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(54) **NON FLIP UMBRELLA**

UNUMKLAPPBARER REGENSCHIRM

PARAPLUIE NE POUVANT PAS SE RETOURNER

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US-A- 4 407 317

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Description

BACKGROUND AND SUMMARY OF THE INVENTION

[0001] The present invention relates generally to improvement in umbrella construction and, more specifically it relates to a non flip umbrella.

[0002] Commonly available umbrella used as a protection against the weather consists of a fabric canopy that is fastened to a skeletal frame with pivotally hinged ribs radiating from a center pole or handle. A movable member defined by a sliding catch pivotally supports the braces of the ribs. The umbrella has a circular convex shape when open, and can be opened by sliding up or folded by sliding down said sliding catch.

[0003] The aforementioned conventional umbrella, though wideLy accepted satisfactorily by the end-user still encounters one pronounced defect. It has been observed that the fabric canopy is sustained in open or extended position merely by the force of the braces which bear on their ends to the sliding catch and at their outer ends against the respective ribs to which they are connected. Said braces and ribs cooperatively form a linkage-like support for the whole structure. Said linkage-like support is usually subjected by the lateral pressure of the weather which is always exerted against the outer edges of the fabric canopy. During windy weather condition (e.g. typhoon/storm), the fabric canopy together with the supporting ribs tends to flip-over or collapse over when a gale of wind or continuous strong wind blows through the inside of said umbrella thereby totally incapacitating the umbrella giving inconvenience to its user.

[0004] DE-C-819893 discloses an umbrella with a guy assembly to prevent the canopy from flipping over.

[0005] In view of the defects found in the utilization of the existing umbrellas, there is therefore a need to positively secure and/or reinforce the ribs and braces of the umbrella so as to preclude the tendency of collapsing over thereof. Accordingly, the present invention contemplates to improve the guy assembly which could appreciably secure rigidly the ribs of the umbrella and thereby making it capable of positively sustaining the ribs in correct position without flipping over.

[0006] Another object of the invention is to provide a non flip umbrella wherein the guy assembly incorporated thereof has an inner end connected to said sliding catch and the outer end connected to said respective ribs.

[0007] A further object of the invention is to provide a non flip umbrella which, is so simple in structure, permits facile assembly and is reliable.

[0008] The invention provides an umbrella having the features of claim 1.

[0009] The objects of the invention, and its characteristic features and advantages will be further understood in the following detailed description taken in conjunction with the appended drawings.

IN THE DRAWINGS:

[0010]

Fig. 1 is a perspective view of the non flip umbrella in erect or suspended position and showing the guy assembly thereof;

Fig. 2 is an enlarged side elevational view, partly sectioned, showing one of a series of reinforcing string of the guy assembly of the umbrella;

Fig. 3 is an exploded view of the guy assembly as shown in Fig. 2;

Fig. 4 is another embodiment of the guy assembly as shown in Figs. 1 to 3;

Fig. 5 is a cross-sectional view taken along line 5-5 of Fig. 4;

Fig. 6 is a side elevational view of the non flip umbrella in partially folded position;

Fig. 7(a) (b) (c) is a fragmentary view showing the mode of connecting the guy assembly with the ribs of the umbrella.

DETAILED DESCRIPTION

[0011] Referring now in detail to the several views of the drawings wherein like reference numerals designate the same parts throughout, there is illustrated a non flip umbrella which is generally designated by the reference numeral 10. This umbrella 10 conventionally comprises an elongated center pole 11 provided with an apex in the form of a hub 12 encompassingly fixed at the upper end of said center pole 11 and a series of ribs 13 hingedly connected to said hub 12 and spacedly radiating from said center pole 11. Movably secured on said center pole 11 and proximately below the hub 12 is the sliding catch generally designated by the reference numeral 14. As in a conventional structure, the sliding catch 14 defines a cylindrical sleeve 15 having at the upper terminal end thereof an integral channeled hub 16, said hub 16 being provided with a series of radially spaced slits 17. Disposed within said channeled hub 16 is a ring 18. Hingedly connected on said ring 18 and passing through said slits 17 is the inner end of a series of braces 19, their outer ends being hingedly connected to the respective ribs 13. The steadying force of these braces 19 supports the respective ribs 13 in erect and steady position when the umbrella is opened.

[0012] The improvement herein proposed which is absent in existing umbrella construction is directed solely to the reinforcing guy assembly which is generally designated by the reference numeral 20. As best illustrated in Figs. 1 to 3, this guy assembly 20 which is adapted to be connected between ribs 13 and the sliding catch 14 essentially consists of a series of elongated reinforcing strings 21, and a series of complemental suspender means 22, said suspender means 22 being extended between the reinforcing strings 21 and the ribs 13. While nylon cord material is preferred, as reinforcing

string 21 other strong material such as wire string could suffice. Each of said reinforcing strings 21 having a length of between 30 and 114 cm (12 and 45 inches) radiates spacedly from said sliding catch 15, their inner ends **23** being connected to the ring 18 which is within the confines of the channeled hub 16, while the outer end 24 is secured to the eyelet 25 of the respective ribs 13 it is also possible to secure said outer end 24 to the outer end of said braces 19. Secured also on this eyelet 25 is the outer ends of the fabric canopy C.

[0013] Each of the suspenders 22 is held in position by a pair of upper and lower rings 26 and 26a or other suitable conventional connecting means, the upper ring 26 is connected to the respective ribs 13 while the lower ring 26a is secured to the reinforcing strings 21. These suspenders 22 are adapted as auxiliary supports so that the reinforcing strings 21 will not sway out of place and at the same time prevent the reinforcing strings 21 from drooping out of the umbrella as 33 when said umbrella is folded as shown in Fig. 6.

[0014] Fig. 4 shows an alternative embodiment of the non flip umbrella showing the guy assembly on a different construction. As illustrated, the embodied assembly is generally designated by the reference numeral 27. This assembly 27 now consists of a circular ring member 28 which is encompassingly secured to the sleeve 15 of said sliding catch 14 of the umbrella. Said ring member 28 defines a series of radially disposed holes 32 where elongated reinforcing strings 29 radiate therefrom towards the outer ends of the ribs 13. Said reinforcing strings 29 having a length of no less than 30 cm (12 inches) and no more that 114 cm (45 inches) have an inner end 30 being secured on said strength of the conventional materials used in the essential components of the herein improved umbrella.

Claims

1. An umbrella (10) having a fabric canopy (C) fastened to a folding radial frame with hinged ribs (13) radiating from a center pole (11), a sliding catch (14) movable in an up and down manner encompassingly secured on said center pole (11), said sliding catch (14) defining a cylindrical sleeve (15) provided with an integral hub(16) at the upper end thereof, braces (19) hingedly connected to said hub (16) at their inner ends and to the said ribs (13) at their outer ends, and a reinforcing guy assembly (20) positioned between said hub (16) and said ribs (13), said guy assembly (20) defining at least two radially disposed reinforcing strings (21), the inner ends of said reinforcing strings (21) being connected to said hub (16), and the outer ends connected to said respective ribs (13), and complemental suspender means (22) are respectively disposed above each of said reinforcing strings (21), each having a lower end connected to said reinforcing strings (21) and an upper end fixedly connected to one of said ribs (13) adjacent the points of connection of said braces (19) with said ribs (13), **characterised in that** said reinforcing strings (21) have a length of no less than 30cm (12 inches) and no longer than 114cm (45 inches), depending on the length of said ribs (13), and **in that** the lower end of each suspender means (22) is slidably connected to the respective reinforcing string (21) lengthwise of the string.

2. An umbrella (10) as claimed in claim 1, wherein said reinforcing guy assembly (20) consists of a ring member (18), said ring member (18) encompassingly positioned on the sleeve (15) of said sliding catch (14), and said reinforcing strings (21) are connected and disposed radially to said ring member (18), at said reinforcing strings' (21) inner ends, and to said ribs (13) of said umbrella (10), at said reinforcing strings' (21) outer ends.

3. An umbrella as claimed in claim 1 or claim 2, wherein the suspender means (22) of said guy assembly (20) are an elastic material.

4. An umbrella as claimed in claim 1, wherein each of said suspender means (22) has its upper end fixedly connected to one of said ribs (13) at the point of connection of one of said braces (19) with said one of said ribs (13).

5. An umbrella (10) as claimed in any of claims 1, 2, 3 and 4, wherein the outer ends of said reinforcing strings (21) are connected to eyelets (25) on said ribs (13).

Patentansprüche

1. Ein Regenschirm (10) mit einem Stoffschirm (C) der an einem faltbaren runden Rahmen mit Gelenkspeichen (13) die kreisförmig um einen Mittelstab (11) angeordnet sind, mit einem am Mittelstab (11) angebrachten verschiebbaren Verschluß (14) der nach oben und unten bewegt werden kann mit einer zylinderförmigen Manschette (15) an dessen oberen Ende sich eine Nabe 16 befindet an der die inneren Enden bewegbarer Spangen (19) angebracht ist deren äußere Enden mit den Speichen (16) verbunden sind. Eine Zusatzverstärkung (20) verbindet die Nabe (16) und die Speichen (13). Diese Verbindung (20) besteht aus zwei Verstärkungsschnüren (21). Das innere Ende der Verstärkungsschnur (21) ist mit der Nabe (16) verbunden. Das äußere Ende ist mit der Speiche (13) verbunden. Ein Haltestück 22 befindet sich über der Verstärkungsschnur (21). Das untere Ende des Haltestücks ist mit der Verstärkungsschnur (21) verbunden, während das obere Ende an der Verbindungs-

stelle der Speiche (13) mit der Spange (19) angebracht ist. Die Verstärkungsschnur (21) ist nicht kürzer als 30 cm (12 Inche) und nicht länger als 114 cm (45 Inche), jeweils abhängig von der Länge der Speiche (13). Das unter Ende des Haltestücks (22) ist mit der Verstärkungsschnur (21) mittels eines auf dieser Schnur bewegbaren Ringes verbunden.

2. Ein Regenschirm (10) wie im Anspruch 1, bei dem der Stützrahmen (20) einen Ringteil (18) beinhaltet. Dieser Ringteil (18) ist um die Manschette (15) des Schiebeverschlusses (14) gelegt. Die inneren Enden der Verstärkungsschnüre (21) sind mit dem Ring (18) verbunden. Die äußeren Enden der Verstärkungsschnüre (21) sind mit den Speichen (13) des Regenschirms verbunden.

3. Ein wie in 1 und 2 beschriebener Schirm bei dem die Haltestücke (22) des Stützrahmens (20) aus elastischem Material sind.

4. Ein wie in 1 beschriebener Schirm bei dem die oberen Enden der Haltestücke (22) mit den Speichen (13) an deren Verbindungspunkt mit den Spangen (19) verbunden sind.

5. Ein Regenschirm (10) wie dieser in 1, 2, 3 und 4 beschrieben wird, bei dem die äußeren Enden der Verstärkungsschnüre (21) an den Ösen (25) der Spangen (13) befestigt sind.

Revendications

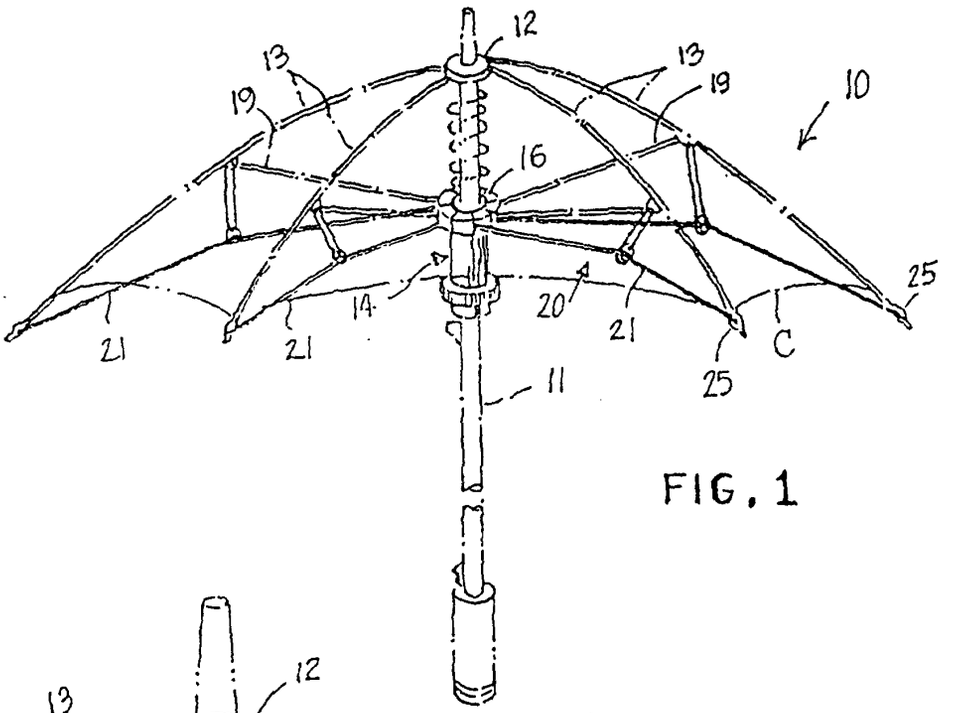
1. Un parapluie (10) constitué par une étoffe (C) tendue sur une armature pliante avec des baleines relevables (13) projetées d'une manche centrale (11), un mentonnet glissant (14) que l'on peut faire glisser de haut en bas et de bas en haut, et qui tient bien solidement à la manche (11), le mentonnet glissant mentionné ci-dessus (14) présentant une chemise cylindrique (15) munie d'un pivot integral (16) à son extrémité supérieure, des bretelles (19) attachées solidement au dit pivot de leurs extrémités intérieures et aux baleines (13) de leurs extrémités extérieures, ainsi qu'un assemblage renforçant (20) situé entre le pivot (16) et les baleines (13), cet assemblage (20) présentant au moins deux cordes renforçantes (21) arrangées en étoile dont les extrémités intérieures sont attachées au pivot (16), et les extrémités extérieures aux baleines (13) correspondants, des bretelles complémentaires (22) arrangées au-dessus de chaque corde renforçante (21) et dont les extrémités inférieures s'attachent aux cordes (21) et les extrémités supérieures solidement attachées à l'une des baleines (13) adjacentes aux points de raccordement des bretelles (19) avec les dits baleines (13), **caractérisé par le fait que** les cordes renforçantes (21) sont d'une longueur minimale de 30 cm (12 pouces) et d'une longueur maximale de 114 cm (45 pouces), ceci en fonction de la longueur des baleines (13), ainsi que **par le fait que** l'extrémité inférieure de chaque bretelle complémentaire (22) s'attache et se glisse vers la corde renforçante correspondant (21) dans le sens de la longueur de la corde.

2. Un parapluie (10) tel que défini dans le paragraphe 1, dont le dit assemblage renforçant (20) comporte un anneau (18) situé sur la chemise (15) du mentonnet glissant (14), et dont les cordes renforçantes (21) s'attachent et sont arrangées en toile au dit anneau (18) des extrémités intérieures des cordes (21), et aux baleines (13) du parapluie (10) des extrémités extérieures.

3. Un parapluie (10) tel que défini dans le paragraphe 1 ou le paragraphe 2, dont les bretelles complémentaires (22) de l'assemblage (20) sont d'un matériel élastique.

4. Un parapluie (10) tel que défini dans le paragraphe 1, dont l'extrémité supérieure de chaque bretelle complémentaire (22) s'attache à l'une des baleines (13) au point de raccordement d'une des bretelles (19) avec une des baleines (13).

5. Un parapluie (10) tel que défini dans les paragraphes 1 - 2 - 3 - 4, dont les extrémités extérieures des cordes renforçantes (21) s'attachent aux oeillets des baleines (13).


12
13
19
10
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14
20
21
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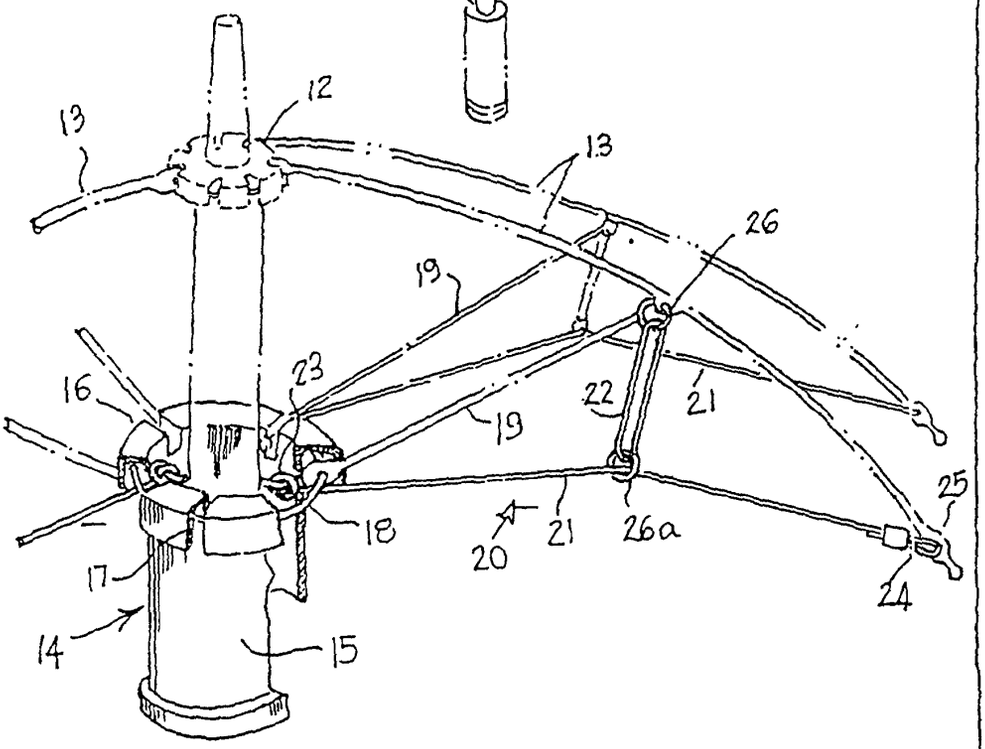
C
11

FIG. 1


12
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16
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26a
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17
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15

FIG. 2

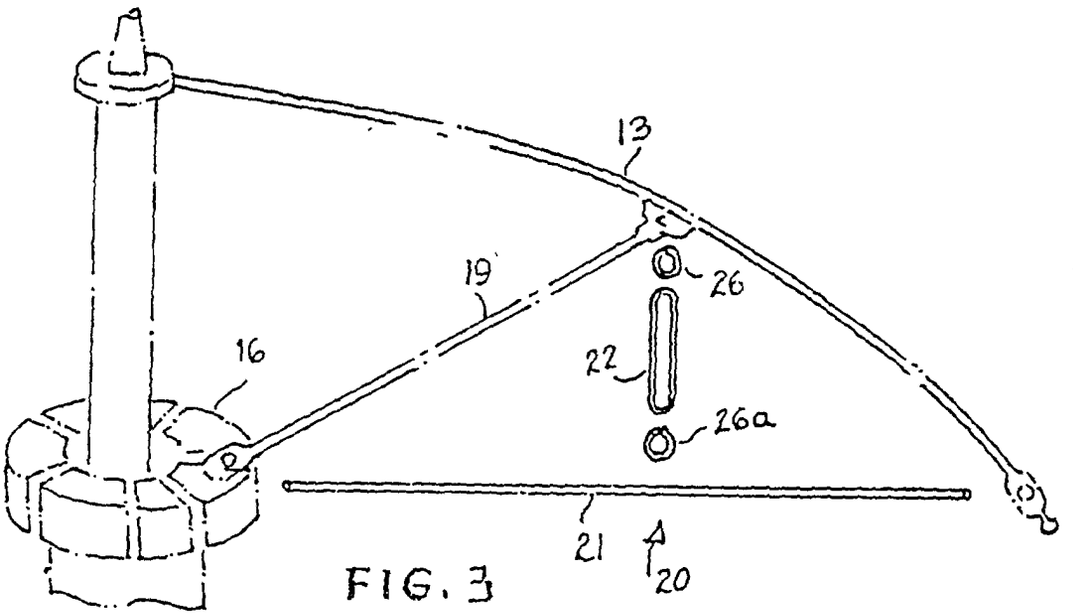

FIG. 3

FIG. 5

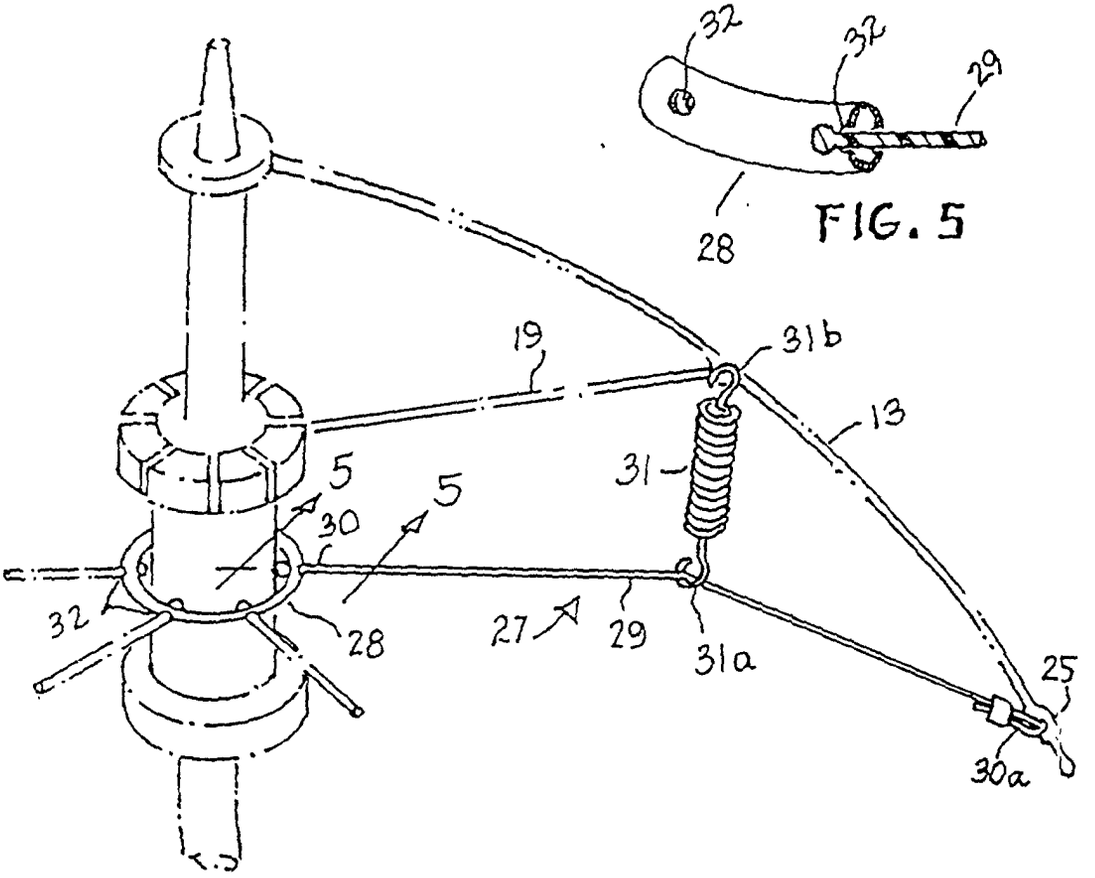

FIG. 4

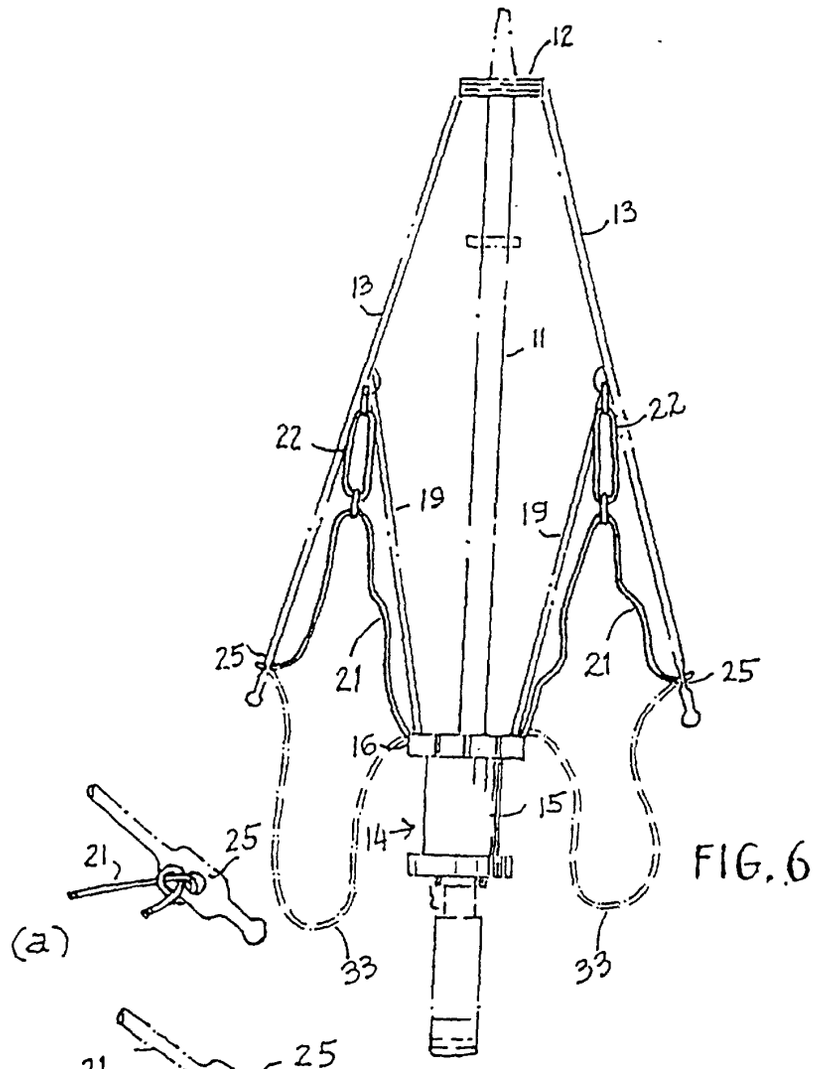

FIG. 6

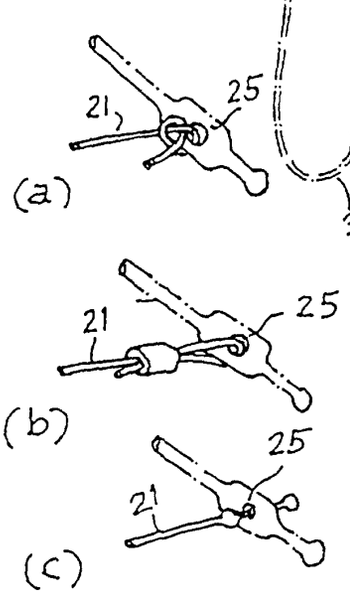

FIG. 7