodiment includes windows in the flexible net.

Figure 7 is an enlarged rear view of a portion of the embodiment of the portable, tree-mounted blind apparatus shown in Figure 7 taken along line 7-7 of Figure 6.

■

DESCRIPTION OF THE PREFERRED EMBODIMENT

With reference to the drawings, a new and improved portable, tree-mounted blind apparatus embodying the principles and concepts of the present invention will be described.

Turning to FIGS. **1-5**, there is shown a first embodiment of the portable, tree-mounted blind apparatus of the invention generally designated by reference numeral **10**. In the first embodiment, the portable, tree-mounted blind apparatus **10** is provided for mounting on a cylindrical support and includes an umbrella mounting assembly **12** for mounting on the cylindrical support. A collapsible umbrella **14** is supported by the umbrella mounting assembly **12**. The umbrella **14** includes a collapsible umbrella canopy **13** and a canopy support member **15** connected to the umbrella canopy **13**. A flexible net **16** is draped over and supported by the umbrella **14**. The flexible net **16** can be fixed to the canopy support member **15** with a quantity of adhesive material. Net straps **18** are connected to the net **16** for stabilizing the net **16** with respect to the cylindrical support. Commonly, the cylindrical support is a tree **11**, but can also be posts, columns, or other vertically standing cylindrical supports.

The umbrella mounting assembly **12** includes a block member **20**. A pair of block-mounting straps **22** are connected to the block member **20**. A transverse strut **26** is connected to the block member **20**. An umbrella-reception member **28** is supported by the transverse strut **26**. The canopy support member **15** is supported by the umbrella-reception member **28**. The width of the block member **20** and the length of the transverse strut **26** are selected such that when the canopy support member **15** is supported by the umbrella-reception member **28** and when the umbrella canopy **13** is in a open condition, the canopy support member **15** is sufficiently far from the tree **11**

so that the umbrella canopy **13** can be in a fully opened condition without being obstructed by the tree **11**. The transverse strut **26** can be telescopically adjustable to provide a wide range of adjustment for adjusting the lateral displacement of the main portion of the shelter from the tree trunk.

The block member **20** includes a strut reception channel **32**. The umbrella-reception member **28** includes a strut receiving channel **36**, and the umbrella-reception member **28** includes a canopy-support-member-reception channel **38**. The strut receiving channel **36** and the canopy-support-member-reception channel **38** are perpendicular to each other.

A locking assembly can be provided for locking the canopy support member **15** into the umbrella-reception member **28**. The locking assembly includes a pin-reception channel **40** in the umbrella-reception member **28**. A pin tether **42** is connected to the umbrella-reception member **28**, and a lock pin **44** is connected to the pin tether **42**.

The block-mounting straps **22** include strap-to-strap connectors. The strap-to-strap connectors include complimentary hook or loop material **34**. The complimentary hook or loop material **34** can be well known VELCRO(™) material. Strut end protector **30** is mounted on the transverse strut **26**. The block member **20** includes a concave block side **24** which is adapted to fit against a cylindrical tree trunk.

To use the portable, tree-mounted blind apparatus **10** on a tree **11**, the apparatus is first obtained in a folded up and collapsed condition which is the condition used for storage. In the collapsed condition, the canopy support member **15** is collapsed, and the flexible net **16** is folded up. Also, in the collapsed condition, the umbrella canopy **13**, the umbrella-reception member **28**, the transverse strut **26**, and the concave block side **24** are disassembled from one another. The net straps **18** can be used to bind the apparatus in the collapsed condition into a compact portable package.

The compact package of the collapsed condition is open for mounting the apparatus onto a cylindrical support, such as the tree **11** shown in . To mount the blind apparatus **10** onto the tree **11**, the concave block side **24** of the block member **20** is placed against the outer circumference of the tree **11**. The block-mounting straps **22** are wrapped around the circumference of the tree **11**, and the complimentary hook or loop materials **34** on the respective straps are connected together so securely mount the block member **20** to the tree **11**. Then, an end cap of the strut end protector **30** is removed from a sharp end of the transverse strut **26**, and the sharp end of the transverse strut **26** is pushed into a strut reception channel **32** in the block member **20**. Then, the umbrella-reception member **28** is obtained, and a strut receiving channel **36** in the umbrella-reception member **28** is forced onto the distal end of the transverse strut **26**. Then, the umbrella canopy **13** is oriented in an open canopy condition, and the canopy support member **15** is pushed into a canopy-support-member-reception channel **38** in the umbrella-reception member **28**. The lock pin **44** is then used to secure the canopy support

member **15** in the umbrella-reception member **28**. The flexible net **16** is draped over the opened umbrella canopy **13**, and the flexible net **16** down from the umbrella canopy **13** to the ground level. Also, if desired, the flexible net **16** can be fixed to the umbrella canopy **13** using a quantity of adhesive material. Once the flexible net **16** is draped over the umbrella canopy **13** and hangs down therefrom, the net straps **18** can be tied around the tree **11** to stabilize the flexible net **16** and the umbrella mounting assembly **12**.

To use the portable, tree-mounted blind apparatus **10** of the invention. A person, such as a hunter, lifts an end of the flexible net **16** and moves under the umbrella canopy **13**. Then, the person drops the flexible net **16** so that the flexible net **16** hides the person. The flexible net **16** is selected to that the person easily sees out from inside the internal concealed region defined by the hanging net. The flexible net **16** can be made from camouflage netting material. The umbrella canopy **13** serves to protect the person inside the internal concealed region defined by the hanging net and the umbrella canopy **13** dry is protected from becoming wet by rain and snow.

When the portable, tree-mounted blind apparatus **10** of the invention is no longer needed, the assembly process is reversed, and the apparatus can be placed in a compact collapsed condition for transport and storage.

Turning to , a second embodiment of the invention is shown. Reference numerals are shown that correspond to like reference numerals that designate like elements shown in the other figures. In addition, the flexible net **16** can include windows or portholes **46**. There can be five windows **46** or portholes located in the flexible net **16**. In this case the hunter does not need to see through the net, so the camouflage cover could be an apaque shet material such as canvas.

The components of the portable, tree-mounted blind apparatus of the invention can be made from inexpensive and durable metal, plastic, and fabric materials.

As to the manner of usage and operation of the instant invention, the same is apparent from the above disclosure, and accordingly, no further discussion relative to the manner of usage and operation need be provided.

It is apparent from the above that the present invention accomplishes all of the objects set forth by providing a new and improved portable, tree-mounted blind apparatus that is low in cost, relatively simple in design and operation, and which may advantageously be used to provide an umbrella-structure-based shelter that is mounted on a tree. With the invention, a portable, tree-mounted blind apparatus is provided which can be supported from a tree by a conventional umbrella. With the invention, a portable, tree-mounted blind apparatus is provided which can be mounted on various size trees. With the invention, a portable, tree-mounted blind apparatus is provided which has mounting structures which are especially adapted for mounting on a cylindrically-shaped tree trunk. With the invention, a portable, tree-mounted blind apparatus is provided which has means for adjusting the lateral

displacement of the main portion of the shelter from the tree trunk. With the invention, a portable, tree-mounted blind apparatus is provided which has a plurality of small windows which allow a person inside the blind to see outside the blind with exposure of only a small portion of the person to visibility from outside the blind.

Thus, while the present invention has been shown in the drawings and fully described above with particularity and detail in connection with what is presently deemed to be the most practical and preferred embodiment(s) of the invention, it will be apparent to those of ordinary skill in the art that many modifications thereof may be made without departing from the principles and concepts set forth herein, including, but not limited to, variations in size, materials, shape, form, function and manner of operation, assembly and use.

I claim:

1. A portable blind apparatus for mounting on cylindrical support, comprising an umbrella mounting assembly for mounting on the cylindrical support, a collapsible umbrella supported by said umbrella mounting assembly, wherein said umbrella includes a collapsible umbrella canopy and a canopy support member connected to said umbrella canopy, and a flexible cover draped over and supported by said umbrella.

2. The apparatus of claim 1, further including cover straps connected to said cover for stabilizing said cover with respect to the cylindrical support.

3. The apparatus of claim 1 wherein said umbrella mounting assembly includes a block member, and at least one mounting strap connected to said block member.

4. The apparatus of claim 3 wherein said umbrella mounting assembly includes at least two block-mounting straps and the straps include strap-to-strap connectors.

5. The apparatus of claim 3 wherein said block member includes a concave block side.

6. The apparatus of claim 1 wherein said cover includes a plurality of windows.

7. The apparatus of claim 1 wherein said cover is a camouflage net.

8. A portable blind apparatus substantially as herein described with reference to and as illustrated by the drawings.

FIG 1

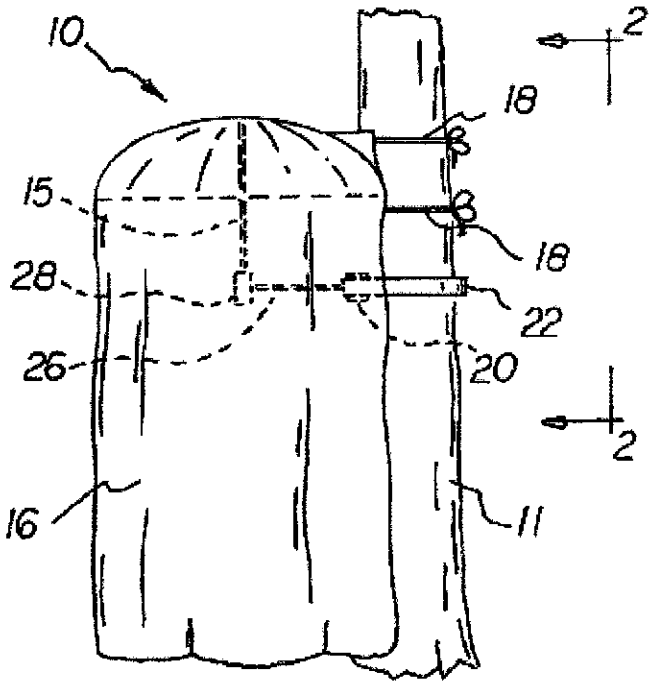


FIG 2

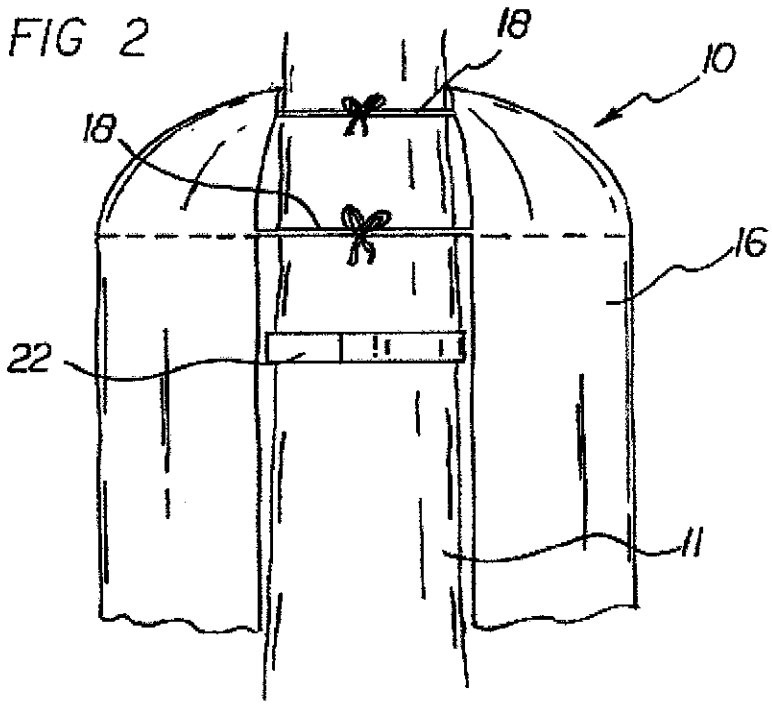
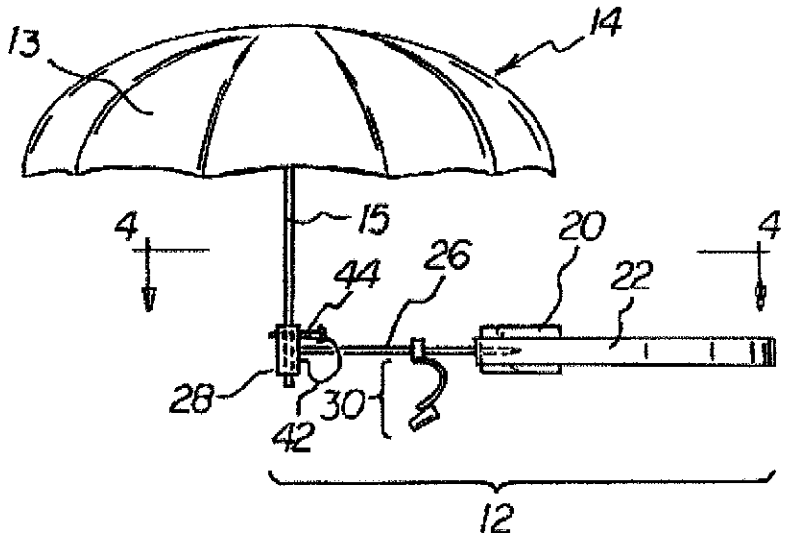


FIG 3



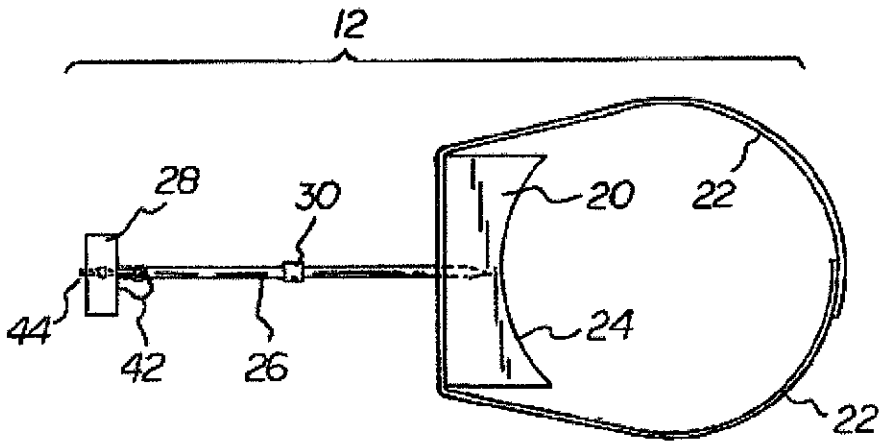


FIG 4

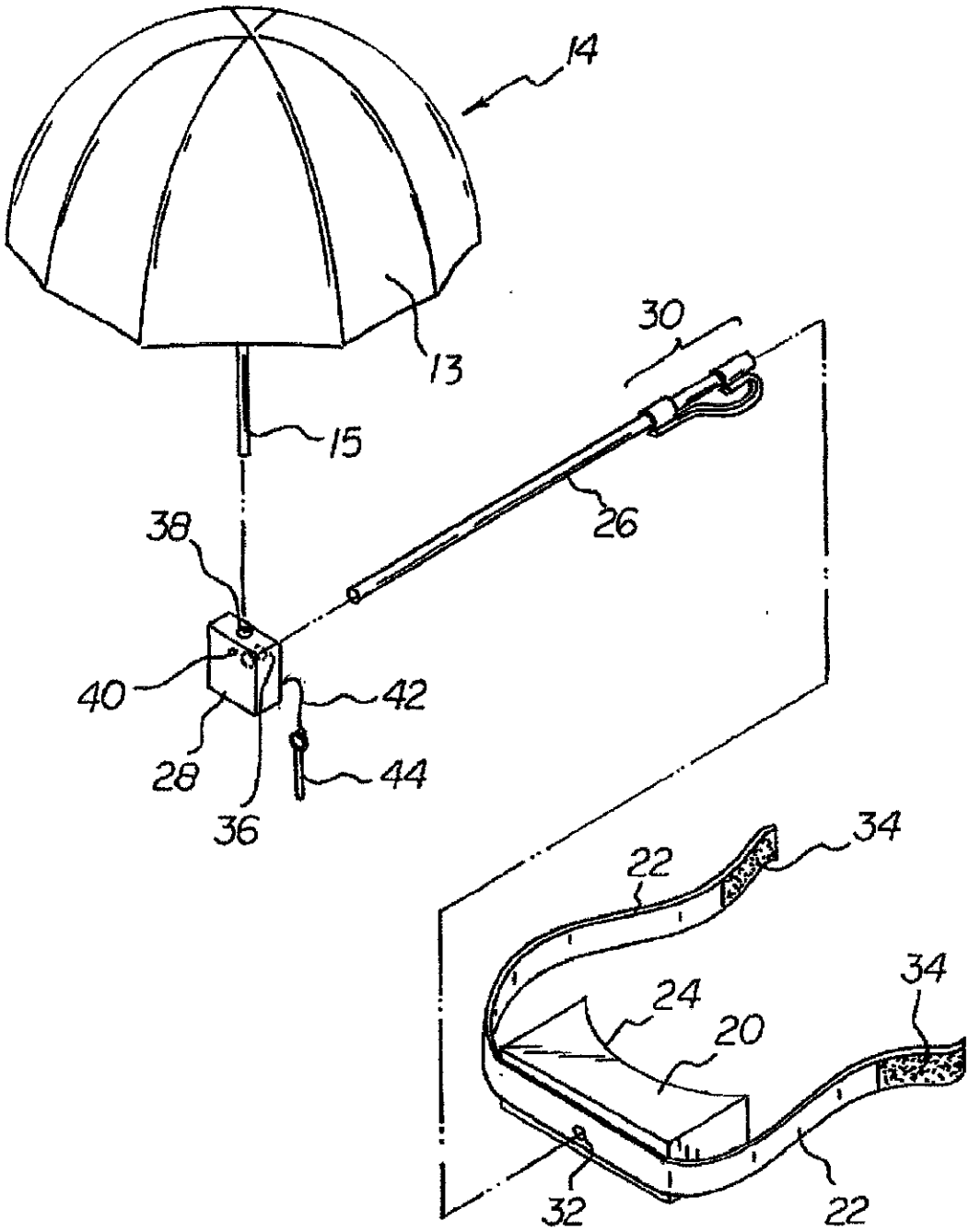
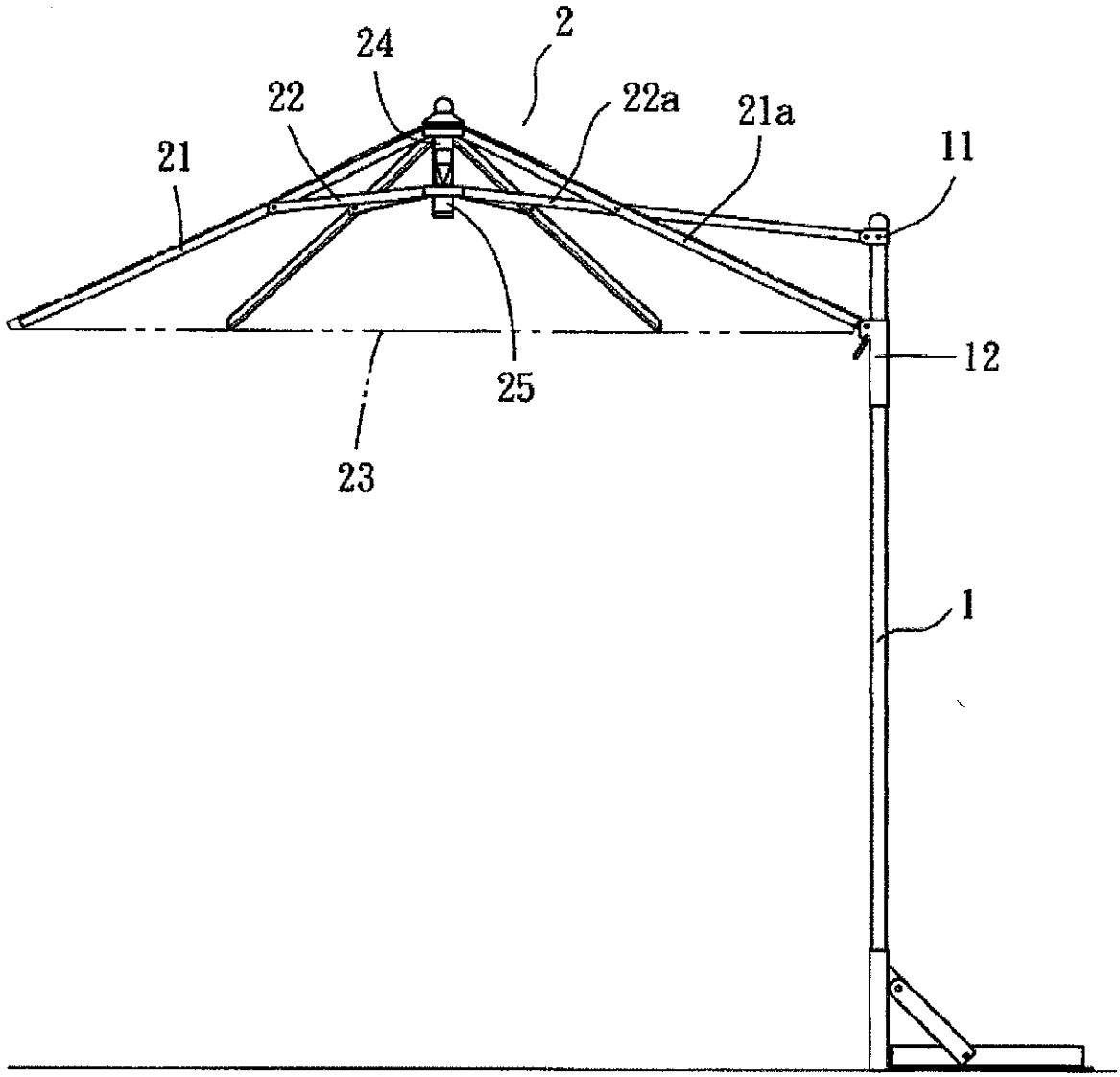


FIG 5

D4

DOCUMENT 4 (D4)



This popularhanging parasol design includes a hanging shank 1 and a parasol body 2 supported by the hanging shank 1. The shank has a fix base 11 fixed on top of the shank 1 and a slide sleeve 12 fitting movably around the shank 1 below the fix base 11. The shank 1 has its lower end fixed firmly on the ground or the like.

The parasol body 2 consists of a plurality of ribs 21, and a plurality of spreaders 22, an upper ring 24, and a lower ring 25 and a canopy 23 supported on the ribs 21. The ribs 21, 21a have their upper ends pivotally connected to the upper ring 24 positioned in the center of the canopy 23 in radial condition.

The upper ring 24 has its lower end connected with a conical insert rod 241, which has a stop lip 2410 formed in an intermediate portion.

The lower ring 25 is located under the upper ring 24 and pivotally connected with inner ends of the spreaders 22, 22a in a radial condition.

The spreaders 22, 22a have their outer ends pivotally connected to intermediate portions of the ribs 21, 22a.

The lower ring 25 has a tubular base 251 formed to extend upward from an upper end. The tubular base 251 couples with the insert rod 241 of the upper ring 24 in expanding the parasol body 2. The tubular base 251

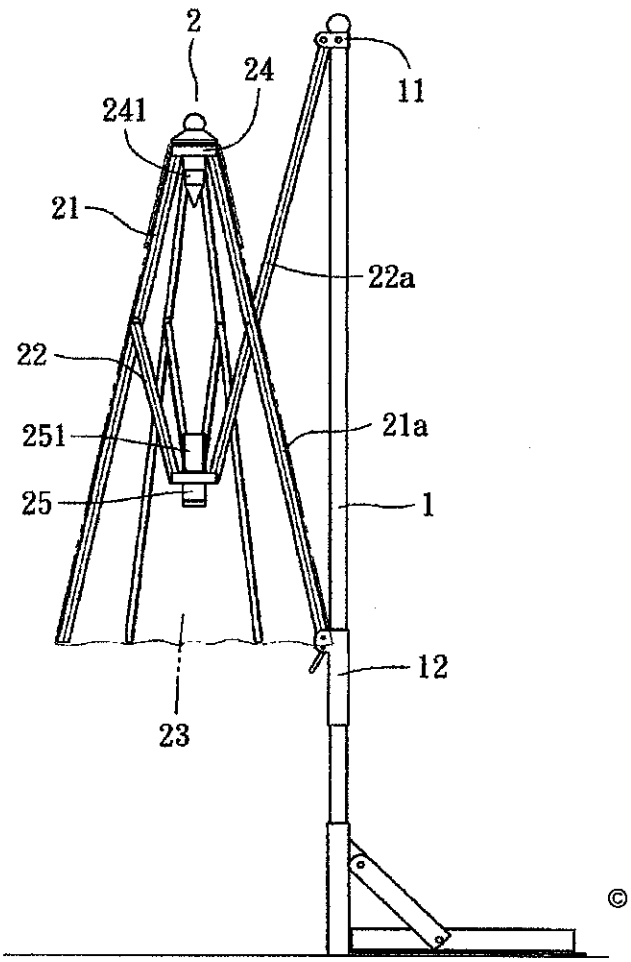
separates from the insert rod 241 in collapsing the parasol body.

One of the ribs 21a and one of the spreaders 22a intercross with each other and are pivotally connected with each other. The outer end of the rib 21a pivotally connected with the slide sleeve 12 of the shank 1. The outer end of the spreader 22a is pivotally connected with the fix base 11.

Therefore, the rib 21a and the spreader 22a hold the parasol body 2 away from the shank 1, and prop up the whole weight of the parasol.

To collapse the parasol from the extended position, the slide sleeve 12 is moved manually down along the shank 1. The rib 21a forces the other ribs 21 and all the spreaders 22, 22a to swing down to move nearer to the shank 1 and finally lie along the shank 1.

To extend the parasol the slide sleeve 12 is manually moved up along the hanging shank 1. This forces the tubular base 251 insert into the insert base 241, with the upper end of the tubular base 251 contacting (or stopped by) the stop lip 2410, pushing out the ribs 21 and 21a and expanding the canopy.



D5

United States Patent [19]

McSwain et al.

[11] **4,449,542**

[45] **May 22, 1984**

[54] **PORTABLE HUNTING BLIND**

[76] Inventors: **Thad M. McSwain**, 2103 Cherry; **Elbert A. McCracken**, 509 S. Main, both of Stuttgart, Ark. 72160

[21] Appl. No.: **333,728**

[22] Filed: **Dec. 23, 1981**

[51] **Int. Cl.**³ **A45B 11/00**

[52] **U.S. Cl.** **135/98**; 135/901; 135/16; 135/24; 135/21

[58] **Field of Search** ..... 135/2, 1 R, 15 CF, 16, 135/19, 24, 8, 21, 5 B, D30, 98, 900-903

[56] **References Cited**

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Primary Examiner—Richard J. Apley

Assistant Examiner—Stephen R. Crow

Attorney, Agent, or Firm—Harvey B. Jacobson

[57] **ABSTRACT**

A portable hunting blind assembly having a collapsible umbrella roof structure supported from a central hollow cylinder and extending outwardly for terminating in a polygonal body having sides defined by the ribs of the roof structure, a handle supporting of the umbrella roof structure telescopically connected to an internal sleeve in the cylinder by means of a pivot arrangement, the handle received at its free end in a stake support structure or member having its distal end securely anchored in the ground, and an array of panel screening material sections depending from each of the polygonal sides of the roof structure and held firmly in the ground by anchor devices. The take member is telescopically collapsible and adjustable by being fixed to a maximum or some intermediary length values, and the entire portable hunting blind assembly can be reduced to its several component parts for insertion into a back carrying case receiving the components, the carrying case having straps for mounting for carrying on one's back.

9 Claims, 6 Drawing Figures

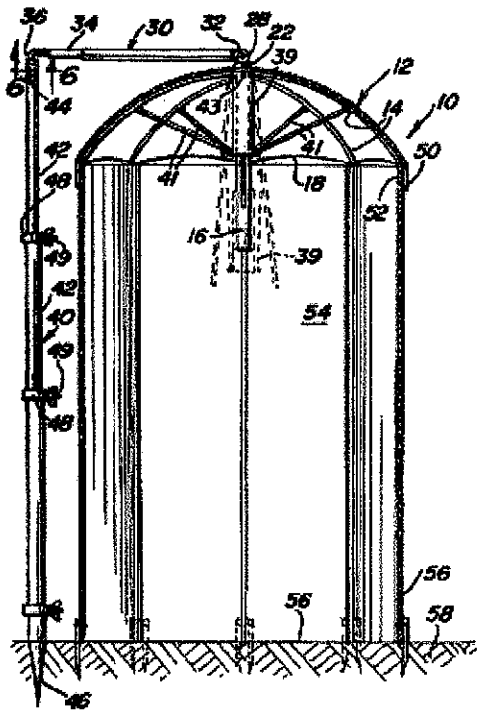


FIG. 1

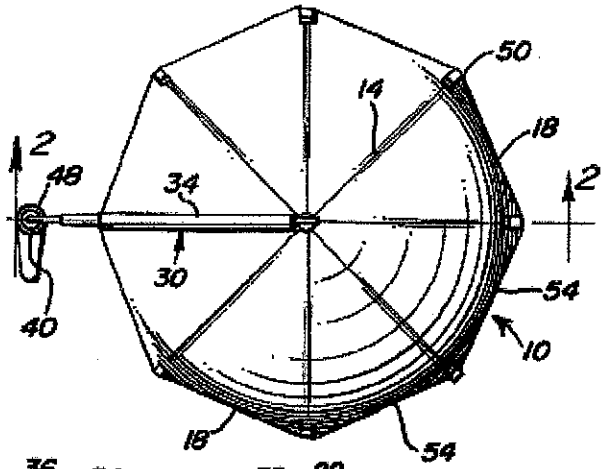


FIG. 6

FIG. 3

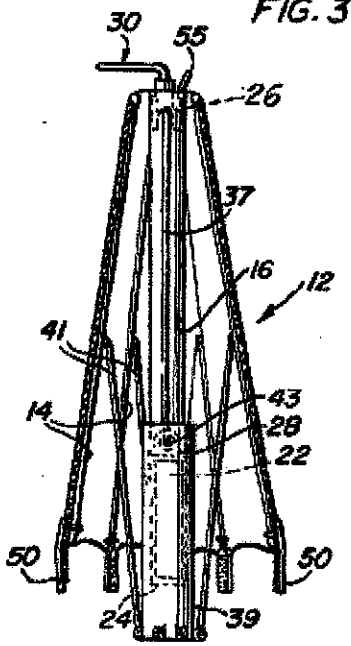


FIG. 2

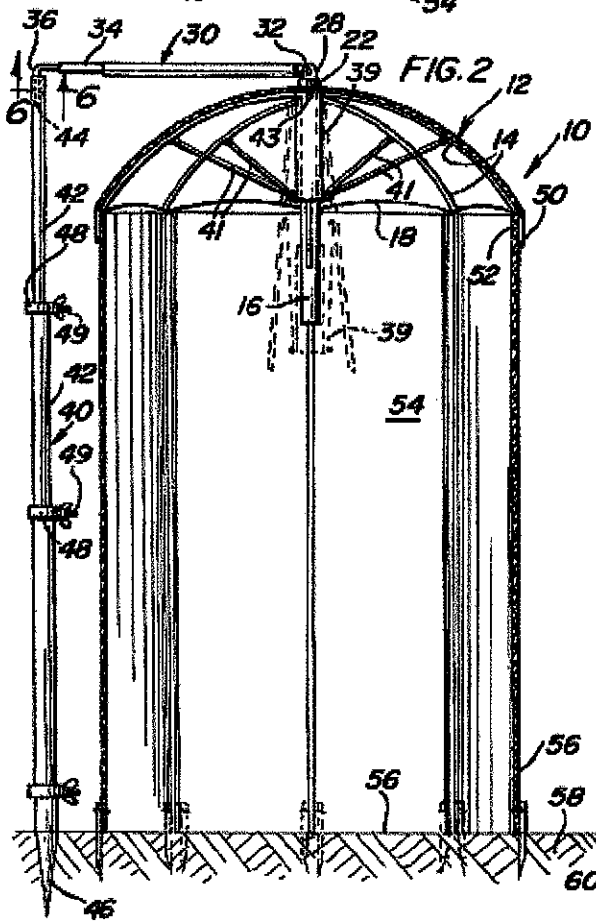
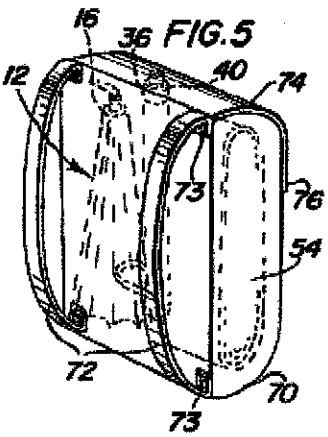


FIG. 4

FIG. 5



PORTABLE HUNTING BLIND

BACKGROUND OF THE INVENTION

The present invention relates to a portable hunting blind assembly including a collapsible umbrella structure extending from a hollow cylindrical support for the umbrella, a sleeve sliding internally of the cylinder body, a pivot connection on a projection from the sleeve and being coupled to one end of a telescopic member and having a handle at the other end in the form of a 90° turn, a collapsible stake member for mounting in the ground at one end and for receiving the handle at the other for supporting the umbrella roof structure, and a panel for each side defined at the periphery of the umbrella structure for enclosing and forming a blind for the hunter. More particularly, the invention relates to connection means, such as Velcro fastener elements for supporting the panel of screening material from the umbrella structure together with a carrying case for receiving the portable hunting blind components of the assembly in the carrying case and having the carrying case mounted by straps for carrying from one's back.

Field of the Invention

Hunting blinds presently used in the art and practice of hunting have various forms of usual constructions that are often permanent, not easily made portable, and are provided with connections or coupling elements that operate and function differently under various environmental and weather or moisture conditions. It is desirable to provide an arrangement of components such that grit, dirt, moisture and environmental features do not have any effect on the construction, maintenance and collapsibility of the several elements forming such assembly of hunting blinds, so that the device is easily packaged, stored, handled and yet remains an effective screening and camouflaged construction of elements for forming a portable hunting blind assembly.

Prior Art Disclosures

Various arrangements in tent constructions, umbrella arrangements and similar environmental constructions are known, such as illustrated in the following U.S. patents:

U.S. Pat. No. 373,378–Nov. 15, 1887–H. J. Rumrille
U.S. Pat. No. 941,458–Nov. 30, 1909–A. F. Leach
U.S. Pat. No. 1,581,180–Apr. 20, 1926–J. Csajaghy
U.S. Pat. No. 1,774,909–Sept. 2, 1930–W. H. Wells
U.S. Pat. No. 2,221,366–Nov. 12, 1940–C. F. Bisbing et al.
U.S. Pat. No. 2,652,845–Sept. 22, 1953–D. O'Neill et al.
U.S. Pat. No. 3,899,168–Aug. 12, 1975–Stella Besherse

None of these above patents whether their disclosures are taken singly or in combination with each other adversely affects the patentability of any claim to the invention.

SUMMARY OF THE INVENTION

An object and advantage of the present invention is to provide a portable hunting blind assembly having its component parts rigid and substantially constructed so that it does not succumb to environmental conditions such as being blown over in the wind and in which the assembly is easily collapsible for storage, for portability, handling purposes and for erection when desired.

A further object and advantage of the present invention is to provide a portable hunting blind assembly that is inexpensive to construct and has ease in its assembly and disassembly. Also, the assembly of the invention has some adjustability since the supporting external stake for the umbrella arrangement or structure can be adjusted so that it can be used for standing position for the hunters as well as positioned high enough only for sitting position.

A still further object of the invention is to provide a portable hunting blind assembly that has fastener means for securing camouflaged panel structures to the umbrella structure by means of a separable, self adhering tape fastener means, such as "Velcro" fasteners, and the like.

Yet still a further object and feature of the present invention is to provide a detachable and adjustable hunting blind assembly which can be adjusted to form by use of the panels a complete enclosure of the space under the umbrella and yet may provide for conveniently collapsing the umbrella structure so that it may be closed and packed in a back carrying case by simple disassembly which is available by use of the fastener members of the invention.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a top plan view of a portable hunting blind assembly according to a preferred embodiment of the invention.

FIG. 2 is a sectional view taken along lines 2—2 of FIG. 1.

FIG. 3 is an enlarged sectional view of a collapsed umbrella section and other parts of the portable hunting blind assembly.

FIG. 4 is a perspective view of one of the several side panels with connection members according to the invention.

FIG. 5 is a perspective view of the component parts of the portable hunting blind assembly placed into a carrying case.

FIG. 6 is a sectional view taken along lines 6—6 of FIG. 2.

DETAILED DESCRIPTION OF THE INVENTION

Referring now to the drawings, there is shown a portable hunting blind assembly 10 having as one of its components a collapsible umbrella structure forming a roof 12 and having a plurality of ribs 14 which extend radially outward from a hollow central cylinder 16 that terminate in the periphery of the roof forming an edge shaped as a polygon having sides 18 associated between ends of the ribs. The construction of the roof is quite similar to that of any conventional umbrella forming a cover or as in this case a roof, but the central cylinder 16 is unique and comprises a hollow structure of metal or plastic having a sliding sleeve member 22 therein and which slides along the entire length of the hollow cylinder 16 from an end wall 24 to an inturned lip 26 shown in FIG. 3. The sleeve member 22 has a projection 28

which is coupled to an articulated telescopic arm or member 30 by a pivot 32 so the axis of member 30 may turn at least in a 90° are from the axis of the cylinder 16.

The umbrella roof is opened by pulling the member 30 through the top of the roof 12 and when fully withdrawn from the cylinder 16, the member 30 pivots through 180° and has a flat end at arm 36 for engaging a slot or receiving recess 44 as shown in FIG. 6. The cylinder 16 has a slit 37 shown in FIG. 3 fixedly coupling the sleeve 22 with an outer sleeve 39 telescopically engaging the cylinder 16 and from which are provided conventional rib braces 41. Sleeves 22 and 39 are connected by a pin 43.

The telescopic member 30 has telescopic components 34 and the distal end forms a 90° turn from the axis of arm 36. Supporting the structure forming the roof 12 is a support pole or stake 40 formed of several component telescopic elements 42 and in which the smaller or inner element has a receiving recess 44 that accepts or receives in sliding engagement the arm 36. At the other end or large element end there is a pointed stake or end member 46 for projecting into the ground sufficiently so that the entire assembly of telescopic elements are supportive and rigid and are adjusted into secured or fixed relation by members 48 with wing nuts 49 that tighten adjacent ones of the elements 42 together. Hook releases the umbrella structure so that the roof is collapsed in disassembly of the roof umbrella.

From the peripheral portion of the roof 12 and proximate to each of the free ends of the ribs, are fastener members 50 that matingly fasten or engage with further fastener members 52 on each of the screens or panels 54 which are attached by sewing, or similar constructions, onto the corners of each of the panels 54. The panels 54 form a circumferential wall or covering of flexible sheet fabric or material. The panels are supported from the corners and depend from the fastener members 50, 52, enclosing in the polygon-shaped roof 12. Lower extremities 56 of the panels 54 approach or contact the ground 58 and the lower corners of the panels are attached to anchor pins 60 extending into the ground and that tighten the panel or rigidify the construction so that the hunting blind is secure. Thus, wind or other environmental factors do not generally affect the portable structure while the spike 46 and anchors 60 are placed securely in the ground.

The panels may be a fine opaque metal or plastic screening material and having coatings, other materials or like means to color the material of the panels 54 and the panels may thus be of camouflaged screens or nettings that augment the construction assembly functioning as a complete hunting blind. The stake 40 may have its length adjusted from a maximum length where the hunting blind allows for the hunter to stand, to a shorter height by adjustment of members 48 so that the hunting blind assembly 10 is adapted for the hunter to sit rather than to standing.

Fastener members 50, 52 can be a self-adhering tape fastener, having an interacting permanent hook tape and an interacting loop or pile tape, such as forming a "Velcro" fastener, a construction disclosed in a U.S. patent to George De Mestral U.S. Pat. No. 2,717,437.

The hunting blind assembly 10 can be dismantled by reversal of the erection process such as first by removal of the arm 36 from the recess 44, collapsing the components 34 into the member 30, pivoting the member 30 into axial alignment with the cylinder 16 into which it is then slid, collapsing the ribs of the umbrella roof 12 similar to that showing in FIG. 3 after removal of the panels 54 by detaching the tape fastener 52 from fastener 50 and removing the anchor pins from the ground. These separate components of the assembly can be placed and stored in a carrying case 70 shown in FIG. 5 and which is provided with a set of shoulder engaging straps 72 having ends 73 sewn or secured on a side of the carrying case, while on another side 74 a cover flap 76 extends midway of the face of the side 76 and may be retained in position by fastener members such as further fastener members 50 (not shown).

The panels can also be constructed for forming a generally square configured hunting blind. The panels may be of a fully encircling camouflage drape material and the assembly of the invention is used while hunting wildlife, and the enclosing panels encircle and conceal both hunter and gear.

The hunting blind of the invention is a lightweight shelter that is easy to carry and erect on location at a site that places one in complete command for hunting ducks, turkey, deer, doves and the like, and photography of the same, as desired. Assembly or disassembly is accomplished in 4 to 8 minutes. It is usable in rain, sun, insect area-protection and hides from sight of wildlife. It is also adjustable from a sitting position to a height of 7 feet.

The device of the invention includes opening the umbrella from the upside or outside of the umbrella, the shaft having a sliding pull handle 36 extending from the cylinder 16 that pulls through the top of the umbrella and locks in an open position by clip or hook 55.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly, all suitable modifications and equivalents may be resorted to, falling within the scope of the invention.

What is claimed as new is as follows:

1. A portable hunting blind assembly comprising a collapsible umbrella roof means having a plurality of ribs extending from a central cylinder to the periphery of the roof means, the distal ends of the ribs defining points for sides of a polygon edge, the central cylinder extending from the roof means centrally within the roof means for a length proximate the free ends of the ribs, an inner sleeve member for sliding within the length of the central cylinder from end-to-end thereof and having a projection extending from the sleeve member external of the central cylinder, a telescopic member connected by pivot means at one end to the projection and having an arm termination at the other end, an outer sleeve member for sliding on the exterior of the central cylinder, the outer sleeve member being provided with braces connected to the respective ribs, means connecting the inner and outer sleeve members for movement in unison lengthwise of the central cylinder, a telescopic stake means having its telescopic sections comparable to the length of the central cylinder and with a recess at one end of the telescopic stake means for receiving the arm termination and with a spike point at the other end, and means forming a circumferential wall of flexible sheet fabric depending from the peripherally defined sides of the polygon of the roof means for enclosing with the roof to define the portable hunting blind.

2. The invention of claim 1 wherein the wall forming means comprises a plurality of separate panels for the

respective sides of the polygon and means for releasably attaching the panels to the respective peripherally defined sides of the roof, each of ground contacting edges of the panels being provided with anchor pins to fasten into the ground.

3. The invention of claim 1 wherein the means connecting the inner and outer sleeve members comprises a pin extending through a lengthwise slot formed in said central cylinder.

4. The invention of claim 1 wherein a carrying case with shoulder straps encompasses the entire assembly in its collapsed and retracted state.

5. The invention of claim 2 wherein the panels are each fastened to the roof means by a self-adhering tape "Velcro" type fastener means.

6. The invention of claim 1 wherein the arm termination performs as an external handle to the umbrella roof means in opening and collapsing the roof means.

7. The invention of claim 1 wherein the telescope stake means includes adjustment means at each of the interconnecting sliding components forming the telescopic stake means, the adjustment means locking the intercomnecting sliding components together and for releasing the locking relation when the assembly is dismantled or adjusted in height.

8. The invention of claim 1 wherein the attachment means comprises a separable, self-adhering tape fastener means securing the panels to respective ones of the polygonal edges.

9. The invention of claim 1 wherein a back carrying case is provided to contain all the components of the assembly.

* * * * *

D6

United States Patent [19]

Norton

[11] **4,284,095**

[45] **Aug. 18, 1981**

[54] **TOP-ERECTED UMBRELLA WITH CANTILEVERED SUPPORT**

[75] Inventor: **Don S. Norton, Clinton, Miss.**

[73] Assignee: **Don Norton Manufacturing Co., Inc., Clinton, Miss.**

[21] Appl. No.: **113,122**

[22] Filed: **Jan. 17, 1980**

[51] Int. Cl.³ **A45B 11/00; A45B 23/00**

[52] U.S. Cl. **135/21; 135/8**

[58] Field of Search 135/21, 5.1, 6, 7, 8, 135/16

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3,383,814	5/1968	Rowe	135/21

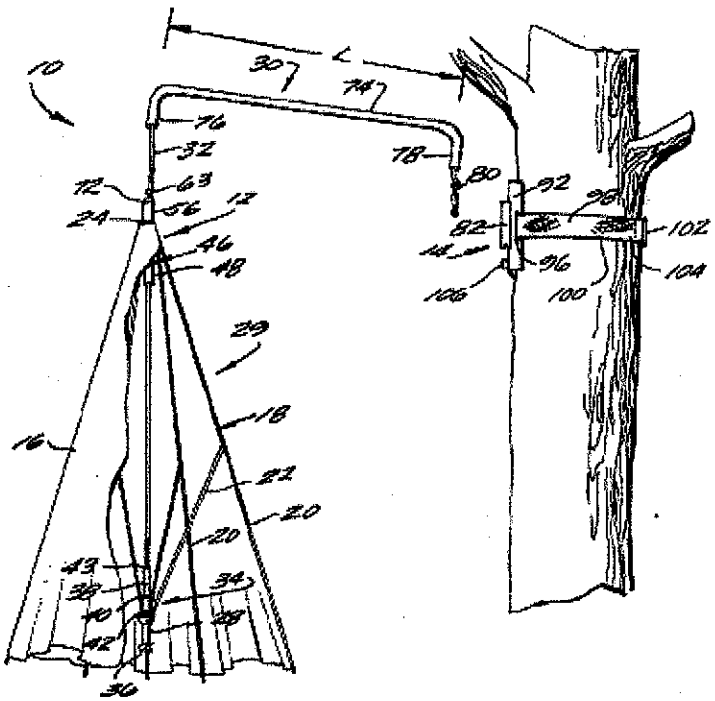
Primary Examiner—J. Karl Bell

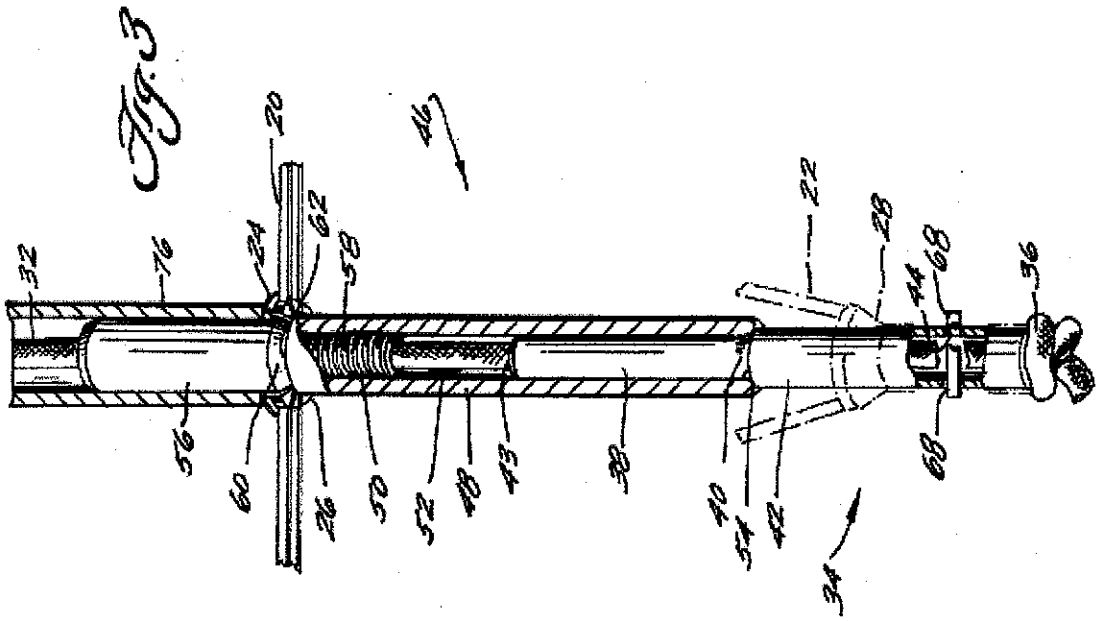
Attorney, Agent, or Firm—Cushman, Darby & Cushman

[57] **ABSTRACT**

The flexible cord used to erect the umbrella from the top, passes through a cantilever tube, the inner end of which is removably supported in a bracket. A notch in the bracket tensions the canopy and locks the umbrella to the bracket by catching a bead fixed on the cord. Three ways of supporting the bracket are shown, as is a way of storing the device.

14 Claims, 9 Drawing Figures





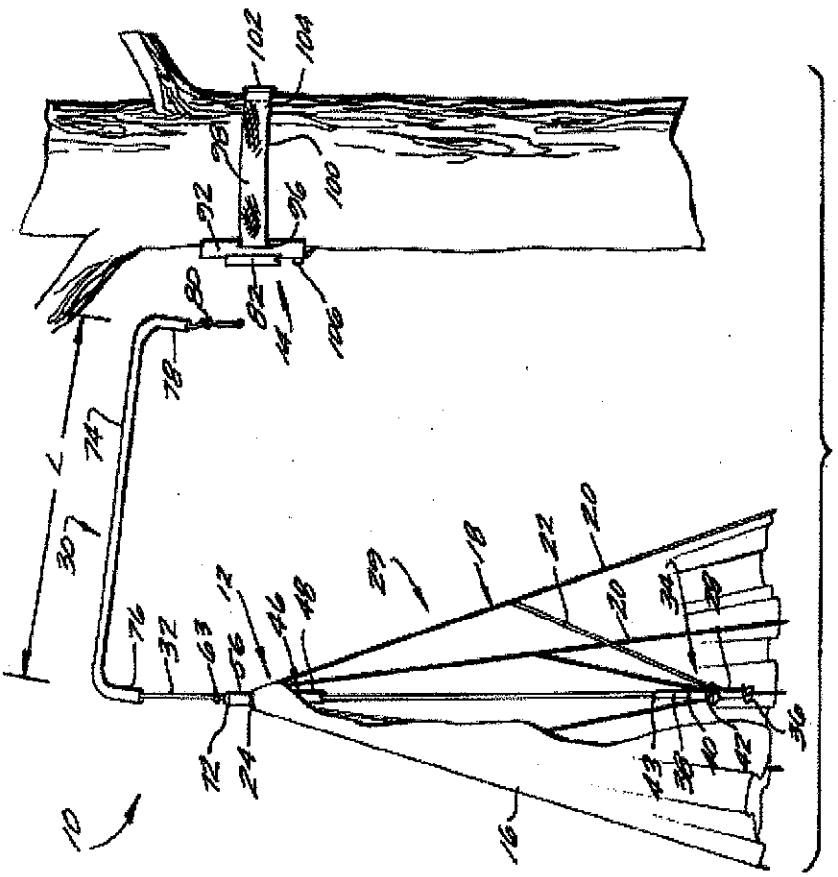


Fig. 1

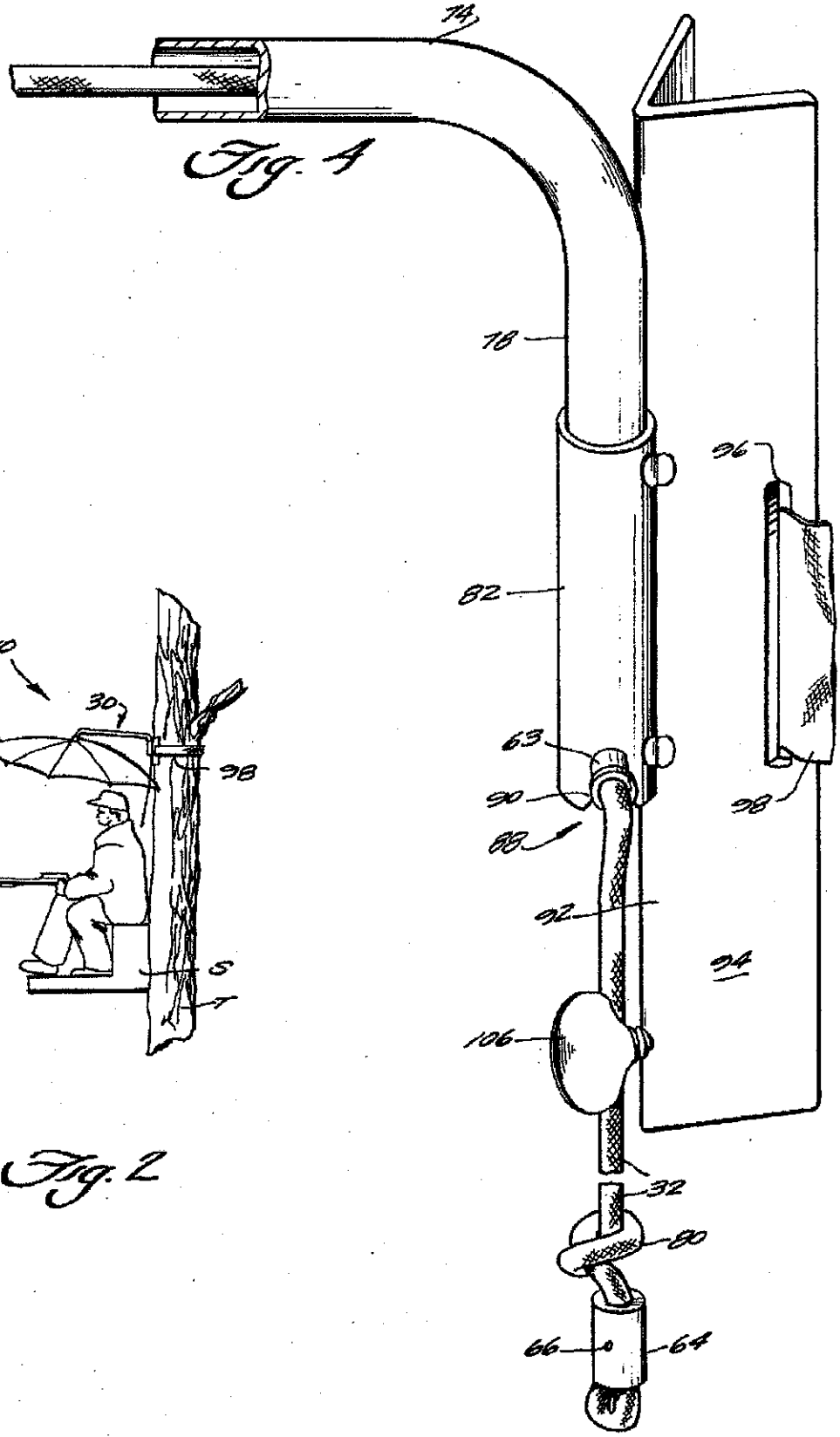


Fig. 4

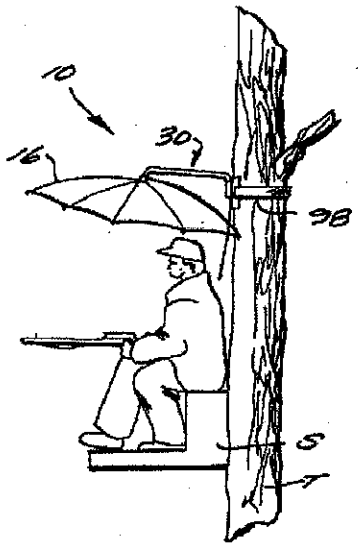
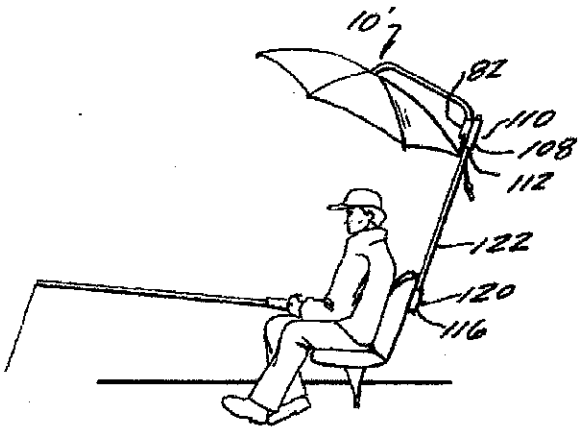


Fig. 2

Fig. 5



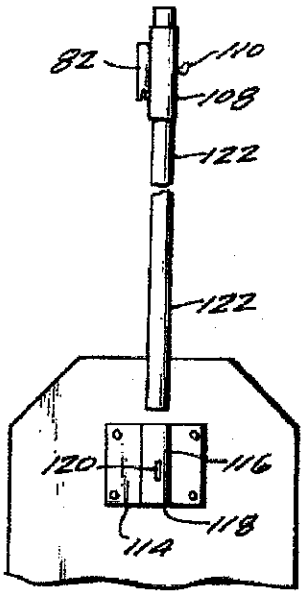
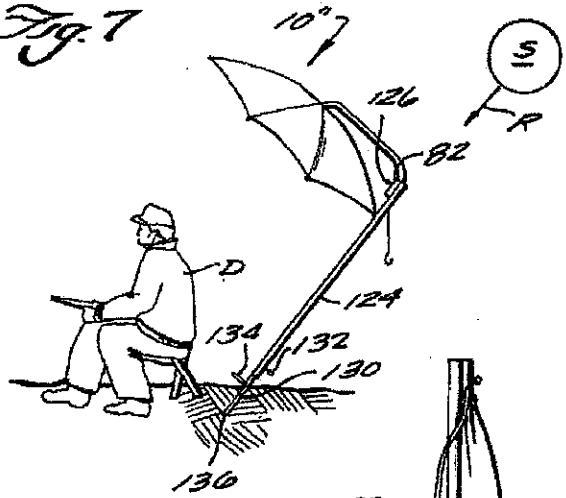


Fig. 6

Fig. 7



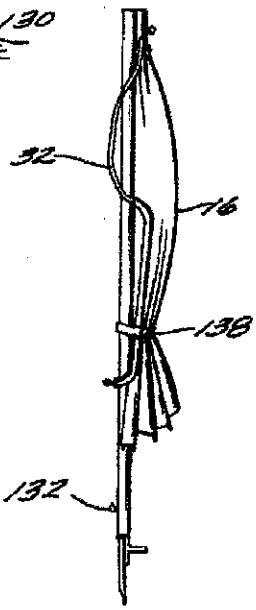
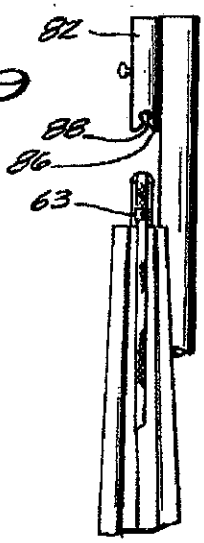


Fig. 8

Fig. 9



TOP-ERECTED UMBRELLA WITH CANTILEVERED SUPPORT

BACKGROUND OF THE INVENTION

The umbrellas in most apparent widespread use are erected from the bottom and are supported on a standard which depends longitudinally centrally from the apex of the canopy. In a way, their basic design is as old as the toad stool.

Umbrellas of other basic designs hark back to flowers, which are stalk-supported from outside the canopy or palm fronds, where the canopy is supported at its rim, cantilever fashion, by the stem. Usually in the prior art umbrellas of the top opening, cantilevered support type are shown for use as parasols for children's carriages, farm tractors, bicycles or as mosquito netting supports for beds.

SUMMARY OF THE INVENTION

The flexible cord used to erect the umbrella from the top, passes through a cantilever tube, the inner end of which is removably supported in a bracket. A notch in the bracket tensions the canopy and locks the umbrella to the bracket by catching a bead fixed on the cord. Three ways of supporting the bracket are shown, as is a way of storing the device.

The principles of the invention will be further discussed with reference to the drawings wherein preferred embodiments are shown. The specifics illustrated in the drawings are intended to exemplify, rather than limit, aspects of the invention as defined in the claims.

BRIEF DESCRIPTION OF THE DRAWINGS

In the drawings:

FIG. 1 is a perspective view of a first embodiment of the umbrella of the present invention, shown with the two major sub-assemblies separated and with the umbrella canopy collapsed and cut away to show interior details;

FIG. 2 is a smaller scale side elevation view of the device fully assembled erected, and in typical use by a hunter;

FIG. 3 is a larger scale fragmentary longitudinal perspective view of part of the device, centered on the apex of the umbrella canopy; and

FIG. 4 is a fragmentary longitudinal perspective view of part of the device on the same scale as FIG. 3, but centered on the bracket.

FIG. 5 is a side elevational view of a second embodiment of the device in typical use by a fisher; and

FIG. 6 is an exploded rear elevational view on a larger scale, of part of the device of FIG. 5, centered on the back of the fisher's chair.

FIG. 7 is a side elevational view of a third embodiment of the device in typical use by another hunter.

FIG. 8 is an elevational view of the device of FIG. 7 with the umbrella canopy collapsed and the parts associated in another manner for storage; and

FIG. 9 is an exploded elevational view of part of what is depicted in FIG. 8, centered on the apex of the umbrella canopy.

DETAILED DESCRIPTION

With regard to the embodiment shown in FIGS. 1–4, the device **10**, a top-erected umbrella with a cantilevered support, is shown in FIG. 1 separated into two sub-assemblies. The first, shown at the left is the umbrella unit **12** and second, shown at the right is the bracket unit **14**.

The umbrella unit **12** includes a flexible, e.g. fabric canopy **16** mounted on a conventional frame **18** of radiating ribs **20** and stretchers **22**. At the top center the canopy **16** is coaxially provided with a round opening that is lined and reinforced by a ring-shaped grommet **24**. Axially underlying the grommet **24** within the canopy is a frame ring **26** to which each of the ribs **20** is pivotally secured. The stretchers **22** have their outer ends conventionally pivoted to respective ribs midway along the respective ribs. The inner ends of the stretchers are pivoted to an anchor tube **28**. So much of the umbrella unit as has been described thus far, i.e. the umbrella canopy and frame sub-unit **29** is subject to being commercially purchased as an off-the-shelf item, although other or more elaborate apparatus could be custom designed or custom made for the device **10**.

The umbrella unit further includes an erector rope sub-unit **30**, which may be made up separately, and includes a rope **32**, e.g. of top quality braided nylon clothesline or tent stay rope, preferably having a limited amount of elasticity in the longitudinal direction. A tubular guide and anchor sleeve **34** is strung onto one end of the rope **32** and the rope is knotted at **36** at that end to keep the sleeve **34** from slipping off. The sleeve **34** includes an upwardly directed end portion **38** of reduced external diameter which defines an upwardly facing annular shoulder **40** where it adjoins the remaining lower part **42** of the sleeve and has a tapering nose **43** at its upper end. In its lower part **42** the sleeve is shown provided on a diameter with a rather small bore transverse opening **44**.

Above the sleeve a tubular clamp **46** is strung on the rope **32**, the clamp **46** is shown including a lower tubular clamp element **48** that has an internally threaded upper end portion **50** and a smooth-bored lower end portion **52** with a flared internal guide surface **54**. The upper tubular clamp element **56** includes an externally threaded lower end portion **58** of reduced diameter. Simply stated, the upper clamp element lower portion **58** may be threaded into the lower clamp element upper portion in order to provide two annular clamp jaws **60**, **62** in confronting relation, which are brought closer together by threading one clamp element into the other. The jaw **60** is provided by the upper end of the lower clamp element and the jaw **62** is provided as a shoulder at the upper end of the lower portion **58** of the upper clamp element. Of course, which clamp element threads into which could be reversed and yet provide two confronting jaws in substantially the same way.

At a particular location, i.e. located a predetermined distance along the rope **32** from the knot **36**, an enlarged bead, e.g. in the form of a tubular collar **63** is secured e.g. by crimping onto the rope.

At its opposite, inner end the rope **32** is looped and/or knotted and/or provided with an end bead in the form of a collar **64** fastened e.g. by a transverse pin **66** onto the rope **32**.

It is necessary to partially disassemble the erector rope sub-unit **30** in order to mount it to the umbrella canopy and frame sub-unit **29**. For instance, the knot **36** is temporarily undone, and the anchor sleeve **34** and lower clamp element **48** are slid off. The temporarily unknotted end of the rope **32** is then slipped down through the umbrella canopy center grommet **24** and down through the frame ring **26**. Next the lower clamp

element 48 and anchor sleeve 34 are threaded back onto the rope 32 and the lower portion 42 of the anchor sleeve 34 is slid into the anchor tube 28 from above and pinned there by a transverse pin 68 such as a rivet passing through the transverse opening 44 and an aligned transverse opening 70 through the anchor tube 28. Comparable or equivalent other securement means could be provided instead. Next, the clamp 46 is threadably made up with the two rings 24, 26 squeezed together and held between its jaws. Thus, the clamp 26, when made up, becomes a tubular hub coaxially fixed to the canopy and frame sub-unit in penetrating relation at the apex of the canopy. Further, the upper portion 72 is thereby fixed as an upstanding mounting post surmounting the apex of the canopy, on top of and outside the canopy.

The umbrella unit 12 is completed by a swing tube 74. This element is shown being an arch-shaped rigid tube with a downwardly opening outer end 76 and a downwardly opening inner end 78. The length L of the swing tube directly between the two ends 76 and 78 generally will be at least slightly greater than a minor radius of the canopy 16, i.e. a radius taken midway between any two ribs 20.

The I.D. of the outer end 76 of the swing tube is slightly greater than the O.D. of the upstanding peg 72.

The swing tube length L can be somewhat longer than a greater diameter of the canopy if it is desired that the canopy be rotatable relative to the swing tube.

Preferably, the swing tube is threaded onto the collared end 64 of the rope 32 and a loose knot 80 may then be tied next to the collar 64 in order to keep the swing tube 74 on the rope.

The umbrella unit 12 as described thus far is the same for all three disclosed embodiments. What is different for the three species is the bracket unit.

First the bracket unit 14 of the first embodiment will be described, with reference to FIGS. 1-4.

The bracket 14 comprises an upright bracket tube 82 having a throughbore 84 that is of slightly larger I.D. than the O.D. of the inner end 78 of the swing tube. The rim of the lower end 86 of the bracket tube 82 is provided with at least one downwardly opening notch 88, which preferably has convergent lead-in surfaces 90.

To this point, the bracket unit is the same for all three embodiments shown in the drawings.

Continuing with reference to the first embodiment, the bracket tube 82 is shown welded to the outside corner of an angle channel member 92, each of the flanges 94 of which is provided with a vertically elongated slot 96. A strap or belt 98, having tightenable securement means on its two opposite ends, is threaded through the slots 96 so that the bracket tube 82 lies intermediate the ends of the belt 98. In the instance shown, the belt 98 is of conventional seat belt webbing 100 and is provided with a conventional seat belt buckle 102.

For use, the seat belt is run around a tree or similar standard, and its end 104 is threaded through its buckle 102 and pulled tight until the belt tightly hugs the tree girthwise. By preference, the angle channel member 92 further mounts a thumb screw 106 threaded into the corner from the outside. The thumb screw 106 may be threadably backed outwards, so that its shank free end is retracted between the flanges. Then, once the belt is mounted on a tree trunk as just outlined, the thumb screw 106 may be threaded in so that the shank free end projects tightly against the tree. This tightens the belt further and prevents rotation or slippage of the tightened belt so that the bracket tube 82 is given a stable and fixed location on the tree trunk.

To assemble the umbrella unit 12 to the bracket unit 14 once the bracket unit 14 is already mounted on the tree trunk as aforesaid, the collared end 64 of the rope 32 is threaded down through the bracket tube 82, the outer end 76 of the swing tube 74 is slipped onto the peg 72 and the inner end 78 of the swing tube 74 is slipped into the bracket tube 82.

At this time, the umbrella canopy is in a collapsed condition. In order to erect it and lock it in an erected condition, the collared end 64 of the rope 32 is pulled down and tensioned, stretching it elastically somewhat until the umbrella canopy is fully erected and the bead 63 appears below the lower end 86 of the bracket tube 82. Then the rope end 64 is pulled sideways to pull the rope just above the bead 63 into the notch 88. Then, if one lets loose of the rope the bead 63 is trapped against the outside of the bracket tube 82 beside the notch 88. The fact that the rope must elastically stretch to permit this latching to occur and be maintained keeps the canopy properly taut in its erected condition. Thus the erector rope sub-unit is multifunctional.

It should be noticed that as the rope end 64 is pulled on to erect the umbrella canopy, the anchor sleeve 34 and the anchor tube 28 with it are pulled upwards, so that the pin end 38 of the anchor sleeve enters and telescopes into the lower end of the bore of the lower clamp element 48. Further penetration is stopped when the shoulder 40 abuts the lower end of the lower clamp element 48.

While the canopy is in an erected condition, and the bead 63 is locking the rope against relaxation and retraction, the umbrella unit 12 is thereby locked to the bracket unit 14. However, the umbrella may be moved laterally, because the swing tube may be pivotally moved to a limited degree in the bracket tube 82. (The limitation is provided when the outer periphery of the canopy engages the tree trunk at the ends of its short arc of possible lateral movement.)

Possible uses for the device 10 are many. In FIG. 2 a typical use is shown, where the device 10 is shown providing a shelter for an up-tree hunter who is seated on a tree stand seat S mounted on the same tree trunk T beneath the device 10 of the invention.

Collapsing and taking down the device 10 are accomplished by reversing the above procedures. Often the device, when not in use, will merely be disassembled into the two units shown in FIG. 1, or these two units may be left loosely assembled via the rope 32 which is left stringing the units together.

Now the differences shown in FIGS. 5-9 will be set forth briefly. In both the second and third embodiments, the object is to mount the bracket on something different from a tree trunk, e.g. on a post or mast.

The second embodiment is shown in FIGS. 5 and 6. In this version, the bracket tube 82 is, instead, secured to a second bracket tube 108 so that the two are disposed side by side. The second bracket tube 108 is provided intermediate its ends with a thumb screw 110 which may be threaded in from the outside to constrict its bore 112.

On the structure on which the device 10' of the second embodiment is to be mounted, a bracket plate 114 is secured; in the instance depicted the plate 114 is mounted by screws on the back of a fisher's chair. The bracket plate has a lower, third bracket tube 116 se-

cured thereto so as to have its bore **118** disposed in an upright condition. The bracket tube **116** is provided intermediate its ends with a thumbscrew **120** which may be threaded in from the outside to constrict its bore **118**.

In this second embodiment, the umbrella canopy may be raised and locked in a raised condition in the same manner as is explained above. The second bracket tube is slipped onto the upper end of a pole, mast or the like **122** and secured at the desired height thereon by running in the thumb screw **110**. The lower end of the mast **122** is slipped into the bore **118** of the third bracket tube **116** and the thumb screw **120** is run in to lock the mast at a desired height relative to the fisher's chair. Thus, in this embodiment independent height adjustments may be provided at opposite ends of the mast by adjusting the height of the fixation of the second and third bracket tubes to the mast.

The third embodiment is shown in FIGS. 7–9. In this version, the bracket tube **82** is fixed at or near the upper end of a mast section **124**. The bracket tube **82** is provided with a thumb screw **126** which may be threaded radially in from the outside for constricting its throughbore **84**.

The lower end of the bore of the mast section **124** telescopically receives a lower mast section **130**. The two mast sections may be telescoped to a greater or lesser extent as desired by the user, and locked in place by turning in the thumb screw **132** provided in the telescopically outer one of the mast sections near its overlapping end for engagement with the other of said mast sections. The lower mast section **130** is shown having a radially-directed stop flange **134** secured thereto to limit, by contact with the ground, the extent to which the pointed lower end spike **136** of the lower mast section **130** may be pushed into the ground.

A preferred use of the third embodiment is shown in FIG. 7. Here, a dove hunter D has set up his chair and has erected and mounted his umbrella **10''** in a way to give himself more shade. In particular, he has arranged the mast to be of desired height and has turned the thumb screw **132** to preserve that relationship; he has secured the swing tube **74** inner end **78** in the bore **84** of the bracket tube **82** by running in the thumb screw **126** to set a desired angle; he has aligned the mast with the direct rays of the sun S, as indicated by the arrow R, and plunged the spike **136** into the ground until the hilt-like flange **134** has engaged the ground. Then he has taken up a hunting position from his shaded chair as illustrated.

A convenient way for storing the device **10''** is shown in FIGS. **8** and **9**. There, the mast has been telescopically fully condensed and locked in that condition using the thumb screw **132**. The canopy **16** has been collapsed by unlatching the bead **63** by pulling on the rope, centering it, and letting loose so that the bead **63** is freed from being trapped against the outside of the notch **88** and the rope end is free to travel outwards in the swing tube and to elastically relax. The swing tube inner end has been freed from the bracket tube **82** and the swing tube outer end has been slipped off of the upstanding peg **72** on top of the canopy apex. This peg, and the now limp rope **32** passing out of its bore are pushed up into the lower end **86** of the throughbore of the bracket tube **82**. An elastic endless band **138**, e.g. of rubber or rubberized cloth may be stretched over the resulting collapsed canopy and mast assembly and allowed to elastically constrict to lash the assembly together near the outer, lower rim of the collapsed canopy as shown. Instead of such a scrap **138**, a tie or other securement may be provided on the mast for encircling the collapsed canopy or otherwise holding the collapsed canopy against the mast.

It should now be apparent that the toperected umbrella with cantilevered support as described hereinabove, possesses each of the attributes set forth in the specification under the heading "Summary of the Invention" hereinbefore. Because it can be modified to some extent without departing from the principles thereof as they have been outlined and explained in this specification, the present invention should be understood as encompassing all such modifications as are within the spirit and scope of the following claims.

What is claimed is:

1. A top-erected umbrella with cantilevered support, comprising:

an umbrella canopy of flexible sheet material mounted to an umbrella frame having a plurality of ribs radiating from pivotal connection to a frame ring; the umbrella canopy having an apical opening in axial superimposed alignment with the frame ring; an anchor tube under said canopy in axial alignment with said frame ring; the umbrella frame further having a plurality of radiating stretchers, each having one end pivotally mounted to the anchor tube and another end pivotally mounted to a respective rib, so that moving the anchor tube axially towards the frame ring will cause the canopy to be raised to an erected condition from a collapsed condition;

an erector rope sub-unit comprising a rope having a first enlargement provided on a first, outer end thereof, anchor sleeve means threaded on said rope and disposed adjacent said first enlargement, said anchor sleeve means having an upper portion of reduced diameter, providing a guide finger having a shoulder at the base thereof; a tubular clamp strung on said rope above said anchor sleeve and having a lower tubular portion and an upper tubular portion, each portion having a clamping jaw, the two clamping jaws being in axially confronting relation; means for securing the two clamp portions together so that the two clamping jaws are in clamping relation; means providing a second enlargement on the second inner end of said rope, said lower tubular portion of said tubular clamp having downwardly opening throughbore means arranged to slidingly telescopingly receive said guide finger of said anchor sleeve; and an enlarged bead fixed on said rope at a predetermined distance therealong which is further toward said second end than is said tubular clamp;

a bracket tube having an open longitudinal bore and having a notch in the lower end thereof; and means for securely mounting said bracket tube in a generally upright, elevated condition;

a swing tube having a substantial lateral extent and two opposite, generally downwardly directed ends comprising an inner end an an outer end;

said rope being threaded through said umbrella frame and swing tube, so that said first end lies adjacent said anchor tube of said frame and said second end lies accessable below the inner end of the swing tub; means securing the anchor tube to the anchor sleeve means; the clamp being assembled through said canopy apical opening and said frame ring so that said canopy and frame are clamped between

said clamp jaws and so that an upstanding peg portion of said clamp rises from the top of said canopy;

for erecting and mounting the umbrella, the outer end of the swing tube being telescoped with said upstanding peg, the inner end of the swing tube being telescoped with the bracket tube so that the inner end of the rope lies exposed below the bracket tube, and the inner end of the rope being pulled down until said bead has emerged downwards through the bracket tube, whereupon the inner end of the rope has been pulled laterally to pull the rope just above the bead into said notch in the lower end of the guide tube.

2. The top-erected umbrella with cantilevered support of claim 1, wherein:

the rope is made of somewhat elastically resilient material and is sufficiently short that the rope must be elastically stretched in order to pull said bead to the outside of said notch for locking the umbrella canopy in a raised condition.

3. The top-erected umbrella with cantilevered support of claim 1, wherein:

said bracket tube further includes means thereon selectively engageable with said swing tube for fixing said swing tube against rotation thereabout.

4. The top-erected umbrella with cantilevered support of claim 1, wherein:

said means for securely mounting said bracket tube in a generally upright elevated condition comprises:

a bracket having said bracket tube fixed thereto; and

means for mounting said bracket at an elevated location.

5. The top-erected umbrella with cantilevered support of claim 4, wherein:

said means for mounting said bracket comprises a seat belt-like strap mounted to said bracket and having securement means permitting the strap to be secured to itself in an adjusted-to-tightness condition while encircling an extraneous support object such as a tree trunk.

6. The top-erected umbrella with cantilevered support of claim 5, wherein:

the bracket is an angle channel with two flanges joined at an outside corner, said bracket tube being secured to said bracket along said outside corner; each flange having a slot therethrough; said strap being mounted to said bracket by being threaded through both of said slots.

7. The top-erected umbrella with cantilevered support of claim 6, wherein:

said bracket further includes thumb screw means threaded from the outside into said angle channel at said outside corner; said thumb screw means having a shank which can be projected beyond and retracted between said flanges by turning said thumb screw, for further securing the bracket on said extraneous support.

8. The top-erected umbrella with cantilevered support of claim 4, wherein:

said bead comprises an annular band crimped onto the rope.

9. The top-erected umbrella with cantilevered support of claim 4, wherein:

said means for mounting said bracket comprises:

a mast, and

means for securing the bracket to the mast.

10. The top-erected umbrella with cantilevered support of claim 9, wherein:

said means for securing the bracket to the mast comprises a second bracket tube secured to the first-mentioned bracket tube; the second bracket tube being slidably mounted on the mast and further including means engageable with the mast for securing said bracket to said mast at a selected height.

11. The top-erected umbrella with cantilevered support of claim 10, further including:

a third bracket tube slidably mounted on said mast below said second bracket tube and further including means engageable with the mast for securing said third bracket tube to said mast at a selected height; and means provided on said third bracket tube for securing said third bracket tube in a generally upright condition to an extraneous support object such as a fisher's chair back.

12. The top-erected umbrella with cantilevered support of claim 9, wherein:

the mast comprises a plurality of telescoping mast sections and means for securing the mast sections together at an adjustable selected degree of telescoping.

13. The top-erected umbrella with cantilevered support of claim 9, wherein:

the mast further includes a pointed spiked lower end so that the mast may be jabbed into the ground to support the umbrella.

14. The top-erected umbrella with cantilevered support of claim 9, wherein:

said bracket tube is sized to telescopically receive said umbrella frame upstanding spike and said rope in the lower end thereof when the umbrella canopy is in a collapsed condition, so that the collapsed canopy may be banded for storage of the top-erected umbrella with cantilevered support as a unitary structure.

* * * * *

D7

(No Model.)

W. F. BLUNT.

MOSQUITO BAR AND CARRIAGE UMBRELLA.

No. 373,809. Patented Nov. 29, 1887.

Fig. 1.

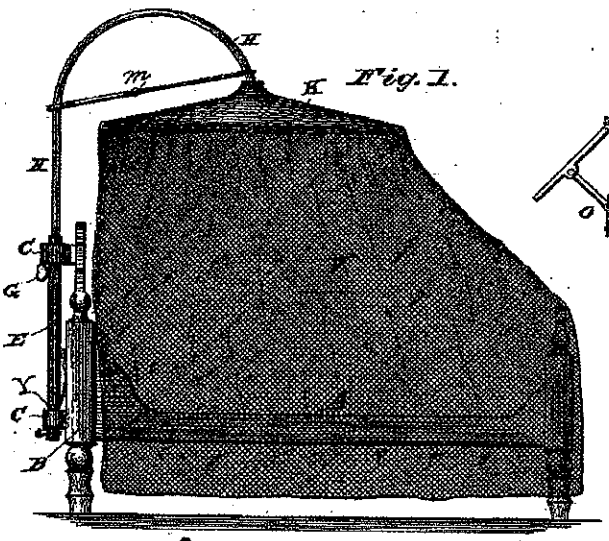


Fig. 4.

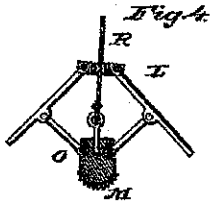


Fig. 2.

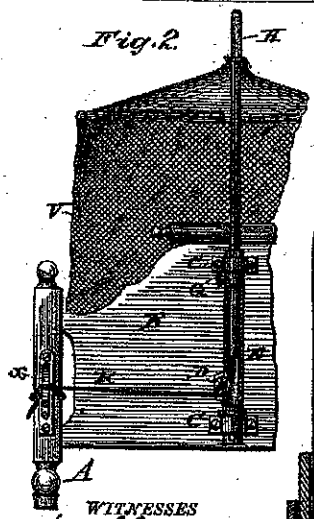
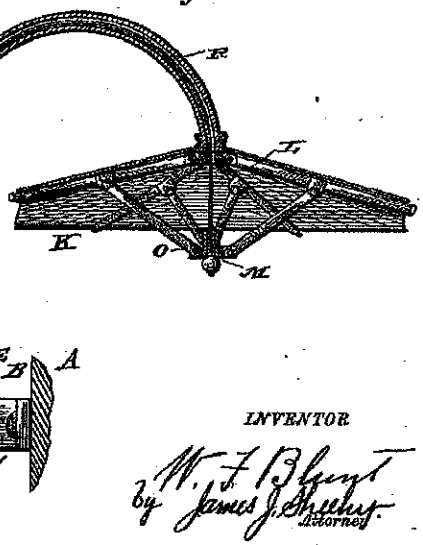


Fig. 3.



WITNESSES

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MOSQUITO-BAR AND CARRIAGE-UMBRELLA.

SPECIFICATION forming part of Letters Patent No. 373,809, dated November 29, 1887.

Application filed May 7, 1887. Serial No. 237,483. (No model.)

To all whom it may concern:

Be it known that I, WALTER F. BLUNT, a citizen of the United States, residing at Galveston, in the county of Galveston and State of Texas, have invented certain new and useful Improvements in Mosquito Bars; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to bedstead-canopies; and it consists in the novel construction and arrangement hereinafter specified, and pointed out in the claims appended.

Before describing the details of construction I desire to say that I am well aware that it is not new to open a parasol by means of a cord passing through a tube inclosed by the top notch and secured to a ferrule which is attached to the ribs. This construction has been employed in connection with parasols used on baby-carriages, which may be held at any desired angle of inclination.

I am also aware that it is not new to arrange a tube on the outer side of a head-board of a bed and adjustably secured thereto, a curved rod supporting a canopy, and that a hollow tube has been employed in connection with a crank-shaft and rope for supporting a canopy.

In the accompanying drawings, Figure 1 is a side elevation of a bed-frame, showing my improvements applied. Fig. 2 is an end view of a portion of the bed-frame, showing my improvements attached and some of the parts in section. Fig. 3 is a vertical sectional view of my improved devices, and Fig. 4 is a sectional detail view of the parasol.

The letter A of the drawings represents a bedstead, of which B is the head-board. To the latter, about midway of its length, I attach holding brackets or ears, (marked C,) as shown on Fig. 2 of the drawings. Under the brackets and resting against the outer wall of the head-board I arrange a tube, (marked E,) in the manner represented in the figure of the drawings last mentioned.

The letter G represents a thumb-screw passing through the tube E, for the purpose hereinafter set forth; and D is a pulley arranged in the side of tube E for use with an operating-cord, also hereinafter described.

The letter H represents a tube which rests in and is removable from tube E, and is held in position by thumb-screw G. This tube H is extended upward from tube E to any desired altitude, and is bent to form a semicircle, as indicated in the drawings, and in such manner that while its lower end is secured inside of the tube E the opposite end connects with the umbrella K, next described. The height to which the tube H is extended must always depend upon the height to which it is desirable to suspend the canopy, and when so arranged it is held securely by means of the thumb-screw G.

The letter L represents an umbrella of the form shown in Fig. 3 of the drawings. The upper ends of the arms of the umbrella are pivoted to its ribs in the usual manner, and their lower ends are pivoted to a disk, M, which forms the base of the runner O. This runner is preferably made of heavy metal and of a thickness to give it considerable weight.

The letter R indicates a cord, the lower end of which is preferably clamped or tied around a spring-catch, *x*, or other suitable device arranged upon a post of the bedstead. From thence it is passed over the pulley D through the tube E and into the lower end of tube H. From thence it is passed upward within the tube H the entire length of said tube and downward through the runner O in the manner above shown in Fig. 3 of the drawings. I sometimes, however, prefer to connect the extreme upper end of this cord with a wire of about eight inches in length and extending downward inside the runner. This construction gives strength and firmness to the operating parts and prevents the runner from tilting. It is shown in Fig. 4 of the drawings.

V indicates the canopy proper, which in the drawings I have shown of lace-work—such as is usually employed for mosquito-netting—and is attached to the umbrella, as shown.

It is obvious, however, that any description of cloth may be used in this conection which may be desired.

My canopy is operated as follows, namely: When the several parts are in position for raising and adjusting the canopy, I draw the operating-cord downward. This movement spreads the umbrella, and with it the drapery attached, in any desirable position, and I then

fasten the lower end of the cord to a catch, *x*, and the work is completed. The canopy is released from the above-named position by detaching the cord from its catch. The weight of runner serves to fold the umbrella and its drapery, when I usually bind them in a folded position by a cord and hook, *m*, which is shown on Fig. 1 of the drawings. It will be observed that the tube E stands loosely in its brackets, resting upon the lower one by a pin, Y. This construction enables me to turn the canopy to the right or left at will, and after folding, as above described, I preferably turn it against the wall until its use as a canopy proper is demanded.

It is obvious that my invention is not confined in usefulness to beds only. It may be employed on carriages, hammocks, and a variety of other devices when it becomes desirable to protect the occupant from mosquitoes or other troublesome insects. It is also obvious that in protecting carriages, &c., the drapery used for protection against insects may be dispensed with and the umbrella adjusted and operated to protect occupants from the rays of the sun.

I am aware of patent No. 41,916, in which a telescopic column has its lower section provided with a windlass and its upper section carrying a frame with adjustable ribs or arms to receive a mosquito-net, the lifting-ropes for the columns being operated by the windlass, and the arms of the top section being also extended by these ropes.

I claim as my invention—

1. The combination, with a bed-frame having brackets secured to the outer side of the head-board thereof, of the straight tube held in said brackets and carrying a set-screw, a curved tube supported in the straight tube, a parasol on the curved end of this tube, and a rope for opening the said parasol secured to its runner and passing through the curved and straight tubes, substantially as specified.

2. A curved tube, in combination with a parasol connected with the curved end thereof, and a rope secured to the runner of the parasol and passing through the tube, the whole adapted to be applied to a bed-frame, substantially as specified.

3. The combination, with a tube having a lateral aperture and a friction-roller therein, of a curved tube removably secured in the said apertured tube, a parasol secured to said tube, and a cord passing through the said tubes and adapted to be applied to the runner of the parasol, substantially as specified.

4. The combination, with a tube adapted to be applied to the head-board of a bed, and having a lateral slot and a roller therein, of a set-screw passing into the said tube, a curved tube adjustably supported in the straight tube, a parasol on the end of the curved tube, and a cord passing through the tubes to operate the parasol, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

W. F. BLUNT.

Witnesses:
J. P. KINDRED,
L. W. FIELDS.